

# minmi | Link road

concept plan environmental assessment

February 2009



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&  
ALLIED

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# Minmi/Link Road Concept Plan

Prepared for Coal & Allied Industries  
Limited

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## Statement of Validity

Submission of Environment Assessment:

Prepared under Part 3A of the Environmental Planning and Assessment Act 1979.

Environmental Assessment prepared by:

Names:	Tim Blythe Director	Sarah Gray Associate Director
Qualifications	BA App Sc (Planning) RMIT	BTP
Address:	Urbis Level 21 321 Kent Street Sydney NSW 2000	
In respect of:	Minmi/Link Road Concept Plan	

### Certification:

We certify that we have prepared the contents of the Environmental Assessment and to the best of our knowledge the information contained in this report is neither false nor misleading.



Signature

Name: Tim Blythe

28 January 2009



Signature

Name: Sarah Gray

28 January 2009



## Executive Summary

This report has been prepared in support of an application for Concept Plan approval under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act) for Minmi/Link Road. It has been prepared on behalf of Coal & Allied.

A separate report has been prepared and lodged with Department of Planning (DoP) in support of an application for listing and rezoning of the Coal & Allied owned Minmi/Link Road estates as a 'State Significant Site' (SSS) on Schedule 3 of State Environmental Planning Policy (Major Projects). This report should be read in conjunction with the SSS Listing Report.

The protection and management of vegetation corridors is a key focus of the Lower Hunter Regional Strategy (LHRS) and the companion Draft Regional Conservation Plan. The Minmi/Link Road estates has been recognised for its State and Regional significance based on its inclusion in the Lower Hunter Regional Strategy for both residential development and conservation, with the conservation land to be dedicated to New South Wales Government (NSWG) to complete important conservation corridors included in the Draft Regional Conservation Plan.

In finalising the LHRS, the NSWG reached agreement with Coal & Allied for the dedication of 3,322 ha (80 per cent) of Coal & Allied land in the Lower Hunter for conservation corridors upon receipt of development rights on 849 ha (20 per cent). The details of the negotiations are set out in a Memorandum of Understanding (MoU) between Coal & Allied and the NSWG.

This Concept Plan provides for an approximate yield of 3,300 dwellings and dedication of 2,264ha of conservation land comprising approximately 77.4% of the Coal & Allied northern lands. The 2,264ha of Coal & Allied land that will be dedicated for conservation will play a significant role in securing in perpetuity public ownership the long sought after conservation corridors between Watagans Range to Stockton Bight. The proposed land dedication is a positive conservation step that will protect an important array of vegetation communities, flora and fauna species, and natural landscape assets, including threatened species and endangered ecological communities in the conservation lands. The environmental gain from the environmental land offset package is a once in a generation opportunity that will provide an enduring legacy for the community and future generations.

Coal & Allied have undertaken an extensive design and stakeholder process over the two years. A strong commitment has been made by Coal & Allied to implement an inclusive and pro-active community engagement process including:

- Community meetings;
- A series of targeted stakeholder meetings;
- Community workshops;
- Community newsletters, newspaper advertising and media releases; and
- Community input into the regional forum and design charette.

The design charette process built upon inputs by key government, community and project stakeholders to make recommendations which have informed the final concept plan for the Minmi/Link Road estates. The Concept Plan will enable key site parameters associated with land use, infrastructure delivery and timing, and environmental conservation to be resolved up front, with subsequent detailed stages being submitted for approval progressively. The Concept Plan establishes:

- Approximately dwelling yield of 3,300 dwellings over 520ha.
- Dedication of 2,264 ha of conservation land comprising approximately 77.4% of the site.
- A range of land uses as proposed in the SSS listing.
- Conceptual road design and access arrangements.
- Landscape, open space and heritage design concepts.

- Urban Design Guidelines prepared by Conics.
- Indicative development staging. The number of lots and extent of staging for release areas will be largely dictated by the services infrastructure requirements as well as responding to market forces.
- Associated infrastructure arrangements.

Five developable precincts are identified under the Concept Plan, located around the Minmi township and to the north and south of Link Road. The developable areas have been established on the basis of detailed investigations in respect to existing environmental constraints and opportunities for future sustainable growth.

Approval is not sought under the Concept Plan for a specific lot layout. An indicative lot layout has been prepared by Conics, which indicates how the maximum yield could be achieved. Approval is not sought under the Concept Plan for subdivision or individual housing designs.

On the 30 November 2007, the Minister for Planning agreed that the development proposal for Minmi/Link Road considered as a Major Project under Part 3A of the Environmental Planning and EP&A Act. The Minister also agreed to consider Minmi/Link Road as a potential State Significant Site (SSS) under Schedule 3 of the Major Project SEPP 2005 (Major Projects SEPP). Given the size and complexity of the proposal, the Minister also authorised submission of a concept plan for the site.

The scope of environmental assessment has been based on the environmental assessment requirements issued by the Director General of Planning on 30 July 2007.

Key environmental issues broadly relate to:

- Urban design and built form;
- Staging;
- Conservation lands;
- Biodiversity;
- Air quality;
- Mining activities, contamination and geotechnical impacts;
- Traffic and transport;
- Noise impact;
- Heritage;
- Surface water and groundwater quality;
- Bushfire;
- Utilities and infrastructure;
- Ecologically sustainable development and sustainability commitments;
- Drainage, stormwater management and flooding; and
- Developer contributions

A Draft Statement of Commitments is submitted and details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation.

In summary, the Concept Plan will facilitate the orderly use, development and conservation of a regionally important site of environmental and social significance to the State. The Environmental Assessment contained within this report demonstrates that all potential adverse environmental impacts

of the project can be suitably mitigated, resulting in net social, economic and environmental benefits. In view of the merits of the project, we therefore recommend that the Minister for Planning approve the Concept Plan.



# 1 Introduction

This Environmental Assessment (EA) accompanies a major project application on behalf of Coal & Allied, for a Concept Plan for the future residential subdivision of land at Minmi and north and south of Link Road (Minmi/Link Road). The Concept Plan provides for the establishment of new residential precincts at Minmi / Link Road for approximately 3,300 dwellings. The Concept Plan includes commercial, open space, community and educational land uses to complement the proposed residential development and existing Minmi township. The dedication of conservation land comprising 2,247ha of Stockrington land and 17ha of Minmi land; and provision of associated infrastructure will be facilitated by the Concept Plan. The Concept Plan and Urban Design Guidelines are attached in **Appendix A & B**.

This EA provides the following details to assist the Department of Planning (DoP) with an assessment of the Concept Plan, as detailed in the Director-General's Environmental Assessment Requirements:

- Background to the identification of the land sought for future development including the dedication of the conservation of lands; and the community consultation and design charette process;
- Description of the site in respect to its regional and local context;
- Description of the proposed Concept Plan; and
- Review of the Concept Plan with respect to the general and key assessment criteria, including:
  - Relevant statutory and policy planning provisions;
  - Identified key issues;
  - Statement of Commitments;
  - Justification of the project and the environmental impacts of the proposal; and
  - Development contributions and public benefits to be provided with the development.

## 1.1 Background

### 1.1.1 Context – the Coal & Allied lower Hunter lands project

Coal & Allied has been operating in the Hunter Valley for more than 150 years, with the earliest coal mining operations located in the East Maitland area dating back to 1844. Numerous mergers, expansions and acquisitions since then have led to Coal & Allied becoming a regionally significant mining company.

Since 2004 Coal & Allied has been majority owned and managed by Rio Tinto Coal Australia (RTCA). Coal & Allied today is one of the major coal producers in the Hunter Valley, employing around 1,500 people across three operations. With annual coal production of around 30 million tonnes, Coal & Allied continues to evolve as it strives to achieve a vision of being a safe and highly successful business valued by customers, employees, shareholders and the community.

Coal & Allied has seven separate holdings in the Lower Hunter totalling 4,187 hectares as follows:

- Four are located in the northern area comprising of Black Hill, Tank Paddock, Stockrington and Minmi (including land north and south of Link Road).
- Three are located in the southern area comprising of Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan.

The landholdings are located in four local government areas of Newcastle, Cessnock, Lake Macquarie, and Wyong (located in Northern Central Coast region). The Minmi/Link Road estates is not required by Coal & Allied for future mining or other operational purposes.

## INTRODUCTION

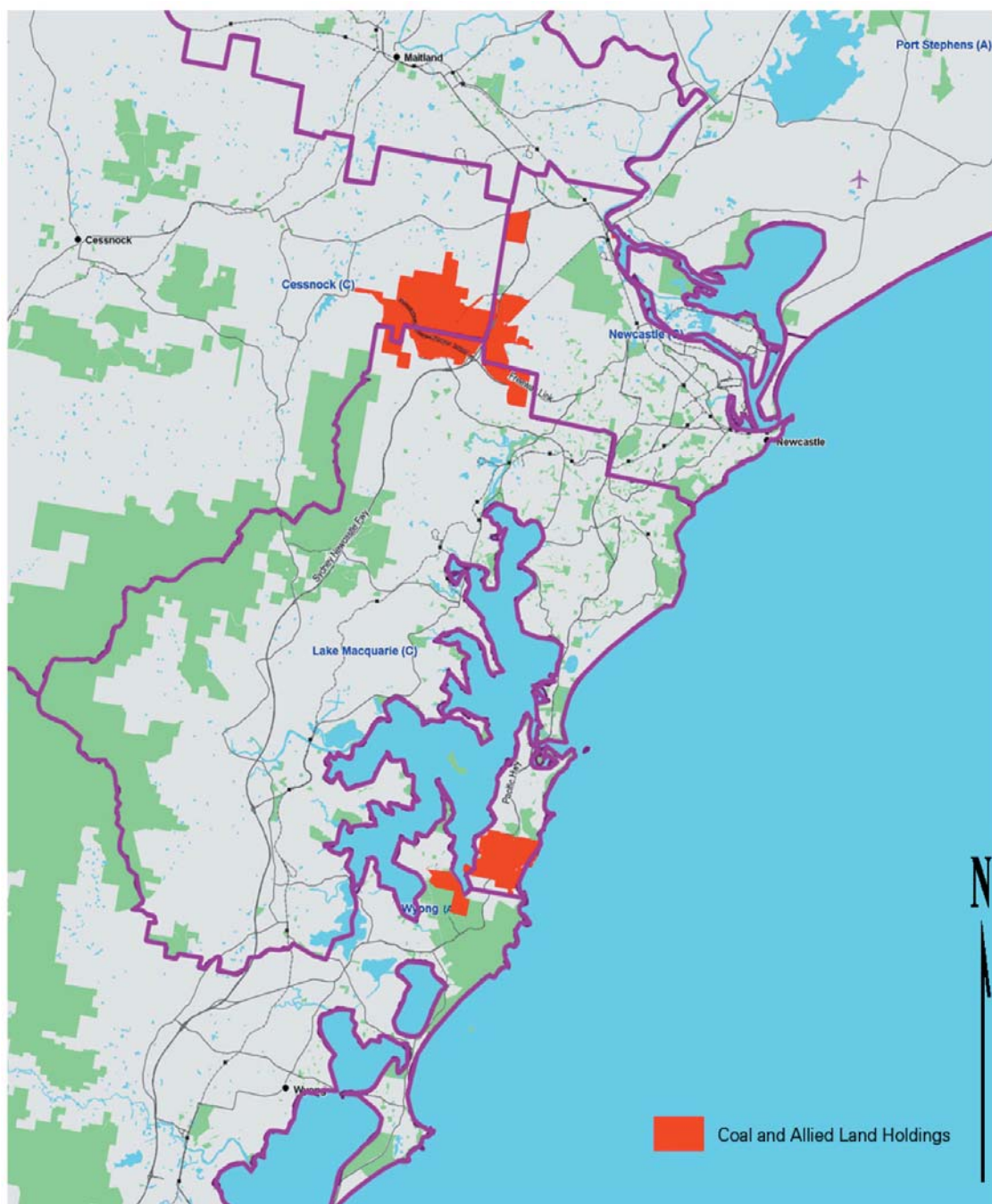
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The northern lands are located approximately 20 kilometres west of Newcastle and are almost halfway between Newcastle and Cessnock. The Minmi/Link Road estates, comprising Minmi and land north and south of Link Road will provide approximately 3,300 dwellings.

The Minmi/Link Road estates adjoins the existing Minmi township and is close to the emerging Glendale centre and the Glendale/Cardiff renewal corridor identified in the Lower Hunter Regional Strategy. These lands are close to the F3 Freeway and Newcastle Link Road transportation corridors. The Minmi/Link Road estates are adjacent to the Blue Gum Hills Regional Park and Hexham Swamp.

Black Hill is located at the intersection of the F3 Freeway and John Renshaw Drive. Tank Paddock and Stockrington are located east and west of F3 Freeway and fall within the Watagan-Stockton Conservation corridors identified in the LHRS.

Figure 1 – Coal & Allied landholdings in the Lower Hunter





The southern lands will provide 935 dwellings to the existing communities of Catherine Hill Bay, Nords Wharf and Gwandalan. Concept Plan and Preferred Project Reports for the southern lands are currently under consideration by the Department of Planning.

Coal & Allied's Lower Hunter lands including Minmi/Link Road are included in the Lower Hunter Regional Strategy (LHRS) for urban development and conservation. Coal & Allied is one of four major landowners within the region that play a significant role in achieving the LHRS's environmental and conservation outcomes and sustainable growth.

In finalising the LHRS, the NSW Government reached agreement with Coal & Allied for the dedication of 3,322 ha (80 per cent) of Coal & Allied land for conservation corridors upon receipt of development rights on 849 ha (20 per cent). The details of the negotiations are set out in a Memorandum of Understanding (MoU) between Coal & Allied and the NSW Government. Under this MoU, residential development is proposed on 526ha of Minmi/Link Road, with a density of up to average of 12 dwellings per hectare subject to detailed planning and constraints analysis.

### 1.1.2 New South Wales Government and Memorandum of Understanding

In finalising the LHRS the NSW Government reached agreement with four major landholders in the Lower Hunter for the dedication of over 12,000 hectares of land in return for the recognition of additional development potential of 3,280 hectares. The details of the negotiated outcomes are set out in a series of Memorandum of Understanding (MoUs) between the Government and the four land owners, including Coal & Allied.

The MoU between Coal & Allied, the Department of Planning, Department of Environment and Conservation and the Department of Lands contains provisions for the transfer of 3,322 ha (80 per cent) of Coal & Allied land for conservation corridors upon receipt of development rights on 849 ha (20 per cent). Under the MoU, residential development is proposed on 665 ha of that area and employment development on 183 ha.

Relative to the Coal & Allied northern lands, the MoU identifies:

- Residential land at Minmi/Link Road, the subject of this Concept Plan, for a maximum of 12 dwellings per ha, which equates up 6,312 lots over 526 ha.
- Employment lands at Black Hill over 183 hectares, to supplement the existing employment areas of Black Hill and Beresfield. The Black Hill employment lands are subject to a separate Major Project Application lodged with the DoP and are likely to be similar to adjacent industrial, warehousing and distribution centre development to the north, with provision for ancillary office space.

Coal & Allied will dedicate 100% of the Tank Paddock and Stockrington landholdings to NSWG for conservation as part of the northern lands Concept Plan applications, which will represent a significant contribution to the Watagan-Stockton conservation corridors identified in the LHRS. The MoU identifies an area of 2,326ha of Stockrington lands to be dedicated to NSW Government. Due to the sale of 70ha of land by Coal and Allied to the Roads and Traffic Authority for the F3 Extension, the total land to be dedicated to conservation for Stockrington is 2,247ha.

The Coal & Allied southern lands residential developable areas are currently under assessment by the DoP. The developable areas for the southern lands have been reduced as a result of the assessment process of the Independent Hearing & Assessment Panel (IHAP) and the DoP. The overall modifications to the 3 Coal & Allied southern sites has resulted in an overall decrease in yield from 1,090 residential lots to 935 residential lots, a decrease in the overall developable area from 139 ha to 102.23ha and an overall increase in the Conservation Area lands to be dedicated to NSWG from 849 ha to 856.7 ha and provision of 1.6ha of land to be dedicated to Lake Macquarie City Council. Coal & Allied has not sought to apply the MoU 'proportionality' clause which, if applied would have reduced the conservation land to be transferred in the Southern Estates by over 120 ha. Coal and Allied has been responsive to the IHAP suggestion that the originally proposed area be still transferred and as indicated above the area is larger than originally proposed.

It is noted that detailed survey investigation by Monteath & Powys has revealed that the total area owned by Coal & Allied in the Southern Estates is closer to **963.5ha** as opposed to **988ha** under the

MoU. Detailed survey investigations also revealed that the original perimeter boundaries of the southern lands shown in the plans attached to the MoU have not altered. Consequently the perimeter of the lands nominated in “Schedule 2 – Environmental Lands Offset” of the MOU has not changed. Detailed survey investigations have simply meant that the calculation of the areas contained within those boundaries has resulted in a lesser area being available. That is, Schedule 2 suggests that 849 ha of land will be transferred to NSWG. In fact, it is now proposed that 856 ha of land will be transferred to NSWG in association with the southern lands development. It is important to note that the intent of the MoU has not been altered in anyway and the proposal for the 3 southern sites will result in a greater amount of land to be transferred to NSWG than required by the MoU

The MoU also provides for completion of a binding agreement between the Government and Coal & Allied, a Part 3A approval process for the development proposals and a proportional adjustment of the area of conservation lands to be transferred in the event that developable land areas approved vary from the scheduled areas. As noted above, Coal & Allied has not sought to apply the MoU ‘proportionality’ clause which, if applied would have reduced the conservation land to be transferred in the Southern Estates by over 120 ha. The MoU is currently being developed into a Deed of Agreement between Coal & Allied, the Department of Planning, the (renamed) Department of Environment and Climate Change (previously known as DEC) and the Department of Lands.

## 1.2 Project Objectives

Coal & Allied has a long term commitment to the preservation of the environment in the Hunter Valley and has had an involvement in the region for over 150 years. The company is pleased to be able to contribute to the establishment and realisation of the long sought after conservation corridors between Watagans Range to Stockton Bight and the Wallarah Peninsula. It is also pleased to be a part of the economic development of the Lower Hunter Region through providing land for residential and employment development to meet the growth targets set out in the LHRS.

Coal & Allied will work towards achieving those outcomes through a program of extensive community consultation and involvement in both the Lower Hunter and upper Central Coast Regions where it has land holdings. Overall company objectives pursued by Coal & Allied are aligned with its sustainable development focus of effective use of assets; efficient use of resources; encouragement of cultural diversity; economic viability; enhancing community relationships and environmental stewardship.

The Coal & Allied Lower Hunter lands project objectives are as follows:

- Contributing to environmental preservation in the region through dedication of land to the NSW Government for conservation corridors;
- Gaining concept plan approval and rezoning of the seven estates;
- Achieving sustainable residential and employment generating development in five estates;
- Establishing successful communities in the four residential estates;
- Incorporate new urbanism principles of sustainability, mix of uses, walkability and transit connections;
- Reaching target financial returns for the development of 25 per cent internal rate of return (IRR) and maximisation of net present value (NPV); and
- Meeting market demands for land and housing products and employment generating land through desirable product mix.

## 1.3 Value of Project

The estimated capital investment value of the proposal for Minmi/Link Road is \$839,650,000.

### 1.4 Planning Process to Date

#### 1.4.1 Background

In September 2004 Coal & Allied commissioned a preliminary review of its Lower Hunter land holdings. The review was project managed by Kennecott Land (a division of Rio Tinto) that has extensive experience in the successful development of land in Salt Lake City, Utah in the United States. The review made a number of recommendations with regard to the potential future land development opportunities that may exist for Coal & Allied's land holdings in the Lower Hunter.

Coal & Allied identified the potential areas for future development Minmi/Link Road through a preliminary assessment of physical constraints. Opportunities and constraints for the site were identified using GIS data, regional context analysis, site inspections and preliminary ground truthing. The land at Stockrington, to the west of the F3 Freeway was identified for conservation. Stockrington has regional ecological value that provides wildlife corridors from the south of the site to the north encompassing the riparian corridors, linking the Blue Gum Hills Regional Park and eventually Hexham Swamp. Land at Tank Paddock, currently owned by Coal & Allied is also planned to be dedicated to NSW Government as conservation lands as part of a future Project Application for employment lands at Black Hill. Tank Paddock also has regional ecological value and will significantly contribute to the Stockrington lands in providing significant wildlife corridors.

#### 1.4.2 Statutory Planning Process to Date

To date, Coal & Allied has prepared a Preliminary Environmental Assessment (PEA) and preliminary structure plan for the site. In accordance with the Environmental Planning & Assessment Act 1979 (EP&A Act) and associated guidelines, a PEA was submitted to the DoP on the 15 March 2007 and 7 May 2007 to assist the Director General in determining the level and scope of the environmental assessment for the listing of the Minmi/Link Road estates as a State Significant Site (SSS) under Schedule 3 of the Major Project SEPP 2005.

A preliminary structure plan was prepared with the PEA for the site to show the likely areas of development at Minmi/Link Road. The development areas were based on the preliminary investigations described previously. While the principles in the preliminary structure plan were not 'concept plan' proposals, it illustrated the broad intentions that would inform the future concept plan proposal.

In general, the preliminary structure plan involved:

- Identification of the location and total area for development for each estate;
- Identification of the location and total area of conservation land to be dedicated to NSW Government;
- Protection of areas of European and Indigenous cultural significance;
- The provision of parkland and public access through key areas of Minmi/Link Road; and
- Provision of a mix of uses and dwelling house/types.

On 30 November 2007, the Minister for Planning agreed that the development proposal for Minmi/Link Road be considered as a Major Project under Part 3A of the Environmental Planning and EP&A Act and authorised the submission of a Concept Plan. The Concept Plan will enable key site parameters associated with land use, infrastructure delivery and timing, and environmental conservation to be resolved up front, with subsequent detailed stages being submitted for approval progressively.

The Minister also agreed to consider Minmi/Link Road as a potential State Significant Site (SSS) under Schedule 3 of the Major Project SEPP 2005 (Major Projects SEPP).

On 10 April 2008, the DoP issued final Director-General's Environmental Assessment Requirements (DGEARs) for the site for preparation of a Concept Plan. The DGEARs are provided in **Appendix C**.

## 1.5 Director General's Environmental Assessment Requirements

The following table provides a summary of the Director-General's Environmental Assessment Requirements issued by the Department of Planning in July 2007 and identifies where each requirement has been addressed in the Environmental Assessment.

Table 1 – Director General Assessment Requirements

REQUIREMENT	SECTION OF EA
<b>GENERAL REQUIREMENTS.</b>	
1. Executive summary	Refer to page ii
2. Description of the project including: (a) Need for the project; (b) Alternatives considered; (c) Various components and staging of the project; and, (d) Map indicating the footprint of the proposed work	Refer to Section 4
3. A thorough site analysis and description of the existing environment.	Refer to Section 2
4. Justification of the project, taking into consideration the environmental impacts of the proposal, the suitability of the site and whether or not the project is in the public interest.	Refer to Section 6 and 8
5. A consideration of all relevant statutory and non-statutory provisions and identification of any noncompliance with such provisions.	Refer to Section 5
6. A draft statement of commitments outlining commitments to public benefits, environmental management, mitigation and monitoring measures (especially in relation to flooding, biodiversity and stormwater) to be established on site and clear identification of who is responsible for these measures.	Refer to Appendix D
7. A signed statement from the author of the EA certifying that the information contained in the report is neither false nor misleading.	Refer to page i
8. The likely scope of developer contributions between: (a) the proponent and Newcastle City Council and Lake Macquarie City Council and (b) the proponent and state government agencies for provision of community, regional and local infrastructure, public transport provision, social infrastructure and facilities etc.	Refer to Appendix D
9. A report from a quantity surveyor identifying the capital investment value of the concept plan including the estimated cost of future development.	Refer to Appendix E
<b>KEY ASSESSMENT REQUIREMENTS.</b>	
<b>Uses</b>	
1. The suitability of the site	Refer to Section 8
2. Consistency of the proposed uses with relevant planning documents including the Lower Hunter Regional Strategy, the Western Corridor	Refer to Section 5

REQUIREMENT	SECTION OF EA
Study, Lake Macquarie LEP 2004 and Newcastle LEP 2003.	
3. Proposed uses include an adequate level of social infrastructure to meet the needs of the future population	Refer to Section 6.15 and Appendix F
<b>Urban Design, Development Controls and Land Uses</b>	
1. Propose development controls for the site	Refer to Section 6.1, Appendix A & B
2. Demonstrate that development controls will complement surrounding existing land uses and the dedicated conservational lands.	Refer to Section 6.1
3. Provide a detailed contour plan to identify the finished contour levels of the site, with details provided on the earthworks required to achieve the finished contours.	Refer to Appendix G
4. Provide an assessment of the impacts of any site preparation works required to accommodate the construction of any proposed physical infrastructure.	Refer to Section 6.1
5. Assess the visual impact of the proposal, particularly in regard to the heritage significance and recreational amenity of the area.	Refer to Section 6.1 & 6.9
6. Identify the footprint for urban development including the envisaged urban form for development on the subject land and assess the visual impacts when viewed from public vantage points.	Refer to Appendix A & Section 6.1
<b>Staging of Development</b>	
1. Provide details of the staging of development including a Staging Plan that sets out the sequencing of land release. Include relevant maps.	Refer to Section 6.2 & Appendix A
2. Identify the staging process for infrastructure provision commensurate with proposed staging of development and land release.	Refer to Section 6.15
<b>Conservation Lands</b>	
1. Identify the extent, locations, and timing of dedication of proposed conservation lands.	Refer to Appendix A and Section 6.3
2. Discuss any edge effects between the development area, and the conservational and surrounding lands. Commit to an ongoing management program for edge effects - assess the provision of a buffer zone.	Refer to Section 6.3 and Appendix D
3. Explore linkages, access and integration of the recreational and conservational lands to the proposed development as well as beyond the site.	Refer to Section 6.3 and Appendix H
<b>Biodiversity</b>	
1. Assess the impact of the proposed rezoning and land clearing on existing native flora and fauna, on the site and surrounding areas. The assessment must be conducted in accordance with the Guidelines for <i>Threatened Species Assessment</i> (DEC July 2005) and	Refer to Section 6.4 and Appendix H

REQUIREMENT	SECTION OF EA
include a field study.	
2. Describe the actions that would be taken to avoid or mitigate impacts on biodiversity, threatened species, their habitat and ecological corridors.	Refer to Section 6.4, <b>Appendix H</b>
3. Identify proposed riparian areas and future management options	Refer to Section 6.4 & <b>Appendix D &amp; H</b>
4. Demonstrate the linkages between proposed conservation lands and adjoining lands and the benefits in providing biodiversity habitats in these locations.	Refer to Section 6.4 & <b>Appendix H</b>
<b>Air Quality</b>	
1. Assess the odour and air quality impacts of the nearby existing development and any proposed development including sewerage treatment plants on the site and in light of potential coal mining and coal-bed methane extraction on the subject land.	Refer to Section 6.5 & <b>Appendix I</b>
<b>Geotechnical</b>	
1. Assess the capability of the land for the proposed development including with respect to erosion potential, slope stability, sodicity and salinity and the presence of potential and actual acid sulphate soils if any.	Refer to Section 6.6 & <b>Appendix J</b>
2. Identify the potential for subsidence, hazards associated with subterranean gases and contamination and other associated risks for development and propose restrictions and limitations for building in areas that are geotechnically sub-optimal.	Refer to Section 6.6 & <b>Appendix J &amp; K</b>
3. Identify the impacts of the development of the proposal and conservation offsets on the future recovery of resources of coal and coal-seam methane below the site.	Refer to Section 6.6
4. Outline actions, management and mitigation measures required and address contamination issues if any, in accordance with <i>SEPP 55</i> and other relevant legislation and guidelines.	Refer to Section 5.6, 6.6 & <b>Appendix J</b>
<b>Sustainability</b>	
1. Outline commitments to sustainability including water reuse, waste minimisation, the minimisation of energy use and car dependency etc.	Refer to Section 6.14 & <b>Appendix L</b>
<b>Traffic/Transport</b>	
1. Include a traffic study in accordance with the <i>RTA Guide to Traffic Generating Developments</i> , which addresses: <ul style="list-style-type: none"> <li>(a) Impacts on regional road networks during construction and operation.</li> <li>(b) Opportunities to minimise traffic on sensitive road frontages during construction and operation;</li> </ul>	Refer to Section 6.7 & <b>Appendix M</b>

REQUIREMENT	SECTION OF EA
<ul style="list-style-type: none"> <li>(c) Efficiency of emergency vehicle access/egress;</li> <li>(d) Proposed access from the wider road network as well as the opportunities and constraints of alternative vehicular access points;</li> <li>(e) Measures to introduce and promote public transport usage and mode share;</li> <li>(f) Proposed pedestrian and cycle access within and to the site that connects to all relevant transport services and key off-site locations;</li> <li>(g) Traffic signal and intersection upgrades underpinned by an intersection analysis and micro simulation model; and</li> <li>(h) Road design that is responsive to the proposed land use and associated urban form including proposed transport linkages between the subject land and surrounding key destination points such as existing centres, recreational areas and employment/industrial centres.</li> </ul>	
<b>Noise Impact</b>	
1. Demonstrate that the proposal will be designed, constructed, operated and maintained so that there are no unacceptable impacts from noise (including traffic noise).	Refer to Section 6.8 & <b>Appendix N</b>
<b>Heritage</b>	
1. Assess in accordance with the <i>Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation DEC (July 2005)</i> the heritage significance of the area.	Refer to Section 6.9 & <b>Appendix O</b>
2. Provide detail of how the development will incorporate and not negatively impact on site setting, landscapes, landmark elements, heritage items, views and vistas.	Refer to Section 6.9 & <b>Appendix A &amp; O</b>
3. Assess the impact of potential development on the historic setting and visual catchment of Minmi and demonstrate how proposed development is to be integrated with the existing development in Minmi.	Refer to Section 6.9 & <b>Appendix O</b>
<b>Surface Water and Groundwater Quality</b>	
1. Assess any potential impact of proposed development on hydrology and hydrogeology of the site and adjacent areas in terms of impact on water quality.	Refer to Section 6.10 & <b>Appendix P</b>
2. Identify drainage and stormwater management issues. including: on site detention of stormwater; water sensitive urban design (WSUD); and drainage infrastructure.	Refer to Section 6.10 & <b>Appendix P</b>
3. Provide details in relation to the short and long term management of water quality and ecosystem health during construction and the life of the development, including the formation of buffer zones.	Refer to Section 6.10 & <b>Appendix P</b>

REQUIREMENT	SECTION OF EA
4. Develop suitable Flood Planning Levels for the development and demonstrate consistency with the <i>NSW Floodplain Development Manual: the management of flood liable land (2005)</i> and the <i>DECC Floodplain Risk Management Guideline - Practical Consideration of Climate Change</i> .	Refer to Section 6.10 & <b>Appendix P</b>
<b>Bushfire Risk Assessment</b>	
1. Provide an assessment against the current version of <i>Planning for Bush Fire Protection 2006</i> , section I OOB of the <i>Rural Fires Act 1997</i> and Section 79BA of the <i>EP&amp;AA 1979</i> .	Refer to Section 6.11 & <b>Appendix Q</b>
2. Identify the ongoing management arrangements of proposed Asset Protection Zones.	Refer to Section 6.11 & <b>Appendix Q</b>
<b>Ownership/Maintenance of Public Domain</b>	
1. Provide details of the proposed ownership arrangements for publicly accessible, land including roads, parks, riparian areas etc.	Refer to Section 6.12
<b>Utilities Infrastructure</b>	
1. Prepare a utility and infrastructure servicing report and plan for the site <ul style="list-style-type: none"> <li>(a) identify existing utilities and infrastructure</li> <li>(b) assess the capacity of utility infrastructure to service the proposed development in conjunction with existing uses, proposed uses and potential future uses (including fire suppression)</li> <li>(c) Demonstrate compliance with the requirements of any public authorities</li> <li>(d) Detail technologies which may reduce the demand or need for servicing or provide for the supply of sustainable services</li> <li>(e) Identify the types of infrastructure and community facilities required for proposed development and assess the adequacy of the existing level of infrastructure services and community facilities for each stage of proposed development.</li> <li>(f) Justify any staging of proposed infrastructure works.</li> </ul>	Refer to Section 6.13 & <b>Appendix R</b>
<b>Ecologically Sustainable Development (ESD)</b>	
1. Demonstrate that all aspects of the concept plan satisfy the principles of ESD including compliance with BASIX.	Refer to Section 6.14 & <b>Appendix L</b>
<b>Developer contributions</b>	
1. Provide details of the likely scope of developer contributions between the proponent and the State Government	Refer to Section 6.15, <b>Appendix D</b>
2. Provide details of the likely scope of developer contributions between the proponent and both Newcastle City Council and Lake Macquarie City Council.	Refer to Section 6.15, <b>Appendix D</b>
3. Provide a social impact analysis of surrounding communities including a gap analysis relating to community and sporting facilities, provision of aged housing, community health facilities and a diverse housing range.	Refer to Section 6.15 & <b>Appendix F</b>



REQUIREMENT	SECTION OF EA
<b>CONSULTATION REQUIREMENTS</b>	
During the preparation of the EA, the proponent must undertake an appropriate and justified level of consultation with the relevant parties and relevant agencies. A Communication Strategy should be included that identifies opportunities for existing communities in the surrounding areas to provide input.	Refer to Section 3 & <b>Appendix S</b>

## 1.6 Proponent and Project Team

The proponent of the development is Coal & Allied Industries Limited (Coal & Allied). The preparation of the Concept Plan entailed a comprehensive project team and the respective fields of expertise of each project team member.

- Development Management: Catylis;
- Urban Design: Conics;
- Landscape: James Mather Delaney Design;
- Town Planning: Urbis;
- Social Planning: Urbis;
- Flora & Fauna (Biodiversity): RPS Harper Somers O'Sullivan;
- Bushfire Risks: RPS Harper Somers O'Sullivan;
- Contamination, Geotechnical/Geochemical and Mine Subsidence: Douglas Partners Pty Ltd;
- Hydrology and Stormwater Management: GHD;
- Aboriginal and Cultural Heritage: Environmental Resources Management Australia;
- Traffic & Transport: Hyder Consulting Pty Ltd
- Acoustic: Renzo Tonin & Associates;
- Civil (infrastructure) Engineering: Cardno;
- Surveyors: Monteath & Powys Pty Ltd Consulting Surveyors & Planners;
- Economic: Sphere
- Odour & Air Quality: GHD
- Ecologically Sustainable Development: Ensign

Specialist reports and documentation prepared by the project team are contained within the attached Appendices.



## 2 Site Description

### 2.1 Regional Context

The Coal & Allied northern lands Minmi/Link Road estates, is positioned partly within the Lake Macquarie Council and Newcastle Council areas, and is located approximately 145 km from Sydney and approximately 17kms northwest of the Newcastle City Centre.

Minmi/Link Road is located within the Lower Hunter Region. The Lower Hunter Region has many strengths and, with careful planning, is well placed to support sustainable growth above the current trend level well into the future. The LHRCS identifies that an additional 115,000 dwellings will be required to house the Region's growing population over the next 25 years. Of this number, 60 per cent of these new dwellings will be provided in new release areas, with the remaining 40 percent to be delivered in existing urban areas. Dwelling capacity projections for the Lake Macquarie LGA identified under the LHRCS provide for a total of 36,000 dwellings within new release areas and existing urban areas. Dwelling capacity projections for the Newcastle LGA is relatively lower, at 20,500 dwellings in total. The Coal & Allied owned Minmi/Link Road estates has been identified in the LHRCS as a "Proposed Urban Area" and will contribute to the target dwelling figures of the LHRCS for the Lower Hunter Region.

Figure 2 – Regional Context in Lower Hunter



The Lower Hunter Region's vegetation is of bio-geographic significance as it supports a transition between the northern and southern flora and fauna communities of the Region. The LHRS and draft Lower Hunter Regional Conservation Plan recognise the importance of large vegetation areas being linked via habitat corridors. Two major conservation corridors have been identified running through the Region, including the Watagan Ranges to Port Stephens Corridor, which is identified as a highly significant link between southern sandstone ranges and the coastal heaths and wetlands of Port Stephens.

To ensure the protection of these significant conservation corridors, the NSW Government has entered into a MOU with Coal & Allied in which 80% of the Coal & Allied landholdings in the Lower Hunter is to be dedicated to NSW Government for permanent conservation purposes. The transfer is dependent on the realisation of development goals on the remainder of the Coal & Allied Lower Hunter land holdings (around 849ha).

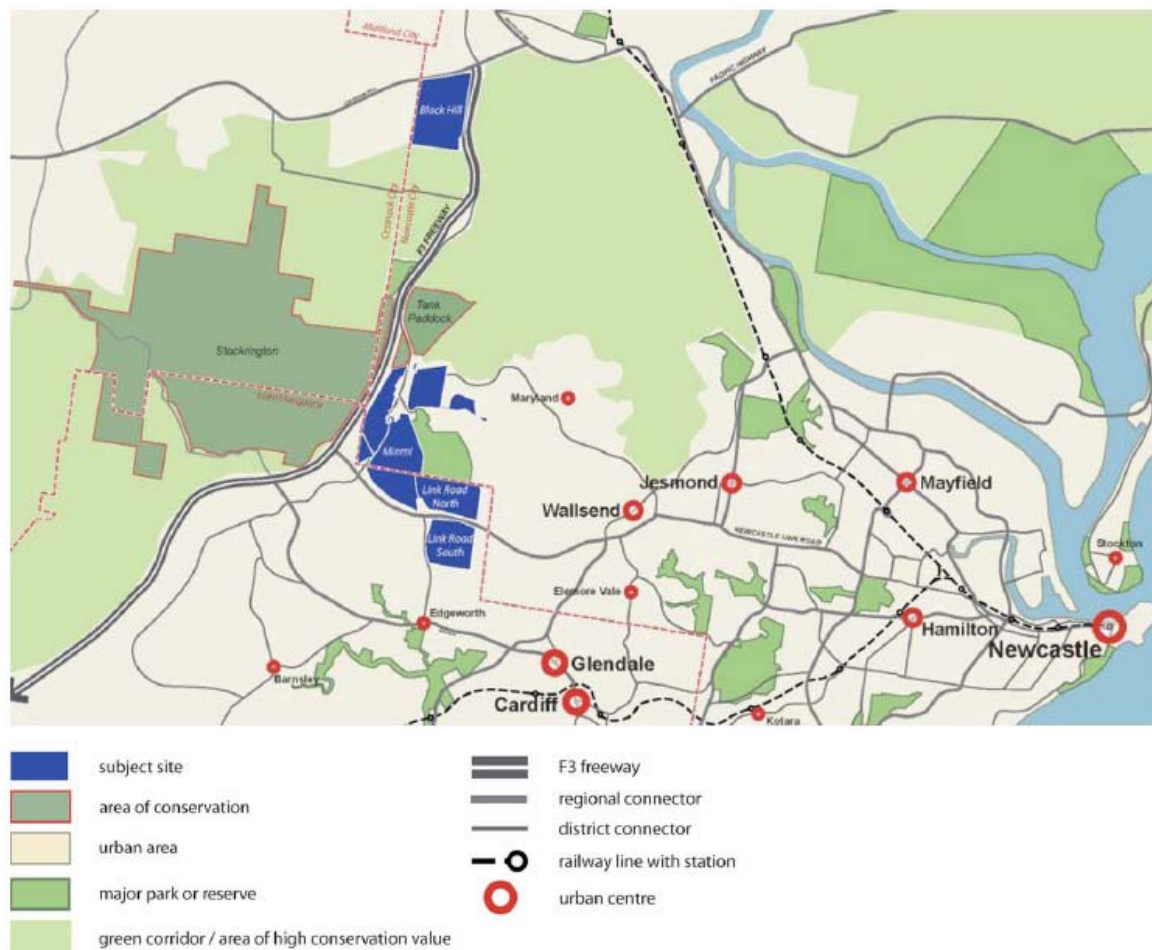
These lands, namely land at Stockrington and Tank Paddock provide for approximately 2,394 ha of land that form an important part of an environmental land offset package for the entire region to be dedicated to the NSW Government as conservation land. The transfer of these lands will play a significant role in realising the objectives of the LHRCS and the draft Lower Hunter Regional Conservation Strategy (draft LRCS) which are identified under the draft LHRCS to be critical to the establishment of the corridors identified as regional conservation priorities. The Minmi/Link Road estates is situated to the south east of this conservation corridor and the Coal & Allied owned Stockrington land, as well land in Minmi, is to be dedicated to NSWG on receipt of development rights as proposed with this Concept Plan. The Stockrington land represents a key ecological parcel of land that will complete the Watagan Ranges to Port Stephens Corridor conservation corridor.

## 2.2 Local Context

The Minmi/Link Road estates, comprising Minmi, and the land to the north and south of the Link Road, are situated to the east of the F3 Freeway and straddle the Newcastle Link Road. These Lands are anticipated to accommodate approximately 3,300 dwellings to be facilitated in the proposed Concept Plan, which will adjoin the existing Minmi Township and the arterial road system. The Minmi/Link Road estates are adjacent to the Blue Gum Hills Regional Park and Hexham Swamp.

Newcastle CBD is approximately 17km east of the Minmi/Link Road estates, however outer lying suburbs such as Wallsend are within 5km of the Township, which includes a district centre commercial core. New residential subdivisions have been approved to the north, south and east of the Minmi/Link Road estates, which also contribute to providing some of the 69,000 dwellings called for in the LHRS to be accommodated within new release areas, such as Cameron Park and Britannia Estate. The Minmi/Link Road estates will connect these new release areas, while still respecting the F3 Freeway as the residential/urban development boundary of the Newcastle Metropolitan area.

Figure 3 – Local Context



Minmi is an historic mining town with a current population of approximately 732 people. The town is situated within a valley between the F3 Freeway to the west, Blue Gum Hills Regional Park to the east, and Hexham Swamp to the north.

The hinterland surrounding the Minmi Township is generally cleared of dense vegetation, and is primarily covered by low groundcover and shrubbery. The natural topography contributes to the distinctive character of the Minmi area comprising:

- A generally rural setting with large allotments.
- Dense bushland vegetation of the Blue Gum Hills Regional Park and surrounding land.
- Steep and undulating topography.

The distinct character of the built environment is comprised of:

- Single storey dwellings along Woodford Street.
- Dwellings positioned on hillsides.
- Dwellings are predominantly timber clad and fibro with metal roofs with evidence of more recent brick construction dwellings.

The Link Road North area is a densely vegetated area which is disconnected from the Conservation Lands by the existing road network. Similarly, the Link Road South land is densely vegetated and disconnected from surrounding conservation areas by other residential subdivisions such as Edgeworth and Cameron Park, as well as the existing road network.

The Minmi/Link Road estates feature a highly variable terrain. In particular, the Minmi site slopes are highly variable and are generally reflective of a terrain that has been modified by past mining activity. The Link Road North and Link Road South areas are primarily bushland with moderately to steeply undulating terrain.

The existing infrastructure servicing the Minmi/Link Road estates includes:

- **Drainage** – The watercourses of draining the Minmi and Link Road North sites eventually discharge into Hexham Swamp to the north, while Link Road South drains southward into Brush Creek which eventually flows into Cockle Creek at the Waratah Golf Club.
- **Water** – reticulated potable water supply is available to the existing developed area.
- **Sewer** – Existing developed areas of Minmi drain to the Shortland Sewage Treatment Plant (STP).
- **Energy** – Electrical supply is available to the area from the zone substation at Marylands. Overland electricity transmission lines traverse the Link Road south site within two easements 60m and 30m wide.
- **Gas** – The nearest gas mains are located at Woodford Street, Minmi, and at the corner of Minmi Road and Northlakes Drive.
- **Telecommunications** – Telstra standard telephone service is available to the existing developed areas. There are existing copper cables within the development site which will require relocation. The site has good mobile coverage.
- **Transport Access** – The Newcastle interchange is located 800m to the northwest of the intersection of Newcastle Link Road and Woodford Street, just to the south of the Minmi site. The site can be divided into three areas to consider transport access: Minmi; Link Road North; and Link Road South.
  - Minmi can be accessed from the north via Lenaghans Drive, from the south via Newcastle Link Road, and from the east via Minmi Road.
  - Access to the Link Road North site can be obtained via Newcastle Link Road, Woodford Street and Minmi Road (at Edgeworth). Currently, access is restricted from Newcastle Link Road.
  - Link Road South is located directly adjacent to an existing residential area at Cameron Park. Minmi Road (at Edgeworth) can provide direct access to the proposed Southern site.
- **Transport Services** – A limited private bus service operates between Minmi and Wallsend via Fletcher and Maryland with seven services to Wallsend on weekdays with the last around 4.30pm, and eight services from Wallsend on weekdays finishing around 8pm. There are three services to and from Wallsend per day on weekends.
- **Social Infrastructure** – Minmi has limited existing social infrastructure:
  - **Education** – Minmi contains a small primary school with approximately 100 students and 5 permanent teachers. There is no preschool or high school, with the closest high school being West Wallsend High School.
  - **Health** – there is no GP or Hospital in Minmi. The closest Hospital is John Hunter Hospital in Newcastle.
  - **Child Care** – There are no child care facilities in Minmi, with the closest being in Wallsend.
  - **Recreation** – There are two parks including one with sporting fields and amenities. Both parks contain children's playground equipment.



## SITE DESCRIPTION

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- Emergency Services – Minmi has a fire station situated at the northern entry to Minmi. The closest ambulance stations to Minmi are located in Beresfield and Boolaroo.
- Aged Care – No aged care facilities currently exist in Minmi, with the nearest location in Wallsend.
- Retail – Minmi has limited retail facilities, including a general store / newsagency, hotel, liquor outlet and restaurant.



Picture 1 – Minmi township viewed from the south



Picture 2 – Typical housing along Lenaghans Drive, Minmi



Picture 3 – Minmi township hinterland



Picture 4 – Link Road North land viewed from the east

## 2.3 The Site

The Minmi/Link Road estates comprise approximately 538ha, which will comprise 520ha of development area and 17ha of conservation area. The Minmi/Link Road estates comprise the allotments with the following legal description:

- Lot 71 DP 1065169 (aka Lots 711 and 712 DP 1113237. It is noted that the area known as Lot 711 DP 1113237 is proposed to be sold to the Roads and Traffic Authority);
- Lot 351 DP 1108608; (previously known as Lot 35 DP 800036);
- Lot 6 DP 1044574;
- Lot 2 DP 877349;
- Lot 3 DP 877349.
- Lot 48 DP 115128 is small [Old System title](#) allotment of approximately 500sqm which has been included in the Concept Plan and is situated in between Woodford Street and the F3. This lot is not listed within the Order by the Minister for Planning declaring the site to be of State significance and is proposed to be included in this state significant listing report SSS

These lots are known as Link Road North, Link Road South and Minmi lands.

The Stockrington lands that are proposed to be dedicated to NSW Government as conservation lands have a total area of 2,247ha.

- The land parcels contained in the table below that comprise the Stockrington lands for conservation are identified in the Director General's Requirements as follows:

1/83/DP755260	1/71/DP1065169	1/2/DP551917	1/2/DP34957
1/30/DP1051995	1/2/DP250339	1/2/DP844313	1/1/DP250339
1/84/DP755260	1/2/DP124209	2/96/DP755260	2/82/DP755260
1/1/DP726037	1/1/DP155446	1/3/DP250339	1/1/DP877416
2/8/DP755260	1/1/DP503566	1/24/DP1051995	1/31/DP1051995
1/5/DP977096	1/3/DP977096	1/79/DP755260	1/26/DP1051995
1/32/DP1051995	1/2/DP877416	1/2/DP1039968	1/1/DO505578
1/89/DP755260	1/23/DP1051995	1/25/DP1051995	1/4/DP877416
1/77/DP755260	1/1/DP1039968	1/1/DP123945	1/126/DP755262
1/72/DP755260	1/8/DP807908	1/5/250339	1/20/DP1051995
1/1/DP433355	1/4DP977096	1/125/DP755260	1/1/DP119630
1/1/DP124209	1/101/DP881099		

It is noted that the acquisition of approximately 79 hectares of land at Stockrington by the RTA for the proposed F3 to Branxton corridor and some road widening along George Booth Drive have resulted in changes to the title descriptions for the Stockrington landholding.



The current title descriptions for the CNA Stockrington landholding are:

83//DP755260	Part 71//DP1065169	2//DP551917	12//DP1078246
84//DP755260	2//DP250339	30//DP1085228	1//DP250339
8//DP755260	2//DP124209	96//DP755260	82//DP755260
51//DP1095513	1//DP155446	3//DP250339	1//DP877416
89//DP755260	1//DP503566	79//DP755260	1//DP505578
13//DP1078246	3//DP977096	2//DP1039968	4//DP877416
72//DP755260	2//DP877416	1//DP123945	126//DP755262
125//DP755260	1//DP1039968	5//DP250339	11//1078246
1//DP124209	9//DP1078246		3//DP877416
	4//DP977096		95//DP755260
	1//DP119630		4//DP250339
	101//DP881099		

The Stockrington site is located within three Council areas. The current Cessnock Council rural zoning (dating from 1989) which covers about 70% of the site is considered inappropriate to ensure suitable long term conservation for this ecologically sensitive site.

The site adjoins the Mount Sugarloaf Recreation Reserve and the Heaton State Forest to the southwest and the Pambalong Nature Reserve (part of Hexham Swamp) to the north east, and forms part of this sizable vegetation corridor. It also adjoins small settlement of Seahampton to the southeast.

The site incorporates listed heritage items associated with the former Richmond Vale Railway and collieries in Stockrington. The site is highly constrained by topography and watercourses and parts of the site highly remote and with restricted access. It is a regionally significant parcel of land given its ecological significance, size and single ownership. The site is predominantly vegetated with some cleared areas. The Planned F3 Freeway extension to Branxton will potentially traverse the site.

There are two distinct areas which comprise the Minmi/Link Road estates, which are described in detail below.

### 2.3.1 Minmi Township and Surrounds

The Minmi Township was originally a cattle station which was converted into a coal mine in the 1850s. The land is underlain by coal mine workings in two seams, the Young Wallsend and the Borehole seams. Underground mining first commencing in the mid 1800's where it is understood that mining continued to operate as such until 1925. In 1900's open cut mining commenced for a further 5 years, primarily around Minmi Creek and Back Creek.

The land that is the subject of this application has been owned by Coal & Allied for many years for coal mining and is now surplus to its core business needs. The lease for underground and surface mining for the site has been relinquished.

Land ownership within Minmi is highly fragmented, with most allotments within the township privately owned, however the surrounding land is held generally held in single ownership by Coal & Allied. Proposed development surrounding the township incorporates a buffer area to retain the character of the Minmi Township.

Minmi is bounded by the F3 Freeway to the west, Blue Gum Hills Regional Park to the east, Hexham Swamp to the north and the Newcastle Link Road to the south. In addition, Minmi has several physical constraints that have limited further development including steeply undulating topography, dense vegetation, and a series of waterways feeding north into Hexham Swamp.

The key aspects of the Minmi Township and surrounding lands are:

- The site is currently zoned 2(a) Residential and 7(c) Environmental Investigation pursuant to the Newcastle Local Environmental Plan 2003.
- There are several existing houses within the development areas, which will be retained as part of the future residential subdivision.
- The Minmi township includes several heritage items.
- Past mining activities of Minmi is evident through the presence of filled embankments and cuttings that formed the former rail lines; the presence of open cut mines and capped shafts and other mining infrastructure.
- Access to Minmi from the north is via Lenaghan Road , and via Newcastle Link Road and Woodford Drive from the south. Minmi Road provides access from the east and intersects with Woodford Drive.
- The terrain comprises steep topography that rises from 4m AHD to 50m AHD to the west of Minmi; 2m AHD to 30m AHD in the northern Minmi area; 8m AHD to 70m AHD to the east of Minmi; and 10m AHD to 70m AHD in the southern areas of Minmi.
- Several watercourses run through the site, which drain into Hexham Swamp, a large wetland system of the Hunter River Estuary. The main channel of Minmi Creek flows through Minmi West, to the west of the existing Minmi village area. Other additional tributaries on the Minmi East area discharge directly to Hexham Swamp.

### 2.3.2 Link Road North and South

The Link Road North and South land has remained relatively undeveloped and undisturbed due to the underground mining activities of the late 1800s which have caused stability issues for the land over moderately to steeply undulating terrain. However vegetation clearing has occurred to accommodate transmission lines within transmission easements and fire access tracks.

Land relating to an unformed road was recently transferred from the Crown to the control of Lake Macquarie City Council Road under the Roads Act 1993 and extends along the eastern portion of the Link Road North area.

Surface levels of the Link Road North and South areas range from about 20m AHD at the northern and southern boundaries of about 90m AHD at the Link Road.

Evidence of previous mining activities includes two capped shafts and remnants of previous structures including a number of old slabs and footings.

Back Creek, a major tributary of Minmi Creek, rises on the Link Road estate and flows north through Minmi West and Minmi East areas, before entering Minmi Creek just prior to discharging into Hexham Swamp.

The land is all held within single ownership which enables it to be developed as a single area, however the development will need to respect the transmission easements, steep topography and water courses.

## 2.4 Opportunities and Constraints

Having regard to the above locality and site characteristics, the following constraints and opportunities are identified below:

### 2.4.1 Opportunities

- The Coal & Allied land is surplus to the mining operations of Coal & Allied and provides for opportunities for development to meet anticipated future housing needs including a range of dwelling types.
- Provision for a series of interconnected neighbourhoods and villages located on regional transportation routes.
- An ability to establish a walking distance neighbourhood structure with the majority of dwellings within walking distance of daily needs and close to a public transport route.
- Establishment of conservation lands in and around developable areas to assist in protecting biodiversity and provide open space for recreation.
- Provision of connections between adjoining open space and surrounding National parks and conservation areas and riparian corridors.
- Implementation of a comprehensive water sensitive urban design scheme to improve the quality of creeks and waterways.
- Opportunities for the provision of a range of open space facilities to meet a variety of recreational needs.
- Reinterpretation of key heritage and archaeological items to promote and enhance the historic heritage value of the town.
- Improve existing public transport services by providing more accessible and frequent bus services.
- Improve existing road access by upgrading and increasing access points, and design in cycle and pedestrian facilities.
- Demands associated with additional population provide opportunities to increase and improve social infrastructure such as sporting facilities, outdoor recreational facilities and the interpretation of Minmi's mining heritage.
- Enhance the economic vitality of the existing village which currently has limited services.

### 2.4.2 Constraints

- Potential development opportunities will be limited by mine subsidence from previous underground mining activities, which include areas of disturbed ground and surface filling.
- Geotechnical conditions of the land include the presence of soft soils on the northern low lying parts of the site and potential acid sulfate soils. Other soil conditions potentially include areas of combustible soils and aggressive soils.
- The steep terrain of the Minmi/Link Road estates is associated with the risk of slope instability and erosion.
- The building footprint will be limited through the avoidance of building on steep slopes surrounding high points and ridgelines, the proximity to creek lines and flood prone land.
- Presence of existing and potential Aboriginal Archaeological sites.
- Presence of European heritage items and remnant mining infrastructure.
- Visual catchment and view corridor considerations taking into account visually or historically significant areas.
- The site is identified as bushfire prone land.
- Presence of endangered ecological species.
- Noise sources from two arterial roads in close proximity to the site.

### 2.4.3 Design Considerations

Key design principles used to guide the preparation of the Concept Plan were developed in the early phases of the project, including the outcomes of the charette entail:

- Protecting creeks and drainage lines with riparian corridors
- Protecting the scale and character of housing within the Minmi Village Catchment
- Incorporating heritage items and places of significance within the overall concept design
- Ensuring a permeable network of streets and pathways
- Ensuring that the majority of dwellings are within a 400-metre radius of a local park or recreation area
- Providing of additional small-scale retail activity in the south to service Link Road North and Link Road South precincts
- Maximising connectivity between development precincts through the construction of a new intersection on Newcastle Link Road
- Minimising potential stress on existing education infrastructure through the introduction of a new school precinct outside of Minmi
- Retaining Woodford Road and Minmi Road as the 'main streets' servicing the area
- Minimising cut and fill through inclusion of street and block patterns that follow contour lines
- Ensuring a range of housing types are provided within precincts.

Refer to the Concept Plan in **Appendix A** for detail.

## 3 Consultation

### 3.1 Overview

Coal & Allied's main objectives in engaging with stakeholders and the community regarding the Lower Hunter lands are to:

- Discuss transparently the project objectives;
- Engage the local community in the project;
- Enhance Coal & Allied's reputation from the transfer of the conservation lands;
- Communicate transparently Coal & Allied's intentions in relation to the development lands;
- Reiterate Coal & Allied's commitment to the Hunter region, its support of local communities and businesses, and acknowledge its responsibilities as a major employer in the region; and
- Communicate the benefits to the region of the proposal.

A strong commitment by Coal & Allied to implement an inclusive and pro-active community engagement process underpins the strategy. The commitment also reflects the objectives of the project. To achieve these objectives and ensure the strategy is effective, an engagement plan was devised in alignment with the broad principles of being inclusive, transparent and obtaining community feedback.

The tasks completed to implement this plan include:

- Establishing and maintaining a project database.
- Establishing a community information line (1800 551 560).
- Establishing and maintaining a project website (via Coal & Allied website).
- Community briefings.
- A series of targeted stakeholder meetings.
- Production & distribution of a brochure explaining Coal & Allied's history in the area, the relationship of Coal & Allied land to the Lower Hunter Regional Strategy, engagement opportunities and approach to sustainability.
- Community workshops to collate community values and identify needs for consideration during preparation of masterplans.
- Community newsletter, newspaper advertising and media releases.
- Community input into the regional forum and charettes.
- Public meetings.

### 3.2 Community Engagement Strategy and Community Consultation Process

#### 3.2.1 Public Meetings

Three public meetings were held following the public signing of the MoU in October 2006 for the seven Coal & Allied sites. Each meeting featured a presentation outlining the broad overview of the project, highlighting the proposed development lands and the conservation areas and the planning process. The meetings were held at:

- Minmi Town Hall, 14 November 2006;

- Catherine Hill Bay, 17 November 2006; and
- Gwandalan/Summerland Point – 11 December 2006.

A summary of the issues raised at each meeting is included in the Northern Estates Charette Report at **Appendix S**

### 3.2.2 Targeted Stakeholder Meetings

In early 2007, a series of targeted stakeholder meetings was held to introduce the Coal & Allied staff and provide an overview of the project and the planning process. These meetings were also used to outline the consultation process including the community workshops and the charette.

Meetings were held with the following stakeholders: Lake Macquarie Council, Wyong Council, Newcastle Council, Koopahtoo Aboriginal Lands Council, Mindaribba Aboriginal Lands Council, Awabakal Aboriginal Lands Council, Bahtabah Aboriginal Lands Council, Darkingung Aboriginal Lands Council, Nords Wharf Scouts, Hunter Economic Development Corporation, Awarbukal Cultural Resource Association, Hunter Business Chamber, Hunter Community Environment Centre, Landcare (Hunter), Mine Subsidence Board, Catherine Hill Bay Progress Association, Minmi Progress Association, National Parks Association, Newcastle Wilderness Society, Hunter Chapter, Property Council and Green Corridor Coalition.

Some of the key messages received from these stakeholder meetings included reinforcing the importance of achieving the conservation corridors and the high biodiversity areas. A preference for higher densities rather than low-density urban sprawl was also put forward. Infrastructure and transport options were raised during several meetings as issues to be considered during the charette. There was some support for the growth identified in the LHRS and a suggestion to consider economic initiatives.

Each of the Local Aboriginal Land Councils requested involvement in any investigations regarding Aboriginal heritage across the sites.

### 3.2.3 Community Workshops

In November 2007, two community workshops were held for the residents of Minmi and Black Hill. The following figure below outlines the community workshop process. The process undertaken in promoting and implementing the community workshops is included in the Northern Estates Charette Report at **Appendix S**

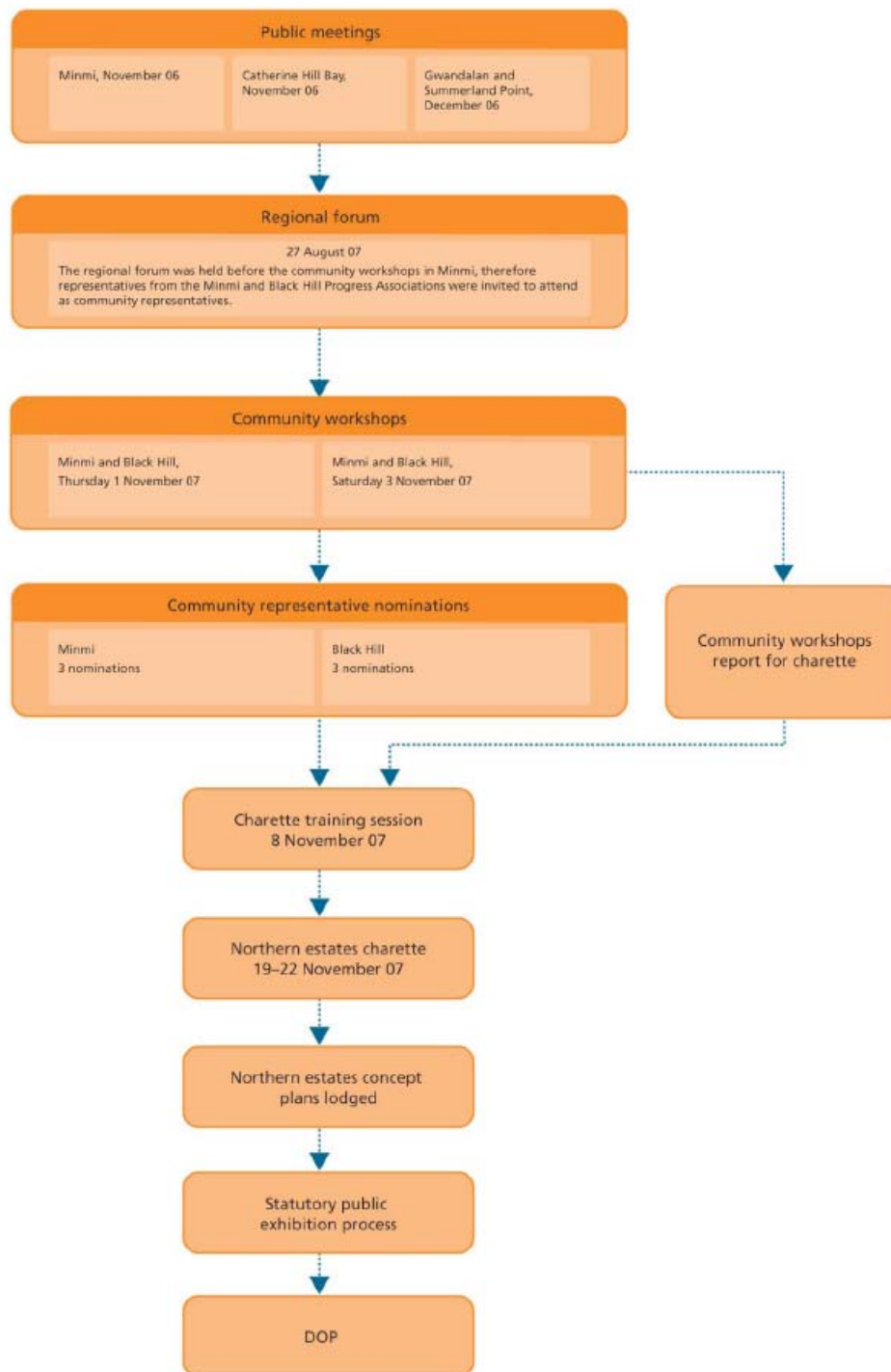


Figure 4 – Community Workshop Process

### 3.3 Regional Forum and Design Charette

The Lower Hunter lands project will contribute a number of economic, environmental and social benefits to the Lower Hunter region. Equally, the masterplanning and development process will need to address local issues and needs for each estate. To address these regional and local aspects, Coal & Allied has taken a two-tier approach to the planning process by dividing the five subject sites in this project into two areas, known as the northern and southern estates. The northern estates are Minmi/Link Road and

Black Hill and the southern estates are Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan in which Concept Plan applications are currently under consideration by the DoP. In order to progress the Lower Hunter lands project, Coal & Allied held a regional outcomes forum and charette. The regional forum and design charette drew together key government, community and project stakeholders to resolve a multitude of issues relating to the project, and develop draft integrated masterplans for the estates.

3.3.1 Charette model

The Lower Hunter lands project aims to achieve outcomes which integrate across a number of different themes, namely conservation, urban form, infrastructure and development. The figure below illustrates the charette model Coal & Allied has adopted.

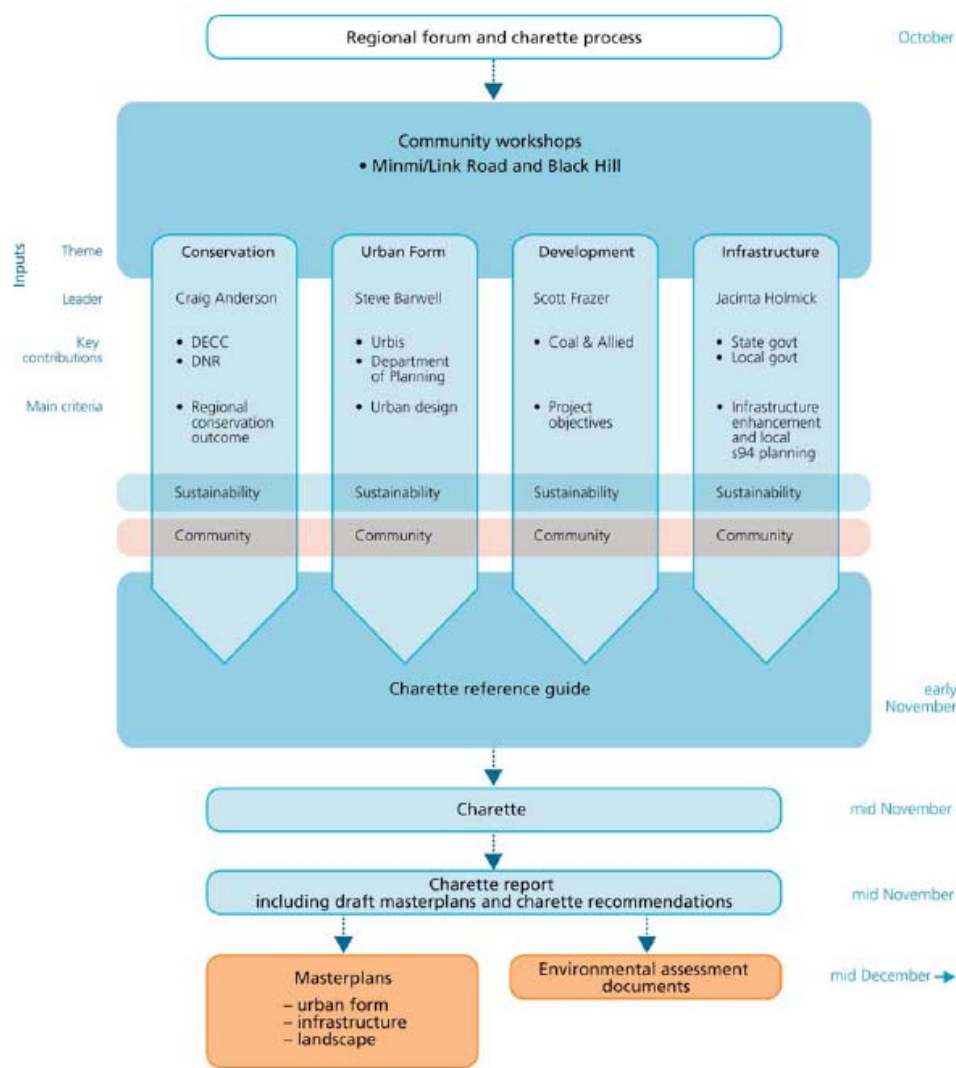


Figure 5 – Charette Model

3.3.2 The Regional Forum

The regional forum was held on 27 August 2007 and focussed on the potential outcomes of the project for the Lower Hunter region and the links between those outcomes and the goals of established regional policies. In total, 10 participants were involved in the regional forum including representatives of local communities, government agencies, Aboriginal and environmental groups. A complete list of



regional forum attendees and the key issues raised by attendees are documented in the Northern Estates Charette Report at **Appendix S**

The regional outcomes forum included presentations from the Coal & Allied project team and specialist consultants on various aspects of the proposed development including community engagement, conservation and ecology, urban design, Aboriginal and cultural heritage, social infrastructure, transport, water management, civil engineering, and geotechnical issues.

The forum also incorporated stakeholder discussions and feedback, which provided a regional context to the masterplanning work undertaken during the charettes. The key issues raised by attendees at the regional forum have been documented and are included in the Northern Estates Charette report.

### 3.3.3 Northern Estates Design Charette

Following the regional forum, a separate four day charette was held, from 19 to 22 November 2007 for the northern estates. A charette is an intensive working session which addresses multiple objectives and issues related to a project. The charette made recommendations to Coal & Allied regarding the delivery of the project objectives in relation to four themes: Conservation, Urban Form, Development and Infrastructure.

The northern estates charette involved a total of 68 participants, comprising representatives from the following stakeholder groups:

- Community representatives.
- Aboriginal Land Councils.
- Aboriginal Traditional Owner groups.
- Environment groups.
- State government agencies.
- Local Councils.
- Industry experts.
- Consultants and technical specialists.

A complete list of charette attendees is contained within the Northern Estates Charette Report at **Appendix S** and Section 3.4 of this report.

In November 2007, Coal & Allied prepared a northern estates charette reference guide that detailed the project objectives and input information to help the charette to reach these outcomes. The reference guide outlined the regional and local context for the project with reference to the different themes of conservation, urban form, infrastructure and development. The reference guide was distributed to all charette participants for review before participation in the charette.

The Northern Estates Charette Report included at **Appendix S** records the outcomes of Coal & Allied's Lower Hunter lands regional forum and northern estates charette and provides Coal & Allied with a series of recommendations for primary input to future concept plan applications. The outcomes of the regional forum and charette are:

- A recommended statement of commitments for each of the northern estates, namely Minmi/Link Road and Black Hill.
- Associated concept plans for each estate including details of conservation, landscape, urban form and infrastructure.
- Priority initiatives to be funded under Coal & Allied's \$10 million northern estates allocation (beyond statutory requirements) as identified during the charette.
- A record of issues that require further investigation and discussion with key government agencies.

### 3.4 Agencies and Authorities

As discussed Coal & Allied have a strong commitment to implement an inclusive and pro-active community engagement process.

The following participants attended the all day Regional Forum held on 27 August 2007.

- Community representative – Progress association;
- Community representatives Minmi;
- Community representatives – Catherine Hill Bay;
- Community representatives – Nords Wharf;
- Community representatives – Gwandalan;
- URGE;
- Aboriginal Land Council (Darkinjung);
- Aboriginal Land Council (Awabakal);
- Aboriginal Land Council (Bahtabah);
- Guringai Tribal Link Aboriginal Corporation;
- Awabakal Traditional Owners Aboriginal Corporation;
- Awabakal Descendents Traditional Owners Aboriginal Corporation;
- Newcastle City Council;
- Lake Macquarie City Council;
- Wyong Shire Council;
- Hunter Valley Buses;
- Busways;
- Roads and Traffic Authority;
- Telstra;
- Energy Australia;
- Alinta;
- Hunter-Central Rivers Catchment Management Authority;
- Gosford Wyong Councils' Water Authority;
- Hunter Water;
- Ambulance Service of NSW–Hunter;
- NSW Fire Brigade;
- Hunter Economic Development Corporation;
- Department of Environment and Climate Change;
- Department of Planning;
- Department of State & Regional Development;
- Mine Subsidence Board;

- NSW MPs;
- Newcastle Cycleways Movement Inc.;
- Lake Macquarie Coastal and Wetlands Alliance;
- Hunter Valley Research Foundation; and
- Green Corridor Coalition.

It is noted that representatives from the NSW Department of Natural Resources, NSW Department of Primary Industries, NSW Heritage office, NSW Police Department, the State Emergency Service, NSW Rural Fire Service and all utility providers were invited to attend the Regional Forums but could not attend. Consultation with these representatives is currently being undertaken or will be undertaken during the statutory assessment process.

### 3.4.1 Design Charette

Representatives from each of the communities of Minmi, Black Hill, Stockrington, the local Aboriginal communities and representatives of environmental groups were also invited to participate in the Design Charette process. The following participants attended the three (3) day Northern Estate Design Charette held on 19 to 22 November 2007:

- Community representatives – Minmi;
- Community representative – Black Hill;
- Community representative – Stockrington;
- NSW National Parks and Wildlife Service;
- Black Hill Progress Association;
- Green Corridor Coalition;
- Minmi Progress Association;
- Kukuynjal Barritjapa;
- Cessnock City Council;
- Department of Planning;
- Lake Macquarie City Council;
- Newcastle City Council;
- Awabakal Traditional Owners Aboriginal Corp;
- Department of Education;
- Department of Environment and Climate Change;
- Hunter New England Area Health Service;
- Green Corridor Coalition;
- NSW Rural Fire Service;
- Mindariba Local Aboriginal Land Council;
- Awabakal Local Aboriginal Land Council; and
- Awabakal Descendants Traditional Owners Aboriginal Corp;

In addition the following consultation has been undertaken:

- Over the past 24 months Coal & Allied has undertaken extensive consultation with the Department of Planning (DOP) and Department of Environment and Climate Change (previously Department of Environment and Conservation known as DEC) relative to its surplus land holdings in the Lower Hunter. Minmi/Link Road forms part of that total land holding. Negotiations with the Minister for Planning, DOP, and DEC together with the results of the GIS constraints mapping has resulted in the 526ha being identified as being suitable for residential development.
- Hunter Water as detailed in the Infrastructure Report prepared by Cardno.
- Energy Australia and Transgrid as detailed in the Infrastructure Report prepared by Cardno.
- Alinta as detailed in the Infrastructure Report prepared by Cardno.
- Telstra as detailed in the Infrastructure Report prepared by Cardno.
- Local Aboriginal Land Council's, Aboriginal stakeholder groups, Lake Macquarie Council and DECC as detailed in the Heritage Impact Assessment prepared by ERM. A detailed Aboriginal consultation log is included at Annex A of the HIA.
- Mine Subsidence Board as detailed in the Preliminary Contamination, Geotechnical and Mine Subsidence Assessment prepared by Douglas Partners.
- Lake Macquarie City Council; Newcastle City Council; NSW Health (Hunter New England region); NSW Department for Ageing Disability and Home Care; and Department of Education and Training as detailed in the Social Infrastructure Report prepared by Urbis.

### 3.5 Adjoining Landowners

Following the signing of the Memorandum of Understanding with the NSW Government on transfer of conservation lands and identification of potential development lands, Coal & Allied made contact with the following adjoining owners. Subsequent meetings were also held with most of the owners listed to brief them on the proposed development.

- The McCloy Group of Companies (Edgeworth, West of Link Rd South)
- Twin Rivers Developments Pty Limited (South of Link Rd South)
- Australand (JV partner of Xstrata Coal East of Link Rd North & South)
- Hunter Central Rivers Catchment Management Authority (HCRCMA) (Hexham Swamp)
- North West Pty Ltd (East of Minmi East)
- Urban Pacific (East of Minmi East)
- Kingston Developments (Fletcher)
- Mirvac (Fletcher)
- Roads & Traffic Authority

Following the design charrette a number of meetings were held with adjoining landowners and key stakeholders.

The main purpose of these meetings was to provide an overview of the concept plan and receive comments. Meetings or conversations were held with private adjoining landowners on Minmi Road; and private adjoining landowners at Minmi, including those in Railway Street and Church Street.

Meetings were also held with adjoining businesses and groups to discuss common planning issues, including the following:

- Blue Gum Hills Regional Park;
- Hunter Integrated Resources and Summerhill Waste facility;
- Hunter Water

A follow-up community briefing was held on 11 September 2008 to highlight the revised concept plan following further investigations into mine subsidence and bushfire threat analysis. This meeting was attended by community representatives who had participated in the charette in November 2007.

### 3.6 Strategy for Future Consultation

In conjunction with public exhibition of the Concept Plan by the DoP, the proponent will host a web site containing the concept plan, all supporting reports such as traffic, noise, heritage etc.

Submissions commenting on the Concept Plan will be invited to be directed to the responsible officer at DoP. Following completion of public exhibition, the proponent will request copies of all submissions from the DoP and will prepare a summary compiling all submissions and the proposed response/s to any issues raised.

Briefings of stakeholders will continue through out the statutory process.



## 4 Development Description

### 4.1 Concept Plan

The Major Project Application seeks development consent for a Concept Plan for the future development of the Minmi / Link Road estates comprising residential precincts and includes commercial, open space, community and educational land uses. Aspects for which concept approval is sought include:

- Dedication of 2,264ha of conservation land comprising approximately 77.4% of the Coal & Allied northern lands as shown in Conservation and Development Areas Plan (Figure A.1.1) prepared by Conics;
- Approximate dwelling yield of 3,300 dwellings over 520ha as shown in the Illustrative Concept Plan (Figure A.1.4) prepared by Conics and includes residential, recreational areas, educational facility, retail and community facilities;
- A range of land uses as proposed in the SSS Listing and as indicatively shown on drawing (Figure A.1.4) Urban Structure prepared by Conics;
- Conceptual road design and access arrangements as shown on drawing A.1.2.1 prepared by Conics;
- Landscape, open space and heritage design concepts as shown in drawing A.2 prepared by Conics and JMD and included at **Appendix A**;
- Urban Design Guidelines prepared by Conics and included at **Appendix B**;
- Indicative development staging as indicated in drawing A.3.1 prepared by Conics and included at **Appendix A**; The number of lots and extent of staging for release areas will be largely dictated by the services infrastructure requirements as well as responding to market forces; and
- Associated infrastructure arrangements.

The Concept Plan includes the torrens title subdivision of Coal & Allied land as illustrated in the following plans by Monteath & Powys:

- Figure A.1.1.1 “Minmi and Link Road Conservation & Development Area ” by Conics under **Appendix A**; and
- “Plan of Proposed Subdivision of Lot 712 DP 1113237 & Lot 48 DP 115128 Minmi” Sheet 1/1 Rev A drawing by Monteath & Powys Pty Ltd; and “Minmi Land Holdings Plan” Sheet 1/1 Rev A drawing by Monteath & Powys Pty Ltd in **Appendix T**.

The proposed subdivision of Coal & Allied land will achieve the following:

- To dissect land on either side of the F3 Freeway and to separate the development lot from the conservation land.
- To enable the transfer of 17ha of Minmi in the vicinity of the Minmi Rural Fire shed dedicated to State Government for conservation land.

Five developable precincts are identified under the Concept Plan, located around the Minmi township and to the north and south of Link Road. The developable areas have been established on the basis of detailed investigations in respect to existing environmental constraints and opportunities for future sustainable growth. The developable precincts are nominated under the Concept Plan as:

- Minmi East: located between existing Minmi township and The Outlook, to act as a “gateway” to the east.
- Minmi Extension: located west of existing Minmi township incorporating existing Garden House and Workshop heritage parks.

- Village Centre: located in the centre of the site, and as proposed as a new activity hub for the area.
- Link Road North: located along the northern boundary of the Newcastle Link Road, acting as “gateway” to existing and future development in the south.
- Link Road South: located south of Newcastle Link Road, including a connector road linking the proposed development with Cameron Park and other future developments.

Access and connectivity features of the Concept Plan entail the following proposed arrangements:

- The main vehicular access is via the proposed Minmi Boulevard, which links Newcastle Link Road at the southern end and Woodford Road to the North. Minmi Boulevard is proposed to accommodate the majority of through traffic.
- The proposed intersection of Newcastle Link Road and Minmi Boulevard will provide access points for both Link Road North and Link Road South Precincts and Blue Gum Hills Regional Park. A further road to the east is also proposed off Newcastle Link Road for emergency access purposes.

A series of open space areas are proposed that provide a diverse range of functions, some of which are to include public art and heritage interpretation as follows:

- Four neighbourhood parks located within precincts.
- Two historically significant parks located in the Minmi extension precinct adjacent to the existing village, indicated on the Concept Plan as “Workshop park” and “Garden House Park”
- A linear park incorporating the heritage walk that aligns with the former railway line.
- Open space network including riparian corridors.
- Bushland reserves dedicated in periphery areas around the development.

Approval is not sought under the Concept Plan for a specific lot layout. An indicative lot layout has been prepared by Conics as shown in drawing A.1.4 and included at **Appendix A**. The indicative lot layout indicates how the approximate yield of 3,300 dwellings could be achieved on the site.

Approval is not sought under the Concept Plan for subdivision or individual housing designs. Graphics of the proposed concept plan are included at **Appendix A**.

The principles that have informed the Concept Plan in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site have been prepared by Conics and JMD and are included at **Appendix A**.

## 4.2 Strategic Justification for the Project

The two northern sites owned by Coal & Allied (Minmi and Black Hill) have been recognised for their State and Regional significance based on their inclusion in the LHRS for urban development and conservation.

Coal & Allied are dedicating 2,411ha (77.4%) of their northern land holdings at Stockrington and Tank Paddock to the NSWG for conservation, with the balance of this land (704ha or 22.6%) to be zoned for residential development and employment lands. The land to be rezoned for residential development will provide approximately 3,300 dwellings at Minmi over 520ha and employment land uses at Black Hill over 183ha.

The future 3,300 dwellings and 183ha of employment lands will help achieve the State Government’s objective to cater for the predicted population growth for the Region over the next 25 years.

The two northern land holdings must be considered in a regional context as well as individual sites consistent with the terms of the MOU. The overall Coal & Allied land package in the Lower Hunter will achieve sustainable conservation outcomes, with 3,267.7ha of the southern and northern Coal & Allied landholdings to be dedicated to NSWG for environmental protection. The Minmi and Black Hill sites form an important part of this environmental land offset package for the entire region. The two sites are



each of significant regional importance with 17ha of Minmi and 100% of C&A Stockrington land (2,247ha) to be dedicated to the NSWG as conservation land as part of this project.

The conservation land to be dedicated to the NSWG will provide and enhance vitally important conservation corridors identified in the LHRS and Draft Regional Conservation Plan. The securing, protection and management of conservation corridors is a key focus of both the LHRS and the companion Draft Regional Conservation Plan. The development of the two sites in return for 2,411ha of conservation land dedication is crucial in achieving the state government's objective of securing major conservation corridors, most notably to the northern lands, the green corridor that links the Watagans and Yengo National Parks with the coastal plains of the Tomago Sandbeds, Stockton Bight and Port Stephens; and the Wallarah Peninsula Corridor.

### 4.3 Alternatives Considered

The extensive design and stakeholder process undertaken by Coal & Allied has enabled several development alternatives to be tested and considered. From the options considered, the following two options are discussed in detail below.

It should be recognised that the 'do nothing' scenario has been considered and dismissed as a realistic option since this will not achieve the conservation outcomes sought under the LHRS and draft Lower Hunter Regional Conservation Plan and will not contribute to the future housing needs of the region.

The final Concept Plan option represents a refinement of the preferred option arising from the charette process and entails a reduction in the development lot yield to that set in the MoU of up to 6,321 lots over 526ha to a proposed development dwelling yield of approximately 3,300 dwellings over 520ha. The reduction to the lot yield is due to environmental constraints arising from further environmental investigations conducted following the charette period. This is particularly attributed to further investigations to mining constraints which altered the positioning of density over the site. Whilst the development lot yield has been reduced significantly, the extent of conservation lands to be transferred to the NSWG remains generally the same to that identified in the MoU.

The charette process enabled the drawing together of key government, community and project stakeholders to make recommendations which have informed the final Concept Plan for the Minmi /Link Road estates.

### 4.3.1 Option 1

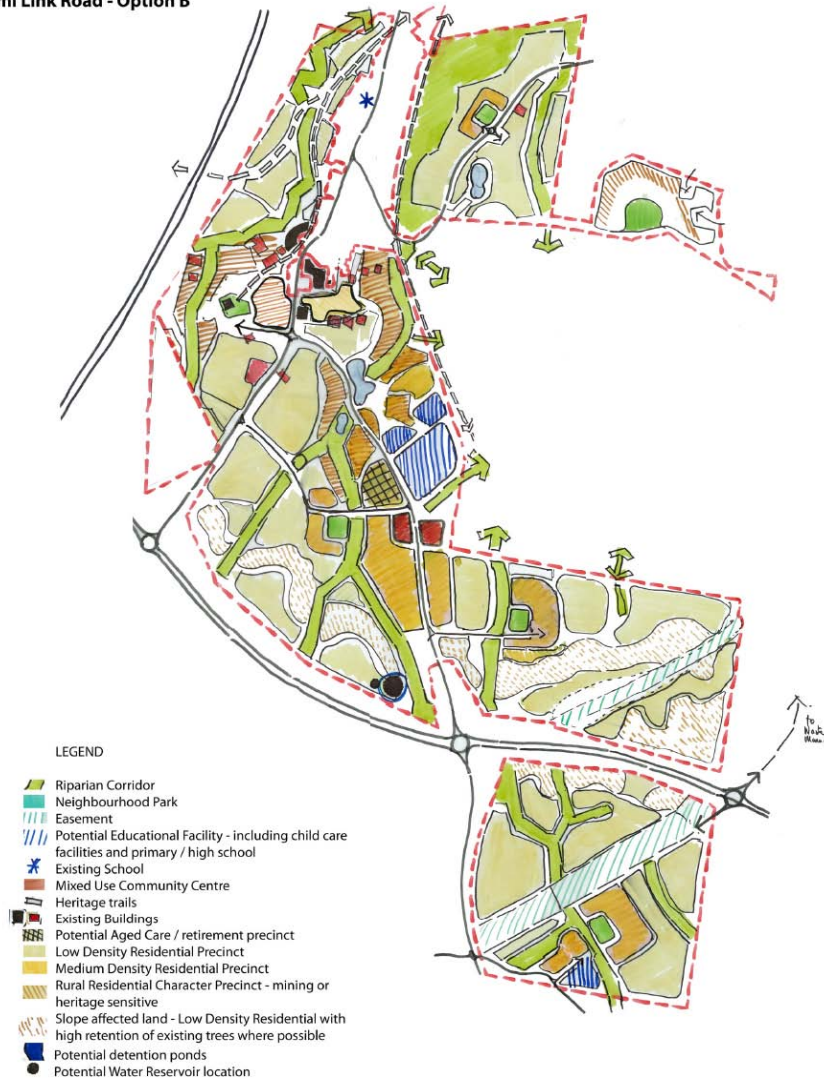
**Minmi Link Road - Option A**



- Dedication of 2,264ha of conservation land and developable area of 520ha to accommodate residential allotments, recreational areas, educational facility, retail and community facilities.
- Protection of creeks and drainage lines with riparian corridors.
- Potential school located in the centre of site and in the Link Road South precinct.
- Providing for higher densities across the site, in particular in the centre of the site and around the existing village, on land constrained by previous mining activities. The extent of mining constraint was not known at the time of the Charette.
- Low density residential development in Minmi East on land constrained by previous mining activities. The extent of mining constraint was not known at the time of the Charette.
- Provision of medium density development in Link Road South Precinct.
- Provision of mixed use community centre in the centre of the site.
- Incorporation of heritage items and places of significance within the overall concept design.
- Ensuring a permeable network of streets and pathways.

## 4.3.2 Option 2

Minmi Link Road - Option B

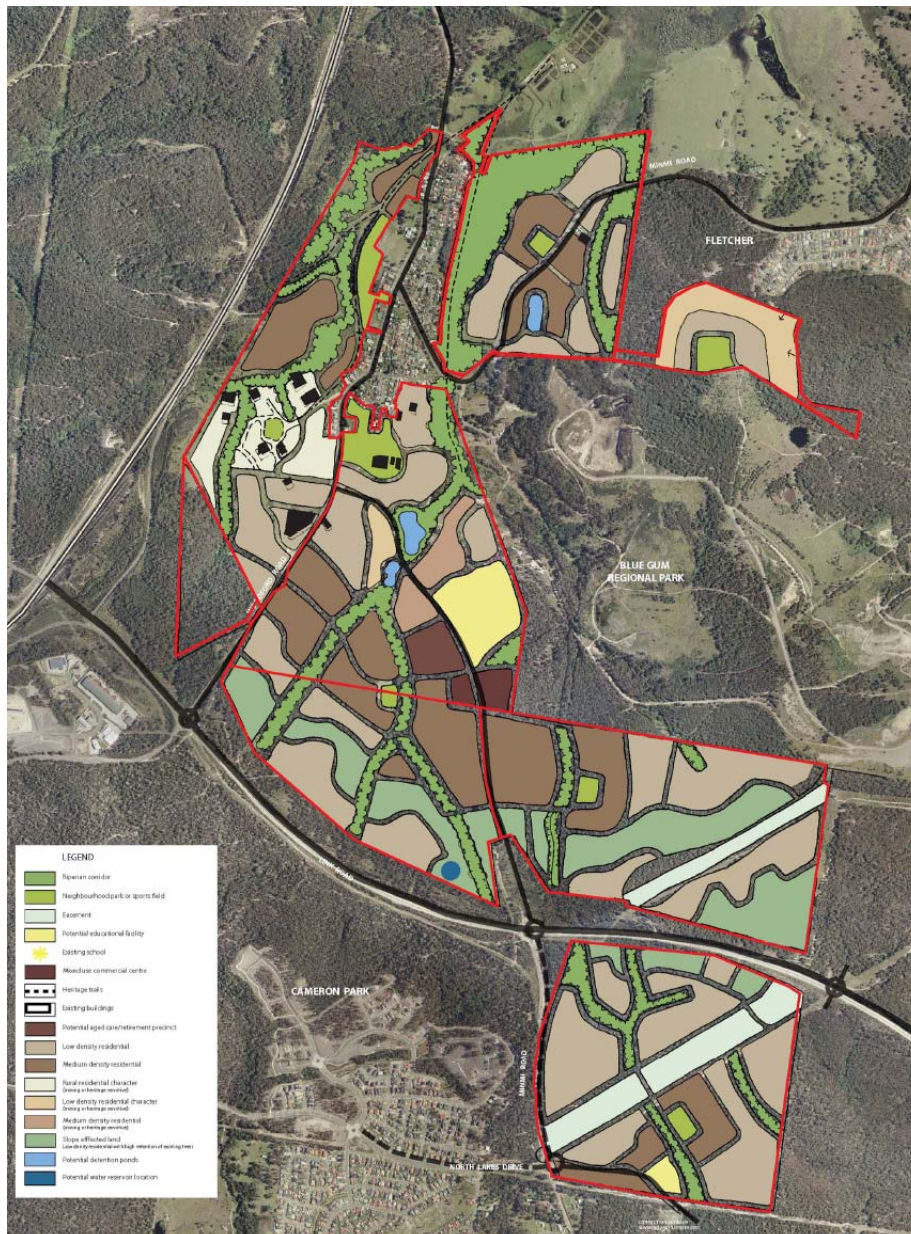


- Dedication of 2,264ha of conservation land and developable area of 520ha to accommodate residential allotments, recreational areas, educational facility, retail and community facilities.
- Protection of creeks and drainage lines with riparian corridors.
- Potential school located in the centre of site and in the Link Road South precinct.
- Providing for higher densities across the site, in particular in the centre of the site, on land constrained by previous mining activities. The extent of mining constraint was not known at the time of the Charette.
- Low density residential development in Minmi East on land constrained by previous mining activities. The extent of mining constraint was not known at the time of the Charette.
- Provision of medium density development in Link Road South Precinct.
- Low density development around the existing Minmi village.
- Provision of mixed use community centre in the centre of the site.
- Incorporation of heritage items and places of significance within the overall concept design.



- Ensuring a permeable network of streets and pathways.
- Providing the majority of dwellings within a 400-metre radius of a local park or recreation area.
- Provision for a range of housing types, retail precincts and land for community and recreational facilities.

### 4.3.3 The Preferred Option



The preferred option is represented in the above scheme, which reflects over riding key principles decided on day three of the charette. These principles were nominated by members of the community as identified in the Conservation and development – northern estates charette report:

- *Riparian / ecological corridors need to be wider to allow for ecological function.*
- *DA stage 1: increase density to allow for larger wildlife corridor both to the east and the west.*
- *Visual impact to Minmi is minimised.*

- *Reconsider location of retirement village (slope).*
- *Visual impact of stage 1 low-density and John Brown's paddock.*
- *Clear definition between old Minmi and new town.*
- *Review access.*
- *No access conflicts between retirement village and school.*
- *Access to potential medium-density in northern area.*
- *Reinforce connection to Blue Gum Hills.*

The final Concept Plan submitted with the EA is a refinement of the preferred option as a result of further detailed environmental investigations such as mining and heritage impact analysis. Overall, the final Concept Plan entails a reduction in the development lot yield to that set in the MoU of up to 6,321 lots over 526ha to a proposed development lot yield of approximately 3,300 dwellings over 520ha. The reduction to the lot yield is due to environmental constraints arising from further environmental investigations conducted following the charette period. Whilst the development lot yield has been reduced significantly, the extent of conservation lands to be transferred to the NSWG remains generally the same to that identified in the MoU.

As identified by Conics in the Concept Plan documentation, the key principles of the final Concept Plan entails:

- Protection of creeks and drainage lines with riparian corridors.
- Protection of the scale and character of housing within the Minmi Village Catchment.
- Incorporation of heritage items and places of significance within the overall concept design.
- Ensuring a permeable network of streets and pathways.
- Providing the majority of dwellings within a 400-metre radius of a local park or recreation area.
- Accommodating future educational demands by the introduction of a new school precinct in the Link Road South precinct.
- Retaining Woodford Road and Minmi Road as the 'main streets' servicing the area
- Minimising cut and fill where possible through inclusion of street and block patterns that follow contour lines.
- Provision for a range of housing types, retail precincts and land for community and recreational facilities.

## 4.4 State Significant Site Listing and Rezoning

A separate report has been prepared and lodged concurrently with Department of Planning (DoP) in support of an application for listing and rezoning of the Coal & Allied owned Minmi/Link Road estates as a SSS on Schedule 3 of State Environmental Planning Policy (Major Projects). This report should be read in conjunction with the SSS Listing Report. The SSS listings/rezoning for Minmi/Link Road will delineate zones and associated development controls as well as establish the future approval/consent authority regimes.

## 4.5 Stages of Project

The proposed extent of development over 520 ha of land, the subdivision of land will be undertaken in 5 overall stages that will be constructed separately and independently of the others in the following indicative order:

Stage 1 – Minmi East

Stage 2 – Link Road South

Stage 3 – Minmi Village extension

Stage 4 – Village extension

Stage 5 – Link Road North

The provision of infrastructure and public domain works is to be undertaken in five packages that service each of the precincts. Refer to **Appendix A** for further detail.

Separate approvals will also need to be sought for the construction of individual houses.

Project Applications under Part 3A will be required for the subdivision of the stages and the construction of individual houses will be sought through separate Complying Development provisions where possible, or individual development applications under Part 4 if required.

## 5 Environmental Planning Assessment and Guidelines

Consistent with the provisions of the Environmental Planning & Assessment Act 1979, the DGEAR's requires the proponent to consider all the relevant State Environmental Planning Policies; applicable planning instruments; and relevant legislation and policies.

The project has been referred to the Commonwealth, Department of Environment, Water, Heritage & the Arts (DEWHA) pursuant to the Environment Protection and Biodiversity Conservation Act 1999 provisions.

### 5.1 Relevant Planning Provisions & Policies

The following current and draft state, regional and local planning controls and policies apply to the Minmi/Link Road estates:

- Lower Hunter Regional Strategy
- State Environmental Planning Policy (SEPP) Major Projects;
- SEPP 14 – Coastal Wetlands
- SEPP 44 - Koala Habitat Protection;
- SEPP 55 - Remediation of Land;
- Draft SEPP 66 – Integrating Land Use and Planning;
- State Environmental Planning Policy (Infrastructure) 2007
- State Environmental Planning Policy (Mining, Petroleum Production & Extractive Industries) 2007;
- State Environmental Planning Policy Building Sustainability Index;
- Planning Circular PS 07-018 (Infrastructure Contributions);
- Hunter Regional Environmental Plan 1989;
- Hunter Regional Environmental Plan 1989 (Heritage);
- Draft Lower Hunter Regional Conservation Plan 2006;
- Newcastle Local Environmental Plan 2003;
- Lake Macquarie Local Environmental Plan 2004;
- Western Corridors Strategy (Draft);
- Planning for Bushfire Protection 2006.
- Newcastle Development Control Plan and Subdivision Code; and
- Lake Macquarie Development Control Plan No.1

The following sections of the report address the proposed Concept Plan relative to applicable provisions under the above planning instruments and policies.

### 5.2 Lower Hunter Regional Strategy

The purpose of the Lower Hunter Regional Strategy is to ensure that adequate land is available and appropriately located to sustainably accommodate the projected housing and employment needs of the region's population over the next 25 years.

The New South Wales Government released the final Lower Hunter Regional Strategy (LHRS) on 17 October 2006. The Lower Hunter Regional Strategy plans for population growth of 160,000 people by the year 2031. This represents an increase of 35,000 over the draft strategy to reflect accelerated growth rates in recent years.

In order to house this expected larger population, additional development areas were identified in the final strategy including land at Fennel Bay, Kurri Kurri, Branxton, Cessnock, West Maitland, Lochinvar and land at West Newcastle around the Newcastle Link Road which includes the subject C&A owned Minmi/Link Road estates. In addition to these estates, the Coal & Allied owned land at Black Hill, Catherine Hill Bay, Nords Wharf, and Gwandalan are specifically identified in the strategy as urban release areas expected to accommodate approximately 4,235 dwellings (approximately 3,300 Minmi / Link Road and 935 in the Coal & Allied Southern lands), contributing towards the new dwelling requirements proposed in the strategy.

3,322ha of the estates are identified in the regional strategy as proposed conservation lands which are areas of high conservation value in the nominated green corridors that will be dedicated to the public. The lands are similarly identified in the draft Lower Hunter Regional Conservation Plan prepared by the Department of Environment and Conservation. It is proposed that the Concept Plan and Draft Schedule 3 SEPP amendment will designate land as environmental protection with a commitment to dedicate these lands when rezoned for conservation purposes.

The proposed dedication of 2,411ha for conservation lands that include 100% of the Tank Paddock and Stockrington sites (excluding the land proposed extension of the F3 Freeway) and 17ha of Minmi will be dedicated to NSWG for conservation and will make a significant contribution to the Watagan-Stockton conservation corridors identified in the LHRS. In combination with the Coal & Allied lands, the development of Minmi/Link Road estates and consequential conservation land dedication is an integral element of the LHRS.

### 5.3 State Environmental Planning Policy (SEPP) Major Projects

State Environmental Planning Policy (Major Project) 2005 (Major Projects SEPP) came into effect on 25 May 2005. This SEPP identifies "Major Projects" that are subject to the Part 3A provisions under the Environmental Planning & Assessment Act 1979 (EP&A Act), for which the Minister for Planning is the approval authority.

Development projects may also be declared as "Major Projects" under the provisions under Section 75B(1) of the EP&A Act in which the Minister for Planning makes an order to the effect to which Part 3A applies to a project. With respect to the subject project, an order by the Minister for Planning under these provisions was gazetted on the 14 December 2007.

In addition to the above statutory Major Projects provisions, the subject site is required to be listed under Schedule 3 of the Major Projects SEPP as a State significant site prior to determination of the Concept Plan. In considering whether to include the site in Schedule 3, the DoP has required a study to be carried out that addresses the following matters:

- The State or regional planning significance of the site;
- The suitability of the site for the proposed land use;
- The implications of the proposed land use;
- Developer contributions;
- Local and regional economic impacts;
- The draft Newcastle – Lake Macquarie Western Corridor Planning Strategy;
- Recommended land uses and development controls for inclusion in Schedule 3;
- Those parts of the site which would be subject to Part 4 of the EP&A Act with the relevant Council as the consent authority; and



- Arrangements for the compulsory acquisition, if relevant, by Council for open space purposes.

This study is submitted to the DOP concurrently with the separately proposed Concept Plan under this Major Project Application.

## 5.4 State Environmental Planning Policy 14 – Coastal Wetlands

State Environmental Planning Policy No 14—Coastal Wetlands (SEPP 14) aims to preserve and protect coastal wetlands and identifies over 1300 wetlands of high natural value within NSW. Hexham Swamp contains areas of designated SEPP 14 (Coastal Wetlands) and therefore the proposed hydrological management strategy for the proposed Concept Plan has been considered to ensure the integrity of this wetland is maintained.

Refer to Section 6.10 of this report and **Appendix P** for further detail.

## 5.5 State Environmental Planning Policy 44 - Koala Habitat Protection

State Environmental Planning Policy No 44—Koala Habitat Protection (SEPP 44) aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to ensure the permanent free-living population will be maintained and increased. The SEPP 44 requires an assessment of the core koala habitat of sites subject to development proposals prior to determination of development applications.

An ecological assessment of the Minmi/Link Road estates has been undertaken by RPS Harpers Somers O'Sullivan Pty Ltd, which includes investigations relating to koala habitat and the considerations of SEPP 44. The results of the assessment are summarised below:

- The site is regarded as a "Potential Koala Habitat" due to the presence and extent of native vegetation on the site, listed under SEPP 44 and locally occurring feed trees under regional fauna survey guidelines.
- The site is not considered to be "Core Koala Habitat". Surveys were conducted across the site, where feed tree species were found at greater densities. One single koala was observed, however no other Koalas or secondary indications of Koalas on the site were found. In view of the absence of further evidence, it is concluded that the presence of the individual koala represented transitory movements by an unattached individual and not part of an in situ population on the site.

Despite the occurrence of "Potential Koala Habitat", the lack of secondary indications of the presence of koalas confirms that the site does not accommodate a local population and no further assessment relative to SEPP 44 is required. Refer to the Ecological Assessment Report by RPS Harpers Somers O'Sullivan Pty Ltd in **Appendix H** for further detail.

## 5.6 State Environmental Planning Policy 55 – Remediation of Land

State Environmental Planning Policy No 55 Remediation of Land (SEPP 55) states that land must not be rezoned or developed unless contamination issues have been considered and, where relevant, land has been appropriately remediated.

Investigations into the suitability of the land in respect to potential contamination have been carried out by Douglas Partners Pty Ltd.

Potential contaminants from the former site uses include:

- Lead and Benzo(a)pyrene at the southern extent of Minmi North.
- Deleterious surface material from opportunistic tipping in Minmi East and building rubble containing fibro sheeting in Minmi East.

- Metals, TRH, Benzo(a)pyrene and Total PAH in Minmi West in the areas of the former workshops, the former rail line and rail sidings and screens, and an area that appears to have been a former residential development. Asbestos in fibro sheet fragments and in soil filling in Minmi West was also found near a former screening building and former rail line to Duckenfield Colliery.
- Arsenic and lead on the site of a capped former shaft. Asbestos fragments identified on the surface of Pitt 144 in Minmi South.
- Asbestos fragments and fibres in soil from opportunistic dumping of fill in Link Road North and South.

Overall, based on the results of the preliminary assessment the following works are required to enable the future residential development of Minmi:

- Site remediation will be required in Minmi West, concentrated on the workshops, rail lines and sidings/screens.
- Localised remedial works are expected in Minmi North, East and South. Additional investigation is recommended across the site prior to development to provide additional delineation of affected areas.

A remedial action plan (RAP) for remediation works will be required to detail appropriate excavation and removal/disposal/capping of contaminated soil. This would be followed by validation sampling and analysis in accordance with SEPP 55 and NSW DECC guidelines.

The site is considered to be generally suitable for residential development in accordance with SEPP 55 and NSW DECC guidelines, providing that the following conditions are met:

- Remediation is undertaken to remove identified contaminants including asbestos fragments and asbestos impacted fill material, and areas of soil contamination.
- Deleterious materials and possible associated surface impact are removed.
- Further detailed assessment across the site prior to construction to confirm the location of localised contamination “hot spots”.
- Validation testing and verification through the NSW DECC site auditor process is undertaken where required.

Other recommendations by Douglas Partners include:

- Additional waste classification testing to classify materials prior to disposal to a licensed facility.
- Validation of asbestos contamination should be conducted by a qualified asbestos consultant.

## 5.7 Draft State Environmental Planning Policy 66 – Integration of Land Use and Transport

The Draft SEPP 66 aims to integrate land use and transport by encouraging development that:

- *Increases access to public transport, walking and cycling;*
- *Encourages people to travel shorter distances and make fewer trips; and*
- *Reduces car dependency.*

The proposed development satisfies the aims of the Draft SEPP 66 by:

- The establishment of a walking distance neighbourhood structure with the majority of dwellings within walking distance of daily needs and close to a public transport route;
- Contributing to the community in regards to enhanced transport facilities and social facilities;

- Support and enhance the existing demographic diversity by providing a range of housing requirements from singles to young couples, families, and retirees to allow population to remain in the local community;
- Enhance the economic vitality of the existing township through provision of complementary village scale retail uses to enhance the economic vitality of Minmi; and
- The subdivision is designed to encourage walking and cycling through the provision of safe walkways and cycleways.

## 5.8 State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 aims to facilitate the efficient delivery of infrastructure across NSW. The relevant provisions of the Infrastructure SEPP are addressed in a summary table under Appendix R1.

The provision of infrastructure will be undertaken as part of the future Project Applications and subdivision of each stage. Details for utility infrastructure provision is provided within the report by Cardno, in Appendix R, which has been prepared in consultation with relevant authorities. Further consultation with authorities will occur as part of the development process to ensure the timely and efficient delivery of infrastructure works at each stage.

The layout and indicative subdivision of the Concept Plan identifies that access to properties will not be available off arterial roads. Future development will be designed to ensure appropriate noise and amenity levels will be achieved as referenced in the interim guideline "Development near Rail Corridors and Busy Roads".

Future educational facilities and health services will be provided at the relevant stage. The Concept Plan makes provision for land, identified for a future primary school and land for future expansion by the existing school. There is potential for health facilities to be accommodated within a future community facility or within future village centres proposed within the Concept Plan structure and the relevant approvals will sought during future stages of the development.

## 5.9 State Environmental Planning Policy (Mining, Petroleum Production & Extractive Industries) 2007

In recognition of the importance of the mining, petroleum production and extractive industries the policy seeks to control the use of land for these purposes throughout NSW. Review of Mine Subsidence Board (MSB) maps for the area indicates that the site is underlain by the Young Wallsend and the Borehole seams.

Pursuant to *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* the consent authority is required to consider the compatibility of proposed development with mining, petroleum production or extractive industry. In considering this the consent authority must consider the following:

- the existing uses and approved uses of land in the vicinity of the development.
- whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources).
- ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery.
- evaluate and compare the respective public benefits of the development and the uses, extraction and recovery referred to above.
- evaluate any measures proposed by the applicant to avoid or minimise any incompatibility.

The site has been previously mined and extracted and Coal & Allied has no intention to undertake future mining at the site. Future mining at the site is unlikely but possible. In the event that future mining does occur restrictions on development due to future mining are provided by the DARZAL committee and a formal application to the MSB is required for consideration by DARZL.

The monitoring of borehole gas concentrations was undertaken to assess the potential future extraction for coal seam methane and it was found that limited of coal seam methane is present and therefore the site is not expected to be suitable for methane extraction.

Taking into account of the current mining constraints of the site, the future development of the site is required to be constructed in accordance with the mining constraints of the land and requirements by the MSB. It is noted that there are no mining tenements that affect the proposed development.

The project enables a significant public benefit by the dedication of 2,411ha of conservation lands on receipt of development rights over 520ha.

## 5.10 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

Introduced by the NSW Government in 2004, BASIX, the Building Sustainability Index, aims to ensure residential developments are designed to use less potable water and generate fewer greenhouse gas emissions by setting energy and water reduction targets.

This SEPP operates in conjunction with EP& A Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW

The future design of dwellings will be required to meet energy and water saving targets sought by BASIX. An Energy & Water Savings Action Plan has been prepared by Ensign as part of an Ecologically Sustainable Development report, attached in **Appendix L**.

## 5.11 Planning Circular PS 07-018 (Infrastructure Contributions)

Planning Circular PS 07-018 (Infrastructure Contributions) was issued on 6 November 2007 and PS 08-017 (Review of Infrastructure) to provide advice to changes on the setting and collection of infrastructure contributions in NSW. This circular has since been superseded by Planning Circular PS 08-017 (Review of Infrastructure Contributions) issued on 23 December 2008.

The Circular relates to the implementation of reforms to infrastructure levies announced in late 2008. This includes:

- Changes to the way that State Infrastructure contributions are calculated, by removing rail infrastructure and bus subsidies.
- Timing of payment of State Infrastructure Contribution.
- Thresholds for local government contributions applying to residential dwellings and cessation of water infrastructure changes imposed by Sydney Water and Hunter Water.

The Circular identifies that State and Local infrastructure is to only fund attributable infrastructure and land requirements to support developed land rather than infrastructure requirements driven by general population growth. That is, government agencies will only be able to levy for a range of infrastructure items where the need for that infrastructure arises from the development of land.

Coal & Allied have identified commitments towards contributions to a range of State and Local infrastructure facilities under the Draft Statement of Commitments at **Appendix D**. These commitments comprise:

- Payment of a monetary contribution, or dedication of land/carrying out of work for local Infrastructure under Lake Macquarie City Council Section 94 Contributions Plan for Northlakes and City of Newcastle Development Contributions for the Blue Gum Hills region. The total monetary amount of contribution will be made by either dedication of land free of costs, payment of contribution, or works in kind, or any combination of them.
- The Owner will enter into a Deed of Agreement with Lake Macquarie City Council and Newcastle City Council.
- Commitments comprising payment of a monetary contribution, or dedication of land/carrying out of work for Regional Infrastructure. Payment of a monetary contribution or works in kind for the provision of regional infrastructure as determined by state government will be in accordance with the review of '*Infrastructure Contributions Circular PS 08-017, 23 December 2008*'. '

For further detail, refer to the Social Infrastructure Study at **Appendix F**.

## 5.12 Hunter Regional Environmental Plan 1989

The Hunter Regional Environmental Plan 1989 (REP) provides a policy framework and strategy for development of the local government areas in the Hunter region, including Lake Macquarie and Newcastle. In particular the REP aims to achieve:

- a balanced development of the region;
- improvement to urban and rural environments; and
- the appropriate orderly and economic use of land and resources.

Clause 7 requires the consideration by a consent authority or the Minister preparing a draft LEP or development must consider the provisions of the REP that are relevant to the proposal. These provisions relative to the proposed Concept Plan are summarised in the Table below:

Table 2 – Hunter REP 1989

Consideration	Provision	Response
Part 2: Social development	<ul style="list-style-type: none"> <li>A range of the housing types in the region to meet the demands of all population needs; the appropriate siting of residential development and the provision of services and infrastructure to meet the demands of increased residential densities; and</li> <li>The coordinated provision of health, education and community facilities and services.</li> </ul>	<ul style="list-style-type: none"> <li>A range of housing types are proposed that will be further determined dependent on market demands; and</li> <li>Provision of supportive services and facilities will be provided by way of Section 94 contributions, works in kind and other mechanisms to be further explored and negotiated.</li> </ul>
Part 3: Economic Development	<ul style="list-style-type: none"> <li>Ensuring the provision of suitably located and sufficiently zoned land for industry and employment;</li> <li>Provision of commercial services to meet the demands the community and future investment and distribution of employment including in the tertiary sector; and</li> <li>Ensure the viability of centres is maintained relative to the hierarchy of commercial centres.</li> </ul>	<ul style="list-style-type: none"> <li>The future population will be serviced by the additional retail and commercial services to be provided within the proposed development.</li> <li>The existing Minmi township will be complemented by supporting mixed use retail and commercial uses. These are proposed as small scale villages and do not intend to impact on the hierarchy of the surrounding regional centres.</li> </ul>
Part 4 Land use and settlement	<ul style="list-style-type: none"> <li>Sufficient provision of urban land to meet anticipated growth in respect to constraints of the natural environment; urban capability of land; supply and demand; infrastructure; employment and services and location and development types.</li> </ul>	<ul style="list-style-type: none"> <li>The Minmi/Link Road estates forms part of the future urban areas identified in the Lower Hunter Regional Strategy. The future development of the proposed Minmi/Link Road estates will contribute to the provision of urban land to meet future population growth.</li> </ul>
Part 5: Transport	<ul style="list-style-type: none"> <li>Seeks to maximise accessibility and facilitate movement of people including traffic management considerations, upgrading of facilities and maintain an appropriate acoustical environment.</li> </ul>	<p>The Concept Plan is designed to:</p> <ul style="list-style-type: none"> <li>Ensure a permeable network of streets and pathways;</li> <li>Provide the majority of dwellings are situated within a 400-metre radius of a local park or recreation area;</li> <li>Provide additional small-scale retail activity in the south to service Link Road North and Link Road South precincts;</li> <li>Maximise connectivity between development precincts;</li> <li>Upgrading of the Newcastle Link Road/Minmi Road/Minmi Boulevard intersection in the appropriate timeframe;</li> <li>Provision of noise attenuation measures to ensure that future land uses are protected from noise impacts of surrounding roads.</li> </ul>
Part 6: Natural Resources	<ul style="list-style-type: none"> <li>Management of coal and other resources; and</li> <li>Management of water quality particularly for development within the catchment area of an existing or</li> </ul>	<ul style="list-style-type: none"> <li>Mining of the Minmi/Link Road area no longer occurs and is not envisaged to occur in the future.</li> <li>A number of initiatives are proposed to ensure that future development will</li> </ul>

Consideration	Provision	Response
	proposed dam, or aquifer recharge area.	meet the environmental target requirements of Lake Macquarie City Council and Newcastle City Council, plus an additional net benefit of achieving a reduction of the existing pollutant loads.
Part 7: Environment Protection:	<ul style="list-style-type: none"> <li>Measures to minimise pollution control in respect to air, noise and water pollution to be considered;</li> <li>Consider impacts in respect to environmental hazards such as soil erosion and land slip; flood management and bushfire management; and</li> <li>Consider impacts in respect to tall buildings, over 14 m in height.</li> </ul>	<ul style="list-style-type: none"> <li>Pollutant impacts are minimised by incorporation of WSUD Strategy Plan and implementation of soil and erosion control plans at construction phase;</li> <li>Developable areas have been sited in areas most suitable for development with consideration to potential environmental hazards. Appropriate bushfire and flood management measures are proposed.</li> <li>Dwellings will be limited to a maximum of single and two storeys, with some areas proposed to up to 3 storeys which would equate to 12m from up to eave height. In the event that future built forms exceed 14m, a future DA will be required to address the impacts of the proposed height.</li> </ul>
Part 8: Conservation and Recreation Areas	<ul style="list-style-type: none"> <li>Provisions to ensure the protection of natural areas of environmental significance;</li> <li>Provision of recreation and leisure opportunities; and</li> <li>Encourage compatible recreation and nature conservation and other land uses.</li> </ul>	<ul style="list-style-type: none"> <li>Conservation lands to be dedicated under the Concept Plan represents a significant contribution towards achieving State Government objectives for the protection of natural areas of environmental significance.</li> <li>New recreation facilities include the provision of a network of parks, walkways and cycleways.</li> <li>Open space areas are designed to allow for heritage interpretation; the retention of ridgelines that contribute to the site's visual character; provision for riparian recreation corridors and inclusion of important WSUD to promote sustainability.</li> </ul>

The proposal is consistent with the provisions of the Hunter REP 1989. The key points are summarised below:

- Environmental protection and conservation of lands is more than facilitated by the proposed conservation and dedication of 77.4% of the site to NSWG;
- The Concept Plan will facilitate the urban housing targets set under the LHRS;
- Traffic management of the site centres upon the upgrading of the intersection of Newcastle Link Road/Minmi Road/Minmi Boulevard at the appropriate timeframe and provision of internal road and intersections for each stage. These recommended infrastructure works would deliver the necessary network performance for the relevant roads and intersections to accommodate the project up to, and beyond, the 2031 full development timeframe; and
- Management of water quality and the reduction of the existing pollutant loads will result from a number of proposed sustainability initiatives for the development.

### 5.13 Hunter Regional Environmental Plan 1989 (Heritage)

The Hunter Regional Environmental Plan 1989 (Heritage) (Heritage REP) provides a regional statutory framework for the conservation of environmental heritage.

The local government area of Lake Macquarie City Council is subject to the provisions of the Heritage REP and therefore the portion of the site that is situated within Lake Macquarie City Council requires assessment under the Heritage REP. The portion of the site within the Newcastle City Council area is not subject to the Heritage REP.

The Minmi/Link Road development areas do not contain any heritage items of State or Regional significance nor is it situated within the vicinity of any listed heritage items of State or Regional significance.

It is noted that Stockrington No.2 Colliery, Stockrington Road is listed under Schedule 4, items requiring further investigation. Clause 10 of the Heritage REP requires that the demolition of a building or work in Schedule 4 requires the consent of the Council. The proposed Concept Scheme entails the dedication of the Coal & Allied Stockrington lands to be dedicated to the NSWG as conservation areas and therefore no development is proposed to the Stockrington Road area and associated Colliery, such that there will be no detrimental impact to this item. The dedication of such lands to the NSWG will assist in ensuring the preservation of this listed item.

Three heritage conservation areas are identified within the Lake Macquarie City Council area:

- Catherine Hill Bay Conservation Area;
- Teralba Conservation Area; and
- West Wallsend Conservation Area.

These heritage conservation areas are not located within the vicinity of the Minmi/Link Road estates and therefore will not be impacted by the proposed Concept Plan Scheme.



## 5.14 Draft Lower Hunter Regional Conservation Plan 2006

The NSWG released the Draft Lower Hunter Regional Conservation Plan (Draft Conservation Plan) in October 2006. The plan is a key and complimentary component of the Lower Hunter Regional Strategy as it establishes the key principles and actions proposed to achieve the biodiversity and conservation outcomes that have been outlined in the LHRS.

- The Draft Conservation Plan adopts a goal of 'improve or maintain' current biodiversity values - meaning that, gains for biodiversity must be greater than or equal to any losses resulting from land clearing or other forms of degradation;
- The Draft Conservation Plan recognises that while significant efforts have been made to avoid biodiversity impacts there will be losses of biodiversity value including areas of high conservation value. The strategy includes significant measures to offset these unavoidable losses;
- The Watagan Ranges to Port Stephens conservation area is identified in the draft Conservation Plan to be a *"highly significant link between southern sandstone ranges and the coastal heaths and wetlands of Port Stephens."* The land identified to form the new reserve is currently affected by fragmented land ownership and therefore the dedication of 2,411ha of Coal & Allied's 'Northern lands' (Stockrington and Black Hill) on receipt of development rights at Minmi and Black Hill will make a significant contribution to achieving a key objective of the strategy. That is, the creation of the Watagan Ranges to Port Stephens conservation area and consolidation of the Watagans to Stockton habitat linkage.
- Relative to the Draft Conservation Plan, the Minmi/Link Road proposal and the overall development of the Coal & Allied lands in the Lower Hunter:
  - The future residential development of Coal & Allied land will be more than offset through the dedication of 3,267.7ha over all Coal & Allied lands in the Lower Hunter. This includes the 2,411 ha of land for the Northern Estates;
  - The dedication will make a significant contribution to achieving key biodiversity objectives contained in the Draft Conservation Plan including expanding and strengthening the value of key corridor linkages through the Lower Hunter; and
  - The dedication of 2,473ha of land associated with the Northern land development comprises approximately 17% of the land needed to complete the new "Green Corridor" stretching from Watagans Ranges, through Hexham Swamp to Port Stephens.
- Detailed flora and fauna studies confirm that the habitat within these Conservation Estates for terrestrial mammals (particularly Stockrington) are of considerably greater quality than those occurring within the Development Estate lands at Black Hill and Minmi-Link Road. The proposed conservation offset lands provide excellent outcomes for the vast majority of species and communities. The quantum of the offset lands, when viewed holistically with existing and proposed conservation reserves is assessed to provide a robust long-term outcome for all species and communities.

## 5.15 Newcastle Local Environmental Plan 2003

Newcastle Local Environmental Plan 2003 (NLEP 2003) applies to the northern portion of the site, as illustrated below:

Figure 6 – Land within Newcastle City Council Local Government Area



Picture 5 – Land within Newcastle City Council Local Government Area

Under the NLEP 2003, the following zones apply to the Minmi site;

- 2 (a) Residential Zone
- 7 (b) Environmental Protection Zone
- 7 (c) Environmental Investigation Zone

In accordance with clause 6, the *Aims and General Objectives* of the NLEP 2003 are achieved by meeting the specific objectives and standards regulated through the zones and Part 3 Special provisions. The objectives relevant to the above zones are identified in the table below:

Table 3 – Zone Objectives

Zone	Objectives
2 (a) Residential	<ul style="list-style-type: none"> <li>▪ To accommodate a diversity of housing forms that respect the amenity, heritage and character of surrounding development and the quality of the environment.</li> <li>▪ To accommodate home-based business and community facilities that do not unreasonably or significantly detract from the amenity or character of the neighbourhood and the quality of the environment.</li> <li>▪ To require the retention of existing housing stock where appropriate, having regard to ESD principles.</li> </ul>

Zone	Objectives
7 (b) Environmental Protection	<ul style="list-style-type: none"> <li>▪ To provide for the conservation, enhancement and protection of environmentally sensitive land, particularly wetlands.</li> <li>▪ To allow limited development where it is unlikely to have a significant detrimental effect on the growth of natural communities, the survival of native wildlife populations, the provision and quality of habitats for indigenous and migratory species and the surface and ground water characteristics of the site</li> <li>▪ To provide for the management of the majority of the Hunter River flood plain by restricting the type and scale of development to that compatible with the anticipated risk to life and property.</li> </ul>
7 (c) Environmental Investigation	<ul style="list-style-type: none"> <li>▪ To provide for the development of land for purposes which will not, or will be unlikely to, prejudice its possible future development for urban purposes or its environmental conservation.</li> <li>▪ To conserve the rural or bushland character, and the biodiversity values or other conservation values, of the land.</li> </ul>

The permissible development relevant to each of the above zones is identified in the table below:

Table 4 – Permissible development

Zone	Permissible Development
2(a) Residential Zone	Permits development that is not listed as prohibited development. Prohibited developments are: <i>Advertising signs; advertising structures; aerodromes; airstrips; animal establishments; automotive services; boarding houses; brothels; bulky goods retail outlets; camping grounds or caravan parks; car repair stations; cemeteries; clubs; commercial offices; commercial premises; crematoriums; eco-generating works; eco-tourism facilities electronic communication centres; extractive industries; generating works; goods terminals; hazardous storage establishments; helipads; heliports; home workplaces; hospitals; hotels; industries; institutions; intensive agriculture; light industries; liquid fuel depots; local shops; marinas; motor showrooms; mines; natural water-based aquaculture; offensive industries; offensive storage establishments; passenger terminals; places of assembly; places of worship; plant nurseries; pond-based aquaculture; ports; recreation facilities; restaurants; roadside stalls; services apartments; sex aid establishments; sexual entertainment establishments; shops; tank-based aquaculture; transport depts.; warehouses and waste management facilities or works.</i>
7 (b) Environmental Protection Zone:	Allows with consent development for the purpose of: <i>agriculture; clearing; dwellings; dwelling-houses; eco-generating works; environmental facilities; flood works; recreation areas; tree removal; utility undertakings; demolition; subdivision and any development allowed by a plan of management under the <u>Local Government Act 1993</u> or <u>Crown Lands Act 1989</u>.</i>
7 (c) Environmental Investigation Zone:	Allows with consent: <i>agriculture; airstrips; animal establishments; bed and breakfast accommodation; clearing; dwelling; dwelling-houses; eco-generating works; environmental facilities; flood works; helipads; home employment; home workplaces; intensive agriculture; mines; plant nurseries; recreation areas; roadside stalls; tree removal; and utility undertakings; demolition and subdivision.</i>

The proposed Concept Plan will facilitate a diversity of housing forms from single, detached dwellings, to medium density development and mixed use developments. This aims to support and enhance the

existing demographic diversity from singles to young couples, families, and retirees to allow population to remain in the local community. Similarly, the ability to accommodate home-based business and community facilities will be met though future flexible land uses allowable under the proposed zonings of the land. The proposed Concept Plan seeks to facilitate residential development that is not currently permissible over the majority of the land within the boundaries of the Newcastle LEP (except for land that is currently zoned 2(a) residential) and therefore a State Significant listing is proposed under the Major Projects SEPP, which will provide the statutory mechanism for rezoning of the land and approval of the Concept Plan and associated future development.

As addressed in the preceding sections of the EA, the future development of the Minmi / Link Road estates achieves the objectives of enhancing the conservation values of the Lower Hunter Region by the dedication of significant, key land holdings that contribute to key green corridors. In addition, future development will be designed with the sensitive revegetation of developable lands to ecologically integrate with surrounding natural surroundings and the implementation of sustainable water cycle management infrastructure to minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies, such as Hexham Swamp.

Newcastle LEP 2003 contains special provisions that may be relevant to the project and future subdivision and development of the land. These provisions are summarised in the table below and highlight that the Concept Plan has considered the relevant statutory considerations.

Table 5 – Summary of the Newcastle LEP 2003

Provision	Response
Clause 17 – Prohibits subdivision of land if it is more than one zone unless the lot has at least 90 percent of the land in a single zone. 7(b) and 7(c) zoned land are only to be subdivided if it is complying development.	<ul style="list-style-type: none"> <li>▪ The future subdivision pattern of the land will be designed to take into consideration the proposed zoning boundaries.</li> <li>▪ A portion of land 17 ha of the site (to the immediate north east of the existing Minmi Township) is proposed to be dedicated to the NSW Government as conservation lands. This land is currently predominantly zoned future 7(c). To enable the transfer of this land to the NSW Government, the land will be required to be subdivided. Concurrent with this EA, it is proposed to apply for a State Significant listing under the Major Projects SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the subdivision of this portion of land.</li> </ul>
Clause 23 – Requires direct vehicular access from development off an arterial road is to be avoided.	<ul style="list-style-type: none"> <li>▪ The indicative subdivision layout and proposed road layout will ensure that future development will not have direct access off an arterial road.</li> </ul>
Clause 25 – The likelihood of acid sulphate soils occurring during development works is required to be assessed and if required, an acid sulphate soils management plan is to be prepared prior to determination of a DA.	<ul style="list-style-type: none"> <li>▪ Geotechnical conditions of the land include the presence of soft soils on the northern low lying parts of the site and potential acid sulfate soils.</li> <li>▪ A general acid sulphate soil management procedure is provided by Douglas &amp; Partners and a detailed Acid Sulphate Soil Management Plan is recommended to be prepared prior to construction if alluvial soils are proposed to be disturbed. The treatment of acid sulphate soils and groundwater is required to be undertaken in a controlled manner, in conjunction with the monitoring of soil neutralisation and discharge water during any disturbance of acid sulphate soils.</li> </ul>
Clause 26 – Requires development on bushfire prone land to include measures to protect people, property and the environment.	<ul style="list-style-type: none"> <li>▪ A bushfire threat assessment report is provided by RPS Harper Somers O'Sullivan which identifies the measures required for the adequate protection from bushfire threat. This is further addressed under Section 6.11 of this EA report.</li> </ul>
Clause 27 to 34 – Relates to environmental	<ul style="list-style-type: none"> <li>▪ Extensive European and Indigenous heritage and</li> </ul>

Provision	Response
heritage conservation and states that any works on a heritage item, archaeological site or a conservation area requires consent. A heritage impact statement and in some cases a conservation management plan may be required.	archaeological assessment has been undertaken by ERM to determine the most appropriate options in the siting of developable areas and heritage interpretation. This is further addressed under Section 6.9 of this EA report.

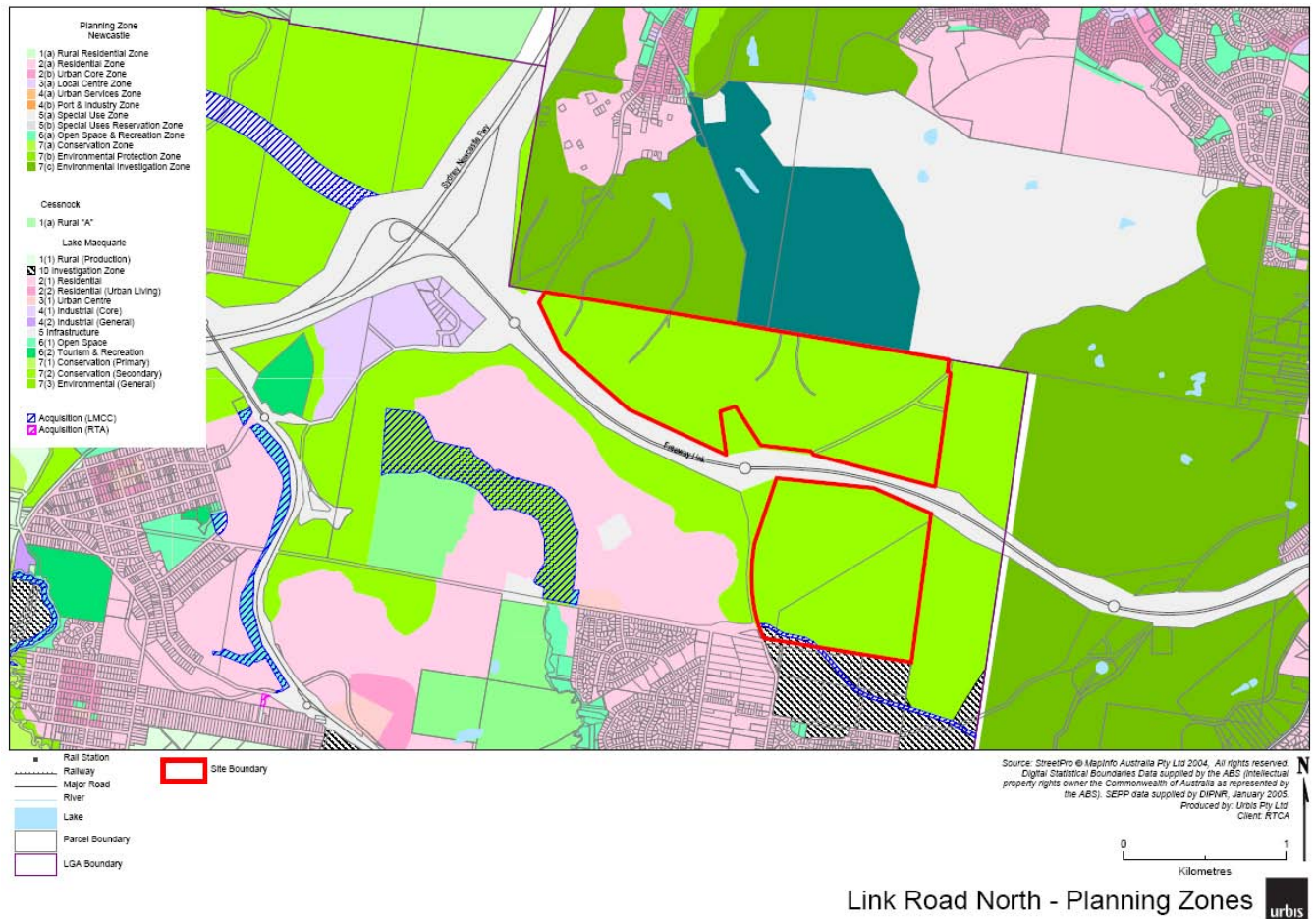
The proposal is largely consistent with the intent of NLEP 2003. The main points are summarised below:

- The proposal is consistent with the objectives of the relevant zones through the creation of a diversity of residential housing forms and supportive facilities, the provision of conservation corridors and provision of social infrastructure;
- The proposed development will occur in areas that are of lesser ecological value relative to the Stockrington lands that are proposed to be dedicated to NSWG. The future development of the Minmi / Link Road estates is demonstrated to achieve objectives of enhancing the conservation values of the Lower Hunter Region by the dedication of significant, key land holdings that contribute to key green corridors.
- The siting of future development is designed with the sensitive revegetation of developable lands to ecologically integrate with surrounding natural surroundings and the implementation of sustainable water cycle management infrastructure to minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies, such as Hexham Swamp.
- The future subdivision pattern will take into account proposed zoning boundaries and will be designed to ensure that safe access from development, through appropriate road layouts will be achieved. The Part 3A provisions and the Minister's determination will enable the subdivision of 7(c) zoned land to the northeast of the Minmi Township and facilitate the transfer of land to the NSW Government for conservation purposes.
- Environmental considerations relating to acid sulphate soil management, bushfire threat and heritage conservation have been assessed and development has been sited to appropriately take into account these environmental factors, which are further discussed in Section 6 of the EA report.

## 5.16 Lake Macquarie Local Environmental Plan 2004

Lake Macquarie Local Environmental Plan 2004 (LEP 2004) applies to the southern portion of the site as illustrated below:

Figure 7 – Land within Lake Macquarie City Council Local Government Area



Picture 6 – Land within Lake Macquarie City Council Local Government Area City Council Local Government Area

Under the Lake Macquarie LEP 2004, the following zones apply to the Minmi/Link Road estates:

- 7(2) Conservation (Secondary)
- 10 Investigation (Urban/ Conservation Zone)
- 5 Infrastructure Zone

The Stockrington land proposed for dedication to the NSWG is situated within Lake Macquarie City Council and Cessnock local government areas and is subject to the following zones:

- 7(2) Conservation (Secondary) and 5 Infrastructure Zone under the Lake Macquarie LEP 2004.
- 1(a) Rural and 5(b) Special Uses (Railways Zone) under the Cessnock LEP 1989. Further discussion relative to Cessnock LEP 1989 is contained in Section 5.17.

The objectives relevant to the above zones under Lake Macquarie LEP 2004 are identified in the table below:



Table 6 – Zone Objectives

Zone	Objectives
7(2) Conservation (Secondary)	<ul style="list-style-type: none"> <li>protect, conserve and enhance land that is environmentally important, and</li> <li>protect, manage and enhance corridors to facilitate species movement, dispersal and interchange of genetic material, and</li> <li>enable development where it can be demonstrated that the development will not compromise the ecological, hydrological, scenic or scientific attributes of the land or adjacent land in Zone 7 (1), and</li> <li>ensure that development proposals result in rehabilitation and conservation of environmentally important land, and</li> <li>provide for sustainable water cycle management.</li> </ul>
10 Investigation (Urban/ Conservation Zone)	<ul style="list-style-type: none"> <li>provide land for future development and/or conservation, and</li> <li>ensure that land in this zone is thoroughly assessed to identify and substantiate future uses, and</li> <li>provide for limited development of the land and allow that development only where it can be proven not to prejudice or have the potential to prejudice future protection or use of the land, and</li> <li>ensure that land is released in a strategic and efficient manner consistent with the <i>Lifestyle 2020 Strategy</i>, and</li> <li>require comprehensive local environmental studies to substantiate the capability and suitability of land in this zone proposed for rezoning, and</li> <li>provide for sustainable water cycle management.</li> </ul>
5 Infrastructure Zone	<ul style="list-style-type: none"> <li>provide land for future infrastructure needs such as roads, drainage and other utilities, and</li> <li>provide land required for the expansion of existing community facilities or the development of new community facilities, and</li> <li>provide for limited development within the zone where it can be demonstrated that the development will not prejudice or have the potential to prejudice the intended future infrastructure development of that land, and</li> <li>ensure that development on adjacent or adjoining land zoned infrastructure does not prejudice future infrastructure development within that zone, and</li> <li>provide for sustainable water cycle management.</li> </ul>

The permissible development relevant to each of the above zones is identified in the table below:

Table 7 – Permissible development

Zone	Permissible Development
7(2) Conservation (Secondary)	<p>Exempt development as provided in Schedule 1 of the Lake Macquarie LEP 2004.</p> <p>Allows with consent development for the purposes of: <i>bed and breakfast establishments; community facilities; drainage; dual occupancies—attached; dwelling houses; earthworks; eco-tourism facilities; emergency services facilities; environmental facilities; home businesses; home industries; roads; roadside stalls; signs; stormwater management facilities; telecommunications facilities; utility installations.</i></p>
10 Investigation (Urban/ Conservation Zone)	<p>Exempt development as provided in Schedule 1 of the Lake Macquarie LEP 2004.</p> <p>Allows with consent development for the purposes of: <i>agriculture (other</i></p>

Zone	Permissible Development
	<i>than intensive agriculture); bed and breakfast establishments; drainage; dwelling houses; earthworks; emergency services facilities; environmental facilities; home businesses; home industries; roads; roadside stalls; signs; stormwater management facilities; telecommunications facilities; utility installations.</i>
5 Infrastructure Zone	<p>Exempt development as provided in Schedule 1 of the Lake Macquarie LEP 2004.</p> <p>Allows with consent development for the purposes of: <i>agriculture (other than intensive agriculture); airline terminals; airports; bus stations; car parking facilities; cemeteries and crematoriums; child care centres; community facilities; drainage; earthworks; educational establishments; emergency services facilities; energy generation works; entertainment facilities; environmental facilities; helipads; heliports; hospitals; medical centres; motels; places of public worship; rail lines ;restaurants; roads; signs; stormwater management facilities; telecommunications facilities; transport terminals; utility installations; veterinary hospitals.</i></p>

The proposed Concept Plan achieves the objectives of enhancing the conservation values of the Lower Hunter Region by the dedication of significant, key land holdings that contribute to key green corridors that will protect, conserve and enhance environmentally significant land.

The Lower Hunter Region's vegetation is identified to be of bio-geographic significance as it supports north-south flora and fauna links that are not evident elsewhere in the Hunter Valley. The region also forms an east -west migratory pathway and a drought refuge for inland species. The preservation of such large vegetated areas is fundamentally important in achieving long term regional biodiversity outcomes in the Lower Hunter region. Coal & Allied currently owns large land areas that significantly contribute to the two most valued of these vegetated areas: the green corridor that links Watagans and Yengo National Parks with the coastal plains of the Tomago Sandbeds, Stockton Bight and Port Stephens; and the Wallarah Peninsula lands which provide a regionally significant break between urban areas and contain areas of high biodiversity, scenic amenity and heritage value. In this regard, the dedication of Coal & Allied lands as conservation land in perpetuity is entirely consistent with the environmental objectives of the above conservation zones. In addition, the conservation lands contain valuable biodiversity resources and will achieve the conservation of a range of important vegetation communities, including areas of Endangered Ecological Communities and other vegetation types that have been depleted in the region as well as important populations of numerous threatened fauna species.

Future development will be designed with the sensitive revegetation of developable lands to ecologically integrate with surrounding natural surroundings and the implementation of sustainable water cycle management infrastructure to minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies, such as Hexham Swamp. The proposed Concept Plan seeks to facilitate residential and mixed use development and associated social and physical infrastructure that is not currently permissible and therefore State Significant listing is proposed under the Major Projects SEPP, which will provide the statutory mechanism for the rezoning of land and subsequent approval of the Concept Plan and associated future development and infrastructure.

Lake Macquarie LEP 2004 contains special provisions that may be relevant to the project and future subdivision and development of the land. These provisions are summarised in the table below and highlight that the Concept Plan has considered the relevant statutory considerations.



Table 8 – Summary of Lake Macquarie LEP 2004

Provision	Response
<p>Clause 16 – Identifies consideration of development to have regard to the Lifestyle 2020 Strategy and the objectives of the zone.</p>	<p>C&amp;A 's objectives are centred upon the environmental, social and economic sustainable development of Minmi/Link Road, reflective of the core values and aims of the Lifestyle 2020 Strategy through:</p> <ul style="list-style-type: none"> <li>▪ The provision of local employment opportunities for residents through the development of new residential development and supportive social, retail and mixed land use opportunities to meet the needs of the current and future community</li> <li>▪ The development of urban communities which will provide a range of housing types and activities that are designed to suit the natural topography, site conditions and overall built form of the locality.</li> <li>▪ The design of safe and liveable communities through appropriate integrated neighbourhood planning.</li> <li>▪ Significant contribution towards conservation of important green corridor linkages.</li> <li>▪ Contribution toward the economic development of the Lower Hunter Region through providing land for residential and employment development to meet the growth targets set out in the LHRs.</li> <li>▪ Opportunities to conserve and interpret Indigenous and European heritage.</li> </ul> <p>Fundamental considerations of the proposal that particularly accord with the strategic directions of the Lifestyle Strategy include:</p> <ul style="list-style-type: none"> <li>▪ The protection of the City's biodiversity and maximising opportunities for environmental enhancement;</li> <li>▪ Promotion of the efficient use of renewable resources and reduction in the consumption of non-renewable resources such as implementation of extensive WSUD practices;</li> <li>▪ Facilitates the supply of adequate land and housing and associated infrastructure, services and facilities;</li> <li>▪ Provision of interconnected open space areas that include key environmental features such as riparian corridors;</li> <li>▪ Promote high quality urban design of future neighbourhoods;</li> <li>▪ Provides retention of green ridgelines to preserve the visual character of the Link Road landscapes and key Aboriginal &amp; archaeological corridors.</li> </ul> <p>The objectives of the relevant land use zones are discussed above.</p>
<p>Clause 17 – Requires that arrangements for the provision of infrastructure are made to cater to the demands of proposed development.</p>	<ul style="list-style-type: none"> <li>▪ Infrastructure required to meet the physical and social demands of the proposed neighbourhoods have been investigated in detail, inclusive of extensive community engagement. These provisions are addressed under the key issues of this EA report.</li> </ul>
<p>Clause 22 to 23 – Requires consideration to the siting</p>	<ul style="list-style-type: none"> <li>▪ The site is not located along the Lake Macquarie</li> </ul>

Provision	Response
of development with respect to foreshore building lines.	<p>foreshores. However, several creeks run through the site in which appropriate buffer setbacks from creeks are proposed to maintain and improve ecological conditions and achieve visual amenity of creeks.</p> <ul style="list-style-type: none"> <li>Principles for stormwater management includes the retention of stormwater on site as much as possible and transport as little stormwater as much possible to receiving waters, "lose" as much stormwater as possible along the treatment trains and slow the transmission of stormwater to receiving waters.</li> <li>Stormwater quality management practices will entail pollution treatment devices such as swales, bio-retention areas, wetlands, gross pollutant traps, sediment basins, ponds and filter strips.</li> </ul> <p>Refer to the report by GHD on Water Sensitive Urban Design, Flooding and Stormwater Management at Appendix P for further detail.</p>
Clause 24 – Provides for subdivision of land subject to development consent and minimum subdivision lot sizes.	<ul style="list-style-type: none"> <li>Proposed subdivision lot sizes do not meet the minimum 40ha provision for 7(2) Conservation (Secondary) zone land, whilst subdivision is prohibited for 10 Investigation zone land.</li> <li>There are no numerical standards from 5 Infrastructure zone land.</li> <li>Concurrent with this EA, it is proposed to apply for a State Significant listing under the Major Projects SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal and future applications for submission.</li> </ul>
Clause 26 – Provides for dwelling houses and dual occupancies considerations on certain zones including 7(2) and 10 zone land.	<ul style="list-style-type: none"> <li>The proposed subdivision of land provides for approximately 3,300 dwellings .. In conjunction with the Concept Plan, it is proposed to apply for a State Significant listing under the Major Projects SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal.</li> </ul>
Clause 29 – Relates to compatibility between proposed building heights over 8m in height and surrounding buildings, relative to site attributes and provisions under the LEP and any relevant Development Control Plans.	<ul style="list-style-type: none"> <li>Building heights will range from single to three storeys. Specific neighbourhood and urban character principles for each precinct contained within the Concept Plan aim to guide the future neighbourhood character. These character principles which have been developed in consideration of the site attributes and constraints and design principles of Council's DCP to ensure appropriate integration with the natural surrounds.</li> </ul>
Clause 30 & 31 - Relate to the measures to minimise pollution and erosion and sediment control.	<ul style="list-style-type: none"> <li>Potential pollution control has been investigated both during the construction and ongoing management phases of the development through the implementation of erosion and sediment control measures. Refer to GHD report in Appendix P.</li> </ul>
Clause 32 – Development on flood prone land requires development consent and is to be designed in accordance with any relevant flood management plan or development control plan.	<ul style="list-style-type: none"> <li>Isolated areas of the site are affected by potential flooding. Flood risk management measures have been investigated by the proponent's engineers, GHD, in accordance with NSW Floodplain Development Manual and the DECC Practical</li> </ul>

Provision	Response
	Consideration of Climate Change, October 2007 guidelines. Considerations to flood planning levels and flood evacuation are addressed under Section 6.10 of this EA report.
Clause 33 – Development on bushfire prone land is to have regard to Planning for Bushfire Protection guidelines and include measures to avoid or mitigate the threat from bushfire.	<ul style="list-style-type: none"> <li>▪ Bushfire management and protection measures have been investigated and identified by the proponent's bushfire consultants RPS Harper Somers O'Sullivan. This further addressed under Section 6.11 of this EA report.</li> </ul>
Clause 34 – Consent is required for the removal of native vegetation and must be assessed in respect to potential soil impacts; water quality; amenity; and flora and fauna impacts.	<ul style="list-style-type: none"> <li>▪ Native vegetation will be required to be removed to accommodate future development.</li> <li>▪ Ecological investigations conclude that it is unlikely that any significant impacts would occur upon threatened species, communities or populations.</li> <li>▪ Suitable actions are proposed to minimise potential impacts to soil and water quality.</li> <li>▪ This further addressed under Section 6.3 of this EA report.</li> </ul>
Clause 35 – The likelihood of acid sulfate soils occurring during development works is required to be assessed and if required, an acid sulfate management soils plan is to be prepared prior to determination of a DA.	<ul style="list-style-type: none"> <li>▪ A general acid sulphate soil management procedure is provided by Douglas &amp; Partners and a detailed Acid Sulphate Soil Management Plan is recommended to be prepared prior to construction if alluvial soils are proposed to be disturbed. The treatment of acid sulphate soils and groundwater is required to be undertaken in a controlled manner, in conjunction with the monitoring of soil neutralisation and discharge water during any disturbance of acid sulphate soils.</li> <li>▪ This further addressed under Section 6.6 of this EA report.</li> </ul>
Clauses 43 to 54 – Relates to heritage and archaeological considerations. Consent is required for development on land that is affected by heritage items and consideration must be given to the heritage items concerned and its setting.	<ul style="list-style-type: none"> <li>▪ Extensive European and Indigenous heritage and archaeological assessment has been undertaken by ERM to determine the most appropriate options in the siting of developable areas and heritage interpretation.</li> <li>▪ This further addressed under Section 6.9 of this EA report.</li> </ul>
Clause 60 – Development on land adjoining land zoned 7(1) and 7(4) is required to consider impacts that may affect the conservation of such lands and impacts in respect to public access, amenity and environmental management.	<ul style="list-style-type: none"> <li>▪ The proposed developable areas do not adjoin land zoned 7(1) or 7(4).</li> <li>▪ A minor portion of the southern boundary of the Stockrington land to be dedicated to NSW Government for conservation is situated within the vicinity of 7(1) zoned land, separated by land zoned 5 Infrastructure. There will be no impacts to the conservation of the 7(1) zoned land as the Stockrington land is proposed to be zoned for conservation purposes as National Parks and Nature Reserve under the proposed SSS listing.</li> </ul>

The proposal is largely consistent with the objectives of Lake Macquarie LEP 2004. The main points are summarised below:

- The proposal is consistent with the major aims of the Lifestyle 2020 Strategy through the creation of conservation corridors, provision of social and physical infrastructure and contribution to the economic development of the Lower Hunter Region. In addition, the proposal reflects the strategic

directions of the Lifestyle Strategy by contributing to the protection of the City's biodiversity and maximising opportunities for environmental enhancement, the provision of adequate land and housing and associated infrastructure, services and facilities as well as the provision of interconnected open space areas that include key environmental features and achieve retention of green ridgelines to preserve the visual character of the Link Road landscapes and key Aboriginal & archaeological corridors.

- The proposed development will also occur in areas that have already been disturbed by past mining activities and are of lesser ecological value than the land owned by Coal & Allied which are proposed to be preserved as conservation lands in perpetuity.
- Stormwater management principles and practices will be employed to maintain and improve water quality of creeks and receiving waters. Potential pollution control has been investigated both during the construction and ongoing management phases of the development through the implementation of erosion and sediment control measures.
- Proposed subdivision and associated lot sizes do not meet the minimum 40ha provision for 7(2) Conservation (Secondary) zone land, whilst subdivision is prohibited for 10 Investigation zone land. Concurrent with this EA, it is proposed to apply for a State Significant listing under the Major Projects SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal.
- A range of building heights are proposed in accordance with specific neighbourhood and urban character principles for each precinct, which have been developed in consideration of the site attributes and constraints and design principles of Council's DCP to ensure appropriate integration with the natural surrounds.
- Flood risk management measures have been investigated and considerations to flood planning levels and flood evacuation are incorporated with the Concept Plan design.
- Bushfire management and protection measures have been investigated and identified by the proponent's bushfire consultants RPS Harper Somers O'Sullivan. This further addressed under Section 6.11 of this EA report.

## 5.17 Cessnock Local Environmental Plan 1989

The Stockrington lands are partly situated within the Cessnock local government area and are zoned 1(a) Rural and 5(b) Special Uses (Railways Zone) under the Cessnock Local Environmental Plan 1989.

No development is proposed on these lands, which will be dedicated to NSW Government as conservation lands. As part of the proposed State Significant listing, it is proposed to zone the land from 1(a) Rural to E1 National Parks and Nature Reserves to enable the land to be conserved in perpetuity. The current 5(b) Special Uses (Railways Zone) is proposed to remain as is to accommodate railway infrastructure. Further details regarding zoning of the land is contained within the State Significant Schedule report that accompanies the Concept Plan application.

## 5.18 Draft Western Corridors Strategy

Identified as regionally significant under the LHRS, the Western Corridor stretches from Beresfield to Killingworth, and has land in both Newcastle and Lake Macquarie Local Government Areas, including the Minmi/Link Road estates. The Newcastle – Lake Macquarie Western Corridor Planning Strategy (Western Corridor Strategy) was released in October 2008 and provides a framework to guide growth and development in the Western Corridor over the next 25 years.

Under the LHRS, 115,000 new dwellings and 66,000 new jobs are to be accommodated in the Lower Hunter Region by 2031 and the Western Corridor is expected to play a significant role in achieving these targets. The Western Corridor Strategy identifies future employment lands in the Corridor's far north and south, whilst residential development will be concentrated around existing urban areas in the centre. For residential development, the Western Corridor Strategy specifies a yield of between 5 and 9 dwellings per hectare, lower than that determined in the LHRS due to the various environmental constraints of the area. With a projected yield of 6.4 dwelling per hectare, Coal & Allied's Minmi/Link Road estate will meet this target comfortably.

### *Land Use Constraints*

Opportunity exists for residential development over the whole estate as an extension of the Minmi township and Cameron Park to the west of Link Road South. However, some of the identified developable land is constrained by topography, mine subsidence, European and Aboriginal heritage, slope and creeks, which has reduced the dwelling yield stated in the MoU. The land use constraints are discussed further in Section 6 and the specialist reports appended to the EA.

### *Transport and Infrastructure*

Transport is of importance amongst the principles and the Western Corridor Strategy outlines a plan to extend bus, bicycle and rail networks in addition to strengthening major transport corridors in the Hunter region. The need to reassess access points to/within the Corridor is also identified. Of particular relevance to the Minmi/Link Road estate is the proposal that Newcastle Link Road be developed as a main link between the F3 Freeway and new residential areas.

The Western Corridor Strategy provides for new infrastructure that will be required as a result of future growth. In consultation with relevant authorities, as well as local governments and major stakeholders, the DoP has identified and categorised likely new infrastructure into roads, public transport, power, water/sewerage, education, emergency services, health, and local government. Where possible, measures have been taken to secure land for future infrastructure provision. In response to the infrastructure requirements of the Western Corridor Strategy, Coal & Allied have set aside land for:

- A community health centre north of Link Road.
- The necessary expansion of the primary school located in the existing Minmi township; and the establishment of a 3ha primary school precinct at the southern edge of the proposed Link Road South precinct.

In addition, Coal & Allied will make a monetary contribution, or dedication of land/carrying out of work for the following Regional Infrastructure:

- Road infrastructure upgrades
- Public Transport upgrades.
- Regional cycleway linking Minmi to Wallsend.
- Emergency Services involving a contribution towards purchasing land for NSW Fire Brigade, ambulance and police.

Furthermore, the Draft Statement of Commitments commits to the funding and delivery of all on-site infrastructure and services including the following specific infrastructure prior to or in conjunction with the development:

- Electricity from existing network.
- New potable water reservoir and trunk water main to site.
- Sewer.
- Provision of a copper telephone service.
- Provision of gas (in conjunction with Alinta).
- Provision of signalised intersection at Newcastle Link Road/Minmi Road/Minmi Boulevard at a timeframe relative to the completion of 2000 lots.

### *Planning Principles*

The Western Corridor Strategy identifies fourteen planning principles that will assist in sustainably meeting these targets. These principles were developed with due consideration to environmental constraints, existing land use patterns and stakeholder consultation. There is a strong environmental focus in the planning principles, with the preservation of vegetation corridors, sustainability and heritage conservation all to be considered in future development in the Corridor. A key feature of the Western Corridor Strategy is the Watagans to Stockton Green Corridor that runs through the centre of the Western Corridor. Through a Memorandum of Understanding (MoU) with the NSW Government, Coal & Allied have proposed to dedicate over 2,000 hectares of land to the completion of the vitally important Watagans to Stockton Conservation Corridor upon receipt of development rights on 520 ha of Minmi.

An assessment against each of the development criteria and planning principles listed in Western Corridor Strategy has been undertaken for Minmi to illustrate its suitability for future residential and conservation purposes. The assessment in the following Table shows that the subject land comprehensively satisfies the development criteria and planning principles.

### **WESTERN CORRIDOR DEVELOPMENT CRITERIA AND PLANNING PRINCIPLES ASSESSMENT**

<b>PLANNING PRINCIPLE</b>	<b>DEVELOPMENT CRITERIA</b>	<b>RESPONSE</b>
Density – residential development	<p>The Lower Hunter Regional Strategy recognises the need for new release areas to achieve densities of at least 12 dwellings per hectare given the scarcity of available and suitable land for urban growth. This density is unlikely to be achieved in the Western Corridor due to site constraints such as mine subsidence, slope and vegetation.</p> <p>It is projected that it will be possible to achieve a density between 5-9 dwellings per hectare for the estimated yield of around 8,000 dwellings. These estimates take into consideration potential infill development, the Renewal Corridor along Main Road Edgeworth and housing mix.</p> <p>Residential development should address the LHRS 'Neighbourhood Planning Principles'.</p>	<p>With a projected yield of 6.4 dwellings per hectare, Coal &amp; Allied's Minmi/Link Road estates will meet this target comfortably. The proposal also incorporates sound neighbourhood planning principles as follows:</p> <ul style="list-style-type: none"> <li>▪ Dedication of 2,264ha of conservation land and developable area of 520ha to accommodate an approximate yield of 3,300 dwellings, recreational areas, open space, educational facility, retail and community facilities.</li> <li>▪ Provision of a Village Centre which is located in the centre of the estate, and will be a new activity hub for the area.</li> <li>▪ The establishment of a walking distance neighbourhood structure with the majority of dwellings within walking distance of daily needs and close to a public transport route;</li> <li>▪ Enhancement of the existing demographic diversity by providing a range of housing requirements from singles to young couples, families, and retirees to allow population to remain in the local community;</li> <li>▪ Enhancement of the economic vitality of the existing township through provision of complementary village scale retail uses to</li> </ul>

PLANNING PRINCIPLE	DEVELOPMENT CRITERIA	RESPONSE
		<p>enhance the economic vitality of Minmi; and</p> <ul style="list-style-type: none"> <li>▪ The subdivision is designed to encourage walking and cycling through the provision of safe walkways and cycleways.</li> <li>▪ Ensuring a permeable network of streets and pathways.</li> </ul>
Slope	High order land uses (proposed community services such as schools, community buildings e.g. emergency services) and playing fields should be given priority over residential development for the use of the flatter land.	<ul style="list-style-type: none"> <li>▪ The land Coal &amp; Allied is dedicating for community services in the centre of the estate in the Village Centre, is a flatter area of the estate and will become a new activity hub for the area.</li> <li>▪ On other flatter areas of the estate, school facilities and playing fields are proposed. The land identified for the future expansion of the existing school and playing fields are located in close proximity to the existing Minmi Township.</li> </ul>
Vegetation Corridors	<p>Vegetation corridors have been categorised into three distinct and sometimes overlapping roles.</p> <p>1. <i>Regional Conservation Lands</i> – The LHRS and the draft Lower Hunter Regional Conservation Plan identify the Watagan to Stockton green corridor. These regionally significant conservation lands are identified in the maps and principles within this document. The previously mentioned MOU's also apply to parts of these Conservation Lands.</p> <p>2. <i>Green Entry Statements</i> – The role of green entry visual statements into areas or along certain transport routes is recognised.</p> <p>The need to provide a green entry statement along the F3 from the south (Killingworth) to Black Hill for the proposed employment zones and the importance of retaining the visual landscape corridor from the F3 toward Hexham swamp is also recognised.</p> <p>The Newcastle Link Road and George Booth Drive provide important 'green' entry statements into the city of Newcastle. (These lands do not include lands subject to the MOU's)</p> <p>3. <i>Sub-Regional/Local Conservation Corridors</i> – Environmental studies undertaken as part of the rezoning process will identify other sub-regional and local conservation areas and corridors. (These lands do not include lands subject to the MOU's)</p> <p><u>Outcome</u></p> <p>The width of the vegetation corridors will be determined by environmental studies taking into consideration biodiversity outcomes and the role, or roles for that corridor.</p>	<ul style="list-style-type: none"> <li>▪ Although the Strategy recognises a vegetation corridor along Newcastle Link Road, it is noted that the development Criteria of the Western Corridor Strategy clearly states that any land subject to the MOU's is excluded from providing a 'green entry' statement into the City of Newcastle along the Newcastle Link Road. Under the MoU between Coal &amp; Allied NSWG, Coal &amp; Allied will dedicate Stockrington (2,247ha) and 17ha of Minmi for inclusion in the important Watagan Stockton conservation corridor upon receipt of development rights on 520 ha of Minmi.</li> <li>▪ Notwithstanding the above, it is proposed to provide a green corridor along the southern side of the Link Road. This will ensure that a green corridor is maintained along the southern sides of the Link Road. Most importantly a green corridor is provided along the ridge line of Link Road North. This corridor includes land of high Aboriginal archaeological potential, which will therefore be conserved for the future.</li> <li>▪ Overall, it must be recognised that the Coal &amp; Allied Concept contribution to the important Watagan Stockton conservation corridor entails a broader and regional approach to the provision of wildlife corridors. The Watagan Ranges to Port Stephens conservation area is identified in the draft Conservation Plan to be a "highly significant link between southern sandstone ranges and the coastal heaths and wetlands of Port Stephens." The large areas of Stockrington and Tank Paddock that will be set aside for conservation as part of the development provide excellent ecological outcomes across the site. This large tract of native</li> </ul>

PLANNING PRINCIPLE	DEVELOPMENT CRITERIA	RESPONSE
		<p>vegetation will provide protected habitat for a wide variety of native flora and fauna.</p> <ul style="list-style-type: none"> <li>In summary, due to the dedication of much larger tracts of vegetation within strategic regional corridors, the nature of existing and proposed vegetation corridors along Link Road should not significantly impact upon threatened or regionally significant flora and fauna, ecological communities or populations.</li> </ul>
Sustainability	<p>New development should incorporate environmentally sustainable development practices in accordance with existing legislation, Council's policies and best practice. Consultation and negotiations with the DECC regarding vegetation conservation and/or offsets to be required.</p> <p>New development should also consider the implications of climate change in their designs and function. Matters such as rainfall intensity, localised flooding, rising sea levels, water tables and changes to mean temperatures should be considered.</p>	<ul style="list-style-type: none"> <li>An Ecologically Sustainable Development (ESD) Report was prepared by Ensight to accompany the Minmi/Link Road Environmental Assessment Report as attached in <b>Appendix L</b>. The ESD report responds to the DGEARs which details the ESD principles, including BASIX compliance to be adopted within the future development of the site.</li> <li>Coal &amp; Allied is undertaking on-going consultation and negotiations with the DECC regarding vegetation conservation and/or offsets to be required.</li> <li>GHD has investigated potential flooding impacts, including assessment of climate change impacts on flooding, relative to the NSW floodplain Development Manual and the DECC Floodplain Risk Management Guideline – Practical Consideration of Climate Change. Refer to Section 6.10 and Appendix P Assessment.</li> </ul>
Major Transport Corridors	<p>Direct access off the Major Transport Corridors such as the F3 Freeway, Newcastle Link Road and George Booth Drive will be limited to maintain the efficiency of the transport network. Access arrangements in the Black Hill area are to be consistent with the RTA's proposals for improvements to the network, specifically the proposed new interchange linking the F3 to Raymond Terrace via Hexham.</p> <p>New interchange opportunities in the south of the Corridor to access the Employment Lands has been identified. Consultation with the RTA for development within this area is essential. Access proposals should be consistent with the Access Map and utilise existing intersections and limit new intersection points.</p>	<p>Emergency access at the eastern end of Newcastle Link Road is proposed. This will not be used for general traffic purposes.</p>
Shared Pathways	<p>A regional bike path route has been identified on the Access Map and appropriate connections should be implemented by Council's to ensure linkages to other major bikeways and paths.</p>	<p>Cycleways are proposed to provide access through the site to connect with existing bikeways and paths.</p>
Rail	<p>Future development in the Black Hill and Killingworth areas should seek confirmation of the likelihood of the rail freight bypass through consultation with NSW Department of Premier and Cabinet and/or the appropriate rail authority.</p> <p>Planning measures such as buffers, reservations</p>	N/A



PLANNING PRINCIPLE	DEVELOPMENT CRITERIA	RESPONSE
	and access standards (bridge heights etc) should be implemented when further certainty of the feasibility of the bypass is received.	
Noise and amenity buffers	<p>The F3 Freeway, other Main Roads, future rail corridors and employment lands have the potential to create noise and vibration issues for future residential development.</p> <p>Detailed assessments will determine the required attenuation measures for future residential areas adjoining main roads, employment lands and other noise sources. The Infrastructure SEPP provides specific noise and vibration requirements for residential developments adjoining classified roads and rail corridors.</p> <p>Detailed acoustic and odour assessments will determine the required setback/buffers to the existing Summer Hill Waste Management Facility.</p>	<ul style="list-style-type: none"> <li>A Noise Impact Assessment has been undertaken by Renzo Tonin &amp; Associates in respect to impacts from traffic noise of the surrounding traffic network to the proposed residential estate. Assessment indicates that residential properties within the vicinity to major traffic routes will be affected by traffic noise but provides a range of mitigation measures to provide for appropriate noise amenity levels. This is discussed in Section 6.8 and <b>Appendix N</b>.</li> </ul>
Renewal Corridor (along Main Rd Edgeworth)	Councils should introduce planning controls that encourage the redevelopment/renewal of this area consistent with the LHRS provisions. The use of incentives such as FSR and height increases, and financial measures are encouraged.	N/A
Heritage	Urban development will need to respect the heritage character of Minmi and other localities and be sympathetic to the listed heritage items by complying with relevant heritage design requirements. Any newly identified items or places/areas of heritage significance should be added to Council's LEP.	<ul style="list-style-type: none"> <li>Assessment of the European heritage significance of the Minmi / Link Road estates relative to the proposed Concept Plan has been undertaken by ERM and is contained within the Heritage Impact Assessment at <b>Appendix O</b>. It is assessed that the Concept Plan will result in some impact to assessed heritage values, the cultural landscape and some heritage sites. However, the analysis by ERM identifies that the Concept Plan design accommodates for the conservation and interpretation of the most important local heritage items and landscapes to preserve the overall heritage values of the Minmi. Furthermore, the proposed Concept Plan protects the scale and character of housing within the Minmi Village Catchment.</li> </ul>
Local Centres	Future provision of business/commercial zoned land needs to be justified considering the projected population, level of existing services and retail hierarchy.	<ul style="list-style-type: none"> <li>The future population will be serviced by the additional retail and commercial services to be provided within the proposed development.</li> <li>The existing Minmi township will be complemented by supporting mixed use retail and commercial uses. These are proposed as small scale villages and do not intend to impact on the hierarchy of the surrounding regional centres. This is discussed in detail in the Social Infrastructure Study included at Appendix F.</li> </ul>
Settlement Patterns	The Land Use Investigation Map (Map No. '1') identifies the residential and employment investigation land footprints. Subdivision designs should maximise development potential and	<ul style="list-style-type: none"> <li>The proposed Concept Plan is entirely in accordance with the Land Use Investigation Map with residential development proposed on land identified</li> </ul>

PLANNING PRINCIPLE	DEVELOPMENT CRITERIA	RESPONSE
	<p>sustainability outcomes.</p> <p>Priority shall be given to the co-location and/or focus of state agency buildings (e.g. schools, emergency services etc) in central locations to assist in developing community hubs and a strong sense of place for emerging areas.</p>	<p>as 'residential Investigation" and conservation land proposed on Land identified as 'Watagan Stockton Green Corridor, National Park and State Conservation Area'.</p> <ul style="list-style-type: none"> <li>The land Coal &amp; Allied is dedicating for community services facility is appropriately located in the centre of the site in the Village Centre. This area will become a new activity hub for the area. The land Coal &amp; Allied is dedicating for schools is appropriately located adjacent to the existing Minmi School and in the Link Road South Precinct.</li> </ul>
Public Transport	<p>A further 8,000 dwellings will generate the need to expand the existing bus service to link existing and future employment areas, schools and other activity nodes. The establishment of a more coordinated and integrated bus service with the wider area will improve connectivity and usage on the sub-regional scale.</p> <p>The future road network shall be planned and designed to cater for future bus routes and stops. Consultation with the Ministry of Transport will be necessary to plan these connections.</p>	Public transport strategy is proposed in the Hyder traffic report in Appendix M that entails providing new bus routes and enhancing existing bus services.
Employment Lands	<p>Councils should have due regard to the visibility of employment lands from the F3 Freeway and include appropriate landscaping, retain green corridors/buffers to the F3 Freeway, and introduce appropriate urban design elements.</p> <p>The provision of an efficient and effective transport network into employment lands is essential.</p> <p>Black Hill - Access arrangements should be consistent with the Access Map and consider the wider development implications of the potential Freight Hub (including the proposed freight rail bypass). Coordinating shared access and transport linkages into the wider employment area will be the responsibility of Council in consultation with the RTA and State Rail.</p> <p>Killingworth –Access arrangements should be consistent with the Access Map and consider the need and funding arrangements for an interchange with the F3 Freeway. Impact on existing residential and commercial areas should be limited where possible through careful route planning and utilisation of existing designated main roads.</p>	N/A

## 5.19 Planning for Bushfire Protection

Preparation of the Concept Plan was undertaken with respect to the Planning for Bushfire Protection, 2006 and consultation with RPS Harper Somers O'Sullivan. A Bushfire Threat Assessment Report by RPS Harper Somers O'Sullivan is submitted with the EA in **Appendix Q**, which has provided an assessment of the Concept Plan relative to the Planning for Bushfire Protection, 2006 and the Australian Standard 3959 – Building in Bush Fire Prone Areas.

Overall, it is concluded that the future development of the site will require implementation of a range of measures to ensure an adequate level of protection to life and property on the development estate.

These measures include Asset Protection Zones (APZs); fire fighting water supply; design of roads; and construction standards relative to Australian Standards. Further detail on bushfire protection is provided in Section 6.11 and **Appendix Q**.

## 5.20 Newcastle Development Control Plan 2005 and Subdivision Code

Newcastle Development Control Plan 2005 (DCP 2005) provides the detailed guidelines to support the provisions of the Newcastle LEP. The DCP includes reference to various Technical Manuals, such as for housing and commercial development, which provides further detailed technical guidelines to assist in the design of future developments. The detailed design guidelines of both the DCP 2005 and the technical manuals are not directly relevant to the proposed Concept Plan under this application but will be addressed at the Major Project Application for the subsequent stages of the subdivision and individual development applications for future buildings. Urban Design guidelines are prepared as part of the Concept Plan which provides guidelines towards dwelling design and mixed use development.

Notwithstanding, specialist consultants have considered certain DCP requirements to guide the future planning of the sites in respect to stormwater management; infrastructure and on-site services; flood management; and erosion and sediment control.

It is noted that DCP 2005 provides locality based provisions for certain areas of the local government area, one of which includes the existing Minmi township and immediate surrounding area identified on a map within this DCP. The DCP 2005 provides objectives and urban structure principles for the future development of Minmi. These considerations relative to the identified Minmi township in this DCP and relative to the wider areas of the Minmi/Link Road estates are address in the table below:

Table 9 – Minmi Locality Based Provisions

Provision	Comment
Objectives	
<ul style="list-style-type: none"> <li>Ensure that Minmi retains its existing village character, whilst accommodating limited urban and rural residential growth;</li> <li>Develop as the westernmost local activity Centre for Blue Gum Hills;</li> <li>Ensure that the built heritage and character of Minmi is preserved through landscape separation;</li> <li>To contribute to tourist related development and strengthen the local employment base;</li> <li>Manage nutrient or stormwater flow rates to ensure the health of Minmi Creek and other waterways; and</li> <li>To conserve reasonably undisturbed bushland.</li> </ul>	<p>The planning and design process in the creation of the Concept Plan entailed consideration to these objectives.</p> <ul style="list-style-type: none"> <li>The siting and scale of future development is designed to ensure that the village character of the existing Minmi Township will be retained, whilst providing for additional village character precincts to serve the additional future residential accommodation beyond the existing township.</li> <li>Additional local activity centres are proposed within the Village Centre Precinct and the Minmi East Precinct to provide for “walkable neighbourhoods” to serve the demands of proposed surrounding residential precincts.</li> <li>The existing Minmi township and local employment base will be strengthened through the provision of additional surrounding residential areas and active sporting facilities in the vicinity.</li> <li>Stormwater management and quality will be maintained and enhanced through the implementation of WSUD practices.</li> <li>Riparian corridors and open space areas contribute to the conservation of bushland, in conjunction with the regional provision of offset conservation lands of Stockrington and the 17ha area of land to the northeast of the Minmi Township.</li> </ul>
Urban Structure Principles:	
Provide community facilities and services in an accessible, central location within the village.	The Concept Plan provides for two additional local activity centres, proposed within the Village Centre

Provision	Comment
Compatible mixed use development is encouraged throughout the village	Precinct and the Minmi East Precinct to provide for "walkable neighbourhoods" to serve the demands of the existing township and proposed surrounding residential precincts. These villages will provide opportunity for mixed use developments to achieve active centres.
Development within the village should create a place with a distinct identity and which is physically separated from other urban areas.	Each precinct is designed to reflect a distinct neighbourhood that reflects the current landscape character and a sought urban character whilst respecting the urban housing design principles of the DCP.
Open space shall be provided within the village and shall be integrated with community uses and access. Open space adjacent to the east of the village will be integrated with the Summerhill Master Plan.	A range of open space facilities are proposed to serve the existing and future residential precincts. In particular several land use items identified by the DCP will be implemented such as the public open space identified to the west of Woodford Street. A wide range of additional open space facilities from passive to sporting facilities are proposed in addition to that identified by the DCP.
Implementation of water quality management provisions.	Stormwater management and quality will be maintained and enhanced through the implementation of WSUD practices.
Landscape design should aim to reinforce the identity of Minmi as a distinct village area separated from other residential development.	The site is comprised of distinct landscape characters in which the landscape design and urban character principles have been derived from to achieve distinct identities for each precinct.
Open space and drainage corridors should be designed for low maintenance bushland regeneration, unless the area is designated for active recreation or this treatment is inappropriate for other reasons.	Passive open space areas and drainage corridors are to be designed with low maintenance bushland regeneration, whilst riparian vegetation will be restored where required.
Riparian vegetation should be restored along major creeks and waterways.	
Revegetation should aim to restore the diversity of indigenous species originally present on the site.	Selected vegetation species for the future landscaping of the site will include indigenous species as illustrated in the submitted Urban Design Guidelines attached at Appendix B.
New development should not adversely affect (and should preferably benefit) the downstream Hexham Wetlands.	A comprehensive WSUD strategy is proposed by GHD to protect waterways including Hexham Swamp as detailed in Appendix P.
Bushland is to be retained wherever possible.	Proposed developable areas will entail the removal of bushland with retention in key areas such as riparian corridors and proposed open space areas. It is noted that the site has been recognised for its State and Regional significance in terms of their inclusion in the LHRS for urban development and conservation. Coal & Allied are dedicating a total of 2,264ha of land at Stockrington and Minmi to the NSWG for conservation which will allow for the retention of bushland in perpetuity.
Maximum two storeys buildings, in keeping with the existing character of the area. Vistas to hills and distant landscapes are to be retained. Treed ridgeline should be maintained and enhanced on the prominent ridge/ hill at the south of the village boundary. Site and design new buildings to maintain the treed ridgeline and prevent the dominance of built	Single and two storey sites will be predominantly featured in the future development of the site. Proposed rural residential character in the Minmi areas aim to reflect the existing landscape character. Opportunity for three storey heights exists within the proposed mixed use areas of the Minmi East and New Village Centre precincts. These precincts are not included within the land that the Newcastle DCP 2005 for Minmi

Provision	Comment
form.	<p>applies and the proposed three storey built forms will not adversely impact on the character of the existing Minmi township.</p> <p>The landscape concept plan is derived from two key principles: protection of the landscape curtilage of the Minmi township and the retention of treed ridgelines, a dominant feature of the visual character of the site. Future development and indicative subdivision pattern is designed to ensure an appropriate integration with the visual catchment of the township is achieved.</p>
Subdivision or development within the vicinity of the former Court House/Police Station is to provide right of vehicular and pedestrian access to that site.	Future subdivision arrangements will be provided at the Project Application stage and will require consideration to this guideline.
Where significant land disturbance is proposed, investigation of impacts on both Aboriginal and European Heritage will be required.	Heritage Impact Analysis in respect to Indigenous and European heritage has been undertaken by ERM as submitted with the EA. See Appendix O.
<p>Drainage channels are to be retained as far as possible in a natural condition. Vegetation corridors are to be maintained or regenerated along creeks.</p> <p>Discharges should be managed to ensure no excessive export of sediments. Nutrients or stormwater flow rates are to be managed to ensure the health of Minmi Creek, Hexham Wetlands and other waterways.</p>	<p>Where possible, natural drainage patterns are maintained and will include riparian corridors.</p> <p>A comprehensive WSUD strategy is proposed by GHD to protect waterways including Hexham Swamp as detailed in Appendix P.</p>
The principles of walkability, connectivity, permeability, legibility and safety shall apply to all subdivision and access system design.	<p>Key opportunities identified for the site during the preparation of the Concept Plan included:</p> <ul style="list-style-type: none"> <li>the provision for a series of interconnected neighbourhoods and villages located on regional transportation routes; and.</li> <li>An ability to establish a walking distance neighbourhood structure with the majority of dwellings within walking distance of daily needs and close to a public transport route.</li> </ul> <p>These opportunities have been reflected in the Concept Plan through:</p> <ul style="list-style-type: none"> <li>Ensuring a permeable network of streets and pathways.</li> <li>Providing the majority of dwellings within a 400-metre radius of a local park or recreation area.</li> <li>Providing of additional small-scale retail activity in the south to service Link Road North and Link Road South precincts.</li> <li>Maximising connectivity between development precincts.</li> </ul>
Implement Landscape design guidelines of DCP 2005.	Proposed landscape principles have been prepared in consideration to the DCP landscape design guidelines.
<p>Corridors of natural bushland are to be retained along main roads at the approaches to the Village (minimum width of 50-100 metres).</p> <p>Provide corridors for maintaining fauna habitat and wildlife corridors and visual buffers. Maintain and provide for regional corridor linkages.</p> <p>Regenerate habitat along major drainage lines with a minimum width of vegetation of at least 50m from either side of the creek banks.</p> <p>Regenerate trees along wetland fringes to provide fauna habitat.</p>	<ul style="list-style-type: none"> <li>Corridors of natural bushland will be provided along Newcastle Link Road. However, the Concept Plan entails a broader and regional approach to the provision of wildlife corridors. The Watagan Ranges to Port Stephens conservation area is identified in the draft Conservation Plan to be a <i>“highly significant link between southern sandstone ranges and the coastal heaths and wetlands of Port Stephens.”</i> The land identified to form the new reserve is currently affected by fragmented land ownership and therefore the dedication of 2,411ha of Coal &amp; Allied's 'Northern lands' will make a significant contribution to achieving a key</li> </ul>

Provision	Comment
Retention and enhancement of fauna habitat in bushland areas.	<p>objective of the strategy which is the creation of the Watagan Ranges to Port Stephens conservation area and consolidation of the Watagans to Stockton habitat linkage.</p> <ul style="list-style-type: none"> <li>Detailed flora and fauna studies confirm that the habitat within these Conservation Estates for terrestrial mammals (particularly Stockrington) are of considerably greater quality than those occurring within the proposed developable areas. The proposed conservation offset lands provide excellent outcomes for the vast majority of species and communities. The quantum of the offset lands, when viewed holistically with existing and proposed conservation reserves is assessed to provide a robust long-term outcome for all species and communities.</li> <li>Riparian corridors are proposed along major drainage lines to maintain and protect sensitive vegetation whilst no development works are proposed within the vicinity of Hexham Swamp.</li> </ul>
Rehabilitate previously degraded and eroded land with appropriate revegetation.	Public domain areas and proposed park lands within the developable lands will be landscaped with vegetation suitable for the locality.
Establish "gateways" to the village by feature planting, signage and controlled views.	Future detailed landscape design will be provided at the Project Application stages for each precinct to highlight "gateway" landscaping opportunities where relevant.
Retain bushland around the cemetery and extend where possible to retain a minimum width of 50-100m of vegetation to its northern, southern and eastern boundaries. Retain views to identified heritage items.	<p>No development is proposed within the immediate proximity of the cemetery.</p> <p>Siting of developable areas and indicative subdivision layout is designed to ensure retention of views to heritage items. Refer to Heritage Impact Assessment for further details.</p>
Introduce traffic control devices within the village to promote safety, restrict fast moving traffic and enhance village character.	Traffic works for internal road and intersections for each stage are provided within the Traffic report. These recommended infrastructure works would deliver the necessary network performance for the relevant roads and intersections to accommodate the project up to, and beyond, the 2031 full development timeframe
Appropriately manage contaminated land and ensure suitability for future use by taking remedial action where necessary.	Douglas and Partners have undertaken contamination assessment of the land and identify that remediation works will be required to enable the future residential development of the site. Refer to the Contamination and Geotechnical Assessment report submitted with the EA for further detail. See Appendix J.

The Subdivision Code provides various design guidelines relating to subdivision. These include a range of general requirements; design standards for subdivisional works; and standard lot sizes specifications for subdivisional works. The majority of the provisions contained within the Subdivision Code are not relevant to the Concept Plan application and will be considered at the Project Application stages for the future subdivision of each stage. In general, the following comments are provided below:

- Proposed road design widths have been developed generally in accordance with respect to Lake Macquarie City Council guidelines to ensure a consistent approach is adopted throughout the site.

- Lot sizes are generally a minimum of 450sqm under the Subdivision Code, however lots sizes may vary to 230sqm on the provision that adequate provision for car parking, open space and servicing may be accommodated. Proposed lot sizes range from 280sqm to over 900sqm, meeting the minimum lot size requirements. As illustrated in the indicative housing typologies within the Urban Design Guidelines, the proposed lot sizes will be able to accommodate on site parking and open space. On-site servicing will also be achieved, including provision for water harvesting and reuse.
- Detailed stormwater drainage design will be provided at the Project Application stages for the future subdivision of each stage. An overall stormwater management strategy for the Concept Plan is submitted with the EA. See **Appendix P**.
- A construction management plan will be prepared prior to any works occurring on site which will include erosion and sediment control practices.

## 5.21 Lake Macquarie Development Control Plan No.1 – Principles of Development

Lake Macquarie Development Control Plan No.1 (DCP No.1) provides detailed guidelines for building, subdivision and land development, to ensure that land use and development is carried out in an ecologically sustainable manner. As DCP No.1 contains detailed design guidelines, the provisions are not directly relevant to the proposed Concept Plan under this application but will be addressed at the Major Project Application for the subsequent stages of the subdivision. Urban Design guidelines are prepared as part of the Concept Plan which provide guidelines towards dwelling design and mixed use development.

Notwithstanding, specialist consultants have considered certain DCP requirements to guide the future planning of the sites in respect to stormwater management; infrastructure and on-site services; flood management; and erosion and sediment control. Proposed road design widths have been developed generally in accordance with Lake Macquarie City Council guidelines to ensure a consistent approach is adopted throughout the site.

## 5.22 Non compliances with EPIs and DCPs

The current land use zoning of the site and associated minimum subdivision lot sizes under Lake Macquarie Council's LEP does not facilitate the residential scheme proposed under the Concept Plan. Similarly, the current land use zones under the Newcastle LEP (except where the land is currently zoned 2(a) Residential) frustrate the development sought under the proposed Concept Plan scheme. In this regard, State Significant listing is proposed under the Major Projects SEPP, which will provide the statutory mechanism for rezoning of the land and approval of the Concept Plan and associated future development. Indicative lot sizes of the Concept Plan will be consistent with minimum lot sizes and frontages under the LEP and DCP provisions for standard and small lot housing residential lots.

Lake Macquarie and Newcastle City Councils' development control plan contain detailed design guidelines; of which the provisions are not directly relevant to the proposed Concept Plan under this application but will be addressed at the Major Project Application for the subsequent stages of the subdivision. Urban Design guidelines are prepared as part of the Concept Plan which provide guidelines towards dwelling design; road design and pedestrian and cycle paths; and streetscape planning.

## 5.23 Newcastle Urban Forest Policy

The Newcastle Urban Forest Policy was recently adopted by Newcastle City Council to guide the management of the Newcastle urban forest. The key objectives of the policy relate to enhancing the quality and quantity of the urban forest whilst a set of guiding principles are identified for the delivery of the Newcastle urban forest. It is understood that the policy provides for a mechanism to compensate for the removal of trees either by additional planting or by the payment of a monetary contribution towards planting in accordance with Council's Newcastle Greening Plan.

It is considered that application of the Newcastle Urban Forest Policy will not apply, given that Coal & Allied will be dedicating 17ha of land in Minmi and 2,247ha of Stockrington land to NSW Government as conservation lands. This represents a significant environmental gain from the environmental land offset package and is a once in a generation opportunity that will provide an enduring legacy for the community and future generations. It is crucial to note that 81.3% of land dedication relative to the Minmi/Link Road project for conservation purposes is well in excess of traditional conservation outcomes from development offset processes.



## 6 Key Issues

The key planning considerations in respect to the concept plan are based upon the matters raised under the DGEAR's. The following sections directly respond to the DGEAR's considerations and are supplemented by specialist reports provided in the attached Appendices.

### 6.1 Urban Design and Built Form

#### 6.1.1 Design Guidelines

Design guidelines have been prepared by Conics as part of the Concept Plan for Stage 1, the Minmi East precinct. Given the anticipated timeframe for the development of the estate, of some 25 years, it is most appropriate to present the design and built form controls relative to the first stage only. Subsequent stages of the project, which would be subject to a Project Application will be accompanied by design controls and guidelines that reflect the relevant stage and market.

The guidelines pertaining to the Minmi East are contained within Concept Plan (**Appendix A**) and the Urban Design Guidelines (Appendix B) for which future development must adhere including:

- Building Types;
- Lot size and minimum frontage;
- Building heights;
- Number of storeys;
- Vehicle access;
- Site cover;
- Street Setbacks;
- Side and Rear Setbacks; and
- Private Open Space and Landscaping.

The design guidelines have been developed with consideration to the unique characteristics of the precinct, the environment and development in the locality. In conjunction with the proposed precinct character and housing characters for the typology of housing, the Concept Plan promotes the opportunity to create a neighbourhood that reflects the surrounding development yet achieve a distinct neighbourhood character.

#### 6.1.2 Proposed finished contour levels and earthworks

A series of plans, cross sections and longitudinal sections Ref 07/202 Sheet 1 – 4/4 by Monteath & Powys Pty Ltd are attached in **Appendix G** that illustrate proposed finished contour levels through the roads and adjacent properties. These drawings provide an indication of areas that will be impacted by cut or fill during civil / construction works.

Longitudinal cross sections of the roads in Minmi East, which is proposed Stage 1, is also provided but further details will be prepared as part of the future Project Application for Minmi East.

#### 6.1.3 Impacts of site preparation works for proposed physical infrastructure

The general topography of the site is required to be cut and filled to accommodate roads and building platforms on each lot. Roads are designed to follow existing contours where possible, to minimise cut and fill for road construction and housing pads.

Trees are proposed to be retained where possible providing there are no safety issues to future housing.

Further details for site preparation works to accommodate physical infrastructure will be provided in detail as part of the future Project Applications for each stage.

### 6.1.4 Visual Impact

The visual impact considerations have been a fundamental element in defining the developable areas. This has included the importance of ensuring acceptable visual impacts to key heritage places and respective outlooks. ERM has undertaken a detailed visual impact assessment and relates to the impact on views from the listed heritage item, the Court House. ERM has also undertaken an assessment of the impacts to the landscape character of the Minmi township and the Link Road character. The key considerations and findings are summarised below:

- The Court House is identified to be associated with view corridors to the west of the building. These view corridors are assessed to be essential to the retention of the setting of this heritage item and confirm the historically undeveloped nature to the west of the building. The view corridor is comprised of largely grassed area containing some trees to the immediate west of the building; views of some housing set against green hills with intermittent planting in the middle distance; and densely forested ridgelines to the far west.
- Taking into consideration the existing view corridor, the Concept Plan provides a grassed area to the west of the Court House for a neighbourhood park. Beyond the neighbourhood park to the west is proposed low density “rural” residential character dwellings within large lots in the middle distance area. To the northwest of the Court House, it is proposed to provide a cluster of large lots and smaller lots, planned for “village courtyard” and “traditional” dwellings.
- The middle distance will also comprise of open space areas in the current open paddock associated with the creek lines; whilst no development is proposed to the forested lands further west of the proposed cluster of larger and smaller lots.
- Elements of future development will be visible from the Court House. However, it is assessed that the impacts to the visual catchment of the Court House will be minimal and that the heritage values of the Court House will be maintained. This is due to the areas to the immediate west and the distant forested area remaining undeveloped; whilst the proposed “rural” residential character development in the middle distance reflects a compatible form of development with the existing development in this area of Minmi. The housing to the northwest will be more traditional density in form in comparison to the “rural” residential character and therefore has the potential to impact on the view corridor but it is recommended that the future design of these houses ensure careful attention to building heights, finishes and colour to minimise impact.

## 6.2 Staging of Development

Staging details are provided within the Concept Plan document in **Appendix A**. Overall, the staging of land will be in accordance with the following precincts:

- Stage 1 – Minmi East
- Stage 2 – Link Road South
- Stage 3 – Minmi Village extension
- Stage 4 – Village extension
- Stage 5 – Link Road North

It is anticipated that the first stage will commence in 2011 and completion estimated to 2031.

Infrastructure provision will be commensurate with proposed staging and release to ensure that the appropriate level of infrastructure and services are provided for the additional population. This is further discussed within the utility and infrastructure engineering report by Cardno in **Appendix R**; whilst the Social Impact Study by Urbis in **Appendix F** provides recommendations towards timing of social infrastructure provision.

## 6.3 Conservation lands & Conservation Corridors

The ecological and biodiversity investigations and assessment has been undertaken by RPS Harper Somers O'Sullivan (RPSHSO). The Ecological Assessment Report by RPSHSO is submitted under **Appendix L** and addresses the following Section 6.3 and 6.4 of this EA.

### 6.3.1 Extent, Location and Edge Effects

Coal & Allied will dedicate 100% of the Stockrington landholdings to NSWG for conservation in receipt of development rights at Minmi. In addition, land to the immediate north of the existing Minmi township, equating to 17ha will also be dedicated to the NSWG, which together with the Stockrington lands will represent a significant contribution (2,264ha) to the Watagan-Stockton conservation corridors identified in the LHRS.

This land is proposed to be dedicated following approval of the Concept Plan application and issuing of the subdivision certificate and completion of general conveyancing requirements to enable the transfer of land to the State Government in accordance with the terms of the MOU.

An ongoing management program for the interface, or "edge effects" between the conservation lands and surrounding and/or the developable lands will be prepared as part of a Statement of Interim Management Intent (SIMI). The SIMI will relate to the immediately adjacent conservation land up to 100m of the development land boundary for a period of 5 years or until development in the adjacent development areas is complete, whichever is later. The SIMI will specifically cover the management and impact mitigation at the interface between development and conservation land. This SIMI will entail matters ranging from biodiversity maintenance, stormwater management, ecological and bushfire management, cultural and natural heritage which will be consistent with other related Plans of Management and strategies in the region, but this is not a comprehensive list.

The SIMI will provide a 'stepping stone' for environmental management during the period extending up to physical handover to State Government (DECC/NPWS) in which it is envisaged that future management will be in line with their internal practices and policies.

### 6.3.2 Corridors and Linkages

A key environmental component to the outcomes the project is the proposed dedication of land 2,247ha at Stockrington and 17ha Minmi, together with 147ha Tank Paddock under a separate future project to the NSW Government. This land will consolidate the long sought after regional corridor for the Lower Hunter running from the Watagan Range to Stockton Bight.

The Western Corridor Strategy seeks to provide west to east corridor opportunities within all new developments for the locality to cater for regional fauna movements. These corridors are generally linear in nature but also provide habitat for resident fauna. Adjacent to the site, the Newcastle Link Road reserve currently provides a habitat corridor along much of the northern edge of the Link Road. However, the width of this corridor may be subject to a moderate reduction as Link Road is widened to accommodate for future population growth and the potential F3 to Branxton Link.

In addition to the proponent's contribution to the Watagan Range to Stockton Bight regional corridor, the proposed Concept Plan scheme incorporates a matrix of corridor links in and around the proposed development estate. The project further contributes towards the extent of corridor linkage by the inclusion of a vegetated corridor within the northern boundary of the Link Road South precinct (i.e along the southern edge of Link Road). This will connect to the extensive bushland area situated to the east and the existing corridor associated with the Cameron Park, Northlakes development situated to the west. This western corridor is subsequently linked to the Stockrington land via a series of vegetated areas adjacent to and within the F3 Freeway. For further detail, refer to the Ecological Assessment Report by RPS Harper Somers O'Sullivan in **Appendix H**.

## 6.4 Biodiversity

### 6.4.1 Impacts on flora and fauna on the site and surrounding areas

Detailed flora and fauna investigations by RPSHSO have guided the preparation of the Concept Plan to ensure that the proposed developable footprint areas have regard to the ecological constraints of the site.

The assessment was undertaken within respect to the EP&A Act 1979, the Threatened Species Conservation Act 1995 and the Fisheries Management Act 1994. Consideration of potential constraints has also been undertaken in relation to the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and guidelines associated with the NSW Department of Environment and Climate Change.

The Ecological Assessment Report identifies the following parameters of ecological significance within both the conservation lands and the development areas:

- Native vegetation commensurate with those listed as EEC's;
- Threatened flora species recorded within and adjacent to the proposed development;
- Threatened fauna species recorded within and adjacent to the proposed development;
- Habitat for threatened flora and fauna species known from within and adjacent to the proposed development; and
- Other areas containing native vegetation with varying degrees of modification/degradation.

The detailed studies undertaken confirm that the development incorporates the disturbed areas of lesser ecological quality and where significant native vegetation is affected, suitable actions are proposed to minimise deleterious impacts. A series of recommendations are outlined in the Ecological Assessment Report, to aid in the reduction of potential impacts associated with the proposal.

Given that the measures have been taken to avoid ecological impacts and that where native vegetation may be affected efforts have been made to avoid particularly sensitive areas where practical, it is considered unlikely that any significant impacts would occur upon threatened species, communities or populations. The large areas of conservation lands at Stockrington and Minmi, as well Tank Paddock that will be dedicated to the NSWG in receipt for development rights at Coal & Allied's Black Hill land, have been set aside as part of the development and provide excellent ecological outcomes across the site. The Stockrington Conservation Estate alone provides a significant tract of native vegetation which will provide habitat for a wide variety of native flora and fauna and will contribute a significant portion of land to conservation in perpetuity and public ownership, which will contribute to completing the Watagan to Stockton Corridor. It is noted that approximately 70% of the Stockrington site is currently zoned for rural purposes, which Coal & Allied is proposing to rezone for conservation purposes. Thus, although this land has been recognised as providing a conservation corridor, it's current zoning under Cessnock LEP 1989 does not reflect this. In this regard it is important to note that whilst ever the land remains in private ownership and is zoned 1(a) Rural "A" Zone the potential exists for it to be used or developed for purposes other than conservation. The proposed State Significant Site listing for Stockrington will facilitate the rezoning of the land to E1 – National Parks and Nature Reserves, the highest level of conservation zoning available under the Standard Instrument (Local Environmental Plans) Order 2006

Overall, it is assessed that the proposed development should not significantly impact upon threatened or regionally significant flora and fauna, ecological communities or populations. The implementation of operative environmental management practices should also ensure that the ecological impact of the project is minimised.

### 6.4.2 Actions to be taken to avoid or mitigate impacts on biodiversity, threatened species, their habitat and ecological corridors.

As identified above, RPS Harper Somers O'Sullivan recommends a range of operative environmental management practices to ensure that the ecological and biodiversity impacts of the project is minimised as far as possible. These measures are summarised below:

- Preparation of a SIMI to manage the development and conservation land interface.
- Minimising clearing as a general objective, particularly in areas that contain identified native vegetation communities and EECs.
- Preparation of a *Tetratheca juncea* management plan for the Conservation Estates.
- Retention of mature and / or hollow-bearing trees where feasible.
- Preparation a clearing protocol should be adopted for the removal of trees containing suitable habitat hollows.
- Recovery of any native fauna that are potentially displaced.
- Species selection for future landscaping works and seed stock for revegetation should be limited to locally occurring native species.
- Vegetation, habitat and bushfire management plans should be included under an overarching Environmental Management Plan.
- Where possible, earthworks (and all works in the vicinity of drainage lines) should be undertaken during appropriate weather conditions to minimise potential erosion impacts.
- Implementation of nutrient and sediment control devices.

For further detail, refer to the Ecological Assessment Report by RPS Harper Somers O'Sullivan in **Appendix H**.

### 6.4.3 Proposed riparian areas and future management options

The presence of numerous watercourses through the site has provided the opportunity to maximise the retention and establishment of riparian corridors. The proposal seeks to encompass the intent of the Water Management Act in respect to the identification of riparian corridors based on the stormwater management requirements together with the need to provide a diversity of habitat types for terrestrial and aquatic flora / fauna.

The proposed riparian corridors allow for the conveyance of stormwater design requirements and provide habitat opportunities. Asset Protection Zones are not proposed to be incorporated into these areas to ensure that optimal habitat for terrestrial, riparian and aquatic flora and fauna species is retained. Similarly, public open space areas are also provided outside the riparian corridors.

Future management of the riparian corridors will be identified in management plan, with a key measure to restrict the secondary uses and structures within riparian corridors, where possible.

## 6.5 Air Quality Impacts

An assessment of the odour and air quality impacts of nearby existing development and any proposed development was undertaken by GHD and is provided in **Appendix I**. The DGEARS states that the assessment includes sewerage treatments on the site and potential coal mining and coal bed methane extraction on the land. As no sewage treatment plant facility is proposed for the Minmi/Link Road estates the GHD assessment does not require an assessment relative to these considerations.

The air quality assessment has been undertaken relative to the following sources of air emissions:

- Summerhill Waste Management Facility (WMF) and proposed Regional Waste Facility (RWF), to be built within the existing WMF site;
- The nearby Cameron Park business park; and
- Coal-bed methane extraction at existing bore sites on Coal & Allied land.

The assessment has been conducted with consideration to the following DECC documents:

- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2005);
- Assessment and Management of Odour from Stationary Sources in NSW (2006); and
- The Technical Framework Assessment and management of odour from stationery sources in NSW (November 2006).

The key findings of the assessment are summarised below:

- Odour and dust emissions from the Summerhill Waste Management Facility (WMF) is not expected to impact on the future Minmi/Link Road estates due the facility's current configuration and hours of operation for the following reasons:
  - Standard mitigations measures by the WMF operators are applied to key odour and dust sources;
  - Prevailing winds predominantly transport odour and dust emissions towards the southeast, away from the site;
  - Total deposited dust levels around the WMF are likely below the DECC criteria for nuisance dust;
  - Odour and dust complaints made by existing residents living near the WMF are at a low base; and
  - In principle, adequate separation distance (> 500 metres) exists between the WMF putrescible landfill and the proposed Minmi Estate. However, it is recommended that consideration to establishing/maintaining a landscape buffer, such as a stand of trees or other suitable vegetation along the boundary of the Estate be considered to aid the dispersion and potentially removal of dust particles through impingement on the foliage.
- No significant industrial or commercial sources of air emissions are generated from the Cameron Park business park based on a search of the National Pollutant Inventory database.
- Coal-bed methane extraction will not be occurring on the land. All existing wells on the subject land will remain capped, and as such, residual emissions of methane from the wells should be negligible.

## 6.6 Geotechnical

### 6.6.1 Capability of the land relative to geotechnical considerations

A Preliminary Contamination and Geotechnical Assessment has been prepared by Douglas Partners and is included at **Appendix J**.

The former use of the site for coal mining operations is associated with a number of potential constraints in respect to geotechnical considerations. Douglas & Partners has undertaken surface and subsurface investigations to identify constraints and measures required to respond to the site constraints relative to the former coal mining use.

The potential geotechnical constraints identified at the site include:

- Disturbed ground and mound filling entailing:

- The presence of contamination, in particular potential buried asbestos.
- Uncontrolled filling which has implications for building footings and services such as roads, pavements, waters and sewer.
- The potential for combustion of the coal.
- Founding conditions that relate to:
  - Uncontrolled filling across areas of disturbed ground which include backfilled cisterns and cesspits.
  - Former open cut pits and surrounds that have been filled without compaction. This includes Purple Hill in Minmi West, Browns Colliery in Minmi East, open cuts to the former Young Wallsend Seam in Minmi South and the Wallsend Borehole Colliery Open Cut.
  - Potentially reactive soils and ground surface movement in undisturbed bushland areas.
  - The presence of lower lying alluvial soils and potential for soft and compressive soil conditions and reactive soils.
- The presence of potential acid sulphate soils in low lying areas across the northern portion of Minmi North.
- Combustion potential entailing the risk of combustion of coal and chitter encountered in filling material.
- Slope Stability considerations including:
  - Localised slumping slopes were observed, often associated with erosion from concentrated surface water flows.
  - No signs of gross deep seated slope instability were observed but may occur near coal seam outcrops.
  - Steep cuts were observed, associated with former railway lines.
  - High erosion potential of soils on slopes.
  - Presence of shallow rock which may require large earthmoving equipment for excavation.
  - Possible presence of naturally acidic or saline soils and impacts to buried structures of services.
- The soils on slopes are identified to typically have high erosion/dispersion potential in which water quality may be impacted due to sediment laden run-off from topsoil during construction.
- No notable signs of salinity were identified on site or referenced in the NSW Government Natural Resources Atlas.
- Low risk of hazardous gases present on site following tests for coal seam methane, carbon monoxide, hydrogen sulphide and methane.

Following the detailed analysis of soil and geotechnical conditions, the site is considered to be suitable to accommodate future development providing the implementation of the following recommended engineering solutions

- Compaction of uncontrolled filling, where present development or founding of footings below the filling piles where required;
- Assessment of the presence of soft soils on the northern part of the site and use of pile footings where required.
- Assessment of site classifications with respect to reactive soils and design of footings in accordance with AS 2870-1996.

- Preparation of an Acid Sulphate Soil Management Plan (ASSMP) and work in accordance to the ASSMP for any potential disturbance to acid sulphate soils in the northern parts of the site.
- Further assessment of potentially combustible material and preparation of a management plan relating to removal, treatment and/or compaction of material, limitation to batter slopes and capping of material.
- Detailed investigation of slope stability, especially higher risk areas to confirm cut, fill and batter slopes. Other considerations include slope stabilisation works and identification for specialised excavation support. Potentially unstable slopes can managed by installation of surface and subsurface drainage, remedial earthworks, retaining wall and/or anchoring.
- Implementation of sediment and erosion controls during construction.
- Possible use of heavy ripping for excavation.
- Appropriate design of footings and buried services relative to exposure classifications with respect to aggressive soils. Further investigation for areas of potential acid sulphate soils.

### 6.6.2 Contamination and subterranean gases

The contamination assessment by Douglas Partners was carried out in accordance with the NSW EPA *"Guidelines for Consultants Reporting on Contaminated Sites"* and SEPP 55 *"Remediation of Land"* and is contained within the Preliminary Contamination and Geotechnical Assessment report at **Appendix J**.

Relative to the investigation precincts nominated in the Douglas Partners report the following contamination assessment identified the presence of:

- Lead and Benzo(a)pyrene at the southern extent of Minmi North.
- Deleterious surface material from opportunistic tipping along the north-south orientated central track that bisects Minmi East. Building rubble containing fibro sheeting was found north of the former Browns Colliery Open Cut in Minmi East.
- Metals, TRH, Benzo(a)pyrene and Total PAH in Minmi West in the areas of the former Pit C workshops, the former rail line and rail sidings and screens, and an area that appears to have been a former residential development at Pit 6. Asbestos in fibro sheet fragments and in soil filling was also found in Minmi West near the former screening building and in the former rail line to Duckenfield Colliery.
- Arsenic and lead on the site of a capped former shaft. Asbestos fragments identified on the surface of Pitt 144 in Minmi South.
- Asbestos fragments and fibres in soil at Pit 149 and 152 from opportunistic dumping of fill in Link Road North and South.

Overall, based on the results of the preliminary assessment the following works are required to enable the future residential development of Minmi:

- Site remediation will be required in Minmi West, concentrated on the workshops, rail lines and sidings/screens.
- Localised remedial works are expected in Minmi North, East and South, including cisterns or cesspits which can be expected in areas previously containing miners cottages. Additional investigation is recommended across the site prior to development to provide additional delineation of affected areas.

A remedial action plan (RAP) for remediation works will be required to detail appropriate excavation and removal/disposal/capping or contaminated soil. This would be followed by validation sampling and analysis in accordance with SEPP 55 and NSW DECC guidelines.

The site is considered to be generally suitable for residential development in accordance with SEPP 55 and NSW DECC guidelines, providing that the following conditions are met:



- Further detailed assessment across the site prior to construction to confirm the location of localised contamination “hot spots”.
- Remediation is undertaken to remove identified contaminants including asbestos fragments and asbestos impacted fill material, and areas of soil contamination.
- Deleterious materials and possible associated surface impact are removed.
- Validation testing and verification is undertaken where required.

Other recommendations by Douglas Partners include:

- Additional waste classification testing to classify materials prior to disposal to a licensed facility.
- Validation of asbestos contamination should be conducted by a qualified asbestos consultant.

Monitoring of borehole gas concentrations was undertaken to assess the potential for future extraction of coal seam methane. The results indicated low concentrations of methane in some of the bores immediately following drilling, however subsequent monitoring indicated no measurable concentrations suggesting any methane which was present was limited and quickly dissipated. Therefore the site is not expected to be suitable for methane extraction from the former mine working.

### 6.6.3 Former Mining Activities

The site has been subject to extensive open cut and underground mining. Constraints mapping has been provided to assist in urban design of the proposed development, and details of investigation and analyses have been provided for consideration of the proposed development by the Mine Subsidence Board. The final development restrictions applied by the MSB may vary from these and formal application should be made to the MSB to confirm their requirements.

The constraints are summarised as follows:

- **High Pothole Risk:** Grouting of workings would be required prior to development and the site should be managed to limit risk to the public.
- **Low Pothole Risk:** No extensive workings are expected, however localised tunnels may be present. Construction should be single storey with suspended floor.
- **Limited Subsidence:** Expected subsidence is within normally acceptable limits for two storey brick veneer construction.
- **Moderate Subsidence:** Expected subsidence is within normally acceptable limits for single storey brick veneer construction.
- **High Subsidence:** Expected subsidence is generally higher than acceptable for brick veneer construction. Light weight (clad) construction with stiffened raft slabs and limited footprints would be more suited to these areas, however it may be necessary to limit density of development. Infrastructure would need to take into account potential subsidence.
- **Shafts:** There are a number of capped shafts in the readily developable areas (outside high risk pothole zones). Development directly over these shafts is inappropriate and they should be incorporated into landscaping;
- **Roads and Services:** Roads and paving and services should be designed to accommodate the potential subsidence including the spanning of potholes in areas of high risk potholing as well change in drainage grades design and flexure from the predicated subsidence of up to about 1 m on parts of the site.
- **Open Cut Mines** These former mines typically contain, and are surrounded by, uncontrolled mine spoil filling and may have connections to buried workings. Development over these areas will

generally need to include appropriate re-compaction of the spoil and sealing of connections to underground workings, however piled footings may be appropriate in some instances.

The constraints are summarised below for each area of the site:

### **Minmi North**

- Minmi North has no mapped workings and is expected to be free of Mine Subsidence Constraints.

### **Minmi West**

- Minmi West contains a range of constraints.
- The northern parts of the area have no known mine workings, however does contain filling from previous mining operations to the south;
- The former Purple Hill Open Cut mine is located on the central parts of the site and contains significant filling within and to the north of the mine. Shallow unmapped workings to the north of the former open cut mine are possible, however unlikely;
- High pothole risk zone on the central parts of the area to the south of the former open cut pit;
- Low pothole risk zone on the southern central parts of the area;
- Limited Subsidence is expected on the southern parts of the area;
- A number of capped shafts have been located in this area.

### **Minmi East**

- Former open cut mine on western parts of area;
- Low pothole risk to north of former open cut mine and High pothole risk to the south;
- Former open cut mine on eastern part of site containing filling which will need to be recompacted;
- High subsidence risk within the former open cut mine due to underlying Borehole Seam workings;
- High pothole risk and numerous shafts surrounding the open cut mine on eastern part of site.

### **Minmi South**

- Former Back Creek open cut mine on north east boundary of area;
- High pothole risk adjacent to former open cut mine in north east part of area;
- pothole risk in gully running down central northern parts of the area;
- Strip of low pothole risk;
- The north western parts of the site are mapped as limited subsidence (two storey brick veneer or equivalent) based on the low likelihood of pillar failure. The magnitude of subsidence in the unlikely case of pillar failure would be high and if the MSB require a 'no risk' profile then this area would need to be re-mapped as High Subsidence;
- The mid and eastern parts of the area are mapped as High subsidence risk (specialised single storey clad construction);
- The southern parts of the this area are mapped as moderate subsidence risk (one storey brick veneer or equivalent);
- This area contains several capped shafts

### **Link Road North**

- The northern parts of the area are mapped as High subsidence risk (specialised single storey clad construction);

- The southern parts of this area are mapped as Moderate subsidence risk (one storey brick veneer or equivalent);
- This area contains several capped shafts.

### Link Road South

- The northern parts of this area are mapped as Moderate subsidence risk (one storey brick veneer or equivalent);
- The southern parts of the area are mapped as Limited subsidence (two storey brick veneer or equivalent) generally based on the absence of mapped workings;
- There are some small zones mapped as High subsidence risk (specialised single storey clad construction) on the central parts of the site coinciding with remnant pillars in the Gretley workings.

The proposed development footprint has been determined by a number of site constraints, including the geotechnical constraints influenced by previous mining activities discussed above. Previous mining activities have also influenced the proposed built form, height and bulk as detailed in the Urban Design Guidelines at Appendix B of the Concept Plan Environmental Assessment.

High risk pothole areas are required to be managed appropriately to reduce the risk to public safety. This may include fencing and/or signage in particular for high risk areas such as the creek and drainage lines or where the depth of cover is less than 15m. Pedestrian access to riparian corridors could still be maintained by constructing suitably designed boardwalks with appropriate fencing and footings designed to span a potential pothole. A plan of management is to be prepared for areas subject to shallow mining.

### 6.6.4 Impacts of future recovery of resources of coal and coal-seam methane below the site

The site has been previously mined and extracted and Coal & Allied has no intention to undertake future mining at the site. Future mining at the site is unlikely but possible. In the event that future mining does occur restrictions on development due to future mining are provided by the DARZAL committee and a formal application to the MSB is required for consideration by DARZL. It is also noted that there are no mining tenements that effect the proposed development.

The monitoring of borehole gas concentrations was undertaken to assess the potential future extraction for coal seam methane and it was found that limited of coal seam methane is present and therefore the site is not expected to be suitable for methane extraction.

## 6.7 Traffic / Transport

A Traffic and Transport assessment has been undertaken and a report prepared by Hyder Consulting Pty Ltd in relation to the proposed development. This report is included at **Appendix M**

This Traffic and Transport assessment presents the findings of investigations into the traffic implications of the proposed Minmi/Link Road Concept Plan. The report documents a review of existing traffic conditions, undertaking an evaluation of the traffic implications of the proposal on the road network over the next 25 years, up to 2031.

### 6.7.1 Impacts on regional road networks

The regional road network in and around the Minmi/Link Road estates comprises of the Newcastle Link Road, F3 and John Renshaw Drive. These road corridors currently carry a significant volume of regional traffic, which will increase as a result of future population and employment growth arising from the Lower Hunter Regional Strategy land use and impact on the operations on these roads and associated intersections. These cumulative impacts were adopted by Hyder in the traffic assessment and determination of the access strategy for project.

Two planned longer term infrastructure projects were also considered as part of the assessment, namely the F3 to Branxton Link and the F3 to Raymond Terrace Link. Both projects are identified to have significant traffic impacts on F3, Newcastle Link Road and John Renshaw Drive

Hyder's traffic impact assessment was undertaken based on a number of scenarios due to the complexity of future regional road works, in which the scenarios considered three key issues:

- (a) impact from C&A Northern Land development alone
- (b) cumulative impact from other planned land developments
- (c) impact from F3 to Branxton Link and the F3 to Raymond Terrace Link projects.

Based upon future growth over the next 25 years, the traffic modeling identifies that:

- Future demand on Newcastle Link Road corridor will increase from current 57,000 to 147,300 vehicles per day including C&A development;
- All proposed development traffic is expected to grow about 3.8% per annum, which is significantly higher than the current growth trend of 1.7%;
- Cumulative traffic (without C&A) is expected to grow corridor demand by about 57,000 vehicles per day, about 2.8% per annum; and
- In 2031 including the full C & A development, will increase corridor traffic from 114,500 vehicles to 147,300 vehicles, an increase of 32,800 vehicles per day (30%).
- The potential F3 to Branxton Link significantly affects corridor demand. Traffic modelling forecasts an increase of approximately 41,200 vehicles daily (28% ) on the corridor if the new link is fully constructed to provide a direct connection between Maitland, Cessnock with Newcastle and is expected to increase traffic on Newcastle Link Road significantly. However, if the F3 to Branxton Link project is staged (terminating at John Renshaw Drive), then traffic increase on this corridor will be notably less.

In considering the above three key issues, Hyder has undertaken modeling of three development options for the AM peak period testing intersection performance:

- Option R1- Nominal background growth only – This option assumes natural growth in the network irrespective of any proposed developments;
- Option R1D-This includes R1 and C&A traffic; and
- Option R2D - Cumulative growth including C & A – This option assumes other development proceeds concurrently with C&A.

These three options were then developed into various scenarios based upon the proposed staging of the development. The above options excluded F3 to Branxton Link impact. The following summarises the results:

- The nominal growth scenario identified two key roundabouts at Link Road/Woodford Street and Link Road/Minmi Road are expected to operate with reasonably good capacity. Both roundabouts are expected to accommodate traffic for next 25 years or more if the network continues to grow at a nominal rate. This implies that the notional background growth is unlikely to trigger upgrading works at either intersection;
- Coal & Allied first stage, of approximately 580 lots is indicated to have minor impact on intersection capacity. All key intersections on the Newcastle Link Road are expected to operate satisfactorily.
- Stage 2, of some 1434 lots is expected to reduce the capacity of the Newcastle Link Road/Minmi Road roundabout and some form of upgrade may be required for certain movements. The full C&A development is predicted to significantly affect the Newcastle Link Road/Minmi Road roundabout to a poor "level of service".

- The impact of the project at the other intersections of Newcastle Link Road/Woodford St roundabout and the Woodford St/Mimi Road signals are low. Impacts to these intersections are primarily driven by cumulative growth in the region.

To determine the traffic measures required to mitigate the above traffic impacts, a range of improvement options were tested. It was found that a combination of options is likely to provide additional capacity on the Newcastle Link Road. This includes the implementation of new signals to replace the roundabout at the Newcastle Link Road/ Minmi Road/Minmi Boulevard intersection. This is not expected to be required until 2000 lots of the project are completed. However if assumed background growth is exceeded due to rapid growth from cumulative/other traffic, then the new signals maybe required earlier.

The traffic report also provides an indicative package of traffic works for internal road and intersections for each stage. These recommended infrastructure works would deliver the necessary network performance for the relevant roads and intersections to accommodate the project up to, and beyond, the 2031 full development timeframe.

### 6.7.2 Minimising traffic on sensitive road frontages and alternative modes of transport

As identified above, the traffic report includes an indicative package of traffic works for internal road and intersections to be implemented for each precinct stage to deliver the necessary network performance for the relevant roads and intersections to accommodate the project up to, and beyond, the 2031 full development timeframe.

However, the Concept Plan aims to reduce the extent of private vehicle usage through a public transport, pedestrian and cycling strategy. The strategies aim to encourage alternative modes of transport to employment, education and leisure destinations and entail:

- Reinforcing public transport links to major centres by providing new bus routes and enhancing existing bus routes.
- A new bus route to link Cardiff Station, Glendale interchange, Edgeworth, the proposed development, Minmi township and Thornton Station. The new route would run along Minmi Road and the proposed Spine Road through the development and create connections to:
  - The entire Newcastle bus network (through Glendale Interchange);
  - The Sydney to Newcastle Rail line at Cardiff Station; and
  - The Newcastle to Maitland line at Thornton station.
- Extension to bus route 260 from the Minmi township to the proposed new village centre. The route would extend along the proposed Minmi Boulevard to the new village centre and would achieve a direct access from the new development to Wallsend Interchange. It is also proposed to review the route between Minmi and Wallsend by creating a more direct route through Fletcher and Maryland.
- Creation of off road cycleways along the proposed Minmi Boulevard, through the development and extending to Minmi Road in Edgeworth. This new cycleway will facilitate a link between the development and Glendale.

### 6.7.3 Emergency vehicle access/egress

A potential new access point from the eastern end of Newcastle Link Road was discussed with the Roads and Traffic Authority (RTA), which would also service the Summerhill Waste Transfer Facility. This proposed access arrangement was not accepted by the RTA but is accepted in principle for emergency access only from 'Link Road South' and Link Road North sites.

Overall, emergency vehicles access and egress will be provided through:

- one access proposed on the Newcastle Link Road from the north.
- The emergency access (left out only) proposed from the 'Link Road South' precinct; and
- one access on the Minmi Road (Edgeworth).

At each stage of the project, the site will have multiple accesses to comply with emergency services requirements.

### 6.7.4 Road design

The internal road network and intersections for the proposed development has been designed to allow circulation and ease of movement for pedestrians, cyclists and vehicles, including public transport and service vehicles. In particular, the Concept Plan was prepared in respect to the following key components of the access and movement:

- Minmi Boulevard to provide access to the new village centre.
- Minmi Road in the Minmi East Precinct, will provide access to the proposed dynamic High street and will provide the link between the existing suburbs and new township.
- A hierarchy has been created so that the Minmi Boulevard provides an entry statement character and serve as a link with the adjacent neighbourhoods. Proposed secondary roads form a grid to service these roads; whilst perimeter roads will also function as asset protection zones.
- Proposed road grids vary and is dependant on the topography and proposed built form density of the area.
- Proposed road hierarchy leverages on the existing main links – Newcastle Link Road, Minmi Road and Woodford Road linking the existing and proposed townships to the wider Lower Hunter region.
- The street layout is designed to provide safe walking routes and bicycle routes that link the site with new and existing open spaces.

Key considerations to road design are as follows:

- Road cross-sections and intersection designs meet with the RTA guidelines for the volumes and types of traffic expected and are generally consistent with Council recommended guidelines.
- Road design conforms to NSW Rural Fires Services requirements.
- The cross-sections and road reserves allow for segregated shared space for pedestrians and cyclists in most locations.
- The internal lay out accommodates bus movement.
- The internal lay out has multiple accesses to each area to comply with emergency access requirements.

Overall, Hyder is satisfied that the layout of the internal road network will be sufficient to serve the development lots at each stage, and will operate satisfactorily with the existing, and future, external road network.

## 6.8 Noise Impact

Renzo Tonin & Associates have undertaken a noise assessment of the proposed Concept Plan in response to the DGEARS to determine:

- the noise impacts from surrounding noise generators onto the proposed residential development;
- the noise impacts onto the existing residential properties as a result of the proposed development; and;
- the mitigation measures where required to ensure a satisfactory level of amenity for future residential development and existing residential development.

Identified noise generators with the potential to impact on the site and surrounding township:

- traffic on the F3 Sydney- Newcastle Freeway, the Newcastle Link Road, Woodford Road, Lenaghans Drive, Minmi Road and the proposed Minmi Boulevar;
- Summer Hill Waste Management Facility;
- Cameron Park Business Park;
- Mount Sugarloaf Kart Raceway; and
- future air conditioning units associated with the future residential development.

The assessment has been made with reference to NSW Environmental Criteria for Road Traffic Noise (ECRTN); NSW Industrial Noise Policy; the Environmental Noise Control Manual; and the Development near Rail Corridors and Busy Roads –Interim Guideline. The following provides a summary of the assessment as follows:

- Traffic noise from the F3 Freeway and the Newcastle Link Road is predicted to impact the site. Based upon noise modelling and noise contour maps, future dwellings that are situated between the applicable road traffic noise criteria for freeway/arterial roads of 55dB(A) (day) contour and the road will be exposed to the year 2031 noise levels that exceed the base criteria recommend in the ECRTN. This is illustrated in the noise contour map of **Appendix N**.
- Traffic noise from Woodford Street, Lenaghans Drive and Minmi Road South is predicted to impact the site and the existing residents of the Minmi township. Based upon noise modelling and noise contour maps, future dwellings that are situated between the applicable road traffic noise criteria for freeway/arterial roads of 60dB(A) (day) contour and the road will be exposed to the year 2031 noise levels that exceed the base criteria recommend in the ECRTN. This is illustrated in the noise contour map in **Appendix N**.
- Industrial noise from the Summer Hill Waste Management Facility is not predicted to impact on the site based on its current configuration and hours of operation. Due to the distances of the future residential subdivision from the existing solid waste disposal area (including future cells) and the existing open cut disposal area, the noise assessment results indicate that compliance with both the intrusive and amenity criteria will be achieved, providing that the hours of operation of the SHWMF do not change and that the activities carried out at the facility do not alter significantly from the current arrangements, such that no additional noise mitigation is required.
- A site inspection of the Cameron Park Business Park by Renzo Tonin & Associates was carried out and it was considered that it is unlikely to generate noise impact onto the site due to its location and no further assessment of noise impact was considered necessary.
- Noise emission from the Mount Sugarloaf Kart Raceway is not predicted to impact on the site. Predicted noise level studies indicate that noise emission from the Mount Sugarloaf Go Kart facility are well within the noise level restrictions recommended by the DECC in the ENCM and as such, no noise mitigation treatment is considered necessary.
- Air conditioner units installed at individual residences have the potential to impact on neighbouring residential properties.

In view of the potential noise impacts that are identified to affect both the proposed development and the existing residents of the Minmi Township, Renzo Tonin & Associates have recommended the following mitigation measures be considered as part of the future development of the land. These

recommendations will need to be further considered at the future project application phase for the subdivision of land and future individual development applications for the individual dwellings as follows:

- The use of earth mounding or noise walls to reduce the number of residential properties impacted upon by road traffic noise from the F3 Freeway, Newcastle Link Road, Woodford Street, Lenaghans Drive and Minmi Road (south). The most effective heights of noise walls or earth mounds are recommended to be 3m or 5m high to reduce the number of residences exceeding ECRTN.
- Given that noise barriers are not expected to protect all residences from traffic noise, it is recommended that building treatment be used to reduce internal noise levels at residences affected by F3 Freeway and Newcastle Link Road that are still exposed to noise levels in excess of the  $L_{Aeq(15h)}$  55 dB(A) day criteria and residences affected by Woodford Street, Lenaghans Drive and Minmi Road that are still exposed to noise levels in excess of the  $L_{Aeq(1h)}$  60dB(A) day criteria.
- Future acoustic assessment of air conditioning equipment will need to be undertaken as part of the future approval process for the air conditioning units to ensure noise impacts from proposed units are accounted for.

## 6.9 Heritage

### 6.9.1 Aboriginal cultural heritage significance of the area

A Heritage Impact Assessment (HIA) prepared by Environmental Resources Management (ERM) has recognised the Minmi / Link Road estates to contain areas of Aboriginal heritage significance. The HIA was prepared in association with relevant Aboriginal community groups and is attached at **Appendix O**. The key findings of the HIA relating to Aboriginal heritage significance are as follows:

- Six new sites of Aboriginal heritage significance were found within the study area, located generally on ridgelines in the Link Road North precinct and include both artefact scatters and isolated finds which are considered representative of Aboriginal occupation in the area. Land surrounding these sites has been designated as an area of 'high archaeological potential', forming two corridors in the site's south.
- The Aboriginal Heritage Information Management System Register identifies one site recorded in the north eastern section of Minmi and three other sites in the southern portion of the site. These registered sites could not be relocated during the study. It is considered likely that the AHIMS registered sites have been lost as a result of past land use or water erosion. No sites have been found in the northern portion of the site.
- In light of the extensive disturbance caused by past development and industrial activity, the area is deemed to have limited Aboriginal heritage potential beyond the six sites identified. The northern portion of the site is assessed to contain no areas of archaeological potential, with the exception of the eastern extension being classified as low potential. The southern portion of the site is assessed to comprise archaeological areas ranging from low, moderate and high areas of potential, which contains the six new sites found.
- Given the nature of Aboriginal settlement and the degree of disturbance that has occurred, Aboriginal heritage significance of the site is primarily concerned with subsistence practices and the movement of communities through the landscape as follows:
  - The concentration of sites along ridge lines suggests that ridges formed connecting walkways between resource zones. Ridges are consequently identified as areas of high archaeological potential that are likely to contain further sites and objects of significance.
  - The slopes between ridges are uniformly steep and, subject to natural erosive processes, are deemed unlikely to contain items of significance. However, it has been noted that soil deposits in the vicinity of creeks and water basins have moderate heritage potential. In particular, Hexham Swamp to the north of the Estate is believed to have been a subsistence focus for Aboriginal communities. It is likely that the low hills of Minmi in the northern portion of the site



would have been used as a means of reaching the Swamp, though no finds have been made in this area.

- The dominant vegetation in the Link Road portion of the site has been known to sustain Aboriginal scarring and carvings in other cases, and hence potential heritage significance exists in this area.
- The Concept Plan proposal is assessed to impact five of the six sites identified in the area, primarily due to their location on a ridgeline designated for the construction of a road. However, the majority of land assessed to be of high Aboriginal archaeological potential will be protected as a riparian and conservation corridor that will conserve all further Aboriginal objects and sites associated with this ridgeline.
- It is also proposed that an Aboriginal Heritage Plan of Management be prepared in collaboration with Aboriginal stakeholders to include management recommendations for the storage and conservation of all Aboriginal materials excavated. In addition, an interpretation strategy is recommended to holistically consider the cultural landscapes, Aboriginal and historical heritage whilst urban design practices will entail the integration of 'Aboriginal walking routes' with pedestrian and cycle paths within the site provide further opportunities for interpretation.

### 6.9.2 Impacts on site setting, landscape, landmark elements, heritage items, views and vistas. Impact on the historic setting and visual catchment of Minmi and integration with the existing development in Minmi.

Assessment of the European heritage significance of the Minmi / Link Road estates relative to the proposed Concept Plan has been undertaken by ERM and is contained within the HIA at **Appendix O**. It is assessed that the Concept Plan will result in some impact to assessed heritage values, the cultural landscape and some heritage sites. However, the analysis by ERM identifies that the Concept Plan design accommodates for the conservation and interpretation of the most important local heritage items and landscapes to preserve the overall heritage values of the Minmi. The key findings of ERM analysis and assessment are:

- The historic heritage significance of Minmi and its surrounds is derived from the presence of locally listed heritage items, its archaeological potential, early mining cottages, the layout and infrastructure of the Minmi town and historical values that were uncovered as a result of the study. It was assessed that the company town, comprising its history, cultural landscape, built and archaeological fabric is considered to be significant at a local level for its historical association with mining during the 19<sup>th</sup> century.
- The Concept Plan is designed to avoid and incorporate areas of heritage sensitivity where possible as follows:
  - The retention of all locally listed heritage items without direct impact.
  - Incorporation of the majority of non listed heritage items identified by the study, into open spaces.
  - Retention of key areas assessed as high Aboriginal archaeological potential.
  - Incorporation of many of the archaeologically sensitive areas into the urban design, without impact.
  - Conservation of substantial open spaces within Minmi.
  - Respecting the principles of the Newcastle Development Control Plan in regard to retention of the green ridgelines and primary views across open spaces within Minmi.
  - Restricting new development to low to medium density.
  - Retention of the key vantage points across Minmi from the Brown's Garden House as open space.

- Retention of the open space in front of the Court House, with no development.
  - Retention of the flat open areas in the north of Minmi to Hexham Swamp with no development.
  - Provision of riparian corridors that contain representative samples of high Aboriginal archaeological potential and some Aboriginal sites in the Link Road area.
  - Inclusion of Aboriginal walking routes within the urban design, combined with proposed riparian corridors.
  - Provision of a flexible rural residential approach to the design of new development to retain the existing landscape character.
- The Concept Plan incorporates significant landscape elements, such as railway embankments and archaeological sites. Portions of the development will impact upon some former house sites, the former school, a portion of the workshop complex and Eales Shaft and the Chinese market gardens. However, all sites that will be affected are either representative of a type, where a sample will be retained or have a low to moderate archaeological potential. To mitigate the loss of historical archaeological sites it is proposed to undertake archaeological excavation and incorporate the excavation and results into a programme of public interpretation.

The impacts to the landscape character of the Minmi has been assessed taking into account that the scheme entails:

- Single storey dwellings are proposed around the town of Minmi within 5 distinct zones;
- No development is proposed (retained as open space or vegetated into public space) on Brown's Garden House site and area in front of the Court House, 50% of the AZ2 zone from Woodford Street to the treed ridgeline, open space are west of Back Creek and associated with the north of Minmi and Hexham Swamp; nor any visible ridgelines.
- Development will not abut listed heritage items except the former school building and will incorporate and feature many areas / items.
- Housing is proposed to the north-west and abuts existing housing and includes a portion of the former railway embankment. The houses will continue the pattern of urban form and will not be visible from the main road or other significant vantage points.
- Proposed development on currently treed area to the east of back Creek will be visible from higher vantage points within Minmi but this will reflect former views across this area of housing in the 1900's.
- Proposed development to the southeast over a treed area and abuts existing housing and some items within AZ1 but the majority of houses will not be visible from the village as it located on the southern side of a ridgeline and similarly reflects the location of former housing.
- The zone to the southwest the abuts the former school and covers a portion of the AZ1 has a rural character and will be impacted by the additional of new houses. However this area was an industrial precinct dominated by the workshop complex . New houses will create a less cluttered appearance than the historical view and all houses will be positioned below the ridgelines, thus maintaining the domination of vegetation over developed areas.
- The small zone to the west covers a flat area to the west of Minmi Creek and below the treed ridgeline. This area was an open cut mine and presents the most substantially impacted area to the original landscape and detracts from the visual aesthetic of the town. The proposed development represents an opportunity to transform and rehabilitate the modified landscape.

Overall, the impact of new development on Minmi is minimised through recognition of heritage items, places and landscapes. The concept plan does not locate new houses in areas with existing listed heritage value and provide appropriate curtilage around items and avoided the majority of significant archaeological sites and incorporated landscape elements into the new urban form. All significant views within and across Minmi are retained through an absence of development on ridgelines and

maintenance of open spaces. The pattern of new development mirrors the historical model and locates dwellings where dwellings previously existed and other industrial areas. Access to heritage items will be maintained and interpretation of heritage items for several items will enable further appreciation of the history.

The impacts on the cultural landscape of Link Road are assessed by ERM. The introduction of infrastructure and built forms are minimised by the retention of waterways and riparian corridors. The surrounding topography and retention of significant qualities of bushland will continue to link with surrounding vegetation communities. Areas assessed with high Aboriginal archaeological potential are located within conservation zones whilst significant Aboriginal walking routes are incorporated into the urban design and thus will be conserved for the future. The proposed conservation zones mean that a significant quantity of recorded and unrecorded Aboriginal and possibly historical heritage sites will be conserved in perpetuity.

Overall, the integration of the proposed development with the existing township will be undertaken in a manner that ensures:

- Protection of views to and from heritage dwellings. New development will be appropriately scaled to ensure views, particularly the view angles from the Court House are retained.
- Buffer zones between any new development and listed heritage items.
- Sympathetic use of materials and building form, of new development in the vicinity of heritage items.
- Provision of vegetative screening between new development and existing heritage places. New development is to be setback from the central portion of the Minmi village and retains a green buffer around the older portions of the town.
- Respect to the urban design and heritage provisions of the DCP that outline the need to limit the new buildings to 2 storeys, maintain views to surrounding hills, rural and natural landscapes through retention and enhancement of the treed ridgeline to the south of Minmi and sensitive setting and design of new buildings. The bushland surrounding the cemetery is also to be retained and enhanced (minimum width 50m) on the northern, eastern and southern boundaries.

### 6.10 Surface water and ground water quality

Water Sensitive Urban Design, Flooding and Stormwater Management Report has been prepared by GHD and is included in Appendix P. The report provides an assessment of impacts of the development on the quality of surface water, and nearby waterbodies. Consideration of climate change impacts on flooding have also been addressed in the report. Douglas Partners has provided assessment in respect to the potential impacts to groundwater and groundwater dependent ecosystems attached in Appendix P.

#### 6.10.1 Management of stormwater and groundwater quality, quantity and flooding

Management of stormwater and groundwater quality, quantity and flooding is proposed through the implementation of Water Sensitive Urban Design (WSUD) practices. A WSUD strategy for management of stormwater quality, quantity and flooding has been developed by GHD that entails:

- on-lot treatment before discharge to the street stormwater system;
- vegetated swales and precinct scale co-located detention/ bio-retention basins at key locations. These systems would essentially comprise a dry basin (to provide detention function) combined with bio-retention (to provide water quality treatment function) situated in the invert of the basin.
- Gross pollutant traps and other structural measures are recommended at key locations.
- Rainwater tanks should be provided where possible.

As part of the WSUD practices, stormwater management will entail a range of detention systems as follows:

- Detention will be provided on individual lots, before discharge to the street drainage system. Measures may include using tanks, landscape measures and/or detention zones in rainwater tanks.
- Precinct scale detention basins at locations where local roads cross over creeks and tributaries. In some locations these detention facilities could be collocated with bioretention to provide the dual purpose of stormwater quantity and quality management.

The effectiveness of the stormwater management strategy was tested using the RAFTS model for three pilot catchments. In general it was found that the permissible site discharges and minimum storage requirements closely satisfy Council requirements in terms of detention. The required detention storage for the off-site portion equates to approximately 3% of the developed footprint, however additional land needs to be provided to allow for embankments and local landscaping associated with these basins. Thus approximately 5% of the developed area may need to be provided. This result generally compares favourably with detention requirements for other land developments undertaken by GHD in the region.

### 6.10.2 Management of water quality and ecosystem health

A key aspect of the WSUD practices entails the treatment of runoff throughout the Minmi/Link Road estates from both the private lots and the public domain as described below:

- On individual lots, before discharge to the street drainage system, GHD has identified the following measures:
  - Roof water tanks;
  - Infiltration and retention devices;
  - Permeable paving;
  - Using crushed gravel or other treatments instead of paving
  - Swales & other landscape measures;
  - Sand/gravel filters for runoff from car parks and driveways;
  - Reducing the area of paving (for example, driveway strips); and
  - Diverting runoff from driveways onto garden beds before leaving the property.
- On roads, GHD has identified the following measures:
  - Vegetated infiltration swales (bio-retention in the invert) along the identified main overland flow routes adjacent to the road.
  - Smaller bioretention basins upstream of local road crossings in steeper areas. In other areas, the basins would be located offline, discharging to riparian corridors. The basins would provided both detention and water quality treatment function.
- Gross pollutant traps and other structural measures would be provided throughout critical locations as required, before discharge to the basins; and
- Provision of rainwater tanks in all areas should be maximised in accordance with Council's requirements.

The effectiveness of the proposed strategy was tested using the MUSIC model, in which it is assessed that the proposed treatment satisfies Councils nominated target pollutant removal requirements, in particular Lake Macquarie City Council's DCP1.

The implementation of a Soil and Water Management Plan (SWMP) during the construction phase will ensure water quality impacts will be managed. SWMP will provide stormwater management strategies in accordance with the 'Soils and Construction, Managing Urban Stormwater' (Landcom 2004) and may include:

- Material management practices;
- Stockpile practices;
- Topsoil practices;
- Erosion control practices; and
- Monitoring measures and protocols to ensure that management strategies are working effectively.

The presence of numerous watercourses through the site has provided the opportunity to maximise the retention and designation of riparian corridors. The proposal seeks to encompass the intent of the Water Management Act where riparian corridors have been identified based on the stormwater management conveyance and management requirements coupled with the desire to provide a diversity of habitat types for terrestrial and aquatic flora / fauna.

The proposed riparian corridors widths allow for the conveyance of stormwater, management of water quality and flooding design requirements, being cognisant of the topography and ecological value of creeks. The Concept Plan identifies a range of buffer areas to creeks ranging from 40m wide to 10m based on these corridor functions, in general agreement with the Water Management Act.

The corridors are proposed to be rehabilitated and revegetated where required improving bed and banking stability and reducing bank and channelling erosion. The enhancement of vegetation within these areas will therefore assist in protecting water quality by additional trapping sediment, nutrients and other contaminants as part of an overall comprehensive WSUD strategy.

Groundwater investigations have been carried out by Douglas Partners which identify that groundwater recharge on the majority of the site is limited due to the low permeability clay soil and weathered rock and the well drained slopes.

The presence of alluvial soils on the northern parts of the parts of the site is expected to comprise unconfined aquifers. These soils are situated in creek lines and low lying areas on the southern fringe of extensive areas of the swamp to the north and are considered to be the only location where permanent shallow groundwater aquifers are expected. The source of the recharge water is primarily from surface runoff from the upstream catchments, most of which are within the proposed development area and secondly from rising water levels in the swamp to the north. In this regard, the water table levels in these areas may be sensitive to the development.

Vegetation communities that are dependent on groundwater are situated within these alluvial areas and therefore changes to groundwater levels may have an adverse effect. Provided that existing surface water flow rates/levels and fluctuations within the creek are maintained through the implementation of the water sensitive urban design strategy proposed by GHD, the impact on groundwater levels and groundwater dependent ecosystems will be minimal.

Future management of the riparian corridors will be identified in management plan, with a key measure to restrict the secondary uses and structures within riparian corridors, where possible.

### 6.10.3 Flood Planning

GHD has investigated potential flooding impacts, including assessment of climate change impacts on flooding, in accordance with the the NSW floodplain Development Manual and the DECC Floodplain Risk Management Guideline – Practical Consideration of Climate Change. Considerations of the proposed development and land-use were also undertaken with respect to the Newcastle City Council Flood Management Technical Manual and the Lake Macquarie Floodplain Management Policy.

Results of simulation studies for the 100-year future climate (2100), which allow for a 30% increase in rainfall intensity and volume indicate that in a 100-year ARI event, flood levels adjacent to the site are expected to increase by less than 0.3m in the upper reaches and 0.7m in the lower reaches where the creeks discharge to Hexham Swamp. While this does not cause a significant increase in flood extent, dwelling floor levels and flood planning levels would need to consider these impacts, and dwelling floor levels be located above these levels.

The areas of inundation relative to the 100-year ARI flood and the proposed Concept Plan structure are primarily associated with riparian corridors. In a few isolated areas in the northern precincts the 100-year ARI event extends into the development footprint. Minor filling of the flood fringe would be required to ensure roadways and lots remain flood free. Dwelling floor levels would need to consider these impacts and be located above these flood levels. It is recommended that proposed that Flood Planning Levels be adopted that locate floor levels of dwellings with a freeboard of 500 mm above 100-year ARI flood levels.

Flood hazard impacts will be minimised by designing the capacity of both the overland flow paths and underground stormwater system to provide a level of service that minimises the flood hazard; whilst a flood evacuation strategy would be provided for all areas inundated by the PMF.

A more detailed Floodplain Risk Management Study is recommended to be undertaken in future subdivision design stages of the project, supported by more detailed flood modelling and flood mapping.

### 6.10.4 Effectiveness of the WSUD Strategy

Numerical modelling was used to test the effectiveness of the WSUD strategy and included numerical modelling of flood peaks and flood levels for the creeks within the precinct using RAFTS and TUFLOW, volumes of detention that responded as best possible to the Concept Plan and which throttled flood peaks using RAFTS, and stormwater quality management using MUSIC.

The results of the numerical modelling has shown that the proposed WSUD strategy together with the flood plain management adequately satisfies the requirements of the NCC and LMCC DCP's and the NSW Floodplain Development Manual for management of stormwater quantity, quality and flooding at the precincts.

## 6.11 Bushfire Risk Assessment

In accordance with the DGEARS, a Bushfire Threat Assessment has been undertaken by RPS Harpers Somers O'Sullivan (**Appendix Q**) in consideration to the document Planning for Bushfire Protection 2006 (PBP 2006). The Estate has been classified as Bushfire Prone Land and RPS Harpers Somers O'Sullivan provide a number of mitigation measures to ensure all future development complies with the relevant legislation and plans.

For the purposes of the assessment, the Minmi development estate was divided into six study areas of approximately 540 hectares. The dominant vegetation and slope was determined for each study area and land surrounding the Estate to gauge the level of fire hazard:

- The majority of vegetation within the six study areas has been classified as Open Forest or Tall Open Forest which is considered suitable for removal. In accordance with RFS guidelines, vegetation within drainage lines and creek lines has been classified as Rainforest and is nominated for preservation as Riparian corridors. Vegetation surrounding the Estate has been uniformly classified as Open Forest and constitutes a hazard.
- The slope of the land provides an indication of the likely movement and direction of bushfires throughout the Estate and is central in devising appropriate mitigation measures. The development estate is found to have a predominantly northerly aspect, with elevations ranging from 100m AHD in the south, to 10m AHD in the north. The slope of the land surrounding the Estate ranges from flat to 18°.

Having reviewed the Concept Plan in light of the topographic and vegetation characteristics of site, Harpers Somers O'Sullivan have indicated that the proposed development will have sufficient evacuation and fire fighting capacity providing that the following recommendations are incorporated:

- Asset Protection Zones (APZ's) from 9 metres to 64 metres will be required between the bushland and dwellings. The majority of the required Asset Protection Zones are able to be provided in the proposed road buffers. Remaining protection zones should be accommodated within allotments.
- Core Riparian Zone (CRZ) and Vegetated Buffer (VB) from 10 metres to 40 metres, inclusive are to be established for all riparian corridor around creeklines. This merit assessment will be based upon the order and riparian functionality of the watercourse, the site and long term land use. These corridors have been included within the Concept Plan and have been considered in the determination of the required APZs.
- Proposed development is to be linked to the existing mains pressure water supply and that suitable hydrants are provided for the purposes of bushfire protection in accordance with the requirements of AS2419.1, 2005.
- Roads to be constructed in accordance with section 4.1.3 (1) of the PBP 2006 and any departure from the PBP 2006 will require a performance-based assessment to be undertaken with the future project applications for the subdivision of land.
- The construction of dwellings will be undertaken with due regard to the BCA and relevant Australian Standards, and Harpers Somers O'Sullivan have devised appropriate levels of construction ranging from Level 1 to 3 based on sloped and vegetation.
- A Fuel Management Plan be prepared to identify strategies on the establishment and management of APZ's with consideration to maintaining the natural and cultural features of the site whilst reducing bushfire risk.

### 6.11.1 Management of Asset Protection Zones

Asset Protection Zones will be required to be managed in accordance with performance requirements of the PBP 2006. The Concept Plan is designed to include perimeter roads around the development, which will function as an APZ between the bushfire hazard areas and future dwellings.

The remaining APZ's will be established over allotments where required and will be required to be managed and maintained as per the PBP 2006 requirements. Within the Minmi East area, APZ's will be established over proposed open space area. As recommended by RPS Harper Somers O'Sullivan, a Fuel Management Plan will be prepared to identify the management of these APZ's

An APZ is partly required on southern adjacent lands, immediately adjacent to the proposed primary school precinct in the Link Road South precinct; which will be imposed through Section 88 of the Conveyancing Act 1919.

The ongoing management of the APZ's will be the responsibility of the relevant Council, DECC /NPWS or the land owner depending on location.

## 6.12 Ownership / Maintenance of Public Domain

The Stockrington lands and the 17ha of land in Minmi are proposed to be dedicated to the NSW Government as conservation lands as per the conveyancing details outlined in the Draft Statement of Environmental Effects.

The public domain areas within the development precincts are to be constructed by the developer and dedicated to the relevant local Council at no cost to Council.

Relevant management plans will be prepared to identify the ongoing management of WSUD, APZ's, Aboriginal and European heritage, and community land and facilities.

## 6.13 Utilities and Infrastructure

### 6.13.1 Utilities Infrastructure

A utility and infrastructure engineering report has been prepared by Cardno, and outlines the existing and proposed infrastructure required for the proposed development at Minmi/Link Road (Refer to **Appendix R**). The following utility and infrastructure elements have been identified:

#### Sewer

- The Shortland Treatment Plan (STP) currently services the existing developed areas of Minmi.
- The development area is located within two sewer catchments, the northern parts of the site will drain to the Shortland STP and the southern catchment will drain to the Edgeworth STP.
- Hunter Water has upgrade works planned for the Edgeworth STP in 2010 and the Shortland STP in 2013. Despite these planned upgrade works, the existing infrastructure will not be able to accommodate for the loads of the proposed development. As such, it will be required to upgrade existing assets and/or the construction of new pump station(s) to accommodate the Minmi/Link Road development.
- A Sewer Servicing Strategy will be prepared in consultation with Hunter Water to determine the optimal servicing arrangement for the site. Servicing of the northern catchment of site will entail upgrades to the Minmi 1A, Maryland 1 and Maryland 2 SPS's, whilst the southern catchment will require upgrading of the Cardiff 1 SPS or construction of a new SPS to pump from the site to the Edgeworth STP.
- The first stage of development, Minmi East will entail upgrades to pump stations and rising main between Maryland 1SPS and Shortland STP. Where possible, upgrade works would be staged as the precincts are developed.

#### Water

- The established areas of Minmi have access to reticulated potable water, serviced by the Minmi/Maryland Water Supply Scheme.
- The northern area of the site will be serviced by the Minmi/Maryland Water Supply Scheme and the southern area will be serviced by the South Wallsend Water Supply Scheme.
- Upgrade works to the existing network will be required to accommodate the proposed development, which will include augmentation works entailing the construction of a 10ML potable water reservoir on the site and connection to the existing 80ML Stoney Pinch reservoir.
- A Water Servicing Strategy will be prepared in consultation with Hunter Water to determine the optimal servicing arrangement for the site. This will entail an extension from the existing main in Minmi Road to service the northern catchment and installation of a watermain from the South Wallsend reservoirs to service the southern catchment.
- Minmi East, the first stage of development is expected to be serviced by the extension of the existing main in Minmi Road. Subsequent stages to the north would be serviced from the Minmi Road main until capacity constraints require the construction of the reservoir and main connection from the reservoir, or alternative servicing arrangement from the South Wallsend reservoirs.

#### Recycled Water

- There is no supply of reticulated recycled water in the vicinity of the site. However, given the proximity of the Edgeworth STP to the site, there is potential to supply the portion of the site that is south of the Newcastle Link Road with reticulated recycled water. The feasibility of providing this service will be determined as part of a Recycled Water Servicing Strategy. If C&A proceeds to provide this service, a recycled water reservoir(s) will be required. Future dwellings that will not be supplied with reticulated recycled water will be required to include a rainwater tank to assist in reducing demand for reticulated potable water.



- The timing on the delivery of recycled water will be dependent on the Servicing Strategy and it's feasibility. Other factors include the timing of any upgrade works at the Edgeworth STP and delivery of transportation infrastructure.

### Electricity

- Several overhead electricity high voltage transmission lines and power lines traverse the site. Transgrid owns a 60m wide proposed easement that extends through the Link Road South precinct and further to the north, adjacent to the eastern boundary of the Link Road North precinct. Energy Australia owns a 30m wide easement which extends through the Link Road South precinct. It is intended to create the Transgrid easement and maintain the Energy Australia easement.
- Energy Australia also owns three power lines on the development site which are currently no accommodated within an easement. It is intended to relocated these facilities underground in road reserves.
- Electricity is provided to the Minmi township by a zone substation at Maryland. A new zone substation is planned in Cameron Park by 2012 which will augment supply to the site.
- The first stage of development, Minmi East will be serviced by minor lead-in works and connection to existing infrastructure either from Minmi or Woodford Road. Subsequent stages will require lead-in works from the new zone substation.

### Gas

- The development will be serviced by reticulated natural gas by Alinta. The nearest gas mains are located in Woodford Street, in which gas will be provided underground in a shared trench arrangement.
- Each stage of the works will be serviced in turn with extensions from existing infrastructure.

### Telecommunications

- Minmi is serviced by Telstra and future development will require relocation of existing copper cables that are currently located within the development site. Existing Telstra infrastructure will be required be extended from Minmi in the north and from the Northlake/Edgeworth area in the south.
- Telstra cabling will be provided in a shared trench arrangement. Each stage of the works will be serviced in turn, with extensions from existing infrastructure.

In summary, the future development of the site will be appropriately serviced with water and sewer infrastructure by lead-in works, upgrades and major infrastructure. Servicing Strategies will be prepared in consultation with Hunter Water after approval of future Project Applications for each stage. The new Cameron Park zone substation will augment existing electrical supply to the development when the existing supply is exhausted. Gas mains, Telstra cabling and electricity supply will be provided to each development stage through shared trench arrangements.

## 6.14 Ecologically Sustainable Development and Sustainability commitments

An Ecologically Sustainable Development (ESD) Report was prepared by EnSight to accompany the Minmi/Link Road Environmental Assessment Report as attached in Appendix L. The ESD report responds to the DGEARs which details the ESD principles, including BASIX compliance to be adopted within the future development of the site. Three proposed management strategies are identified that demonstrate that project owner's commitment to the implementation of ESD:

- Energy Management Plan (EMP)
- Water Management Plan (WMP)
- Vehicle Management Plan (VMP)

The ESD Report addresses design, construction and operation principles related to ESD and the measures that are to be implemented in achieving BASIX compliance. There are no government or industry accepted ESD design tools that address land development however the proponent has developed an ESD strategy, indicators and targets to demonstrate that the project can commit to ESD principles in the design, construction and operational phases of the development.

The EMP and the WMP identify the measures for reducing energy and water consumption, which are demonstrated to achieve Basix Compliance. The future development of the site will entail at least a 40% reduction in energy and water use in the project, in compliance with the NSW Energy and Water Basix provisions. However the project aims to further demonstrate the ESD focus through the "Beyond Basix" objectives by the following measures:

- An annual greenhouse gas emission saving of 4,644 kgs per lot is proposed which will result in a 60% reduction in energy use. In addition to the Basix Compliance measures, these objectives will be achieved by a 1kW photovoltaic grid interactive array, natural gas boosted solar water heating, natural gas cook tops and wall ovens and hot water connection provided to dishwashers and washing machines.
- The projected result of water saving for the project is 199 kilolitres of water per lot per year which will reduce water use by 60%. Similar to the Basix Compliance, stormwater will be used for toilet flushing but also for household washing machines.

Further ESD principles are to be implemented by the VMP which aims to reduce car dependency by:

- Increasing pedestrian access
- Providing convenience shopping facilities within the development
- Encouraging access to regional public transport by providing connecting bikeways and electric or hybrid buses.
- Providing high speed internet in each dwelling to encourage local employment in particular home offices.

The focus of the VMP is to reduce greenhouse gas emissions by reducing the use of private motor vehicles within the development.

The construction phase of the project will also entail the implementation of ESD actions. A Construction Management Plan will be prepared following approval of the Concept Plan and will address the following:

- Development of a site specific soil erosion and sediment control plan;
- Confirmation of construction hours in accordance with the conditions of consent;
- Air quality/dust control procedures;
- Noise management procedures;
- Waste Management Plan;
- Community Safety Plan;
- Arrangements for temporary pedestrian and vehicular access;
- Storage and handling of materials procedures;
- Environmental training and awareness;
- Contact and complaints handling procedures;
- Emergency preparedness and response; and
- Comprehensive reporting and monitoring process.

Overall, the Coal & Allied land offset package provides the opportunity to create new communities for the Lower Hunter region and in doing so, implement key objectives and outcomes of the Lower Hunter Regional Strategy (LHRS) associated with accommodating sustainable population and employment growth and environmental outcomes.

### 6.15 Developer Contributions

#### 6.15.1 Likely scope of developer Contributions to State Government and to Newcastle City Council and Lake Macquarie City Council

A Draft Statement of Commitments is included at **Appendix D**. This details the various regional and local contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation. This may involve the implementation of various 'developer agreements' between Coal & Allied and the DoP prior to final approval of a construction certificate for Stage 1 subdivision.

Section 94 contributions will be paid to Newcastle City Council via the development contributions plan for the Blue Gum Hills region; and to Lake Macquarie City Council via the Section 94 Contributions Plan – Citywide (2004). Works in kind may also be provided in lieu of some Section 94 monetary contributions and will involve further discussion with each respective Council.

#### 6.15.2 Social impact analysis and gap analysis

An assessment of social impacts associated with the proposed development of Minmi/Link Road and a gap analysis has been undertaken by Urbis. The assessment is contained within the submitted Social Impact Study and is to be read in conjunction with the Hunter Northern Lands Social Infrastructure Study, Minmi both of which are attached at Appendix F. The social impact analysis (SIA) and gap analysis identified the need for social infrastructure with relation to the proposed development of the site, which is anticipated to accommodate additional 8,580 residents by 2030.

The gap analysis of social infrastructure has been based upon the anticipated population growth of up to 8,580 persons over the lifecycle of development and entails consideration to housing diversity; housing for older persons; health services; recreation and community facilities; and community transport.

The SIA and findings of the gap analysis indicates that the social infrastructure provision required to meet the demands of the additional population will entail the provision of the following infrastructure:

- Regional infrastructure relating to access to transport.
- Recreational facilities, including youth facilities, close to the existing park lands and should include up to two sports fields, four netball courts, two double-court tennis courts, three parks (with dog exercising areas).
- Contributions toward a BMX track and skate park located in the Blue Gum Hills Regional Park or another regional facility.
- Contributions towards a community hall/centre or similar building to accommodate flexible uses such as visiting health services for baby and child health, community nursing and allied health services.

In lieu of monetary contribution for open space, a number of parks will be developed by the Owner and then dedicated to Lake Macquarie Council / Newcastle City Council after the completion of each stage of the development. The owner will only make monetary contribution to local open space if the minimum local open space area is not achieved based on the dwelling yield.



## 7 Statement of Commitments

The Draft Statement of Commitments included at Appendix D details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation. This may involve the implementation of various 'developer agreements' between Coal & Allied and the Department of Planning prior to final approval of a construction certificate for Stage 1 subdivision.

The Draft Statement of Commitments includes 'business as usual' commitments that are expected to be delivered as part of the development of the site and basically standards that will have to be met to achieve approval.

The costs associated with the final Statement of Commitments will be derived from the following:

### Normal development costs

For example:

- Accepted minimum requirements for sustainability initiatives such as WSUD, BASIX etc; and
- The minimum standards required by service authorities to support the new development.

### Local Government section 94 charges

These will be monetary contributions and/or works in kind and/or land dedications.

### State Government Regional Infrastructure Levies

These will be monetary contributions and/or works in kind and/or land dedications. It is understood these will cover:

- Road Infrastructure;
- Public Transport;
- Emergency Services; and
- Education.

### 7.1 Coal & Allied \$10 million Allocation

In addition, Coal & Allied has allocated an amount of \$10 million for initiatives associated with the delivery of social infrastructure to support the existing and future communities at Minmi/Link Road and Black Hill. The \$10 million fund is directed at initiatives that would not ordinarily be provided as part of the development of a new residential estate and accordingly, the initiatives identified are those that are considered 'over and above' what is reasonably necessary to satisfy State and Local Government approval requirements.

The \$10 million fund may be used for sustainability initiatives for future residents, additional infrastructure to support existing and future residents, educational and or community programs. A Design Charette process was undertaken in November 2007 for Minmi/Link Road and Black Hill Coal & Allied owned northern sites and was utilised to draw out the community priorities and help identify to what purposes the \$10 million fund will be spent. The outcomes of this process and community recommendations are included at **Appendix S**.

The final list of initiatives for Minmi/Link Road Bay based on the outcomes of the Design Charette, on-going consultation and endorsed by Coal & Allied in terms of both costs and practical delivery are incorporated into the Draft Statement of Commitments included at **Appendix D**.



## 8 Suitability of Site

Environmental investigations to date demonstrate that all potential adverse impacts of the project can be sustainably managed, resulting in significant new social, environmental and economic benefits. Notwithstanding this, the environmental, social and economic factors arising from the project are addressed below.

### 8.1.1 Environmental

Coal & Allied's Lower Hunter lands including Minmi/Link Road are included in the Lower Hunter Regional Strategy (LHRS) for urban development and conservation. In finalising the LHRS, the NSW Government reached agreement with Coal & Allied for the dedication of significant land parcels at Stockrington and Tank Paddock to form an important part of an environmental land offset package for the entire region to be dedicated to the NSW Government as conservation land.

The future development of the Minmi / Link Road estates is demonstrated to achieve Newcastle and Lake Macquarie LEP objectives of enhancing the conservation values of the Lower Hunter Region by the dedication of significant, key land holdings that contribute to key green corridors. As discussed, Coal & Allied are dedicating 2,264ha of Stockrington and Minmi to the NSWG as 'conservation land'. The conservation land dedication is crucial in achieving the State Government's objective of securing major conservation corridors, most notably the corridor that links the Watagans and Yengo National Parks with the coastal plains of the Tomago Sandbeds, Stockton Bight and Port Stephens.

The Western Corridor Strategy seeks to provide west to east corridor opportunities within all new developments for the locality to cater for regional fauna movements. In addition to the proponent's contribution to the Watagan Range to Stockton Bight regional corridor, the proposed Concept Plan scheme incorporates a matrix of corridor links in and around the proposed development estate. The project further contributes towards the extent of corridor linkage by the inclusion of a vegetated corridor along the southern edge of Link Road. This will connect to the extensive bushland area situated to the east and the existing corridor associated with the Cameron Park, Northlakes development situated to the west.

The Lower Hunter region's vegetation is of bio-geographic significance as it supports a transition between the northern and southern plant and animal communities and the Stockrington Conservation Estate alone provides a significant tract of native vegetation which will provide habitat for a wide variety of native flora and fauna and will contribute a significant portion of land to conservation in perpetuity and public ownership. It is noted that approximately 70% of the Stockrington site is currently zoned for rural purposes, which Coal & Allied is proposing to rezone for conservation purposes. Thus, although this land has been recognised as providing a conservation corridor, its current zoning under Cessnock LEP 1989 does not reflect this. In this regard it is important to note that whilst ever the land remains in private ownership and is zoned 1(a) Rural "A" Zone the potential exists for it to be used or developed for purposes other than conservation. The proposed State Significant Site listing for Stockrington will facilitate the rezoning of the land to E1 – National Parks and Nature Reserves, the highest level of conservation zoning available under the Standard Instrument (Local Environmental Plans) Order 2006

In addition to their important strategic location in a wider landscape context, the conservation lands contain valuable biodiversity resources. They contain and will conserve a range of important vegetation communities, including areas of Endangered Ecological Communities (EEC) and other vegetation types that have been depleted in the region.

The diverse nature of landform settings, varying from coastal ranges forests and woodlands to coastal heath to wetlands, provides a diverse array of habitats and resources for native fauna. The conservation lands are known to contain important populations of numerous threatened fauna species. The conservation of these lands will provide secure regional biodiversity gene pools, and also through linkages facilitate valuable genetic material exchange and other key processes associated with sustainable ecological population dynamics.

In addition, environmental outcomes will also be achieved within the Minmi/Link Road development precincts by best practice approaches to urban design, preservation of riparian corridors and considered development edge treatments. Such approaches and techniques include:

- Incorporate water sensitive urban design features into the development to ensure that there is no increased export of stormwater, pollutants and sediments to minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies, such as Hexham Swamp.
- Protect sensitive riparian areas by establishment appropriate riparian corridors and rehabilitation and revegetation where required;
- Incorporate significant Aboriginal and European heritage, archaeological and cultural elements into the urban design;
- Retain vegetation along ridges to reinforce the existing local bushland backdrop;
- Respect the existing township through the establishment of urban design guidelines for new housing, addressing proportion, size and landscape elements;
- Responding to the development constraints as a result of previous mining activities by adopting building height and construction standards that meet Mine Subsidence Board requirements;
- Subject to the remediation of land, the site is able to accommodate residential land uses;
- Environmental considerations relating to flood risk management, acid sulphate soil management, bushfire threat and heritage conservation have been assessed and development has been sited to appropriately take into account these environmental factors, which are further discussed in the following sections of the EA.

### 8.1.2 Social

LHRS promotes Newcastle as the regional city of the Lower Hunter, supported by a hierarchy of major regional centres at Charlestown, Cessnock, Maitland and Raymond Terrace, emerging major regional centres at Morisset and Glendale–Cardiff as well as specialised centres and lower order centres.

Taking into account the regional growth perspective, the site is considered suitable for accommodating the proposed development as:

- Regional growth provides a significant level of social infrastructure that can support identified growth opportunities in smaller villages such as Minmi. The growth of emerging neighbouring areas, including Glendale and Maitland, increases the level of planned new services available to people moving into the Minmi area.
- A concentration of business, higher order retail, employment, professional services are established as part of the growth of regional centres and generally include civic functions and facilities and are focal points for sub regional road and transport networks which may service a number of districts.
- Renewal corridors are situated along strategic transport routes and link strategic centres which present opportunities for economic renewal and/or housing renewal and intensification, such as the proposed development at Minmi. New and existing residents can benefit from the planned regional growth which includes improved transport accessibility and access to services including schools, general practitioners, shops, and open spaces.
- Access to regional centres is readily accessible due to the site's close proximity to the F3 Freeway and Newcastle Link Road transportation corridors.

The Western Corridor Strategy identifies future employment lands in the Corridor's far north and south, whilst residential development will be concentrated around existing urban areas in the centre. For residential development, the Western Corridor Strategy specifies a yield of between 5 and 9 dwellings per hectare, lower than that determined in the LHRS due to the various environmental constraints of the area. With a projected yield of 6.3, the Minmi/Link Road estates will meet this target comfortably.

In consideration to the Newcastle LEP 2003, the proposal is consistent with the objectives of the relevant zones through the creation of a diversity of residential housing forms and supportive facilities. The ability to accommodate home-based business and community facilities will be met though future flexible land uses allowable under the proposed zonings of the land.



Social infrastructure study and social impact analysis identifies the need for social infrastructure to accommodate future and existing residents as a result of proposed development. The social infrastructure provision required to meet the demands of the additional population will entail the provision of both a range of regional and local infrastructure, which will be provided through a combination of works in kind and monetary contributions, as detailed in the Draft Statement of Commitments in Appendix D. Further discussion on social infrastructure and impacts are discussed in Section 6.15.2.

### 8.1.3 Economic

An Economic Impact Assessment has been prepared by Sphere to support the Concept Plan for the site (Refer to Appendix P). This report concludes that the proposed development of Minmi/Link Road estates result in the following economic impacts:

- Injection of an estimated \$839,656,600 million of new, capital investment into the economy from expenditure on housing, commercial and retail space plus infrastructure services both internal and external to the site including road, energy services, water, sewer and communication works (2008 dollar terms).
- Create an estimated 3,555 direct, full time equivalent jobs of which up to half are expected to be in the Hunter and will extend over a 20 year period to 2030.
- Support a further 9,904 jobs (up to half local) over the project life resulting from the multiplied employment stimulus among construction related industries flowing on from the primary expenditure.
- Provide additional flow-on economic effects over 20 years of around \$1,215 million from expenditure by recipients of the primary income.
- Create a project that demonstrates a net, direct benefit to the economy from a forecast BCR of 1.28 using NSW Treasury methodology.

## 8.2 Public Interest

The dedication of 2,264ha of conservation land to include as a significant part of the vitally important Watagan to Stockton Bight conservation corridor, is a once in a generation opportunity that will provide an enduring legacy for the community. This is quite clearly in the public interest.

As discussed at length the proposal has a range of public benefits including:

- Meeting of regional housing needs;
- Creation of jobs through construction and investment in the order of \$812,500,000 million;
- Payment of local and regional developer contributions;
- Provision of infrastructure to proposed development;
- Upgrade of the Newcastle Link Road/Minmi Road/ minmi Boulevard intersection at the appropriate time;
- Protection of sensitive European and Aboriginal heritage culture;
- Protection of endangered ecological communities and threatened species in the offset area; and
- Preservation and interpretation of historic mining remnants for public enjoyment and education.



## 9 Conclusion

The Minmi/Link Road estates form an integral part of the overall Coal & Allied environmental land package which will achieve substantial conservation outcomes through dedication of 2,264ha of conservation land as set out in the MOU between Coal & Allied and the NSW State Government.

In summary, the proposed Concept Plan will:

- Conserve in perpetuity key strategic parcels of land that complete long sought-after regional biodiversity conservation corridors and buffer areas;
- Establish ecological corridors across the site, encompassing riparian corridors, linking Blue Gum Hills Regional Park and Hexham Swamp;
- Incorporate water sensitive urban design features into the development to ensure that there is no increased export of stormwater, pollutants and sediments;
- Protect sensitive riparian corridors by providing appropriate setbacks and buffers to accommodate stormwater and ecological habitat and linkages;
- Preserve the historic integrity of Minmi by the sensitive siting of developable areas and retention of vegetation along ridgelines to retain the landscape curtilage;
- Establish a road network that will accommodate the anticipated development and cumulative regional growth whilst improving the existing public transport services facilitates opportunities for more accessible bus services;
- Respect the existing township through the establishment of urban design guidelines for new housing, addressing proportion, size and landscape elements;
- Provide housing to help achieve the Lower Hunter Strategy dwelling targets to cater for the predicted population growth for the Region over the next 25 years; and
- Increase and improve social infrastructure to meet the demands of the new and existing residents.

In summary, the project is of clear significance to the region and state in terms of its significant delivery of environmental gain from the environmental land offset package and the implementation of the objectives of the LHRS and draft Lower Hunter Regional Conservation Plan. In view of the clear merit of the proposal, we therefore seek approval of the Concept Plan for Minmi/Link Road, subject to consideration of any issues raised during the public exhibition of the application and relevant provisions of the EP&A Act.

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