

minmi | Link road and Stockrington

Concept Plan
Environmental Assessment

February 2011

COAL
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ALLIED



Minmi/Link Road and Stockrington Concept Plan

Prepared for Coal & Allied Industries
Limited

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Report Number	Minmi Environmental Assessment Report_February 2011

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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:

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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

Date: 14 February 2011



Signature

Name: Tom Goode

Date: 14 February 2011

Executive Summary

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

The protection and management of vegetation corridors is a key focus of the Lower Hunter Regional Strategy (LHRS) and the companion Lower Hunter Regional Conservation Plan (LHRCP). The Minmi/Link Road and Stockrington estates have been recognised for their State and Regional significance based on their inclusion in the LHRS for proposed urban development and land dedications.

Coal & Allied propose to develop 3,300 dwellings on 520 ha of land at Minmi/Link Road, with 1,561 ha at Stockrington and Minmi to be dedicated to the New South Wales Government (NSWG) for conservation. Other Coal & Allied owned sites in the Lower Hunter and Central Coast regions are the subject of separate Part 3A applications to the Department of Planning (DoP). Overall, Coal & Allied proposes to dedicate approximately 2956Ha of Coal & Allied land to the NSWG to provide and enhance important conservation corridors identified in the LHRS and LHRCP.

The proposed dedication of conservation lands at Minmi and Stockrington will play a crucial role in securing in perpetual ownership the long sought after conservation corridors between Watagans Range and Stockton Bight.

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:

- Dedication of 1,561ha of conservation land to the NSWG that is identified in the LHRS and LHRCP.
- Dwelling yield of 3,300 dwellings over 520ha.
- Mixed use areas of a total 6.6ha with a gross lettable retail floor space capped at 8,000sqm to 2026.
- Indicative development staging.
- The provision of associated infrastructure.
- Torrens title subdivision of the Minmi/Link Road site. The Torrens title subdivision of Coal & Allied land will enable the company to :
 - Dissect land on either side of the F3 Freeway and to separate the development lot from the conservation land.
 - Transfer approximately 17ha of land at Minmi/Link Road to the north of the Minmi Rural Fire shed to the NSWG for conservation purposes. This land area is included in the total land area of 1561Ha to be dedicated to the NSWG.

Approval will not be sought under the Concept Plan for a specific lot or road layout, however an indicative lot and road layout will indicate how the maximum dwelling yield of approximately 3,300 dwellings could be achieved on the site.

Similarly, approval will not be sought under the Concept Plan for subdivision or construction of individual houses. However, the desired future character of the proposed concept plan will be included in Urban Design Guidelines. Urban Design Guidelines will be prepared to inform the Concept Plan for Stage 1, the Minmi East precinct in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site.

Five developable precincts are proposed under the Concept Plan, located around the Minmi township and to the north and south of Link Road.

The proposed developable areas have been established on the basis of detailed investigations in respect to existing environmental constraints and opportunities for future sustainable growth. The proposed developable precincts are:

- Minmi East: Proposed to be located between the existing Minmi township and The Outlook, to act as a “gateway” to the east.
- Minmi Extension: Proposed to be located south and west of the existing Minmi township incorporating proposed Garden House and Workshop heritage parks.
- Village Centre: Proposed to be located in the centre of the site, and is proposed as a new activity hub for the area.
- Link Road North: Proposed to be located along the northern boundary of the Newcastle Link Road, acting as “gateway” to existing and future development in the south.
- Link Road South: Proposed to be located south of the Newcastle Link Road, including a connector road linking the proposed development with Cameron Park and other future developments.

It is proposed to dedicate land for conservation purposes as part of the Concept Plan Application via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG in accordance with s.93F of the Environmental Planning & Assessment Act, 1979 (EP&A Act).

The proposed Concept Plan seeks to facilitate residential development that is generally not permissible under the existing planning provisions and therefore a State Significant listing/rezoning is proposed under Schedule 3 of the State Environmental Planning Policy (Major Development) 2005 (“Major Development SEPP”) to provide the statutory mechanism for approval of the Concept Plan and associated future development. A separate report has been prepared and lodged with the Department of Planning (DoP) in support of an application for listing/rezoning of the Coal & Allied owned Minmi/Link Road and Stockrington sites as a ‘State Significant Site’ (SSS). This report should be read in conjunction with the SSS listing report.

On 7 July 2010, the Minister for Planning determined that the development proposal for Minmi/Link Road be considered as a Major Project under Part 3A of the Environmental Planning and Assessment Act (“the EP&A Act”). The Minister also decided to consider Minmi/Link Road and Stockrington as a potential State Significant Site (SSS) under Schedule 3 of the Major Development 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 19 August 2010.

Key environmental issues broadly relate to:

- Urban Design, development controls and land uses
- Staging of Development
- Commercial / retail development
- Topography and site preparation
- Conservation lands
- Biodiversity
- Geotechnical and mining activities
- Transport and accessibility
- Noise
- Air Quality

- Heritage
- Water quality, groundwater and riparian corridors
- Flooding
- Visual impact
- Bushfire Risk Assessment
- Future public land
- Utilities
- Ecologically Sustainable Development (ESD)
- Social Impact and social infrastructure
- Subdivision

A Draft Statement of Commitments is included at **Appendix D**. This 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 Concept Plan application on behalf of Coal & Allied, for a Concept Plan for the future residential subdivision of land and conservation land transfer 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 1,561ha at Stockrington and Minmi; and provision of associated infrastructure will be facilitated by the Concept Plan and equates to an approximate 75:25 (3:1) split of conservation lands transfer to potential development lands. Land transferred by Coal & Allied to RTA of approximately 305Ha which will be subsequently transferred by RTA to DECCW is additional to the land to be transferred directly by Coal & Allied (See Figure 3).

The Concept Plan and Urban Design Guidelines are attached in **Appendix A** and **B**.

This EA provides the following details to assist the NSW 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;
- 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 approximately 4,078 hectares. Four are located in the northern area comprising Black Hill, Tank Paddock, Minmi/Link Road and Stockrington (including land north and south of Link Road). Three are located in the southern area comprising Gwandalan, Catherine Hill Bay (Middle Camp) and Nords Wharf. The landholdings are located in four local government areas of Lake Macquarie, Wyong, Newcastle and Cessnock.

INTRODUCTION

The Coal & Allied southern lands include Gwandalan which adjoins Lake Macquarie State Conservation Area and Chain Valley Bay. Gwandalan is on the western side of Crangan Bay, Lake Macquarie and Nords Wharf is on the eastern side.

Catherine Hill Bay and Nords Wharf are located between Wallarah National Park and Munmorah State Conservation Area. Catherine Hill Bay is located on the east coast halfway between Swansea Heads and the Budgewoi Peninsula.

The Coal & Allied northern lands are located approximately 20 kilometres west of Newcastle and are almost halfway between Newcastle and Cessnock. The Black Hill site 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 and Lower Hunter Regional Conservation Plan (LHRCP).

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

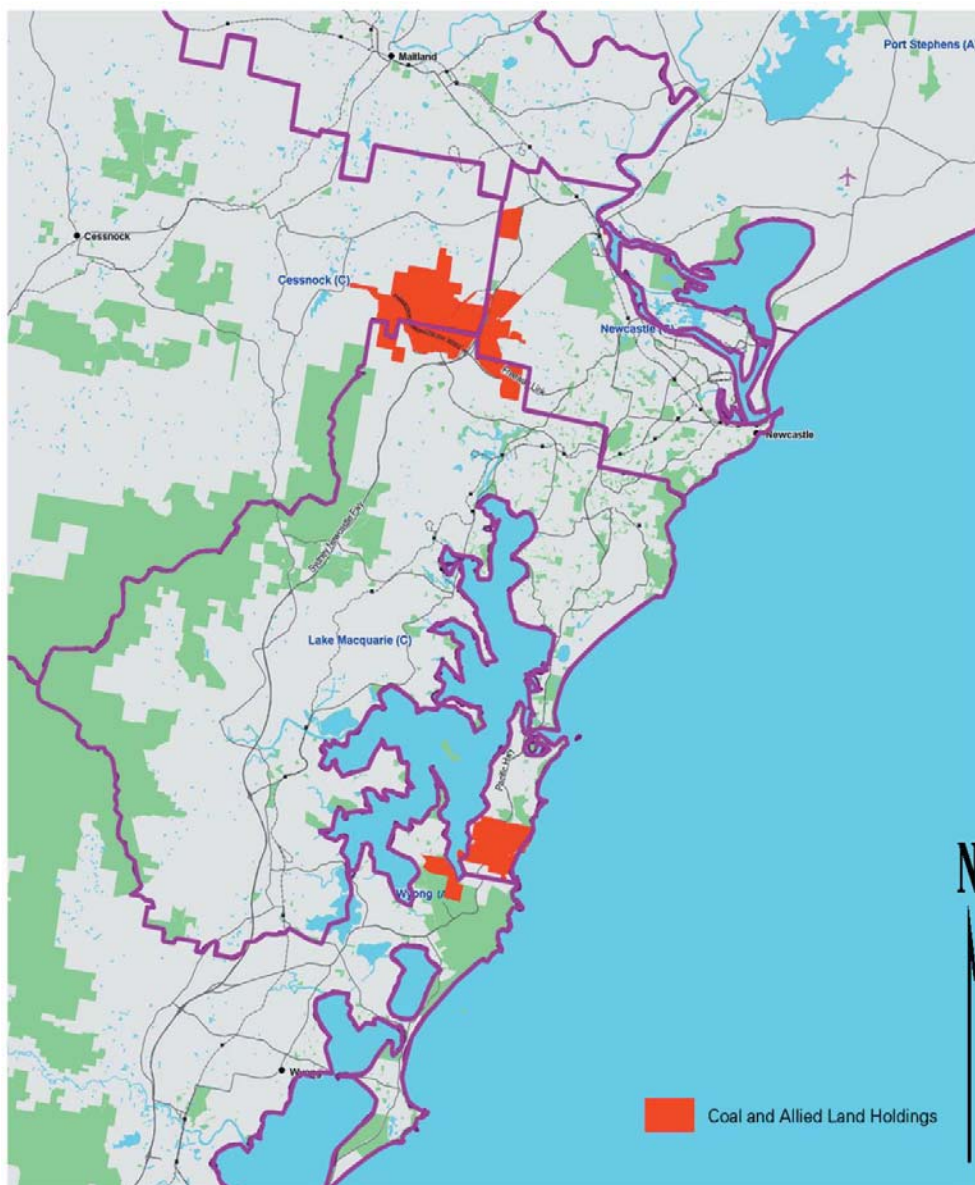


Figure 1 – Coal & Allied landholdings in the Lower Hunter

1.1.2 Regional Planning Context

The Minmi/Link Road and Stockrington site has been recognised for its regional significance to the Lower Hunter Region based on its inclusion in the LHRS for proposed urban development and in the LHRCP for proposed conservation land dedications. The proposal is entirely consistent with the LHRS and LHRCP.

Minmi/Link Road and Stockrington must be considered in the broader strategic and geographic context, rather than just which council area or region it falls within, in order to realise the State Government objective of securing emerging major conservation corridors.

1.1.3 Voluntary Planning Agreement

It is proposed to dedicate land for conservation purposes via a voluntary planning agreement (VPA) between Coal & Allied and the NSWG in accordance with Section 93F of the EP&A Act. A Draft Statement of Commitments will be prepared to support the Concept Plan and associated Environmental Assessment.

The proposed development of 520ha at Minmi/Link Road for residential and supporting uses and proposed dedication of 1,561ha of conservation land at Minmi/Link Road and Stockrington is crucial in securing major conservation corridors identified in the LHRS and LHRCP. The proposal will deliver a ratio of 75:25 (3:1) of future conservation land dedication to potential developable lands.

The proposed conservation land dedication at Minmi/Link Road and Stockrington provides a significant contribution to the Watagan-Stockton conservation corridor.

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 the Watagan Range to Stockton Bight and the Wallarah Peninsula through the proposed land dedication. It is also pleased to be a part of the economic development of the Lower Hunter Region through proposed residential and employment developments to help meet the growth targets set out in the LHRS.

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 the proposed dedication of land to the NSWG for conservation corridors;
- Gaining concept plan approval and rezoning of the seven Coal & Allied owned estates;
- Achieving sustainable residential and employment generating development in five estates;
- Establishing successful communities in the four proposed residential estates;
- Incorporating new urbanism principles of sustainability, mix of uses, walkability and transit connections;
- Reaching target financial returns for the development of a commercial 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 \$839,657,000.

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 of 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 separate 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

In accordance with the EP&A Act and associated guidelines, a Preliminary Environmental Assessment (PEA) was submitted to the DoP on 15 June 2010 to assist the Director General in determining the level and scope of the environmental assessment for the listing of the Minmi/Link Road and Stockrington estates as a proposed State Significant Site (SSS) under Schedule 3 of the Major Development SEPP.

A concept plan was prepared with the PEA for the site to show the proposed development as well as areas of conservation.

On 7 July 2010, the Minister for Planning determined that the development proposal for Minmi/Link Road and Stockrington be considered as a Major Project under Part 3A of the 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 decided to consider Minmi/Link Road as a potential State Significant Site (SSS) under Schedule 3 of the Major Development SEPP 2005.

On 19 August 2010, 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 19 August 2010 and identifies where each requirement has been addressed in the Environmental Assessment.

Table 1 – Director General Assessment Requirements

REQUIREMENT	SECTION OF EA
GENERAL REQUIREMENTS	
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 (including relevant maps); and, (d) Map indicating the footprint and conservation lands	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 specific commitments to public benefits, environmental management, mitigation and monitoring measures to be established on site and clear identification of the timing and responsibility 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 State infrastructure in accordance with Planning Circular PS 07-018 (Infrastructure Contributions); and (c) if relevant, any public benefits to be provided with the development.	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
KEY ASSESSMENT REQUIREMENTS	
Urban Design, Development Controls and Land Uses	
10. Propose suitable land uses and development controls for the site based on a comprehensive analysis of the site constraints and opportunities, and consideration of development controls outlined in councils' existing and draft local environmental plans and development control plans.	Refer to Section 6.1, Appendix A & B
11. Demonstrate that development controls will complement surrounding existing land uses and the dedicated conservational lands.	Refer to Section 6.1
12. Identify opportunities to integrate and link the proposal with surrounding urban areas, both existing and planned, including through appropriate pedestrian and cycle access connections.	Refer to Appendix A & B

REQUIREMENT	SECTION OF EA
13. Identify proposed treatment and landscaping of all public domain areas.	Refer to Appendix A & B
14. Outline strategies for retention of trees both within individual lots and the public domain.	Refer to Appendix A & B
15. Address the principles of Crime Prevention Through Environmental Design.	Refer to Appendix A & B
Staging of Development	
16. Provide details of and justification for the proposed staging and indicative time frames for the development including a staging plan that sets out the sequencing of land release. Include relevant maps.	Refer to Section 6.2 & Appendix A
17. Identify the staging process for infrastructure provision commensurate with proposed staging of development, through consultation with relevant agencies.	Refer to Section 6.2 & Appendix A
Commercial / retail development	
18. Identify and justify the configuration, extent and likely floor space yield of any commercial / retail uses, and consider its impact on nearby existing and proposed retail / commercial centres.	Refer to Section 6.16 & Appendix F .
Topography and site preparation	
19. Provide a detailed contour plan and slope analysis. Demonstrate the suitability the site for the proposed development, and associated infrastructure, having particular regard to areas with steep topography. Identify the extent of cut and fill required to achieve the proposed development, and outline strategies to minimise excavation works, both for site preparation works and individual dwellings.	Refer to Section 6.6 & Appendix J
20. Provide an assessment of the impacts of site preparation works required to accommodate the proposed development and associated infrastructure.	Refer to Section 6.6, Slope analysis and contour plan in Appendix A & Appendix G
21. Demonstrate that development controls and public domain controls respond to the topographical constraints of the site.	Refer to Section 6.6 & Appendix A
Conservation Lands	
22. Identify the extent, locations, and timing of dedication of proposed conservation lands.	Refer to Appendix A & Section 6.3
23. Discuss any edge effects between the development area, and the conservational and surrounding lands. Outline commitments to ongoing management of edge effects and consider the need for a buffer zone.	Refer to Section 6.3, 6.4 & Appendix D
Biodiversity	
24. 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 Threatened Species Assessment (DEC July 2005) and include a field study.	Refer to Section 6.4 and Appendix H
25. Demonstrate that biodiversity impacts can be appropriately offset in accordance with the NSW Government's policy for 'improvement or maintenance' of biodiversity values.	Refer to Section 6.4, Appendix H
26. Describe the actions that would be taken to avoid or mitigate impacts on biodiversity, threatened species and their habitat. This should include identification of opportunities to maintain local biodiversity corridors, through consultation with DECCW, to ensure to ongoing viability of threatened species.	Refer to Section 6.4 & Appendix D & H
27. Assess the impact of the proposal on existing reserves in the locality	Refer to Section 6.4 & Appendix H

REQUIREMENT	SECTION OF EA
including Blue Gum Hills Regional Park, Pambalong Nature Reserve, and Hunter Wetlands National Park. Identify options to mitigate and manage impacts on reserves, in particular edge effects on Blue Gum Hills Regional Park. Identify access arrangements between the proposed development and the Blue Gums Hills Regional Park in consultation with DECCW. This assessment should be carried out in accordance with Guidelines for Developments Adjoining Land and Water Managed by DECCW (DECCW 2010).	
28. Provide an assessment of the cumulative impacts on biodiversity of the proposed development, and other development proposed in the area.	Refer to Section 6.4 & Appendix D & H
Air Quality	
29. Assess the odour and air quality impacts of the nearby existing development and any proposed development and in light of potential coal mining and coalbed methane extraction on the subject land. The assessment must be consistent with the Technical Framework Assessment and management of odour from stationary sources in NSW (DECC November 2006) and the Technical Notes Assessment and management of odour from stationary sources in NSW (DECC November 2006).	Refer to Section 6.5 & Appendix I
Geotechnical and mining activities	
30. 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 & Appendix J
31. Provide a risk analysis examining the risk factors associated with the former mining use of the site and what effects it may have on future development, including mine subsidence and hazards associated with subterranean gases.	Refer to Section 6.6 & Appendix J & K
32. Identify measures that would be implemented to avoid or remediate potential subsidence issues encountered on the site.	Refer to Section 6.6
33. 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 5.6, 6.6 & Appendix J
34. Outline actions, management and mitigation measures required and address contamination issues associated with the project (if any) in accordance with SEPP 55 and other relevant legislation and guidelines.	Refer Section 6.6 & Appendix J
Traffic/Transport	
35. Provide a traffic study in accordance with the <i>RTA Guide to Traffic Generating Developments</i> , which includes: (a) all relevant vehicular traffic routes and intersections for access to/from the area; (b) current traffic counts for all the above traffic routes and intersections (c) the additional vehicular traffic generated from the proposed development and associated trip distribution on the road network; (d) consideration of the traffic impacts on existing and proposed intersections and the capacity of the local and classified road network to safely and efficiently cater for additional vehicular traffic generated by the proposed development. The assessment should also include the cumulative traffic impact of other proposed development in the area; (e) consideration of the impact of the planned Hunter Expressway; (f) details of necessary road network infrastructure upgrades required to maintain existing levels of service both on the local and classified road network;	Refer to Section 6.7 & Appendix M

REQUIREMENT	SECTION OF EA
<ul style="list-style-type: none"> (g) intersection analysis, as well as a micro simulation model to determine the need for intersection and mid block capacity upgrades, as well as to ensure traffic signal co-ordination; (h) details on the efficiency of emergency vehicle access/egress; (i) measures to introduce and promote public transport usage and mode share, including identification of bus routes; (j) proposed pedestrian and cycle access within and to the site that connects to all relevant transport services, existing and proposed adjoining suburbs and other key off-site locations (for example schools, shops, parks recreation and community facilities) having regard to the NSW Planning Guidelines for Walking and Cycling (2004), and the NSW Bike Plan (2010); timing of delivery of proposed transport infrastructure including road and intersection upgrades, pedestrian and cycle paths, and public transport infrastructure; and (k) consideration of impact on existing property access. 	
<p>36. Identify road design that is responsive to the proposed land use and associated urban form including proposed transport linkages between the subject lands and surrounding key destination points such as existing centres, recreational areas and employment/industrial centres. Road design should be in accordance with any requirements of the relevant agency that will have responsibility for its ongoing ownership and management.</p>	<p>Refer to Section 6.7 & Appendix M</p>
<p>37. Assess the proposal against the objectives of the Integrating Land Use and Transport policy package</p>	<p>Refer to Section 6.7 & Appendix M</p>
<p>38. Assess the impact of the proposal on future access arrangements to the Summerhill Waste Management Centre.</p>	<p>Refer to Section 6.7 & Appendix M</p>
<p>Noise Impact</p>	
<p>39. Assess the impact of increased traffic generated by the proposal on existing and future residents, in accordance with the Environmental Criteria for Road Traffic Noise (EPA, 1999 and Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning).</p>	<p>Refer to Section 6.8 & Appendix N</p>
<p>40. Identify the extent of any necessary noise attenuation works, including noise barriers and/or treatment and design of dwellings within individual lots.</p>	<p>Refer to Section 6.8 & Appendix N</p>
<p>Heritage</p>	
<p>41. Provide an archaeological assessment and heritage impact statement in accordance with the NSW Heritage Office Guidelines. The statement should assess the impacts of the application on the area and any significant elements of the site including indigenous heritage.</p>	<p>Refer to Section 6.9 & Appendix O</p>
<p>42. Provide detail of how the development will incorporate and not negatively impact on site setting, landscapes, landmark elements, heritage items, views and vistas.</p>	<p>Refer to Section 6.9 & Appendix A & O</p>
<p>43. 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.</p>	<p>Refer to Section 6.9 & Appendix O</p>
<p>44. Provide an assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, July 2005).</p>	<p>Refer to Section 6.9 & Appendix O</p>

Water quality, groundwater and riparian corridors	
45. Assess any potential impact of proposed development on hydrology and hydrogeology of the site and adjacent areas in terms of impact on water quality, including groundwater, in keeping with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000).	Refer to Section 6.10 & Appendix P
46. Identify drainage and stormwater management infrastructure, including: on site detention of stormwater; water sensitive urban design (WSUD); and drainage infrastructure. Demonstrate that stormwater infrastructure is appropriate in the context of the site topography. Identify future management arrangements for stormwater infrastructure, in consultation with the relevant council.	Refer to Section 6.10 & Appendix P
47. Identify riparian corridors and associated buffers and assess against the Guidelines for Controlled Activities – Riparian Corridors (Department of Water and Energy 2008). Infrastructure including roads, pathways, drainage and stormwater structures, and asset protection zones, should be located outside the identified riparian corridors and buffers. This should be demonstrated through provision of plans and cross sections.	Refer to Section 6.10 & Appendix P
48. 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 & Appendix P
Flooding	
49. Develop suitable Flood Planning Levels for the development and demonstrate consistency with the NSW Floodplain Development Manual: the management of flood liable land (2005) and the DECC Floodplain Risk Management Guideline - Practical Consideration of Climate Change.	Refer to Section 6.10 & Appendix P
Visual Impact	
50. Assess the visual impact of the proposal, when viewed from the surrounding areas (including surrounding roads, the Blue Gum Hills Regional Park, proposed conservation lands, the existing Minmi village, and other nearby suburbs).	Refer to Section 6.1 & Appendix A and O
Bushfire Risk Assessment	
51. Provide an assessment against the current version of Planning for Bush Fire Protection 2006.	Refer to Section 6.11 & Appendix Q
52. Identify the ongoing management arrangements of proposed Asset Protection Zones (APZs), including through negotiation with relevant agencies where APZs are proposed on land to be transferred to public ownership.	Refer to Section 6.11 & Appendix Q
Future Public Land	
53. Provide details of the proposed ownership, intended future use and management arrangements for publicly accessible land including roads, parks, and riparian areas, through negotiation with State and local government agencies where relevant.	Refer to Section 6.12 & Appendix D
Utilities	
54. Prepare a utility and infrastructure servicing report and plan for the site identify existing utilities and infrastructure – This must: <ul style="list-style-type: none"> a. identify existing utilities and infrastructure such as the supply of water, sewerage, stormwater, gas, electricity and telephone services b. assess the capacity of utility infrastructure to service the proposed development in conjunction with existing uses, proposed uses and 	Refer to Section 6.13 & Appendix R

<p>potential future uses (including fire suppression);</p> <p>c. demonstrate compliance with the requirements of any public authorities in regard to the connection to, relocation and/or adjustment of services affected by the development proposal; and</p> <p>(d) Detail technologies which may reduce the demand or need for servicing or provide for the supply of sustainable services (such as water sensitive urban design measures and sediment control measures.</p>	
Ecologically Sustainable Development (ESD)	
55. The EA should demonstrate that all aspects of the concept plan satisfy the principles of ESD including compliance with BASIX.	Refer to Section 6.14 & Appendix L
56. The EA should outline commitments to sustainability including water reuse, waste minimisation, the minimisation of energy use and car dependency etc.	Refer to Section 6.14 & Appendix L
Social Impact and social infrastructure	
57. Assess the social impact of the proposal on surrounding communities.	Refer to Section 6.15 & Appendix F
58. Identify additional demand created by the proposal for services and infrastructure including public transport, open space, recreation facilities, retail facilities and social and community facilities, based on an analysis of the existing and projected demographic profile of the locality. Demonstrate that an appropriate level of social infrastructure is provided to meet the needs of the future population arising from the development, including through identification of appropriate services and facilities. Where relevant this should be through negotiation with State or local government agencies and should inform the scope of infrastructure contributions.	Refer to Section 6.15 & Appendix F
59. Identify opportunities to meet demand for a range of housing types including seniors and affordable housing.	Refer to Section 6.15 & Appendix F
Subdivision	
60. Provide a subdivision plan to identify all covenants, easements and notations proposed for each title, for the proposed subdivision to facilitate transfer of lands to Government agencies.	Refer Appendix S
CONSULTATION REQUIREMENTS	
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 & Appendix T

1.6 Proponent and Project Team

The proponent of the development is Coal & Allied Industries Limited (Coal & Allied). The preparation of the Concept Plan and the supporting Environmental Assessment has included a comprehensive project team from various fields of expertise as follows.

- Development Management: Catylis P/L;
- Urban Design: RPS
- Landscape: James Mather Delaney Design;
- Town Planning: Urbis;
- Social Planning: Urbis;
- Flora & Fauna (Biodiversity): RPS;
- Bushfire Risks: RPS;
- Contamination, Geotechnical/Contamination and Mine Subsidence: Douglas Partners Pty Ltd;
- Hydrology, Flooding, Climate Change 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: Ensignt.

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

2 Site Description

2.1 Regional Context

Minmi/Link Road and Stockrington are located within the Lower Hunter Region. The Minmi/Link Road site straddles the Lake Macquarie City Council and Newcastle City Council areas and is located approximately 145km from Sydney and approximately 17kms northwest of the Newcastle City Centre. Outer lying suburbs such as Wallsend are within 5km of the Minmi 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 forecast growth in the LHRS to be accommodated within new release areas, such as Cameron Park.

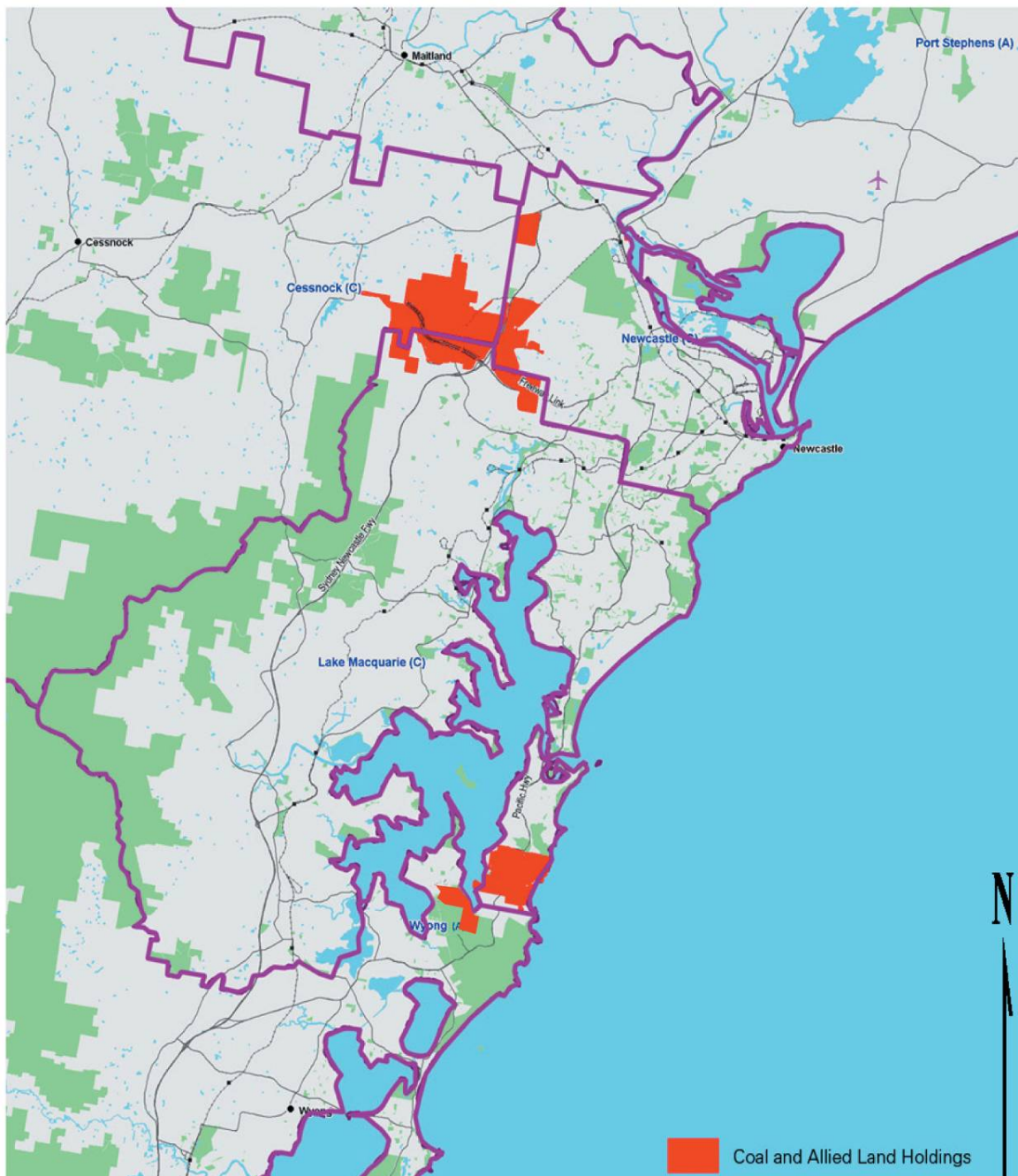


Figure 2 – Regional Context in Lower Hunter

The Minmi/Link Road site, comprising Minmi and the land to the north and south of the Link Road is bounded by the F3 Freeway to the west, Blue Gum Hills Regional Park to the east, Hexham Swamp Wetland to the north and traverses the Newcastle Link Road to its southern boundary with Cameron Park. Minmi is an historic mining town with a current population of approximately 732 people.

The Stockrington site is located mostly within the Cessnock Council and Lake Macquarie City Council areas, with a small area in the City of Newcastle in the eastern part of the 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 the small settlement of Seahampton to the southeast. Stockrington forms part of the Watagan Ranges to Port Stephens conservation area identified in the LHRCP.

The Coal & Allied owned land at Stockrington that is proposed to be dedicated for conservation purposes will play a significant role in securing in perpetual ownership the Watagan Ranges to Port Stephens conservation area. 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.

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 LHRCP 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.

2.2 Local Context

The Minmi/Link Road estate, comprising Minmi, and the land to the north and south of the Link Road, is situated to the east of the F3 Freeway and straddles 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 estate is adjacent to the Blue Gum Hills Regional Park and Hexham Swamp Wetlands. The Stockrington site is located west of the F3 Freeway.

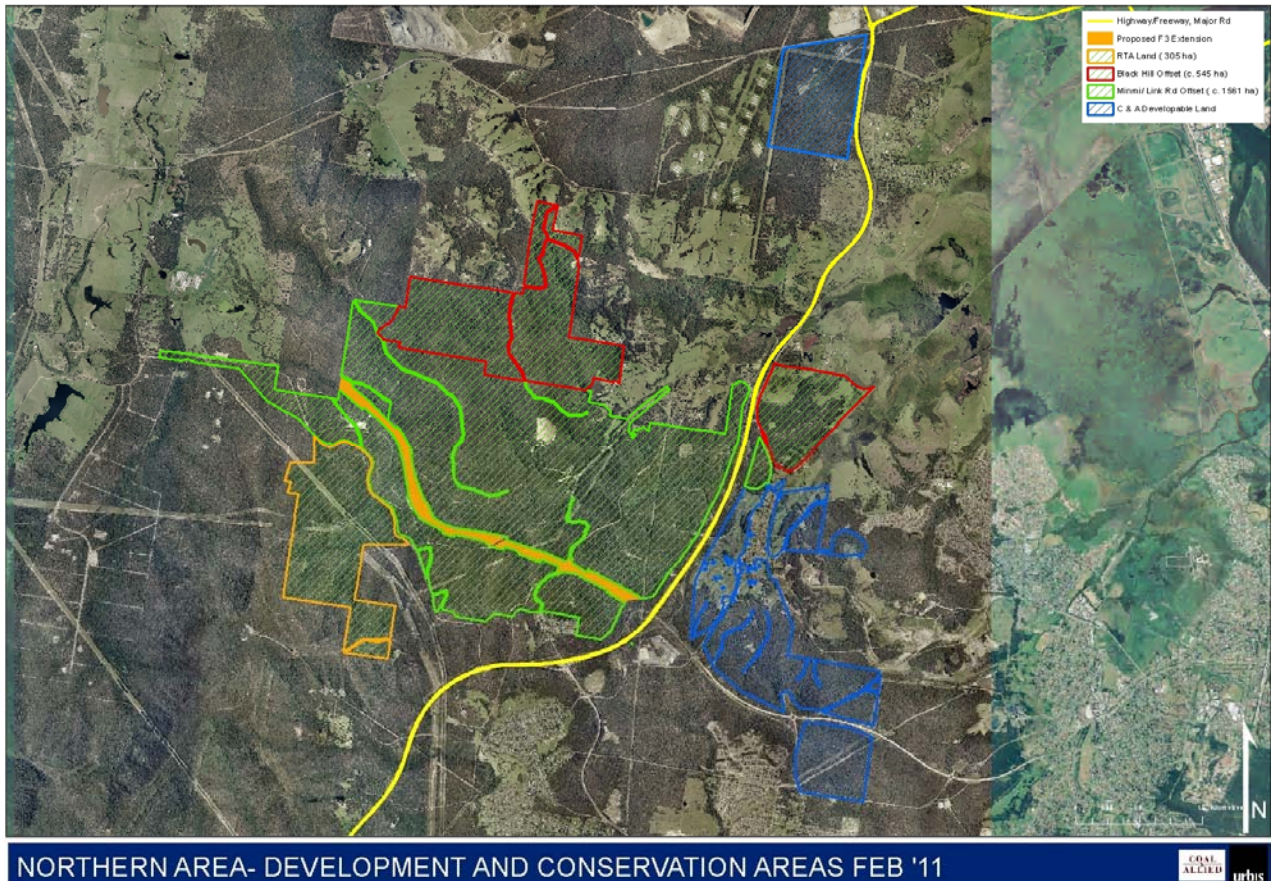


Figure 3 – Local Context

Newcastle CBD is approximately 17km east of the Minmi/Link Road estate, 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 identified in the LHRS to be accommodated within new release areas, such as Cameron Park and Britannia Estate. The Minmi/Link Road estate will connect these new release areas, while still respecting the F3 Freeway as the residential/urban development boundary of the Newcastle Metropolitan area.

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 Wetland 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 surrounding the smaller town blocks.
- Dense bushland vegetation of the Blue Gum Hills Regional Park and surrounding land.

- Steep and undulating topography.

The distinct character of the built environment comprises:

- Single storey dwellings along Woodford Street.
- Dwellings positioned on hillsides.
- Predominantly timber clad and fibro dwellings with metal roofs and 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 draining the Minmi and Link Road North sites eventually discharge into Hexham Swamp Wetland 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. Various overland electricity transmission lines traverse the site, including the Link Road south site which has 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. The National Broadband Network (NBN), as announced by the Federal Government is committed to the provision of fibre optic telecommunications to 90% of existing Australian dwellings over the next 8 years.
- 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 is 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, including:

SITE DESCRIPTION

- Education – Minmi contains a small primary school with approximately 110 students and 5 permanent teachers. There is no pre-school or high school, with the closest high school being West Wallsend High School.
- Health – there is no General Practitioner 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 local parks that contain children's playground equipment as well as the sporting fields and associated amenities.
- 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 Woodford Street, Minmi



Picture 3 – Minmi township hinterland



Picture 4 – Link Road North land viewed from the east

2.3 The Site

The Minmi/Link Road site is owned by Minmi Land Pty Ltd, a wholly owned subsidiary of Coal & Allied Industries Ltd (Coal & Allied) and comprises approximately 538ha, including approximately 17ha proposed to be transferred for conservation purposes. The Minmi/Link Road estates comprise the allotments with the following legal description:

- Part Lot 71 DP 1065169 (aka 711 and 712 DP1113237. 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;
- There are a number of unmade roads in the Link Road North area which are not owned by Coal & Allied but owned by the Crown. The roads do not exist physically and the Crown has no required use for the roads and as a result, Coal & Allied has applied for the closure of the roads (known as Lot 1 DP 1156243) and to purchase the land which makes up the paper road reserves. As a result, the Concept Plan has been prepared without regard for the locations of these roads.

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

The Stockrington land that is proposed to be dedicated to NSWG as conservation lands has a total area of 1,544ha will be dedicated as part of the Minmi/Link Road proposal. The current title descriptions for the Coal & Allied owned Stockrington landholding are:

- | | | | |
|-----------------------|----------------------|-----------------|-----------------|
| ▪ 83//DP755260 | ▪ Part 71//DP1065169 | ▪ 30//DP1085228 | ▪ 12//DP1078246 |
| ▪ 84//DP755260 | ▪ 2//DP250339 | ▪ 96//1160094 | ▪ 1//DP250339 |
| ▪ 8//DP755260 | ▪ 2//DP124209 | ▪ 3//DP250339 | ▪ 82//DP755260 |
| ▪ 51//DP1095513 | ▪ 1//DP155446 | ▪ 1//DP123945 | ▪ 1//DP505578 |
| ▪ 89//DP755260 | ▪ 1//DP503566 | ▪ 5//DP250339 | ▪ 2//1126627 |
| ▪ Pt Lot13//DP1078246 | ▪ 3//DP977096 | ▪ 4//DP250339 | ▪ 95//DP755260 |
| ▪ 72//DP755260 | ▪ 1//DP1039968 | ▪ 1//DP119630 | ▪ 9//DP1078246 |
| ▪ 125//DP755260 | ▪ 1//DP124209 | ▪ 4//DP977096 | |

2.3.1 Minmi

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 the 1900s, open cut mining commenced for a further 5 years, primarily around Minmi Creek and Back Creek.

The land has been owned by Coal & Allied for many years for the purpose of coal mining. 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.

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

- There are several existing privately owned houses within the development areas, which are proposed to be accommodated within the future residential subdivision;

- The Minmi township includes several heritage items;
- The distinct character of the existing built environment of Minmi comprises :
 - Single storey dwellings along Woodford Street;
 - Dwellings positioned on hillsides;
 - Predominantly timber clad and fibro dwellings with metal roofs and evidence of more recent brick construction dwellings.
- Past mining activity in 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 Lenaghans Drive and via Newcastle Link Road and Woodford Street from the south. Minmi Road provides access from the east and intersects with Woodford Street;
- The terrain ranges from gentle slopes through to steep topography and consists of cleared areas through to dense vegetation;
- Several watercourses run through the site, which drain into Hexham Swamp Wetland, 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 Wetland.

2.3.2 Link Road North and South

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 Link Road North and South land has remained relatively undeveloped and undisturbed to date. Underground mining activities of the late 1800s present some stability issues for the land which consists of moderately to steeply undulating terrain. Vegetation clearing has occurred to accommodate transmission lines within transmission easements and fire access tracks.

Land relating to an unformed road reserve was recently transferred from the Crown to the control of Lake Macquarie City Council 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 to 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 North estate and flows north, before entering Minmi Creek just prior to discharging into Hexham Swamp Wetland.

Brush Creek rises on the Link Road South estate and flows south through Edgeworth to Cockle Creek, ultimately discharging into Lake Macquarie adjacent to Boolaroo.

The land is all held within single ownership by Coal & Allied which enables it to be developed as a single area.

2.3.3 Stockrington

The Stockrington site is located within three Council areas. 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 are highly remote with restricted access.

The site is predominantly densely vegetated with some cleared areas. It is a regionally significant parcel of land given its ecological significance, size and single ownership.

The Hunter Expressway (previously known as F3 to Branxton Link) will traverse the site as part of future regional transport plans.

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 land is surplus to the mining operations of Coal & Allied and provides the opportunity for development to meet anticipated future housing needs including a range of dwelling types;
- Provision for a series of inter-connected neighbourhoods and villages located on regional transportation routes;
- The ability to establish a walking distance neighbourhood structure with the majority of dwellings easily accessible to daily retail 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 land 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 and include:

- 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 additional small-scale retail activity to service the Minmi East and Link Road North 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 Street and Minmi Road as the 'collector roads' 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

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 727 745);
- Establishing and maintaining a project website (via the Coal & Allied website);
- Community briefings (public meetings);
- 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 master plans;
- Community newsletter, newspaper advertising and media releases;
- Community input into the regional forum and charette; and
- Community information sessions.

3.1 Community Engagement Strategy and Community Consultation Process

3.1.1 Public Meetings

An initial public meeting was held in 2006. The meeting featured a presentation outlining the broad overview of the projects, highlighting the proposed development lands and the conservation areas and the planning process. The meeting was held at Minmi Town Hall on 14th November 2006.

3.1.2 Targeted Stakeholder Meetings

In early 2007, a series of targeted stakeholder meetings were 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, Newcastle Council, Koopahtoo Aboriginal Lands Council, Mindaribba Aboriginal Lands Council, Awabakal Aboriginal Lands Council, Bahtabah Aboriginal Lands Council, Darkingung Aboriginal Lands Council, Hunter Economic Development Corporation, Awarbukal Cultural Resource Association, Hunter Business Chamber, Hunter Community Environment Centre, Landcare (Hunter), Mine Subsidence Board, Minmi Progress Association, National Parks Association, Newcastle Wilderness Society, Hunter Chapter, Property Council and Green Corridor Coalition.

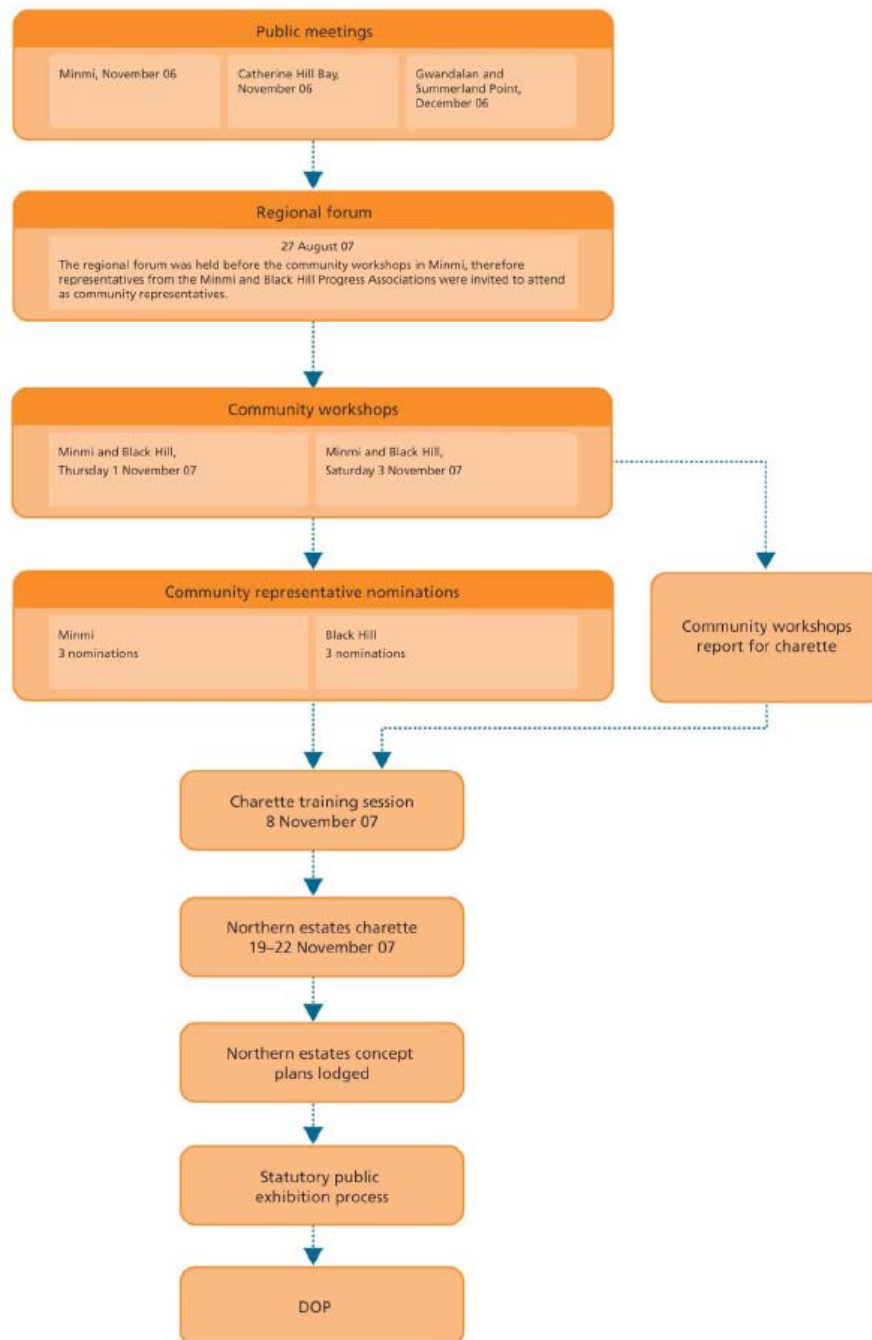
Some of the key messages received from these stakeholder meetings included reinforcing the importance of achieving the conservation corridors and the high biodiversity areas. A preference for higher densities rather than low-density urban sprawl was also put forward. Infrastructure and transport options 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.

3.1.3 Community Workshops

In November 2007 two community workshops were held for the residents of Minmi and Black Hill. The process undertaken in promoting and implementing the community workshops is included in Figure 4 below.

Figure 4 – Community Workshop Process



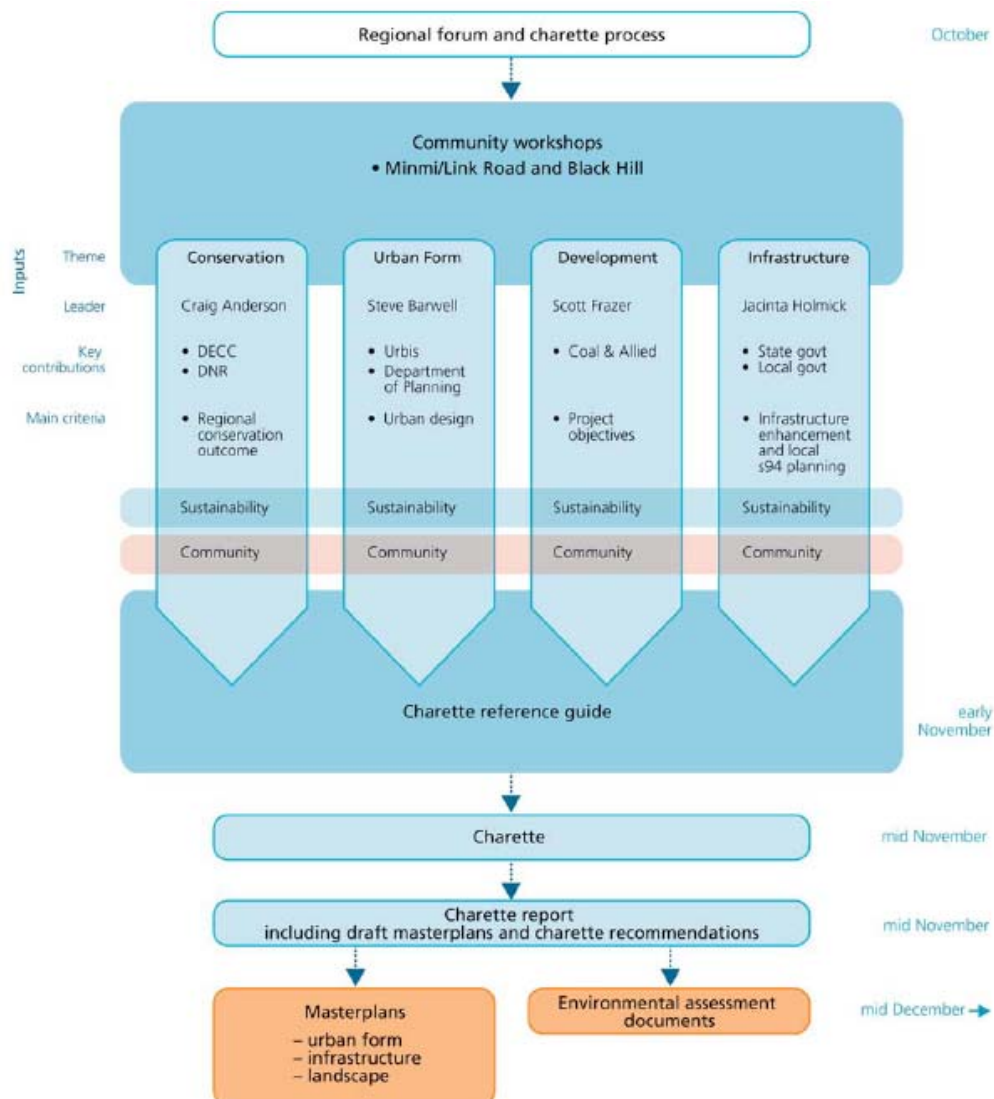
3.2 Regional Forum and Design Charette

The Lower Hunter lands project will contribute a number of economic, environmental and social benefits to the Lower Hunter region. Equally, the master planning and development process seeks to address local issues and needs for each estate. To address these regional and local aspects, Coal & Allied undertook 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. In order to progress the Lower Hunter lands project, Coal & Allied held a regional outcomes forum and charette. The forum and charette drew together key government, community and project stakeholders to resolve a multitude of issues relating to the project, and develop draft integrated master plans for the estates.

3.2.1 Charette Model

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

Figure 5 – Charette Model



3.2.2 Regional Forum

The regional forum, held on 27 August 2007 focused 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, 105 participants were involved in the regional forum including representatives of local communities, government agencies, Aboriginal and environment groups. 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. The key issues raised by attendees at the regional forum were documented. In addition to this, a number of questions were raised that were unable to be immediately answered.

Coal & Allied provided a response to these questions on the Lower Hunter lands project page of the Coal & Allied website (www.coalandallied.com.au). The aim of the forum was to provide a regional context to the master planning work, much of which was undertaken during the charette.

3.2.3 Northern Estates Design Charette

Following the regional forum, a separate three day design 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 the four theme areas.

The northern estates charette involved a total of 68 participants. Section 3.3 of this report provides a complete list of charette attendees however the following list provides a summary of the stakeholder groups represented:

- Community representatives.
- Aboriginal Land Councils.
- Aboriginal Traditional Owner groups.
- Environment groups.
- State government agencies.
- Local Councils.
- Coal & Allied staff.
- Consultants and technical specialists.

In November 2007, Coal & Allied prepared a northern estates charette reference guide that detailed the project objectives and input information to assist the charette participants 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 Design Charette and regional forum provided Coal & Allied with a series of recommendations for primary input to the Concept Plan applications. The outcomes of the regional forum and charette were:

- Input into the statement of commitments for each of the northern estates, namely Black Hill and Minmi/Link Road.
- A preferred concept plan for Minmi/Link Road including identification of opportunities and constraints, key service requirements and design principles.
- Priority initiatives to be funded under Coal & Allied's \$10 million northern estates allocation (beyond statutory requirements) as identified during the charette.

3.3 Agencies and Authorities

At the outset of the project, Coal & Allied committed to an inclusive and pro-active community engagement process.

3.3.1 Regional Forum

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

- Community representative – Black Hill 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.

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 and relevant adjoining landowners has been undertaken separately.

Representatives from each of the communities of Black Hill, Minmi and Stockrington, the local Aboriginal communities and representatives of environmental groups including the Green Corridor Coalition 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 – 22 November 2007.

- 2 x Landscape Architects, Anton James Design;
- 2 x representative, NSW National Parks and Wildlife Service;
- Representative, Black Hill Progress Association;
- 2 x representatives, Green Corridor Coalition;
- 2 x Urban Designer, Allen Jack + Cottier;
- 4 x Urban Designer, PMM;
- Representative, Minmi Progress Association;
- 2x representative, RPS HSO;
- 2 x representatives, Kukuynghal Barrijapa;
- Representative, Cessnock City Council;
- 2x Community Relations Spokesperson, Coal & Allied;
- General Manager External Relations, Coal & Allied;
- Property Development General Manager, Coal & Allied;
- Project Specialist, Coal & Allied;
- 2 x representative, Catylis, Development Managers;
- 2 x Representative, NSW Department of Planning;
- 6 x Facilitator, Manidis Roberts;
- 4 x Resident Representative, Minmi;
- 2 x representative, Lake Macquarie City Council;
- Surveyor, Monteath & Powys;
- Engineer, Cardno;
- Social Planner, Urbis;
- 2x representative, Newcastle City Council;
- Economist, Sphere;
- 2 x Representative, Awabakal Traditional Owners Aboriginal Corp;
- Representative, Minmi Progress Association;
- Representative, Department of Education;
- Representative, Department of Education and Climate Change;

- Traffic and Transport Consultant, Parsons Brinckerhoff;
- Representative, NSW Rural Fire Service;
- Hydrology Engineer, GHD;
- Representative, Mindariba Local Aboriginal Land Council;
- Representative, Awabakal Local Aboriginal Land Council;
- Statutory Planner, Urbis;
- Representative, Hunter New England Health Service;
- Heritage Consultant, ERM;
- Resident representative, Black Hill;
- Geotechnical Engineer, Douglas & Partners.

The following consultation has also been undertaken:

- Over the past 3 years Coal & Allied has undertaken extensive consultation with the Department of Planning (DOP), Department of Environment, Climate Change and Water (DECCW) and Department of Lands relative to its land holdings in the Lower Hunter. Minmi and Link Road forms part of that total land holding.
- Energy Australia as detailed in the Infrastructure Report prepared by Cardno.
- Jemena (previously 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, and DECCW as detailed in the Heritage Impact Assessment prepared by ERM. A detailed Aboriginal consultation log is included at Annex A of the HIA. ERM have also consulted the NSW Heritage Office and the National Trust of Australia (NSW).
- The NSW RTA as detailed in the Traffic and Transport Report prepared by Hyder.
- Newcastle City Council, NSW Health and Department of Education and Training as detailed in the Social Infrastructure Report prepared by Urbis.
- Ministry of Transport and Coal & Allied representatives meetings to discuss the upgrade of transport facilities. Discussions in regard to regional transport contributions have now been negated with the recent NSWG directive in respect of Regional Contributions.

3.3.2 Adjoining Landowners

Following the design charette 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 the following:

- Community members and private adjoining landowners at Minmi, Link Road North and Link Road South.
- Management of the Summerhill Waste Management Centre.
- Hunter Water Corporation as an adjoining owner to the north of the site.
- DECCW as the owner of the Blue Gum Hills Regional Park.

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.

3.4 Community Information Sessions

To help the community learn more about Coal & Allied's revised plans for the proposed residential land development and conservation land transfer in the Lower Hunter two community information sessions were conducted on 5th and 6th November 2010.

The following table details the information session schedule:

Date	Time	Location
5 th November 2010	4:00 – 7:00PM	Minmi Progress Association Hall
6 th November 2010	9:00AM – 12 Noon	Minmi Progress Association Hall

The purpose of the sessions was to:

1. Raise awareness of the plans being submitted.
2. Provide an overview of the process to lodge the Environmental Assessment and State Significant Site studies.
3. Highlight revisions to previous concept plans.
4. Provide an avenue for personal interactions with impacted communities.
5. Provide details of the statutory submission process.

A summary of the response from the Community Information Sessions is included at **Appendix T** of this document.

3.5 Additional Consultation

Coal & Allied has also undertaken additional consultation with the following stakeholders during preparation of the Minmi Link Rd concept plan.

Party	Summary of consultation
Lake Macquarie City Council	Information session at LMCC on 8 November 2010.
Newcastle City Council	Ongoing email correspondence and 'phone conversations.
Hunter Water	As detailed in the Concept Plan Infrastructure Report plus various other ongoing correspondence/meetings.
CMA - Hunter - Central Rivers	Regional Forum and Charette plus correspondence received following these sessions.
NSW I&I	Regional Forum and Charette plus correspondence received following these sessions.
DECCW	Meeting on 12 October 2010 plus various other ongoing correspondence/meetings.
NoW	Correspondence of 13 October 2010.
Transport NSW	Regional Forum and Charette plus correspondence received following these sessions.
RTA	Meeting on 17 September 2010 plus various other ongoing correspondence /meetings.
NSW Police	Regional Forum and Charette plus correspondence received following these sessions.

Party	Summary of consultation
Ambulance NSW	Regional Forum and Charette plus correspondence received following these sessions.
SES	Regional Forum and Charette plus correspondence received following these sessions.
Rural Fire Service	Regional Forum and Charette plus correspondence received following these sessions.
NSW Fire Brigades	Regional Forum and Charette plus correspondence received following these sessions.
All Utility providers	Regional Forum and Charette plus correspondence received following these sessions.
Relevant Local Aboriginal Land Council	Regional Forum and Charette plus correspondence received following these sessions Refer to Section 2 and Tables A1 – A6 in the Heritage Impact Assessment.
Mine Subsidence Board	Douglas Partners communications & correspondence.
NSW Heritage Council	Refer details Heritage Impact Statement
Department of Health	Regional Forum and Charette
Dept of Education and Training	Urbis numerous Communications & correspondence.
Donaldson Coal Company	Meeting on 5 th November 2010 plus various other ongoing correspondence/meetings.
Newcastle Coal Company	Meeting on 5 th November 2010 plus various other ongoing correspondence/meetings.
Oceanic Coal Australia	
AGL (SG) Operations	Written correspondence dated 15 June 2009.
Daracon Engineering	Ongoing correspondence/meetings.

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 and 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 throughout the statutory process.

4 Development Description

4.1 Concept Plan

The Concept Plan for a residential subdivision and conservation land transfer of the Minmi/Link Road site will apply to the entire approximately 520ha Minmi/Link Road site (proposed development area) and 1,561ha of the Stockrington site and the northern section of the Minmi site. The key parameters for the proposed development of the site are as follows:

- Dedication of 1,561ha of conservation land (excludes 305 ha biodiversity offset land to be transferred to RTA and then to DECCW) to the NSWG that is identified in the LHRS and Lower Hunter Regional Conservation Plan;
- Dwelling yield of approximately 3,300 dwellings over 520ha;
- Mixed use areas of:
 - Village Centre (Mixed use/retail) 4.06ha;
 - Minmi Township (Mixed Use/Retail) 0.20ha;
 - Minmi High Street (Mixed use/retail) 2.35ha.

With a Gross lettable retail floor space capped at 8,000sqm to 2026.

- Indicative development staging;
- The provision of associated infrastructure;
- Torrens title subdivision of the Minmi/Link Road site. The Torrens title subdivision of Coal & Allied land will enable the company to :
 - Dissect land on either side of the F3 Freeway and to separate the development lot from the conservation land;
 - Transfer approximately 17ha of land at Minmi/Link Road to the North of the Minmi Rural Fire shed to NSWG for conservation purposes. This area is included in the 1561Ha to be dedicated for conservation land to the NSWG

Approval will not be sought under the Concept Plan for a specific lot or road layout. An indicative lot and road layout (prepared by RPS as shown at (**Appendix A**) will indicate how the dwelling yield of approximately 3,300 dwellings could be achieved on the site.

Similarly, approval will not be sought under the Concept Plan for subdivision or construction of individual houses. However, the desired future character of the proposed concept plan will be included in Urban Design Guidelines. Urban Design Guidelines will be prepared to inform the Concept Plan for Stage 1, the Minmi East precinct in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site.

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

- Minmi East: Proposed to be located between existing Minmi township and The Outlook, to act as a “gateway” to the east.
- Minmi Extension: Proposed to be located west of existing Minmi township incorporating existing Garden House and Workshop heritage parks.
- Village Centre: Proposed to be located in the centre of the site, and is proposed as a new activity hub for the area.

- Link Road North: Proposed to be located along the northern boundary of the Newcastle Link Road, acting as “gateway” to existing and future development in the south.
- Link Road South: Proposed to be located south of Newcastle Link Road, including a connector road linking the proposed development with Cameron Park and other future developments.

It is proposed to dedicate land for conservation purposes as part of the Concept Plan Application via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG in accordance with s.93F of the *Environmental Planning & Assessment Act, 1979* (EP&A Act).

The proposed Concept Plan seeks to facilitate residential (and associated) development that is generally not permissible under the existing planning provisions and therefore a State Significant Site listing/rezoning is proposed under the Major Development SEPP, which will provide the statutory mechanism for approval of the Concept Plan and associated future development. This is discussed at Section 4.3.

The Concept Plan seeks approval for:

- Landscape, open space and heritage design concepts prepared by RPS and JMD and included at **Appendix A**;
- Urban Design Guidelines prepared by RPS and included at **Appendix B**;
- Indicative development staging 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:

- “Minmi and Link Road Conservation & Development Area ” included in **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 B drawing by Monteath & Powys Pty Ltd in **Appendix S**.
- Plan of Proposed Subdivision of Lot 13 DP1078246 prepared by Monteath & Powys in **Appendix S**.

The proposed subdivision of Coal & Allied land will enable the company to:

- Dissect land on either side of the F3 Freeway and to separate the development lot from the conservation land.
- Transfer 17ha of land at Minmi in the vicinity of the Minmi NSW Fire Brigade facility to State Government for conservation land.
- Transfer 79.4ha of land at Stockrington to the State Government for conservation land.

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 proposed urban development and proposed conservation.

Coal & Allied are proposing to dedicate 2,106ha (75%) of their northern land holdings at Stockrington and Tank Paddock to the NSWG for conservation purposes with the balance of this land 703ha (25%) 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. The overall Coal & Allied land package in the Lower Hunter will achieve sustainable conservation outcomes, with 2,956Ha of the southern and northern Coal & Allied landholdings proposed 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 Coal & Allied's Tank Paddock and the balance of the Stockrington land proposed to be dedicated to the NSWG as conservation land as part of this project.

The securing, protection and management of conservation corridors is a key focus of both the LHRS and the companion LHRCP.

4.3 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 and Stockrington estates as a State Significant Site (SSS) on Schedule 3 of the Major Development SEPP. This report should be read in conjunction with the SSS Listing Report.

The proposed SSS listings/rezoning for Minmi/Link Road and Stockrington will delineate zones and associated development controls as well as establish the future approval/consent authority regimes.

4.4 Alternatives Considered

The extensive design and stakeholder process undertaken by Coal & Allied has enabled several development alternatives to be tested and considered. It should be recognised that the 'do nothing' scenario has dismissed as a realistic option since this will not achieve the conservation outcomes sought under the LHRS and LHRCP and will not contribute to the future housing needs of the region.

4.4.1 Option 1



Figure 6 – Alternative Option 1

- 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.

4.4.2 Option 2

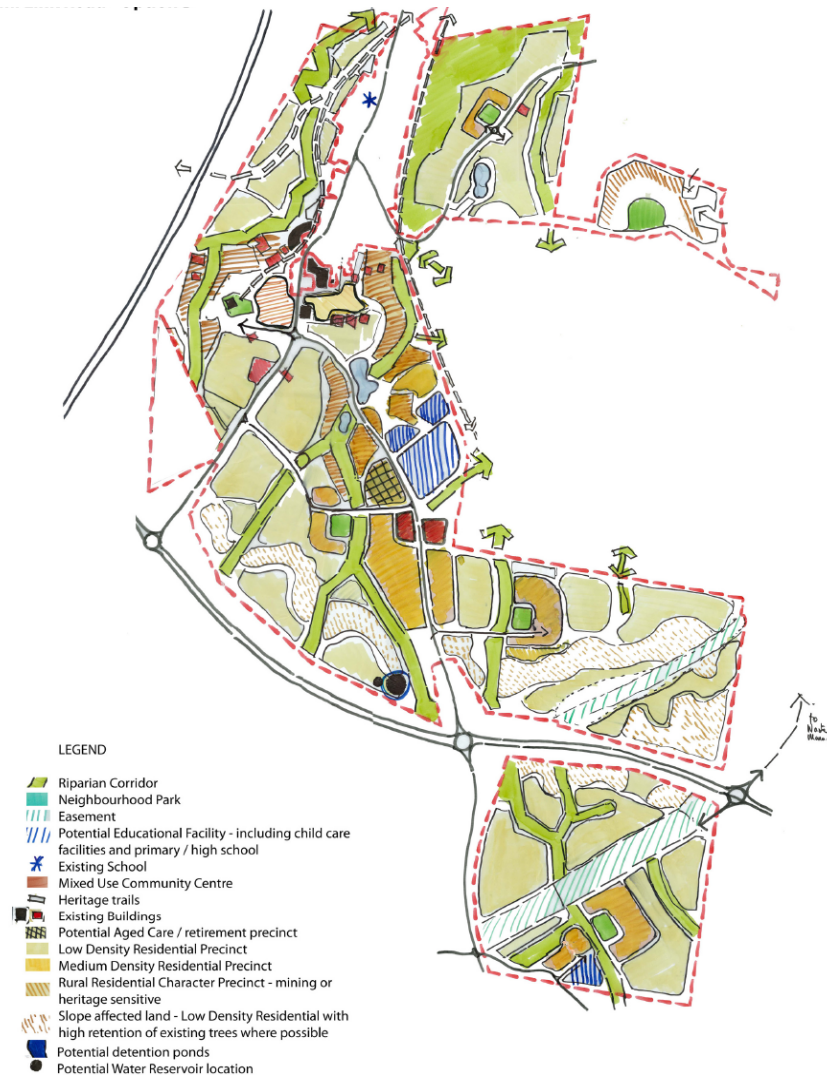


Figure 7 – Alternative Option 2

- Dedication of 1561Ha 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.

4.4.3 The Preferred Option

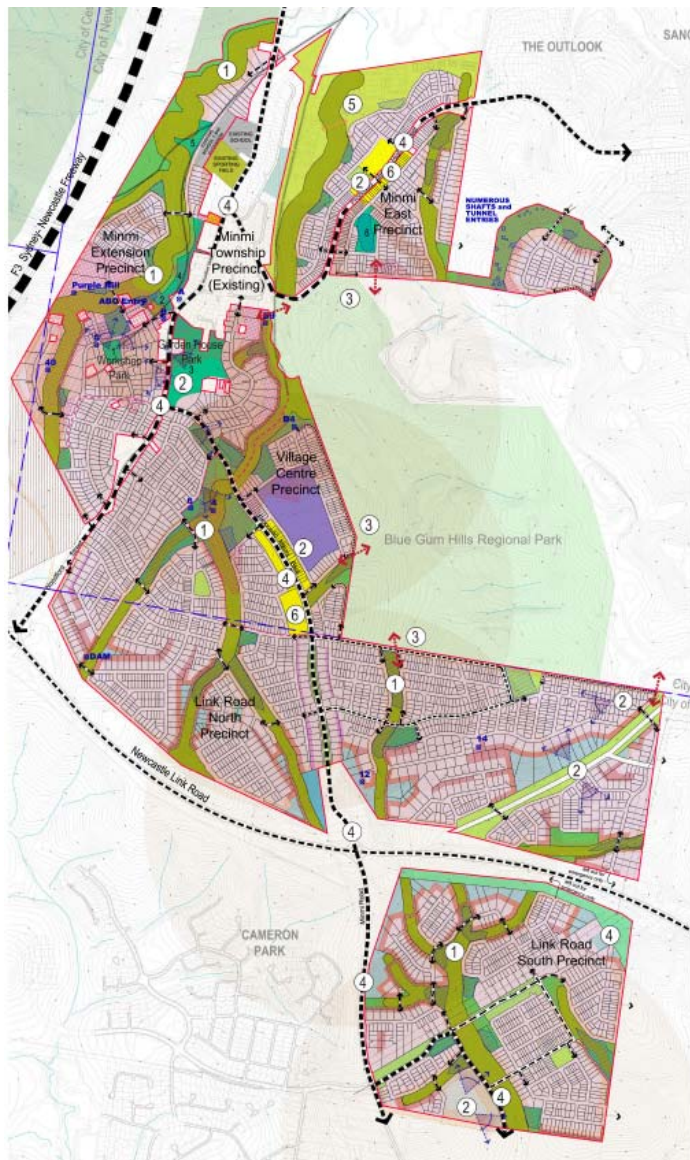


Figure 8 – Preferred Option

The preferred option is represented in the above scheme, which reflects the over riding key principles decided in the charrette, which include:

- Riparian / ecological corridors need to be wider to allow for ecological function.
- 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 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, bushfire and heritage impact analysis. As identified by RPS 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 collector roads 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.

4.5 Stages of Project

The proposed development of the 520 ha of land will be undertaken in five 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 Centre;

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.

Further applications 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 already been referred to the Commonwealth, Department of Environment, Water Heritage & the Arts (DEWHA) pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* and has not been declared a "controlled action". No further referrals are required for this project under the EPBC Act.

5.1 Relevant Planning Provisions & Policies

The following current and draft state, regional and local planning controls and policies apply to the site:

- Lower Hunter Regional Strategy;
- Lower Hunter Regional Conservation Plan;
- SEPP Major Development;
- SEPP 71 - Coastal Protection;
- SEPP 14 - Coastal Wetlands;
- SEPP 44 - Koala Habitat Protection;
- SEPP 55 - Remediation of Land;
- SEPP - Mining Petroleum and Extractive Industries (2007);
- SEPP Building Sustainability Index;
- SEPP (Infrastructure) 2007;
- Review of Infrastructure Contributions Planning Circular PS08-017;
- Hunter Regional Environmental Plan 1989 (Heritage);
- Lake Macquarie Local Environmental Plan 2004;
- Newcastle Local Environmental Plan 2003;
- Cessnock Local Environmental Plan 1989;
- Newcastle Lake Macquarie – Western Corridor Planning Strategy 2010; and
- Planning for Bushfire Protection 2006.

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 Lower Hunter Regional Strategy (LHRS) is the key planning policy to guide the growth in the Lower Hunter to 2031 by identifying future development areas, principal land use types, settlement patterns and conservation outcomes. It is the principal document upon which Environmental Planning Instruments and major land use and development decisions should be based.

The NSWG released the final LHRS on 17 October 2006. It is understood that Cabinet re-endorsed it in December 2009. The LHRS plans for population growth of 160,000 people by the year 2031.

The LHRS identifies the Minmi/Link Road and Stockrington site for proposed urban development and proposed conservation land dedications. The proposal is entirely consistent with the LHRS.

The Minmi/Link Road site is one of the four Coal & Allied sites in the northern and southern lands proposed for residential development which will assist in achieving the forecast growth in the Lower Hunter. Whilst geographically separate they will make a significant contribution to the overall growth of the Lower Hunter region.

The securing, protection and management of conservation corridors is a key focus of both the LHRS and the companion LHRCP. The proposed development of 520ha of land at Minmi/Link Road and proposed dedication of 1,561ha (excludes 305 ha biodiversity offset land to be transferred to RTA and then to the DECCW) of land at Minmi/Link Road and Stockrington is crucial in achieving the State Government's objective of securing major conservation corridors identified in the LHRS, most notably the Watagan to Stockton Green Corridor. The proposed development of the Minmi/Link Road site and proposed substantial land dedication of the Stockrington site is an integral element of the LHRS.

5.3 Lower Hunter Regional Conservation Plan

The NSWG released the Lower Hunter Regional Conservation Plan (LHRCP) in December 2009. 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 LHRCP is focused on the next 25 years and seeks to establish a framework to guide conservation efforts in the Lower Hunter. Stage 1 of the RCP was announced in late 2006. This included the establishment of new conservation reserves to be managed by the then Department of Environment and Climate Change (DECC, now DECCW).

These new reserves comprise approximately 20,000 hectares of various high conservation value Government lands to form the backbone of major new conservation corridors including:

- A new 'Green Corridor' stretching from the Watagan Ranges, through Hexham Swamp to Port Stephens (approximately 14,600 hectares);
- Important areas around Port Stephens in the Karuah area (3,000 hectares);
- A large addition to Werakata National Park near Cessnock (2,200 hectares).

These public land transfers are a significant step in creating the necessary conservation outcomes for the Lower Hunter, including important linkages for biodiversity. Future proposed developments in the Lower Hunter will be assessed against current legislation.

Priority for offsets will be in areas that make the most significant conservation contribution in the Lower Hunter. Such freehold land will contribute to the creation of the three priority corridors within:

- The Watagan Ranges to Port Stephens;
- The South Wallarah Peninsula;
- Werakata National Park.

Coal & Allied's surplus 'Northern Lands', including Minmi/Link Road and Stockrington are located within the area identified in the Conservation Plan as a green conservation corridor. The proposed dedication of the Stockrington site will make a significant contribution to the Watagan Ranges to Port Stephens Green Corridor.

Relative to the LHRCP, the Minmi/Link Road and Stockrington proposal and the overall development of the Coal & Allied lands in the Lower Hunter will provide the following benefits:

- The future development of Coal & Allied land will be more than offset through the dedication of 2,956Ha over all Coal & Allied lands in the Lower Hunter. This includes the 2,106 of land for the Northern Estates and the 1,561 of land specifically at Minmi/Link Road and Stockrington;
- The dedication will make a significant contribution to expanding and strengthening the value of key corridor linkages.

The LHRCP provides a focus for conservation efforts by 2031 by identifying priority biodiversity areas in the Lower Hunter. The conservation land to be dedicated to the NSWG will provide and enhance vitally important conservation corridors identified in the LHRCP. The securing, protection and management of conservation corridors is a key focus of the LHRCP. The proposed dedication of Stockrington for conservation purposes as an offset for the proposed development at Minmi/Link Road is crucial in achieving the state government's objective of the green conservation corridor that links the Watagans and Yengo National Parks with the coastal plains of the Tomago Sandbeds, Stockton Bight and Port Stephens.

5.4 State Environmental Planning Policy (SEPP) Major Development 2005

State Environmental Planning Policy (Major Development) 2005 (Major Development 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 projects to which part 3A of the EP&A Act applies 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. The Minmi/Link Road and Stockrington project was declared to be a Major Development by the Minister of Planning on 7 July 2010.

In addition to the above statutory Major Development provisions, the subject site is required to be listed under Schedule 3 of the Major Development 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:

- (a) The State or regional planning significance of the site (having regard to the Guideline for State Significant sites under the Major Development SEPP);
- (b) The suitability of the site for any proposed land use taking into consideration environmental, social or economic factors, the principles of ecologically sustainable development and any State or regional planning strategy;
- (c) The implications of any proposed land use for local and regional land use, infrastructure, service delivery and natural resource planning;
- (d) The means by which developer contributions should be secured in respect of the site;
- (e) The local and regional economic impacts of the proposed development;
- (f) The likelihood of the proposed rezoning for residential purposes achieving the desired outcomes of the State Government's regional strategies and the Western Corridor Planning Strategy;
- (g) The recommended land uses and development controls for the site that should be included in Schedule 3 of the Major Development SEPP;
- (h) Those parts of the site which should be subject to Part 4 of the Act with Newcastle Council is the consent authority; and
- (i) Appropriate arrangements (if relevant) for the management of land for open space purposes, including consultation with the relevant Council.

This study is submitted to the DOP concurrently with the separately proposed Concept Plan Application.

5.5 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.

5.6 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 and 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 in **Appendix H** for further detail.

5.7 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 or contaminated soil. This would be followed by validation sampling and analysis in accordance with SEPP 55 and NSW DECCW guidelines.

The site is considered to be generally suitable for residential development in accordance with SEPP 55 and NSW DECCW 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 DECCW 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.

Refer to the Geotechnical and Contamination Report by Douglas Partners in **Appendix J** for further detail.

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 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 DoP guideline “Development near Rail Corridors and Busy Roads”.

Future educational facilities and health services will be provided at the relevant stage of the overall development. 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. The relevant approvals will be 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. A 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 Coal & Allied, as the land owner, has no intention to undertake future mining at the site.

Future mining at the site is unlikely, however in the event that future mining does occur, restrictions on development are provided by the Development Application and Rezoning Liaison (DARZL) committee of the MSB 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 coal seam methane is present and therefore the site is not expected to be suitable for methane extraction.

The future development of the site is required to be constructed in accordance with the requirements of the MSB with regard to the mining constraints of the land. It is noted that there are no mining tenements that affect the proposed development.

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 Draft NSW Centres Policy

The NSW Government released the Draft Centres Policy: Planning for Retail and Commercial Development (Draft Centres Policy). The Draft Centres Policy provides a planning framework for the development of new and existing retail and commercial centres in NSW.

The Draft Centres Policy retains the NSW Government's long-standing policy to encourage new retail development in existing centres. It also sets out that the planning system should be flexible to enable centres to grow, in addition to new centres to form. The Draft Centres Policy recognises that the market is best placed to determine the need for development and seeks to ensure that the supply of available floor space accommodates demand. The Draft Centres Policy encourages all centres to provide opportunities for a range of retail and commercial development to enable them to continue to prosper.

The new retail and commercial facilities will facilitate the future population of the proposed residential component of the Concept Plan.

5.12 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:

Section 94A Contributions

The Owner will pay contributions in accordance with the Lake Macquarie Northlake's Section 94 Contributions Plan (2004 as amended) and Newcastle City Council Development Contributions Plan No. 1 2005 (Blue Gum Hill Contributions Catchment – Sub Catchment Maryland and Minmi) and Newcastle City Council Development Contributions Plan No. 4, 2006 (Transport Facilities in Blue Gum Hills).

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 for the following. Facilities to be provided in each Local Government Area (LGA) will depend on the approved common LGA boundary that is subject to being relocated. Contributions will be based on the lot yield per LGA:

- Open Space and Recreation facilities including multi-purpose sports fields, incorporating rugby, soccer pitches and cricket wickets, four netball courts, two double-court tennis courts, local and district parks. Open space offsets will be determined when open space ownership details are finalised with Newcastle City Council and Lake Macquarie City Council.

- Monetary contribution towards a BMX track or Skate Park or another regional facility as part of the Community Facilities Section 94 Contributions.
- Contributions for community facilities for a community hall/centre or similar building that may accommodate flexible uses, including visiting health services such as baby and child health, community nursing and allied health services. All facilities to be built and maintained for a maximum of five years before handover to the relevant Council in accordance with current standards set out in Council's Development Contribution Plans.

S.94 Management.

- Traffic contributions will be offset against contributions by the Owner to transport facilities outside the Newcastle City Council Development Contributions Plan No. 4, 2006 (Transport Facilities in Blue Gum Hills
- Drainage contributions are not required as drainage, stormwater and water quality control will be developed and controlled within the development estate in accordance with the Concept Plan Environmental Assessment.
- In lieu of monetary contribution for open space, a number of parks will be developed by the Owner and then dedicated to Lake Macquarie City Council / Newcastle City Council after the completion of each stage of the development. The Owner proposes to enter into separate Planning Agreements (PA) with Lake Macquarie City Council / and Newcastle City Council to manage all open space and other areas proposed to be dedicated to Council for 5 years or until the adjacent subdivision development is completed, whichever the later. On completion of the PA period, management of the lands will be transferred to the respective Council

State Infrastructure Contributions

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' or Voluntary Planning Agreements (VPAs) between Coal & Allied and the DoP prior to final approval of a construction certificate for Stage 1 subdivision.

Coal & Allied has offered to enter into a Voluntary Planning Agreement (VPA) with the State Government for the payment of monetary contributions, land dedications or works in kind for the provision of regional infrastructure as determined by the NSW state government.

The NSW Department of Planning has developed a draft plan to streamline the contributions process for regional infrastructure in the Lower Hunter region. The plan is proposed for those non-urban lands that are rezoned to residential and industrial purposes and will fund a wide range of road, education, emergency services, health and regional open space infrastructure.

Coal & Allied has offered to pay the State Infrastructure Contribution rate current at the time of future development applications, offset by land dedications and any appropriate "works-in-kind". This will be the subject of future negotiations with the NSW Dept of Planning pending the outcome of the regional infrastructure contribution determination.

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

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.

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

5.14 Newcastle Local Environmental Plan 2003

[illegible]

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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 2 – Zone Objectives

Zone	Objectives
2 (a) Residential	<ul style="list-style-type: none"> ▪ To accommodate a diversity of housing forms that respect the amenity, heritage and character of surrounding development and the quality of the environment. ▪ 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. ▪ To require the retention of existing housing stock where appropriate, having regard to ESD principles.
7 (b) Environmental Protection	<ul style="list-style-type: none"> ▪ To provide for the conservation, enhancement and protection of environmentally sensitive land, particularly wetlands. ▪ 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 ▪ 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.
7 (c) Environmental Investigation	<ul style="list-style-type: none"> ▪ 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. ▪ To conserve the rural or bushland character, and the biodiversity values or other conservation values, of the land.

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

Table 3 – Permissible development

Zone	Permissible Development
2(a) Residential Zone	<p>Permits development that is not listed as prohibited development.</p> <p>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></p>

Zone	Permissible Development
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 and mixed use developments. This aims to support and enhance the existing demographic diversity from singles to young couples, families, and retirees to allow populations 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 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 Site listing is proposed under the Major Development 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 through 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 Wetland.

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 4 – 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"> The future subdivision pattern of the land will be designed to take into consideration the proposed zoning boundaries. 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 Site listing under the Major Development SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the subdivision of this portion of land.
Clause 23 – Requires direct vehicular access from development off an arterial road is to be avoided.	<ul style="list-style-type: none"> The indicative subdivision layout and proposed road layout will ensure that future development will not have direct access off an arterial road.
Clause 25 – The likelihood of acid sulphate soils occurring during development works is required to be	<ul style="list-style-type: none"> Geotechnical assessments of the land indicates the presence of soft soils on the northern low lying parts of the site and potential acid sulfate soils.

Provision	Response
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"> A general acid sulphate soil management procedure is provided by Douglas & 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.
Clause 26 – Requires development on bushfire prone land to include measures to protect people, property and the environment.	<ul style="list-style-type: none"> A bushfire threat assessment report is provided by RPS which identifies the measures required for the adequate protection from bushfire threat. This is further addressed in this EA report.
Clause 27 to 34 – Relates to environmental 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.	<ul style="list-style-type: none"> 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. This is further addressed under Section 6.9 of this EA report.

The proposal is generally consistent with the intent of NLEP 2003, as discussed below:

- The proposal is consistent with the objectives of the relevant zones through the creation of a diversity of residential housing forms and support facilities, the provision of conservation corridors and provision of social infrastructure.
- The proposed development footprint is located 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 through the dedication of significant land holdings that contribute to key green corridors.
- The siting of future development is incorporated with the sensitive revegetation of developable lands to integrate with surrounding natural surroundings. The implementation of sustainable water cycle management infrastructure is provided to minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies, such as Hexham Swamp Wetlands.
- 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.

5.15 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:

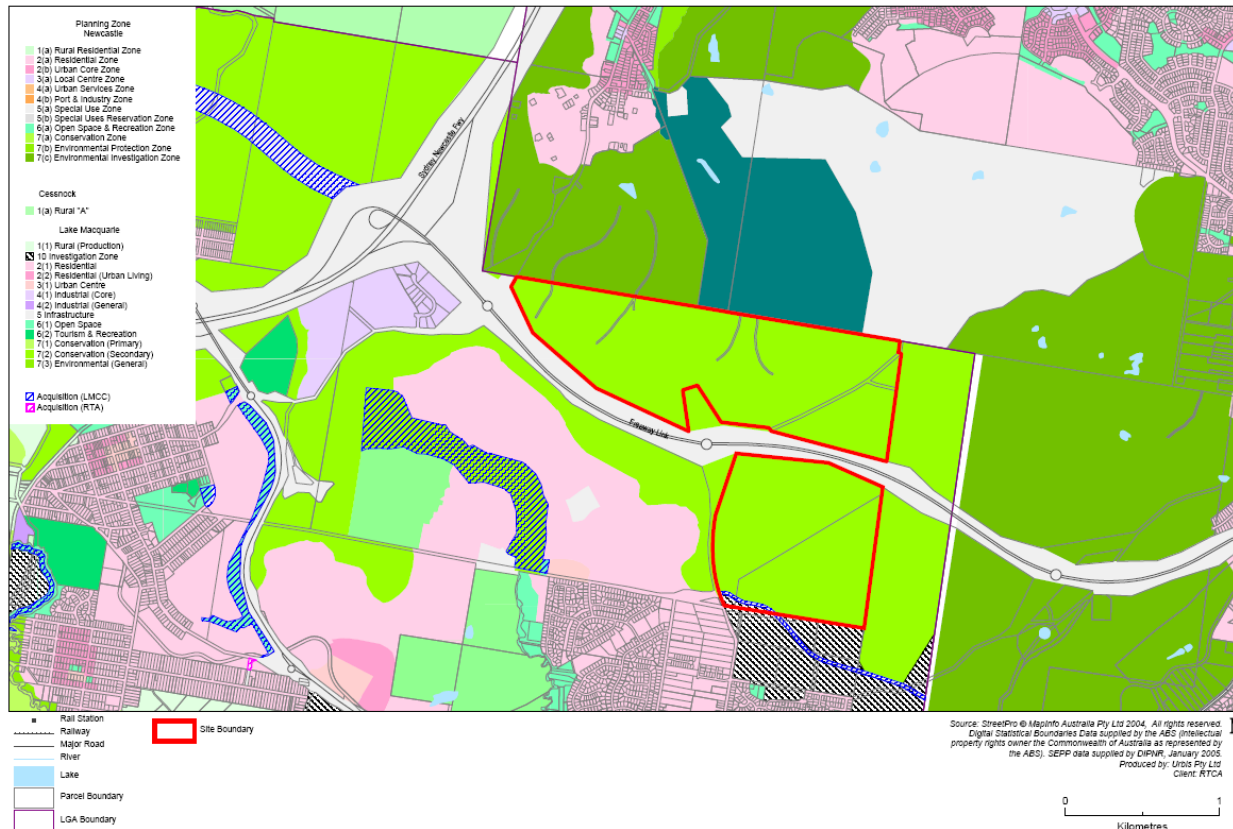


Figure 10 – Land within Lake Macquarie City Council Local Government Area

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 Zone under the Cessnock LEP 1989. Further discussion relative to Cessnock LEP 1989 is contained in Section 5.15.

The objectives relevant to the above zones under Lake Macquarie LEP 2004 are listed below:

Table 5 – Zone Objectives

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

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

Table 6 – Permissible development

Zone	Permissible Development
7(2) Conservation (Secondary)	Exempt development as provided in Schedule 1 of the Lake Macquarie LEP 2004. 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>
10 Investigation (Urban/ Conservation Zone)	Exempt development as provided in Schedule 1 of the Lake Macquarie LEP 2004. Allows with consent development for the purposes of: <i>agriculture (other 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	Exempt development as provided in Schedule 1 of the Lake Macquarie LEP 2004. Allows with consent development for the purposes of: <i>agriculture (other than intensive agriculture); airline terminals; airports; bus stations; car parking facilities; cemeteries</i>

Zone	Permissible Development
	<i>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>

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 as previously discussed.

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 incorporate the sensitive revegetation of developable lands to integrate with surrounding natural surroundings. The implementation of sustainable water cycle management infrastructure will minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies, such as Hexham Swamp Wetland.

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 Site listing is proposed under the Major Development 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 7 – Summary of Lake Macquarie LEP 2004

Provision	Response
Clause 16 – Identifies consideration of development to have regard to the Lifestyle 2020 Strategy and the objectives of the zone.	<p>Coal & Allied '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"> ▪ 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 ▪ 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. ▪ The design of safe and liveable communities through appropriate integrated neighbourhood planning. ▪ Significant contribution towards conservation of important green corridor linkages. ▪ 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. ▪ Opportunities to conserve and interpret Indigenous and European heritage. <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"> ▪ The protection of the City's biodiversity and maximising opportunities for environmental enhancement; ▪ Promotion of the efficient use of renewable resources and reduction in the consumption of non-renewable resources such as implementation of extensive WSUD practices; ▪ Facilitates the supply of adequate land and housing and associated infrastructure, services and facilities; ▪ Provision of interconnected open space areas that include key environmental features such as riparian corridors; ▪ Promote high quality urban design of future neighbourhoods; ▪ Provides retention of green ridgelines to preserve the visual character of the Link Road landscapes and key Aboriginal & archaeological corridors.
Clause 17 – Requires that arrangements for the provision of infrastructure are made to cater to the demands of proposed development.	<ul style="list-style-type: none"> ▪ 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.
Clause 22 to 23 – Requires consideration to the siting of development with respect to foreshore building lines.	<ul style="list-style-type: none"> ▪ The site is not located along the Lake Macquarie 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. ▪ 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. ▪ 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. <p>Refer to the report by GHD on Water Sensitive Urban Design, Flooding and Stormwater Management at Appendix P for further detail.</p>

Provision	Response
Clause 24 – Provides for subdivision of land subject to development consent and minimum subdivision lot sizes.	<ul style="list-style-type: none"> 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. There are no numerical standards for 5 Infrastructure zone land. Concurrent with this EA, it is proposed to apply for a State Significant Site listing under the Major Development SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal and future applications for submission.
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"> 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 Site listing under the Major Developments SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal.
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"> 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.
Clause 30 & 31 - Relate to the measures to minimise pollution and erosion and sediment control.	<ul style="list-style-type: none"> 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.
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"> 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 <i>NSW Floodplain Development Manual</i> and the DECC <i>Practical Consideration of Climate Change</i>, 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"> Bushfire management and protection measures have been investigated and identified by the proponent's bushfire consultants RPS. This further addressed in Appendix Q.
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"> Native vegetation will be required to be removed to accommodate future development, for which consent is being sought through this concept Plan application and via future applications. Ecological investigations conclude that it is unlikely that any significant impacts would occur upon threatened species, communities or populations. Suitable actions are proposed to minimise potential impacts to soil and water quality. This further addressed under Section 6.3 of this EA report.
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"> A general acid sulphate soil management procedure is provided by Douglas & 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. This further addressed under Section 6.6 of this EA report.

Provision	Response
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"> ▪ 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. ▪ This further addressed under Section 6.9 of this EA report.
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"> ▪ The proposed developable areas do not adjoin land zoned 7(1) or 7(4). ▪ A minor portion of the southern boundary of the Stockrington land to be dedicated to NSW Government for conservation purposes 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 lands as the Stockrington land is proposed to be zoned for conservation purposes as National Parks and Nature Reserve under the proposed SSS listing.

The proposal is generally 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.
- 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 and archaeological corridors.
- The proposed development will 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 is 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 Site listing under the Major Development 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. This further addressed under Section 6.11 of this EA report.

5.16 Cessnock Local Environmental Plan 1989

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

No development is proposed on these lands, which are proposed to be dedicated to NSW Government as conservation lands. As part of the proposed State Significant Site 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. Further details regarding zoning of the land is contained within the State Significant Site Schedule report that accompanies the Concept Plan application.

A draft Cessnock Local Environmental Plan (draft LEP) has been prepared to meet the requirements of the NSW Department of Planning Standard LEP template in accordance with the *Standard Instrument (Local Environmental Plans) Order 2006*. The proposed changes to the draft LEP were exhibited in accordance with s57 of the Environmental Planning and Assessment Act 1979 for a period of four weeks finishing 4 August 2010.

The proposed zones in the Draft LEP are:

- RU2 Rural Landscape;

Under the draft Cessnock LEP, the SSS proposal submitted with the Concept Plan application proposed the Stockrington land be zoned as follows:

- E1 – National Parks and Nature Reserves

The proposal is generally in accordance with the aims and objectives of the draft LEP zones.

5.17 Newcastle – Lake Macquarie Western Corridor Planning 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 2010 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 north and south, with residential development concentrated around existing urban areas in the centre of the corridor. 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. 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 4ha 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 through the VPA process:

- Road infrastructure upgrades;
- Public Transport strategy;
- 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 through the VPA process:

- Electricity from existing network;
- New potable water reservoir and trunk water main to site;
- Sewer;
- The National Broadband Network (NBN), as announced by the Federal Government is committed to the provision of fibre optic telecommunications to 90% of existing Australian dwellings over the next 8 years;
- Provision of gas (in conjunction with Alinta);
- The analysis identified the need for a new Minmi Boulevard Road at the commencement of development of stage 4;
- Provision of an upgrade of the Newcastle Link Road/Minmi Road roundabout. The modelling result suggests that this intersection will require full traffic control signals when Minmi Boulevard is constructed.

Planning Principles

The Western Corridor Strategy identifies six planning principles to assist in its implementation.

An assessment against each of the development criteria and planning principles listed in Western Corridor Planning Strategy has been undertaken for Minmi/Link Rd 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.

Table 8 – Summary of Western Corridor Strategy Planning Principles

Principle	Relevant Development criteria	Response
A range of land uses to provide the right mix of houses, jobs, open space, recreational space and green space	<ul style="list-style-type: none"> Future land use shall be generally in accordance with Map 4—Indicative preferred land uses. New development shall incorporate environmentally sustainable development practices in accordance with existing legislation, councils' policies and best practice. Consultation and negotiations with the DECC at rezoning stage will determine the vegetation offsets for conservation. New development shall also consider the implications of climate change in their designs and function such as rainfall intensity, localised flooding, rising Detailed assessments will determine the required attenuation measures for future residential areas adjoining main roads, employment lands and other noise sources. 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. State Environmental Planning Policy (Infrastructure) 2007 provides specific noise and vibration requirements for residential developments adjoining classified roads and rail corridors. Detailed acoustic and odour assessments will determine the required setback/buffers to the existing Summer Hill Waste Management Facility and nearby mining operations. To expand the Summer Hill Waste Management Facility it will be necessary to assess the potential noise and odour impacts. It will be necessary to maintain an acceptable level of amenity to residential areas. 	<p>The Concept Plan for Minmi/Link Road is in accordance with the Indicative preferred land use map in the Strategy, as the proposed residential and conservation areas mirror the 'residential investigation' and conservation areas.</p> <p>The Concept Plan has been prepared having regard to the relevant detailed investigations in this Environmental Assessment with regard to:</p> <ul style="list-style-type: none"> The impact of the proposed F32B road extension; Acoustics and odour assessment; Flooding and climate change; ESD and sustainability. <p>The land Coal & Allied is proposing to dedicate 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. 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. An acoustic and air assessment has been undertaken and forms part of the Environmental Assessment documentation.</p>
Jobs available locally and regionally, reducing the demand for transport services	<ul style="list-style-type: none"> Future provision of business/commercial zoned land to be based on demands for local retail/service needs of the projected population, level of existing services and retail hierarchy. The role of existing and future centres such as Glendale, Pambulong/Edgeworth, West Wallsend and Wallsend are to be considered when determining capacity – particularly for regional scale demands. 	<p>The Concept Plan supports this principle through:</p> <ul style="list-style-type: none"> The provision of approximately 3,300 new dwellings at Minmi/Link Road will play an important role in providing increased housing opportunities for workers in the planned employment lands and centres. Existing/proposed centres within the region will assist in providing a full range of retail and commercial services for Minmi/Link Road residents, supported provision of a Village Centre which is located in the centre of the estate, and will be a new activity hub for the area. A neighbourhood structure with the majority of dwellings within walking distance of daily needs and close to a public transport route; Enhancement of the economic vitality of the

Principle	Relevant Development criteria	Response
		existing township through provision of complementary retail uses to enhance the economic vitality of Minmi.
Public transport networks that link frequent buses into the rail system	<ul style="list-style-type: none"> The establishment of a more coordinated and integrated bus service with the wider area to improve connectivity and usage on the subregional scale. A further 8000 dwellings will generate the need to expand the existing bus service to link existing and future employment areas, schools and other activity nodes. 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. 	A public transport strategy is proposed in the Hyder traffic report included in the Concept Plan EA that entails providing new bus routes and enhancing existing bus services.
Easy access to major town centres with a full range of shops, recreational facilities, and services along with smaller village centres and neighbourhood shops. Streets and suburbs planned so that residents can walk to shops for their daily needs.	<ul style="list-style-type: none"> 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. New interchange opportunities in the south of the western corridor to access the employment lands has been identified. Consultation with the RTA for development within the western corridor is essential. Access proposals shall be consistent with Map 3—Access infrastructure map and utilise existing intersections and limit new intersection points. Priority shall be given to the co-location and/or focus of State agency buildings (e.g. schools, emergency services) in central locations to assist in developing community hubs and a strong sense of place for emerging areas. Priority shall be given to the co-location and/or focus of State agency buildings (e.g. schools, emergency services) in central locations to assist in developing community hubs and a strong sense of place for emerging areas. High order land uses (proposed community services such as schools, community buildings, emergency services and playing fields) shall be given priority over residential development for the use of the flatter land. Future provision of business/commercial zoned land to be based on demands for local retail/service needs of the projected population, level of existing services and retail hierarchy. High order land uses (proposed community services such as schools, community buildings, emergency services and playing fields) shall be given priority over residential development for the use of the flatter land. A regional cycle path route has been identified on Map 3—Access infrastructure map and appropriate connections shall be implemented by councils. 	<p>The proposal incorporates sound neighbourhood planning principles as follows:</p> <ul style="list-style-type: none"> Provision of a Village Centre which is located in the centre of the estate, and will be a new activity hub for the area. The establishment of a neighbourhood structure with the majority of dwellings within walking distance of daily needs and close to a public transport route; The subdivision is designed to encourage walking and cycling through the provision of safe walkways and cycleways and a permeable network of streets and pathways. The Concept Plan has been designed to co-locate where possible community and other social facilities across the development. The provision of all retail and commercial land uses have been based on the demands of the projected population.
A wide range of housing choices to provide for different needs and different incomes.	<ul style="list-style-type: none"> It is projected that it will be possible to achieve a density between five and nine dwellings per hectare for the estimated yield of around 8000 dwellings due to site constraints such as mine subsidence, slope and vegetation. These estimates take into consideration potential infill 	<p>The Concept Plan promotes:</p> <ul style="list-style-type: none"> Enhancement of the existing demographic diversity by providing a range of housing requirements to cater for singles to young couples, families, and retirees to allow population to remain in the local community;

Principle	Relevant Development criteria	Response
Traditional houses on individual blocks will be available along with smaller, lower maintenance homes, units and terraces for older people and young singles or couples.	<p>development, the renewal corridor along Main Road Edgeworth and housing mix.</p> <ul style="list-style-type: none"> ▪ New zoning regimes and density controls should allow for a range of housing types. Higher densities closer to transport, employment areas and other activity nodes are encouraged. ▪ 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. Items or places/areas of local or State heritage significance will be identified by council's LEP and the State Heritage Register respectively. 	<ul style="list-style-type: none"> ▪ A projected yield of 6.4 dwellings per hectare. <p>Assessment of the European heritage significance of the Minmi / Link Road estate relative to the proposed Concept Plan has been undertaken by ERM and is contained within the Concept Plan EA Heritage Impact Assessment.</p> <p>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.</p>
Conservation of land in and around the development sites, to help protect biodiversity and provide open space for recreation	<ul style="list-style-type: none"> ▪ Regional conservation lands—the Lower Hunter Regional Strategy and the 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. ▪ Subregional/local conservation corridors—subregional corridors (as shown on Map 2) linking the Watagans to other significant vegetation may be required in the southern part of the western corridor. The need to balance the importance of establishing urban areas identified in the Lower Hunter Regional Strategy with establishing subregional conservation corridors will need to be managed carefully. Environmental studies undertaken as part of the rezoning process will identify other subregional and local conservation areas and corridors. ▪ Green entry statements—the role of 'green entry' visual statements into areas or along certain transport routes is recognised. 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. The Newcastle Link Road and George Booth Drive provide important green entry statements into the city of Newcastle. The character of these entry statements should be retained as much as possible. 	<p>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.</p> <p>Overall, it must be recognised that the Coal & Allied Concept contributes to the important Watagan Stockton conservation corridor and entails a broader and regional approach to the provision of wildlife corridors. The Watagan Ranges to Port Stephens conservation area is identified in the LHRCP to be a "highly significant link between southern sandstone ranges and the coastal heaths and wetlands of Port Stephens."</p> <p>The large areas of Stockrington that will be set aside for conservation as part of the development provide excellent ecological outcomes across the site. This large tract of native vegetation will provide protected habitat for a wide variety of native flora and fauna.</p> <p>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.</p>

5.18 Planning for Bushfire Protection

Preparation of the Concept Plan was undertaken with respect to the *Planning for Bushfire Protection, 2006* and consultation with RPS. A Bushfire Threat Assessment Report by RPS 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.

All APZs identified are consistent with the NSW RFS requirements under the provisions of *Planning for Bushfire Protection 2006*. APZs are located outside of public open space and riparian corridors.

On 6 March 2009 Council of Standards approved the revised Australian Standard AS3959-2009 *Construction of buildings in bushfire prone areas* (AS3959-2009). This standard was published by Standards of Australia on 10 March 2009 and replaces the 1999 version of the document. AS3959-2009 was formally adopted by the BCA as the national standard on 1 May 2010 and has been considered in the RPS reporting.

Further detail on bushfire protection is provided in Section 6.11 and **Appendix Q**.

5.19 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 in future applications 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. The DCP 2005 provides objectives and urban structure principles for the future development of Minmi. These considerations are addressed in the table below:

Table 9 – Minmi Locality Based Provisions

Provision	Comment
Objectives	
<ul style="list-style-type: none"> Ensure that Minmi retains its existing village character, whilst accommodating limited urban and rural residential growth; Develop as the westernmost local activity Centre for Blue Gum Hills; Ensure that the built heritage and character of Minmi is preserved through landscape separation; To contribute to tourist related 	<p>The planning and design process in the creation of the Concept Plan entailed consideration of these objectives.</p> <ul style="list-style-type: none"> 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 precincts to serve the additional future residential accommodation beyond the existing township. 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

Provision	Comment
<p>development and strengthen the local employment base;</p> <ul style="list-style-type: none"> Manage nutrient or stormwater flow rates to ensure the health of Minmi Creek and other waterways; and To conserve reasonably undisturbed bushland. 	<p>surrounding residential precincts.</p> <ul style="list-style-type: none"> The existing Minmi township and local employment base will be strengthened through the provision of additional residential areas and active sporting facilities in the vicinity. Stormwater management and quality will be maintained and enhanced through the implementation of WSUD practices. 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.
Urban Structure Principles:	
Provide community facilities and services in an accessible, central location within the village. Compatible mixed use development is encouraged throughout the village	The Concept Plan provides for two additional local activity centres, proposed within the Village Centre 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 an 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.	<p>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.</p> <p>A wide range of additional open space facilities from passive to sporting facilities are proposed in addition to that identified by the DCP.</p>
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 result in 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 through their inclusion in the LHRS

Provision	Comment
	for urban development and conservation. Coal & Allied is dedicating a total of 1,561ha 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 form.	Single and two storey dwellings 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 applies and the proposed three storey built forms will not adversely impact on the character of the existing Minmi township. 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.
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.	Detailed subdivision plans will be provided in future applications 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. Refer Appendix O .
Drainage channels are to be retained as far as possible in a natural condition. Vegetation corridors are to be maintained or regenerated along creeks. 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.	Where possible, natural drainage patterns are maintained and will include riparian corridors. A comprehensive WSUD strategy is proposed by GHD to protect waterways including Hexham Swamp as detailed in Appendix P .
The principles of walkability, connectivity, permeability, legibility and safety shall apply to all subdivision and access system design.	Key opportunities identified for the site during the preparation of the Concept Plan included: <ul style="list-style-type: none"> the provision for a series of interconnected neighbourhoods and villages located on regional transportation routes; and An ability to establish a neighbourhood structure with the majority of dwellings within walking distance of daily needs and close to a public transport route. These opportunities have been reflected in the Concept Plan through: <ul style="list-style-type: none"> a permeable network of streets and pathways. the majority of dwellings within a 400-metre radius of a local park or recreation area. additional small-scale retail activity in the south to service Link Road North and Link Road South precincts. connectivity between development precincts.
Implement Landscape design guidelines of DCP 2005.	Proposed landscape principles have been prepared in consideration to the DCP landscape design guidelines.
Corridors of natural bushland are to be retained along main roads at the approaches to the Village (minimum width of 50-100 metres). Provide corridors for maintaining fauna habitat and wildlife corridors and visual	<ul style="list-style-type: none"> 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</i>”

Provision	Comment
<p>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> <p>Retention and enhancement of fauna habitat in bushland areas.</p>	<p><i>Stephens.</i>" The land identified to form the new reserve is currently effected by fragmented land ownership and therefore the dedication of 2106Ha of Coal & Allied's 'Northern lands' will make a significant contribution to achieving a key 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"> 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. 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.
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 in future applications 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 submitted as Appendix M . 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 in future applications 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 Newcastle 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 lot 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 in future applications for the 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.

5.20 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 in future applications 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 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.

5.21 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 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) discourage the development sought under the proposed Concept Plan scheme. In this regard, a State Significant Site listing is proposed under the Major Development 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 plans contain detailed design guidelines; of which the provisions are not directly relevant to the proposed Concept Plan under this application but will be addressed in future applications 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.

5.22 Newcastle Urban Forest Policy

The Newcastle Urban Forest Policy includes objectives that relate to enhancing the quality and quantity of the Newcastle 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 propose to dedicate 1,561ha of land in Minmi and Stockrington to NSW Government as conservation lands. This represents a significant environmental gain and a once in a generation opportunity that will provide an enduring legacy for the community and future generations. It is crucial to note that 75% of land dedication relative to the Minmi/Link Road project for conservation purposes is well in excess of traditional conservation outcomes.

6 Key Issues

The key planning considerations with respect to the concept plan are based upon the matters raised under the DGEARs. The following sections directly respond to the DGEARs 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 RPS 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 future applications, will be accompanied by design controls and guidelines that reflect the relevant stage and market.

The guidelines pertaining to the Minmi East precinct 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 prepared 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, are also provided but further details will be prepared as part of the future applications 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 and managed APZ's are recognised.

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

6.1.4 Visual Impact

The visual impact considerations have been a fundamental element in defining the developable areas.

The Urban Design Guidelines included as **Appendix A** refer to the development principles guiding the overall design concept in relation to visual amenity.

The visual amenity of the proposed development, particularly when viewed from existing major roads that surround and bisect the site has been addressed in a number of ways in the Urban Design Guidelines. The major roads reviewed included the F3 Sydney to Newcastle Freeway, the Newcastle Link Road, Minmi Road south of the Link Road and Woodford Street in Minmi township.

The report finds that the limited visual impact of the proposed development will be minimised from these road corridors by:

- The placement of large lots on steep slopes and the retention of vegetation on these slopes;
- The retention of vegetation on areas of steeper slope in Link Rd North;
- The retention of drainage corridors and vegetation that will continue to mature;
- Existing fringe vegetation along major thoroughfares such as Link Rd, and the F3.
- Existing trees retained within Asset Protection Zones;
- Landscape buffering and screen fencing along lower density areas of Woodford Street and the proposed Minmi Boulevard;
- The application of slope responsive housing types on steeper, more elevated parts of the site close to existing major road corridors;
- Over time as street trees are planted and mature, as well as trees in private lots, views into the development will become softened.

Blue Gum Hills Regional Park

Currently the Regional Park is developed only in the north, in an area near the cemetery. This development is comprised of car-parking, some picnic shelters and a cleared kick'n'throw area. This combined use area (or 'Picnic Area') occupies a west facing slope above Back Creek, the Category 3 stream that runs along the regional park boundary to Hexham Swamp in the north.

The picnic area occupies the more gently sloping, lower part of the hill side, and adjoins the creek. In elevation, the picnic area occupies the lowest third of the slope, running from RL 10 to RL 26 (14m) with the top of the hill side at RL 50. The location has no outlook to the east or north-east, however it does have limited views north to the Minmi East precinct, West towards the existing Minmi township and Extension area; and south-west to the Village Centre and Link Road Precincts.

The outlook from the picnic area can be divided into four distinct views:

View north to Minmi East Precinct:

- Only a small area of the Minmi East development footprint will be visible.
- The visual impact of this part of the development when viewed from the picnic ground and its entry road will be negligible.

View west to North-west to Minmi and Minmi Extension Precinct

- Given the mature height of the vegetation, views to the houses will be filtered or heavily screened by vegetation depending on the viewing level in the picnic area.

View south to the Village Centre Precinct

- Views into this precinct will be limited by existing vegetation along the Back Creek Corridor together with revegetation of a widened riparian zone, and by existing vegetation within the Regional Park itself.
- Given the Village is elevated there may be some limited views of the upper most parts of the retirement site. However this is a very small area of the development and being located on a hill helps to screen out views of the development beyond.
- The Village is also in excess of 500m from the picnic ground and therefore not likely to be prominent in the view. The village will be single storey buildings only and will contain perimeter landscape and amenity landscape with-in the site that will soften its appearance.

View south-west to the Link Road North Precinct

- The views of this area are oblique and limited to the middle to upper parts of the slopes by existing vegetation retained along the creek line and further revegetation of the riparian corridors.
- Views south-west into the development will be apparent only in the more elevated areas of the picnic ground and are distant views, 1.3 to 1.4km away.
- Visual impact on the view corridor is likely to be minor and lessening as vegetation planted through the development grows to maturity.

Potential Impact on further recreation areas recognised in the Blue Gum Hills Regional Park Plan of Management

- The Plan of Management identifies a number of primary use areas for development within the park. These areas include:
 - the picnic ground,
 - the event space in the existing quarry,
 - the adjoining lookout,
 - picnic areas (parkland settings)
 - a lookout in the centre of the park.
- Views from walking trails through the park will therefore be contained within the park and the experience will be unaffected by the proposed development. Adjoining development will become apparent as paths leave the park.
- Initially while vegetation regrows, parts of the development area south of the park may be visible from the more disturbed/degraded areas of the park. Given this area is not planned for development for 14 to 21 years, the vegetation will have time to establish and to screen these views.
- The event area is located in a quarry and therefore views are contained, and not into the site. Limited, filtered views may be had of the eastern most area of the Minmi East Precinct adjoining Kinston Fletcher.
- The adjoining lookout will have expansive views in all directions, including the western urban areas of Newcastle and out to the western ranges. The proposed development will form an immediate foreground to views west to Stockrington and the forested hills.
- The site's topography means that views of the site will be broken by the Woodford Road ridgeline, obscuring housing to the west of this road.

- Housing areas east of Woodford Road will be visible and will comprise the foreground of the view west. The impact on the view to the ranges has been reduced by wide riparian corridors, retaining vegetation on steep slopes and softening of the appearance of housing over time by estate landscaping. The character of the view will be similar to that of existing suburban areas to the north east.
- Two other lookouts are located on the Eastern Perimeter of the park, these are higher than the lookout adjoining the event space (RLs 92 and 100, instead of RL 62), but are further away from the development site.
- The park itself forms the foreground for these views and the development site, part of the middle ground, 1.5km away. The Link Road North Precinct will be clearly visible from these lookouts. However Riparian Corridors and retained vegetation on steeper slopes intersecting the site will break up the visual mass of the development, and its effect on the view.
- The eastern most area of Minmi East will be visible from the northernmost lookout but its impact will be small, having a small footprint, with a small number of houses surrounded by existing trees.
- Picnic areas/parkland settings are scattered throughout the central and western parts of the park. These sit at lower elevations and are likely to have views contained within the park.
- Settings along the western edge of the park adjoin the proposed Village Centre Precinct in transitional areas from an urban to a natural character. These spaces are an extension of the urban areas rather than being purely natural. Housing will be visible from these settings, however given they are highly accessible from surrounding neighbourhoods and likely to be well used, it is important that these spaces are visible from adjoining urban areas (for passive surveillance/safety reasons).

Proposed conservation lands

- Views of the proposed residential development will be available from ridge tops in the proposed Stockrington conservation lands however views are likely to be obstructed by trees. Wide riparian corridors and retained vegetation on steeper slopes, and the growth of cultivated plantings in parks, streets and private gardens will soften the appearance of the housing from the ridge tops.
- Elsewhere views will be blocked or filtered by landform and existing tree cover.
- Views from the proposed conservation land north of the existing Minmi village will be confined to the existing Minmi village as the proposed residential development is located beyond east of Woodford Street.
- A small number of large lots in the Minmi extension immediately south of that conservation land will be screened by riparian and estate vegetation.

The existing Minmi Village

- Minmi village occupies the northern slope at the end of the ridgeline along which Woodford Road runs. This ridgeline and the Knoll discussed above obstruct views of the development. Garden House Park ensures the top of this ridge is occupied by green space with development restricted to the slope behind.
- The Minmi Extension Precinct is visible from the village, however lot sizes in this precinct are larger and housing is to be sympathetic in character to the existing village. The precinct is intersected by riparian corridors that will in time obscure the view of proposed housing. The Extension Precinct has been specifically designed to address the view shed from the existing village and to ensure development is sympathetic to the existing character.
- The Minmi East Precinct will also be visible from the village but will be largely screened by revegetation of the riparian corridor of Back Creek, over time.

In summary, the Urban Design Guidelines included as **Appendix B** consider the development as mitigating the impact of the development on the visual amenity of the adjoining public spaces, and given its size will integrate well with the existing Village setting.

Heritage Items / Places

The proposal has also been influenced through ensuring acceptable visual impacts to key heritage places and respective outlooks. ERM has undertaken a detailed visual impact assessment that 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 Visual Impact Statement reviews the likely impacts of the proposal when seen from the F3 Sydney to Newcastle Freeway, the Newcastle Link Road, Minmi Road south of Link Road and Woodford Street in Minmi Township. The ERM document is attached as **Appendix O**.

The key considerations and findings are summarised below:

- The Statement of Visual Impact notes that the potential visual impact of the proposed development on the Court House is acceptable as it does not impact the heritage values of the building, nor is it likely to adversely affect its amenity. The visual catchment of the Court House has been a key consideration in the planning of this area, and the selection of complementary density housing within this zone will ensure that this is not lost or devalued
- The development does not contradict the principles of the Newcastle DCP. The concept plan retains the green ridgelines and primary views across open spaces within Minmi.
- New development will be comprised of appropriately scaled buildings to ensure views and overall setting of existing heritage items are not adversely affected. New development is set back from the central portion of Minmi village and retains a green buffer around the older portions of the town.

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 Centre
- Stage 5 – Link Road North

It is anticipated that the first stage will commence in 2012 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 and Conservation Corridors

The ecological and biodiversity investigations and assessment has been undertaken by RPS. The Ecological Assessment Report by RPS is submitted under **Appendix H** and addresses the following sections of this EA.

6.3.1 Extent, Location and Edge Effects

Coal & Allied will dedicate of 1,561ha of conservation land at Stockrington to NSWG for conservation purposes. This includes land to the immediate north of the existing Minmi township, equating to 17ha, which together with the Stockrington lands will represent a significant contribution (1,561ha) to the Watagan-Stockton conservation corridors identified in the LHRs.

This land is proposed to be dedicated following approval of the Concept Plan application as part of a VPA under s93F of the EP&A Act.

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 (DECCW/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 of the project is the proposed dedication of 1,561Ha at Stockrington and Minmi, together with 398Ha at Stockrington and 147ha at Tank Paddock (under a separate Concept Plan proposal to the DoP) via the VPA process under s93F of the EP&A Act. 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 the Link Road is widened to accommodate for future population growth and the Hunter Expressway.

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 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 RPS included as **Appendix H** 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, Climate Change and Water.

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.

Although the proposed development will require the removal of intact vegetation at Minmi, the proposed Concept Plan scheme incorporates a matrix of vegetation corridor links in the proposed development estate. Furthermore, a key environmental component to the project is the proposed dedication of 1,561ha of Stockrington and Minmi/Link Road to the NSWG for conservation purposes via the VPA process. This land will help consolidate the long sought after regional corridor for the Lower Hunter running from the Watagan Range to Stockton Bight. This corridor is identified as a highly significant regional link between southern sandstone ranges and the coastal heaths and wetlands of Port Stephens in the LHRs and LHRCP.

The Lower Hunter Region's vegetation is of bio-geographic significance as it supports a transition between the northern and southern plant and animal assemblages. This north-south link is 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 large vegetated areas that are linked to other similar areas has been recognised as fundamentally important to achieving long term regional biodiversity outcomes in the Lower Hunter region. The two most valued of these areas in the Lower Hunter contain large land areas owned and controlled by Coal & Allied. The first is 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 secondly, the Wallarah Peninsula lands provide a regionally significant break between urban areas, and contain areas of high biodiversity, scenic amenity and heritage value.

The Coal & Allied lands to be dedicated both form large areas of vegetation in their own right, and complete linkage of identified regional corridors in key areas.

In addition to their important strategic location in a wider landscape context, the Conservation Estates 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. Several threatened plant species have been recorded within the Conservation Estates, including *Arthropteris palisotii*, *Tetratheca juncea* (Black-eyed Susan), *Grevillea parviflora* subsp. *parviflora*, *Eucalyptus nicholii*, *Rutidosia heterogama*, *Syzygium paniculatum* and *Callistemon linearifolius*. Two of the threatened flora species recorded in the Conservation Estates are considered to be planted specimens and not naturally occurring, being *Eucalyptus nicholii* and *Syzygium paniculatum*, although *S. paniculatum* may have been transported to its position in a disturbed area by natural means. In addition to these threatened species two rare (ROTAP) species *Callistemon shiressii* and *Eucalyptus fergusonii* subsp. *dorsiventralis* were also identified within the Conservation Estates.

The diverse nature of both the 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 Estates are known to contain important populations of numerous threatened fauna species, including birds, mammals and herpetofauna. 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 summary, the Coal & Allied conservation dedications provide outcomes that contribute to meeting the Environmental Protection goals outlined in the Sustainability Criteria contained within the Lower Hunter Regional Strategy. Such includes:

- Outcomes consistent with the Lower Hunter Regional Conservation Plan;
- Maintains/improves areas of regionally significant biodiversity;
- Maintains environmental areas for air & water quality; and
- Protects areas of Aboriginal cultural heritage value and historical heritage value.

These outcomes:

- Conserve in perpetuity key strategic parcels of land that complete long sought after regional biodiversity conservation corridors and buffer areas;
- Provide large intact areas of conserved habitat that will function as regional biodiversity gene pools;
- Protect an important array of vegetation communities, flora and fauna species, and natural landscape assets, including threatened species and EEC's;
- Contribute significantly to the successful implementation of the Lower Hunter Regional Conservation Plan; and
- Achieve additional conservation benefits within Development Estates via appropriate urban design and management practices.

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 Mitigation of Impacts on Biodiversity, Threatened Species and Ecological Corridors

RPS recommends a range of environmental management practices to ensure that the ecological and biodiversity impacts of the project are minimised. 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 of a clearing protocol to be adopted for the removal of trees containing 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 in **Appendix H**.

6.4.3 Impacts on Blue Gum Hills Regional Park, Pambalong Nature Reserve and Hunter Wetlands National Park

The RPS report included as **Appendix H** details the 'in principle' elucidation of the Statement of Commitment (SoC) outlined within the overarching EA report. Specifically Coal & Allied's intent to manage the retained open spaces and riparian corridors within the development areas and conservation land edge zones adjacent to the development areas for predetermined periods.

Coal & Allied proposes entering into a Voluntary Planning Agreement (VPA) with Newcastle City Council and Lake Macquarie City Council to manage all local open space and other areas proposed to be dedicated to Council for 5 years or until the adjacent development is completed whichever the later.

Coal & Allied will also enter into a Statement of Interim Management Intent (SIMI) with DECCW to manage the immediately adjacent conservation land up to 100m of the development land boundary again for a period of 5 years or until development in the adjacent development areas is complete whichever the later. The SIMI will specifically cover the management and impact mitigation at the interface between development and conservation land.

While each of the end user agencies (Newcastle City Council, Lake Macquarie City Council and State Government – DECCW / NPWS) future management will be in line with their internal practices, a VPA and SIMI will provide a 'stepping stone' for the environmental management during construction periods. On completion of the VPA periods the lands will be dedicated to the relevant council in the case of the open space associated with the development area. The areas of conservation land the subject of the SIMI will revert back to DECCW/ NPWS for their ongoing management.

Generally the proposed VPA and SIMI will cover issues such as biodiversity maintenance, stormwater management both permanent and temporary, ecological and bushfire management, cultural and natural heritage which will be consistent with other related Plans of Management that the SoC sets out and strategies for the region. This should not necessarily be construed as a comprehensive list.

The SIMI will specifically cover the management and impact mitigation at the interface between regional conservation reserves. The following brief discussion on Blue Gum Hills Regional Park and the Hunter Estuary National Park cover the aforementioned heads of consideration.

Importantly the SIMI will deal with the aims and objectives of the *DECCW (2010) Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water*. In summary this guideline seeks to ensure that all developments consider and mitigate where possible the impacts of:

- Erosion and sediment control;
- Stormwater runoff;
- Wastewater;
- Management implications relating to pests, weeds and edge effects;
- Fire and the location of asset protection zones;
- Boundary encroachments and access through DECCW land;
- Visual, odour, noise, vibration, air quality and amenity impacts;
- Threats to ecological connectivity and groundwater-dependent ecosystems;
- Cultural heritage;

Several measures have been implemented to mitigate impacts which may be caused by the proposed residential development. These include:

- The installation of Bio-retention basins, erosion and sediment control devices to mitigate any runoff which may occur within the park.

- Bushfire Asset Protection Zones have been kept wholly within the boundary of the Development Estate.
- Responsible pet ownership will be encouraged and adopted within the proposed Development Estate.
- Landscaping within the Development Estate will involve the use of locally occurring native species.
- Boundary fencing between the Development Estate and Blue Gum Regional Park is recommended to be fauna friendly fencing with no razor barbed wire to protect fauna species.

The heads of consideration for mitigation measures proposed are as follows:

Erosion and Sediment Control

Appropriate erosion and sedimentation control measures will be implemented prior to construction. These erosion and sediment controls will be maintained for the duration of construction and remain in force until soil is stabilised post construction, ensuring that runoff is appropriately managed.

Sedimentation control will comply with the relevant guidelines ('Managing Urban Stormwater – Soils and Construction, Volume 1' (Landcom 2004)) preventing sediment flow from the development site onto DECC land.

The soils on site are potentially erodible. Mitigation measures such as silt fences, revegetation/reshaping batters, drainage structures (catch drains), sediment traps and sedimentation basins will be constructed (as deemed necessary) to ensure erosion and sedimentation are minimised.

All future works will be guided by appropriate management plans that reflect current industry best practice at that time.

Stormwater Runoff

Water sensitive urban design techniques will be employed to maximise natural site hydrology and ensure high water quality of stormwater with no excessive export of sediments and nutrients.

It is envisaged that stormwater runoff treatment will be addressed on housing lots prior to discharge into the road system and riparian corridors. The retention of riparian vegetation (along and surrounding creeklines and drainage channels) will assist in trapping sediments prior to entering watercourse(s).

Infrastructure associated with stormwater treatment will not be located on any part of the DECCW land.

Wastewater

Similar to stormwater, all waste water management will look to utilise the topography for its trunk main system elements and direct waste to a series of pump stations. All stations, associated infrastructure and overflow contingencies will be designed to minimise direct and indirect impacts on DECCW Estate.

Management Implications, Pets, Weeds, Edge Effects

As the development is adjacent to DECCW land, it is important that future residents and the general public are educated in regard to the impacts of weeds, pets and rubbish dumping etc. on surrounding conservation lands.

Individual control, regulation and monitoring of the public with regard to pets, weeds and dumping are difficult to achieve, therefore community education will be the main focus to manage these issues. Pamphlets and information sheets can be distributed or attached to sale documents advising potential buyers of the advantages of having conservation reserves close to new homes, and advising them of the responsibilities and potential impacts associated with weeds, pets and rubbish dumping in these conservation areas.

Fire and the Location of APZs

Bushfire assessment has been undertaken under the provisions of NSW legislation and policy which is generally exercised through Planning for Bushfire Protection (2006). To this end, all APZs have been located entirely within the development estates and will not require additional management by DECCW.

Boundary Encroachments

No pre-construction, construction or post-construction activities will occur on DECCW managed land. All material and works associated with construction will occur on the proposed development site.

All future works will be guided by appropriate management plans that reflect current industry best practice at that time.

Visual, Odour, Noise, Air Quality Impacts and Amenity

Coal & Allied has considered that visual, odour, noise and air quality impacts may occur to the BGHRP during the construction and post construction stages of development throughout the assessment process. Measures to avoid the magnitude of these impacts will be instigated.

All future works will be guided by appropriate management plans that reflect current industry best practice at that time.

Threats to Ecological Connectivity

The proposed development will reduce the amount of vegetation adjacent to BGHRP however a matrix of vegetation patches (largely public open space) and linear tracts (largely riparian corridors) throughout the Development Estate will ensure that habitat linkages are retained and provide corridor opportunities for highly mobile, less vulnerable faunal guilds and avifauna. These linkages will connect with land at Stockrington and Tank Paddock (that will be conserved as part of the proposal), together with other conservation lands surrounding the development.

Notably the level of connectivity has been balanced between the significant offset associated with this development coupled with the aims and objectives of the LHRS and subsequent LHRCP in conjunction with the operational nature of the BGHRP.

Groundwater Dependant Ecosystems (GDEs) have been assessed as part of this proposal. This assessment found that no GDEs adjoin the BGHRP.

Cultural Heritage

The Minmi Heritage Impact Assessment included as **Appendix O** included a search of an area larger than the Concept Plan footprint in order to identify potential adjacent heritage items and to provide a regional context to known and potential sites within the Concept Plan footprint. This included neighboring land not owned by Coal and Allied.

The searches included reviews of items recorded and/or listed on the:

- Aboriginal Heritage Information Management System (AHIMS) managed by DECCW;
- State Heritage Inventory;
- State Heritage Register;
- LEP Heritage Schedules;
- Australian Heritage Database;
- National Heritage List;
- World Heritage List;
- the list of places classified by the National Trust of Australia (NSW).

The Minmi HIA considers impacts to known and potential Aboriginal and historic sites, including adjacent items where applicable, and identifies a range of mitigation measures. This approach is consistent with the 2010 DECCW *Guidelines for developments adjoining land and waterways owned by DECCW*.

Hunter Estuary National Park Hexham Swamp Nature Reserve and Pambalong Swamp Nature Reserve.

There is potential for alterations in the flow regimes of onsite watercourses to change water flow characteristics where onsite water enters other wetlands. Impact to these National Parks and Nature Reserves will be minimised through the implementation of sediment and water management strategies during the planning and construction phases of development by incorporating suitable stormwater runoff treatment and control, coupled with riparian vegetation retention and rehabilitation. Fencing of the boundaries between these conservation reserves and the proposed residential estate will also help mitigate any edge effects from the urban development.

6.4.4 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 where riparian corridors have been established based on the developments stormwater management requirements coupled with the need to provide a diversity of habitat types for terrestrial and aquatic flora / fauna and to contribute towards connectivity between wildlife habitats. Furthermore, secondary uses within these areas have been minimised, as such bushfire Asset Protection Zones and public open space have been provided for outside the riparian corridors

The corridors will also include some community infrastructure providing a permeable walking and cycling network throughout the estate which will connect to the regional network when established

Future management of the riparian corridors will be identified in a management plan.

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 state 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);
- The nearby Cameron Park business park;
- Coal-bed methane extraction at existing bore sites on Coal & Allied land;
- Proposed Boral Asphalt Plant, Cameron Park;
- Summerhill Waste Management Centre Stage 2 proposal.

The assessment has been conducted with consideration to the following DECCW 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 Stationary Sources in NSW* (November 2006).

Odour and dust emissions from the Summerhill Waste Management Facility (WMF) are not expected to impact on the sites based on its current configuration and hours of operation for the following reasons:

- Standard mitigations measures are applied to key odour and dust sources;
- Prevailing winds predominantly transport odour and dust emissions towards the southeast, away from the sites;
- Total deposited dust levels around the WMF are likely below the DECCW criteria for nuisance dust;
- Odour and dust complaints made by existing residents living near the WMF are at a low base;
- In principle, adequate separation distance (> 500 metres) exists between the WMF putrescible landfill and the proposed sites.

Coal mining and coal-bed methane extraction is not expected to occur within the boundary of the proposed Minmi Link Road site.

The report notes that Boral have submitted a DA to Lake Macquarie City Council for a proposed asphalt plant located in the industrial area off Cameron Drive between George Booth Drive and Link Road adjacent the F3. It appears that the air quality assessment report does not nominate sensitive receptors at the location of the proposed development at Minmi. However, it does specify the Lake Macquarie Development Plan for residential development at Cameron Park.

Isopleths of predicted air quality impacts are provided for a limited number of pollutants. Based on these plots, predicted impacts to air quality at the location of the Minmi development would appear to comply with DECCW criteria.

Based on the figure provided in the DA reporting for the Asphalt Plant there appears to be a buffer (separation) distance between the asphalt site boundary and Minimi development boundary (Newcastle Link Road) proposed, of approximately 1000m. The default buffer distance (Victoria) for asphalt plants is 500m. From previous experience with asphalt plants a separation distance of 1000m should be adequate to protect against potential odour impacts.

6.6 Geotechnical

6.6.1 Capability of the Land Relative to Geotechnical Considerations

A Preliminary Contamination and Geotechnical Assessment have been prepared by Douglas Partners and are 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, possibly requiring removal or capping 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

- Where filling is encountered below proposed development, it should be removed and recompacted. Alternatively, footings could be founded below the filling using piles although piles are not recommended in former open cut pits in the Young Wallsend Seam);
- 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 be 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;
- Design of footings and buried services for appropriate exposure classifications with respect to aggressive soils. Specific additional investigation should be undertaken 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 of contaminated soil. This would be followed by validation sampling and analysis in accordance with SEPP 55 and NSW DECCW guidelines.

The site is considered to be generally suitable for residential development in accordance with SEPP 55 and NSW DECCW 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 (MSB). 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**.

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 are provided by the DARZAL committee and a formal application to the MSB is required. 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**.

The purpose of the traffic study is to assess existing traffic patterns, undertake traffic projections for the study area and to assess the traffic implications of the proposed Minmi/Link Road development on the surrounding road network.

During May 2009, the Federal Government approved the funding for the Hunter Expressway. The key modelling assumptions which form the basis of this traffic modelling investigation include:

- Inclusion of Hunter Expressway in modelling;
- Deletion of RTA unfunded future roads;
- Inclusion of the proposed F3 to Raymond Terrace Link bearing in mind that construction of the F3 to Raymond Terrace Link is not expected until after 2026.

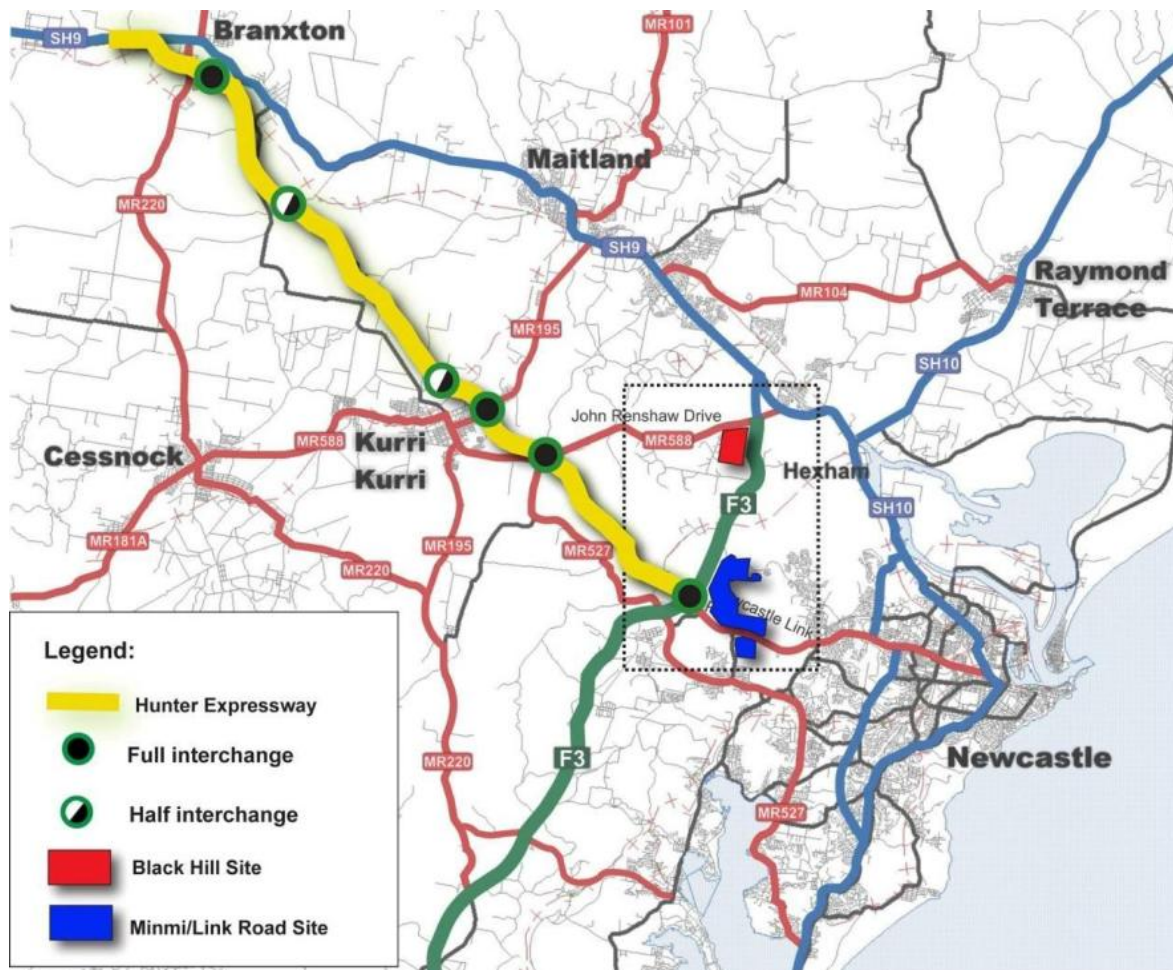
Following the Hunter Expressway approval, RTA is now proposing to construct the new freeway from the Newcastle Link Road interchange on the F3 Freeway, to the New England Highway at Branxton.

The project involves 40 km of new high standard dual carriageway road. The project will be delivered under two separate packages of works, and will be opened as one project on completion of both packages of works. It is anticipated that this new freeway will open to traffic by 2013.

The construction of the Hunter Expressway will redistribute traffic on the John Renshaw Drive, F3 Freeway and Newcastle Link Road corridors.

The Hyder traffic report provides an overview of modelling investigation of the future traffic impact on the Newcastle Link Road and associated key intersections with the Hunter Expressway in place. The Hunter Expressway is expected to increase traffic on the Newcastle Link Road. Previously determined upgrading works at key intersections including Newcastle Link Road/Minmi Road/Minmi Boulevard, Newcastle Link Road/Woodford Street, and Minmi Road/Northlakes Drive were re examined and tested using both the SIDRA and Paramics models.

Figure 11 – Minmi/Link Road development in the context of the regional network and the proposed Hunter Expressway



6.7.1 Integrated Land Use and Transport Policy

The proposal has been assessed in detail in the Traffic and Transport assessment included at **Appendix M**. In summary, the compliance of the proposal with the Integrated Land Use and Transport policy (ILUT) are indicated as:

- Improving access to housing, jobs and services by walking, cycling and public transport:
 - A pedestrian and cycleway network will be provided to facilitate the movement of pedestrians and cyclist through the development area.
 - Within the development proposal, the street and riparian corridor network will be designed to provide safe walking routes and bicycle routes that link the site with the existing services and facilities in Minmi and other nearby areas.
 - Through the NSW Government's Bike Plan, the Government will work in partnership with local councils communities and business to encourage bike riding growth and safer cycling in New South Wales.
 - The Newcastle-Lake Macquarie Western Corridor Planning Strategy identifies public transport initiatives (bus, rail), pedestrian and cycle links for Minmi and surrounding areas. Newcastle and Lake Macquarie City Council's cycleway policy is to designate local streets for cycling and pedestrian use. Both policies should ensure that road extensions that link to Minmi/Link Road developments will also contain provision for pedestrian and cyclists.

- Increasing the choice of available transport and reducing dependence on cars;
 - The concept plan for Minmi/Link Road proposal will create an environment that is friendly to pedestrians, cyclists and public transport users.
 - A pedestrian network will be installed to provide for movements of pedestrians throughout the development area.
 - The local roads including the Minmi Boulevard within the development will be designed to provide safe walking and bicycle routes that link with other existing services and facilities in Minmi. The Traffic and Transport Report (**Appendix M**) identifies public transport, pedestrian and cycling strategies for the Coal & Allied development.
- Reducing travel demand including the number of trips generated by development and the distances travelled, especially by car:
 - The study recommended that new bus route be created linking Cardiff Station, Glendale Interchange, Edgeworth, the proposed residential development, Minmi Township, and Thornton Station. The new route would run along Minmi Road and the proposed Minmi Boulevard road through the development.
 - New bus stops are proposed along the new bus route. Within the development it is proposed to create bus stops on Minmi Road, Minmi Boulevard, and Woodford Street.
 - Pedestrian and cycle routes within the development will connect with the above mentioned roads.
 - Pedestrian, cycle and road access to the adjacent Blue Gum Hills Regional Park from the development will connect in accordance with the Blue Gum Hills Regional Park Plan of Management. These access points will be coordinated with DECCW progressively on a staged development basis.
- Supporting the efficient and viable operation of public transport services
 - The public transport network in the vicinity of the Minmi Link Road development site comprises buses and train services, running within a few kilometres of the development site. Currently, two bus services are running in the vicinity of the proposed development site.
 - The Lower Hunter Integrated Transport Plan has set as a target mode shift to secure 20% of peak hour work related trips to be other than by private car. Reaching this target will reduce peak vehicle trips and contribute to a reduction in congestion on the arterial road network. The key to meeting this target will be to provide Minmi/Link Road development with regular bus services, particularly at peak hours, and to provide safe and convenient bicycle and pedestrian links to nearby residential/employment areas.
 - The Traffic and Transport Report (**Appendix M**) identifies public transport, pedestrian and cycling strategies for the Coal & Allied development.
- Providing for the efficient movement of freight
 - Not applicable for Minmi/Link Road site.

6.7.2 Traffic Modelling Approach

In assessing the Minmi/Link Road development impact with the Hunter Expressway in place, Hyder adopted a similar modelling technique and methodology to that documented in Chapters 4 and 5 of the traffic and transport report. The traffic model was run for the ultimate future year 2031, with the Hunter Expressway, and assuming full development of the Minmi/Link Road site.

Three traffic models (viz TransCAD, Paramics, SIDRA) were run for the future year assessing the impact of the Minmi/Link Road development.

6.7.3 Trip Distribution

Trip distribution to/from the Minmi/Link Road residential development was a key input to determining the performance of the key intersections on the Newcastle Link Road corridor.

Future growth and associated traffic distribution to the Newcastle Link Road corridor from the Hunter Expressway was determined using the Lower Hunter Traffic Model (TransCAD). The 2031AM peak outbound traffic from the Minmi/Link Road residential development suggests the following trend:

- About 40% of traffic to the east via Newcastle Link Road is accessing both Newcastle and Greater Lake Macquarie areas;
- About 15% traffic to the south via Minmi Road/Main Road (MR527) is accessing Glendale;
- About 10% to the west via Hunter Expressway is accessing Cessnock/Kurri Kurri and the Upper Hunter;
- About 10% traffic is forecast to use F3 Freeway;
- Minor traffic is expected to use Cameron Park Drive (about 6%);
- Minor traffic is expected to use Minmi Road via Fletcher (about 7%);
- About 12% of traffic is forecast to use Lenaghans Drive accessing Black Hill and Beresfield.

Further investigation has been undertaken to determine why a relatively high proportion of Minmi/Link Road residential traffic uses Lenaghans Drive. The modelling investigation suggests that in 2031 increased congestion on the Newcastle Link Road, particularly between the F3 Freeway and Woodford Street, leads some traffic to use the alternative Lenaghans Drive instead of the F3 Freeway. The RTA is currently undertaking a route development study on the Newcastle Link Road. That study is expected to quantify the impact on the Newcastle Link Road particularly on the impact on all intersection and the potential need for widening the Newcastle Link Road. The potential Link Road widening issue is outside of the Coal & Allied responsibility and hence beyond the scope of this traffic modelling work.

6.7.4 Impact from staged Coal & Allied Development

Hyder measured the impact of the development in the five stages proposed in the Concept Plan:

- The first stage of development 'Minmi East' is expected to provide approximately 530 residential dwelling units by 2016.
 - The traffic model identified the need for new signals at the Newcastle Link Road/Woodford Street/Cameron Park Drive intersection following the opening of the Hunter Expressway.
 - The analysis suggested that new signals on the Newcastle Link Road at the intersection with Woodford Street would have adequate capacity to accommodate additional traffic from Coal & Allied's stage 1 development.
 - Traffic model predicted LoS C with Coal & Allied's stage 1
 - Traffic model predicted minor impact on Woodford Street/Minmi Road and Newcastle Link Road/Minmi Road intersections arising from Coal & Allied's stage 1 development.
 - The LoS is predicted as B at both intersections when accounting for stage 1 of the Coal & Allied development.
- Stages 2 to 3 include two precincts, 'Link Road South' and 'Minmi Village Extension'
 - The 'Link Road South' site will be accessed via Minmi Road at the intersection with Northlakes Drive, creating a new 4-leg roundabout.
 - The Minmi Village Extension precinct will be accessed via Woodford Street. The new Minmi Boulevard Road is not constructed.

- The traffic model assumed that by year 2026, approximately 970 dwelling units would be developed from stages 2 to 3.
- The additional Coal & Allied traffic generated from stages 2 and 3 development is forecast to reduce signal capacity at the Newcastle Link Road/ Woodford Street intersection.
- The traffic model forecasts LoS E for year 2026.
- The data suggested that new signal on the Newcastle Link Road with Woodford Street would have capacity to accommodate up to stage 3 Coal & Allied development.
- The analysis identified the need for new Minmi Boulevard Road at the commencement of development of stage 4.
- Stages 2 and 3 of the Coal & Allied development are expected to reduce roundabout capacity at the Newcastle Link Road/ Minmi Road intersection.
- The traffic model forecasts LoS C during AM peak and LoS F during PM peak respectively.

Table 10 below summarises the modelling results accounting for the traffic generation up to stage 3 of the Coal & Allied development which is expected to be fully occupied by 2026.

Table 10 – Intersections performance with Coal & Allied development up to stage 3

			2016			2026		
ID	Intersections	Traffic Control	DoS	Delays	LoS	DoS	Delays	LoS
AM Peak								
I-1	Newcastle Link Road/ Woodford Street/Cameron Park Drive	New Signals	0.85	38.7	C	1.0	61	E
I-2	Newcastle Link Road/Minmi Road	Roundabout (existing)	0.76	19	B	0.9	33	C
PM Peak								
I-1	Newcastle Link Road/ Woodford Street/Cameron Park Drive	New Signals	0.81	37.2	C	1.04	68	E
I-2	Newcastle Link Road/Minmi Road	Roundabout (existing)	0.81	22	B	1.1	>70	F
Note: Impact on Woodford Street/Minmi Road from Coal & Allied development is expected to be low. Model forecasts LoS B and DoS 0.58 up to stage 3 development.								

6.7.5 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.

New bus stops are proposed along the new bus route. Within the development it is proposed to create bus stops on:

- Minmi Road, south of Newcastle Link Road;
 - The proposed Minmi Boulevard, north of Newcastle Link Road, in the new Minmi Village Centre;
 - The proposed Minmi Boulevard, in the new Minmi Village Centre; and,
 - Woodford Street, within the existing Minmi Township.
- 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, accessing Blue Gum Hills Regional Park (in accordance with the Blue Gum Hills Regional Park Plan of Management) and extending to Minmi Road in Edgeworth. This new cycleway will facilitate a link between the development and Glendale.

6.7.6 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 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.

Two emergency accesses (left out only) are proposed on the Newcastle Link Road from 'Link Road South' and Link Road North precincts. At each stage of the Coal & Allied development, the site will have multiple accesses to comply with the emergency services requirements. This will give any emergency vehicles access and egress when required. In principle, RTA supported emergency access (left out only) from 'Link Road South' and Link Road North precincts.

6.7.7 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 with 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 Street 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.

This report is included at **Appendix N**.

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

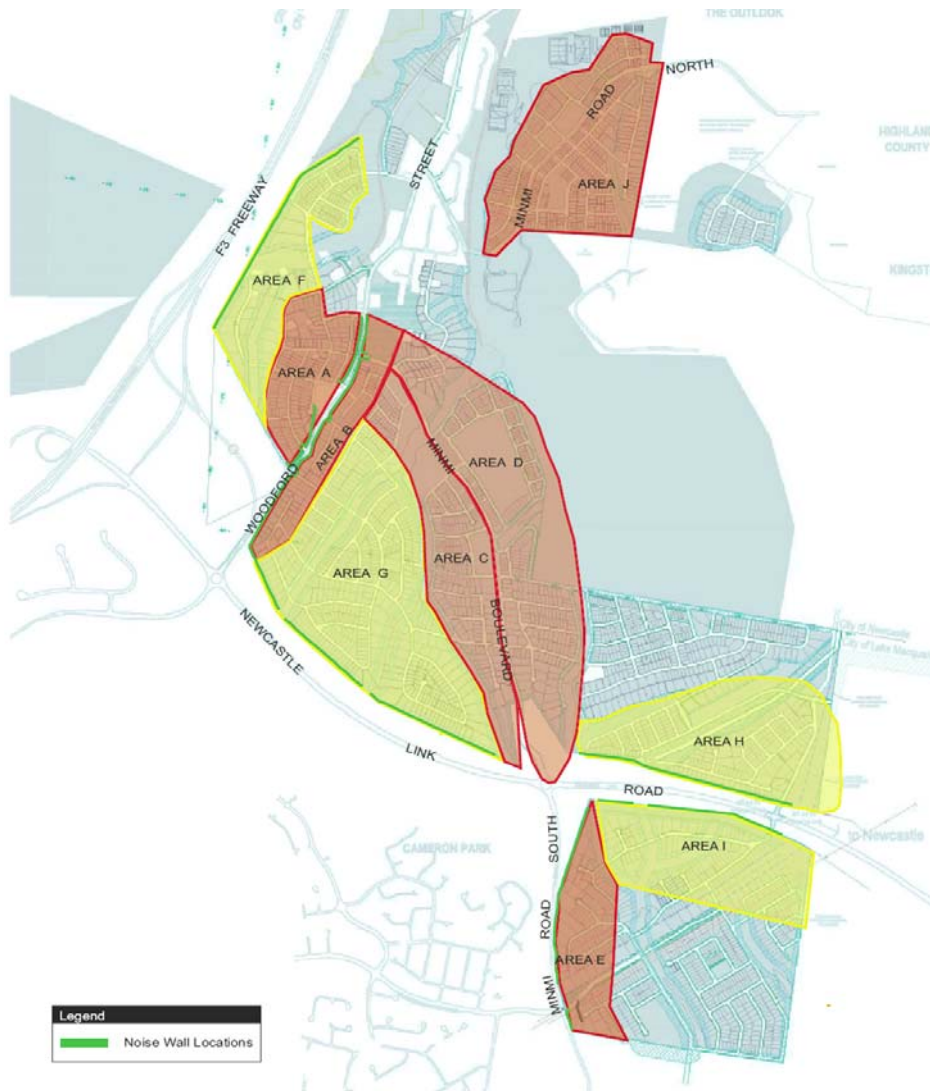
- F3 Sydney-Newcastle Freeway, an 'arterial road' as defined by the NSW *Environmental Criteria for Road Traffic Noise*, approx 800 metres west of the Minmi Precinct site;
- Newcastle Link Road, an 'arterial road' to the south of the Minmi and Link Road North Precinct sites, and to the north of the Link Road South Precinct site;
- Lenaghans Drive, a 'collector road' running along part of the north eastern boundary of the Minmi Precinct site and running in a north/south direction connecting with Woodford Street;
- Minmi Road (north), a 'collector road', running through the existing Minmi township and the northern eastern part of the Minmi Precinct site;
- Minmi Road (south), a 'collector road' running along the western boundary of the Link Road South Precinct site;

- Woodford Street, a 'collector road' running through the southern part of the Minmi Precinct site, and to the west of the Link Road North Precinct site connecting just north of the existing Minmi village;
- Summer Hill Waste Management Facility, owned by Newcastle City Council, approx 200-500m east of the Minmi Precinct site, directly to the north east of the Link Road North Precinct site and approx 1 km north of the Link Road South Precinct site;
- Cameron Park Business Park, on the southern side of Newcastle Link Road and west of Cameron Park Drive and approx 500 metres from the Minmi and Northern Link Road Precinct sites. It was confirmed during a site inspection that Cameron Park Business Park is unlikely to generate noise impact onto the site, and is not further addressed in this report;
- Mount Sugarloaf Kart Raceway, operated by the Newcastle Kart Racing Club, located approximately 1.3km – 1.5km from the Minmi and Link Road North Precinct sites, and approximately 2.8 km from the Link Road South Precinct site;
- Potential noise impact from mechanical plant (air conditioner units, exhaust fans etc) associated with the proposed development onto residential receivers within the development;
- Traffic along Woodford Street and Minmi Road (north) as a result of the proposed Coal & Allied residential subdivision. Noise from the additional traffic along Woodford Street and Minmi Road (north) may potentially affect residences in the existing Minmi Township.

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 Newcastle Link Road is predicted to impact the site. The use of noise walls / earth mounds would reduce the number of residential properties impacted upon by road traffic noise from the F3 Freeway and Newcastle Link Road. Use of 2m to 6m high noise walls / earth mounds would generally reduce the number of residences exceeding ECRTN. The use of noise walls higher than those specified above is not considered to be feasible and reasonable. Furthermore, given that the noise walls or earth mounds will not protect all residences from road traffic noise, building treatment should be used to reduce internal noise levels at residences that are still exposed to noise levels in excess of the $L_{Aeq(15h)}$ 55 dB(A) noise criteria level during the day period. Noise wall locations are shown in the figure below:

Figure 12 – Proposed Noise Wall locations



- Traffic noise from Woodford Street, Lenaghans Drive and Minmi Road South is predicted to impact the site. The use of 2m to 6m high noise walls / earth mounds on the Minmi Link Road & Stockrington Estate boundaries adjacent to Woodford Street, Lenaghans Drive and Minmi Road South would reduce traffic noise levels. Furthermore, given that the noise walls / earth mounds will not protect all residences from road traffic noise, building treatment should be used to reduce internal noise levels at residences that are still exposed to noise levels in excess of the $L_{Aeq(1h)}$ 60dB(A) noise criteria level during the day period.
- Traffic noise impacts upon existing residences within the existing Minmi township were predicted to exceed the applicable noise criteria. Noise walls or earth mounds were not considered to be feasible and reasonable options and as such, building treatment to residences exceeding the relevant criteria should be used to reduce noise to acceptable levels, subject to community consultation.
- 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. Based on current staging plans it is expected/likely that the operations at the stage II extension of the SHWMC will be complete prior to residential development taking place. Subject to timing of the Coal & Allied development noise attenuation recommendations have been noted from the NCC submission.

- The proposed Regional Waste Facility project has been abandoned and as such an assessment of noise from the proposed facility impacting upon future residential properties of the Link Road North Precinct is not required.
- Noise emission from the Mount Sugarloaf Kart Raceway is not predicted to impact on the site.
- Air conditioner units installed at individual residences have the potential to impact on neighbouring residential properties. Acoustic assessment of air conditioning equipment will need to be undertaken as part of the approval process for the air conditioning units to ensure noise impacts from proposed units are accounted for.

In view of the potential noise impacts that are identified to effect both the proposed development and the existing residents of the Minmi Township, Renzo Tonin & Associates have recommended the mitigation measures be considered as part of the future development of the land. The recommendations will need to be further considered at the future application phase for the subdivision of land and future individual development applications for the individual dwellings.

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 sites of high and moderate potential 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 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 and its visual impact 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, 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 Concept Plan has been 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 concept, 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 / 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 housing 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 Minmi has been assessed taking into account that the scheme entails:

- Single storey dwellings are proposed around the town of Minmi within five 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 (refer ERM report for details) 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 abuts existing housing and some items within AZ1 zone 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 abuts the former school and covers a portion of the AZ1 zone. It has a rural character and will be impacted by the addition 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 provides appropriate curtilage around items and avoids 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 industrial areas. Access to heritage items will be maintained and interpretation of heritage items for several items will enable further appreciation of the history.

Areas assessed with high Aboriginal archaeological potential are located within conservation zones whilst significant Aboriginal walking routes are incorporated into the Concept Plan 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 two 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

A Water Sensitive Urban Design, Flooding and Stormwater Management Report has been prepared by GHD and is included in **Appendix P**. Douglas Partners has provided assessment in respect to an assessment of impacts of the proposal on the quality of surface water, and nearby waterbodies, consideration of climate change impacts on flooding, the potential impacts to groundwater and groundwater dependent ecosystems.

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 of stormwater quantity and quality, before discharge to the road stormwater system;
- In flatter areas, vegetated swales along the identified main flow routes, consisting of open channel systems, which are used to remove sediment and suspended solids;
- Precinct scale co-located detention/ bio-retention basins to treat the quantity and quality of stormwater flows. 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. The bio-retention system would potentially need to be lined in areas to prevent contamination of groundwater;
- Gross pollutant traps and other structural measures, at critical locations as required, before discharge to the detention systems; and provision of rainwater tanks in all areas should be maximised in accordance with Council's requirements;
- Habitable floor levels of new residences and, commercial developments located 500 mm above the 100-year ARI event flood level;
- For development in flood storage areas and flood ways development must not lead to a significant increase in flood levels, flood damages, flood behaviour or flood hazard at the site or elsewhere;
- Areas that are inundated by the PMF require a flood evacuation strategy. Elevated areas would provide suitable evacuation muster areas, of which it is considered there are sufficient throughout the precinct.

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

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

- Onsite detention for individual lots requiring approximately 4 % of the lot area. These detention areas would be combined with bioretention to provide the dual purpose of stormwater quantity and quality management;
- Precinct scale detention basins are proposed at key locations. The required detention areas are estimated based on the contributing developed sub-catchments. In some locations these detention facilities could be co-located with bioretention to provide the dual purpose of stormwater quantity and quality management; and
- Rainwater tanks would be provided for each dwelling. The size of the tanks will be determined as part of the lot development process. While the purpose of rainwater tanks is for roof water harvesting and reuse, they also detain the stormwater flows to a certain extent. However this function was not included in assessing the required detention storage.

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 run-off 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 to be implemented:
 - 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 to be implemented:
 - 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 provide 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 bank 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 *NSW Floodplain Development Manual* and the *DECCW 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 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 Threat Assessment

In accordance with the DGEARS, a Bushfire Threat Assessment has been undertaken by RPS (**Appendix Q**) in consideration of the document *Planning for Bushfire Protection 2006* (PBP 2006) and AS3959. On 6 March 2009 Council of Standards approved the revised Australian Standard AS3959-2009 *Construction of buildings in bushfire prone areas* (AS3959-2009). This standard was published by Standards of Australia on 10 March 2009 and replaces the 1999 version of the document. AS3959-2009 was formally adopted by the BCA as the national standard on 1 May 2010 and has been considered in the RPS report.

The Estate has been classified as Bushfire Prone Land and RPS 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 520 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 degrees.

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

- APZ's from 10 metres to 60 metres will be required between the bushland and urban interface (dwellings). For the majority of the development a perimeter road has been implemented between bushfire hazards and future dwellings, this will form all or part of the required APZs. Any remaining APZ or part of APZ will be established within allotments where required.
- A Core Riparian Zone (CRZ) and Vegetated Buffer (VB) from 10 metres to 40 metres, inclusive, will be established for all riparian corridors along creek lines. 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 APZ areas designed accordingly.
- Any proposed development should be linked to the existing mains pressure water supply and suitable hydrants clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure should comply with AS2419.1, 2005.
- Roads should be constructed in accordance with section 4.1.3 (1), PBP 2006 as outlined in section 6 of this report. Any lessening of these requirements will require a performance-based assessment to be undertaken with the future project applications for the subdivision of land.
- Any future dwelling within the development estate should have due regard to the specific considerations given in the BCA, which makes specific reference to the Australian Standard (AS3959 – 2009) construction of buildings in bushfire prone areas. Assessment of the Concept Plan in accordance with AS3959-2009 has shown that future dwellings within the development estate will be able to comply with this standard.
- It is recommended that a Fuel Management Plan (FMP) be prepared for the development estate. This plan will detail the required strategies to create the required APZ's and management of these APZ's in such a manner as to preserve the natural and cultural features of the development estate, while reducing the risk of bushfire.

It should be noted that further approval is required for the final road and lot layouts and subdivision whereby further detail of road corridors and parking bays will be provided. It should be noted that if the proposal cannot accommodate roads to RFS requirements, a performance based assessment will be required and carried out as part of any future project application approvals.

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.

For the majority of the development a perimeter road has been implemented between bushfire hazards and future dwellings, this will form all or part of the required APZs. Any remaining APZ or part of APZ will be established within allotments where required. A strategic approach was undertaken over the concept design process to predicatedly design allotments to provide for an adequate building envelope within allotments requiring an APZ.

The Concept Plan indicates that these proposed roadways provide a buffer between the adjacent vegetation and the development estate and vegetation to be retained within the site, including open space parks, riparian buffers and vegetation buffers. The proposed perimeter and public roads within the development estate are therefore likely to provide either the entire or majority of the required APZs, with any remaining part of the APZ (if required) being able to be established within the allotments.

The primary school precinct located within the southern section of Estate 6 will have an APZ imposed upon the eastern and southern boundaries. The ongoing site bushfire management will be implemented under an overarching Bushfire Management Plan (that will be prepared under the Statement of Commitments).

The ongoing management of the APZ's will be the responsibility of the relevant Council, DECCW / 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 terms of the VPA.

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.

An Ownership Plan of the proposed open space, riparian corridors and APZs has been prepared and included at Figure B.1.4 in **Appendix B**. This will require "in principle" agreement from Newcastle and Lake Macquarie City Councils and the DoP. As discussed above the quantum and location of proposed open space is considered to be acceptable and where identified in the Ownership Plan they should be dedicated to the relevant Council or DECCW at no cost. All APZs are located on privately owned land and public roads within the development estate.

6.13 Utilities and Infrastructure

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

Sewer

- The Shortland Treatment Plant (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;
- There are upgrade works planned for both STP's; Edgeworth in 2010 and Shortland in 2013. Despite the programmed upgrades, Hunter Water has advised that existing infrastructure has not been designed to cater for loads from the proposed development. As a result, there will need to be upgrades of existing assets and/or the construction of new pump station(s) to cater for the additional demand provided by the development.
- A detailed Sewer Servicing Strategy for the site will be prepared in consultation with Hunter Water to determine the optimal servicing arrangement for the site. In addition to assessing upgrade works external to the site, the Servicing Strategy will also consider various options for sewage conveyance within the site to determine the optimal servicing method. Given the topography of the site, non-standard servicing methods (for example low pressure sewer) may be the preferred method on economic and environmental grounds.

- It is noted that the Minmi East Precinct includes approximately 400 lots. Thus it is possible that a portion of this Precinct could be serviced before upgrade is required..

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;
- It is anticipated that for the northern catchment this would involve extension from the existing main in Minmi Rd. For the southern catchment this would involve installing a water main from the South Wallsend reservoirs to the development.

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 Coal & Allied 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 its 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 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. The easements have been incorporated into the indicative lot layout;
- Energy Australia and Transgrid have been consulted regarding the Concept Plan for the Link Road South precinct to ensure that the development design is consistent with any authority requirements regarding the existing overhead lines and easements. Further consultation and approvals will be sought following Concept Plan approval and prior to the completion of detailed designs for this precinct;
- The existing zone substation at Maryland supplies electricity to the Minmi township. A new zone substation is planned to be built in Cameron Park by 2012 which will augment the existing supply network. High voltage feeder mains will link the development to the zone substation;
- It is anticipated that the Minimi East precinct would be serviced by minor lead-in works and connection to existing infrastructure either from Minmi Rd or Woodford St (subject to detailed analysis and approval). Subsequent stages would necessitate the lead-in works from the new zone substation.

Gas

- Jemena (formerly Alinta) has advised that the nearest gas mains are located at Woodford St, Minmi (in the north) and at the corner of Minmi Rd and Northlakes Dr (in the south);
- Preliminary economic assessment by Jemena has indicated that it is feasible to service the development with reticulated natural gas. Gas will be provided underground in a shared trench arrangement.

Telecommunications

- Standard telephony service is provided by Telstra to the existing Minmi township. According to Telstra the development site has good mobile phone coverage. There are existing copper cables within the development site which will require relocation during the construction works;
- The National Broadband Network (NBN) has been announced by the Federal Government.
- The NBN is committed to the provision of fibre optic telecommunications to 90% of existing Australian dwellings over the next 8 years.
- It is understood that the installation of this network is provided at no cost to existing residential areas however in new developments the telecommunications pit and pipe network is developer funded.
- Connection to the existing telecommunication network is understood to be funded by the NBN however timing for connection of the Minmi site is currently unconfirmed.
- Telstra cabling will be provided underground in a shared trench arrangement. Each stage of the works will be serviced in turn, with extensions from existing infrastructure.

In summary, lead-in works, upgrades and major infrastructure are required to supply water and sewer services to the Minmi/Link Road development. Servicing Strategies will be prepared in consultation with Hunter Water following approval of the Concept Plan.

Electrical supply will be available from the new Cameron Park zone substation. Lead-in electrical infrastructure from the new zone substation will be delivered when the existing supply has been exhausted.

Gas mains will be installed in the shared trench along with Telstra communications and electricity to supply each stage of the development.

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 detail 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 a sustainability 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:

- The Beyond Basix approach to energy use reduction achieves an annual greenhouse gas emission (GHG) saving of an estimated 5,742 kilograms per lot. The total GHG saving over the estate is estimated at 18,950 tonnes per annum. Energy saving measures include; a 1.5 kW photovoltaic grid interactive array, gas boosted solar water heating and gas oven and cook tops. Incorporating these measures are predicted to reduce greenhouse gas emissions by 73%.
- The Beyond Basix approach to water use reduction achieves an estimated annual water savings of 199 kilolitres per lot. The total water savings over the estate is estimated at 655,248 kilolitres per annum. Water saving measures include collecting rainwater at each lot to supply toilet flushing and the household washing machine. Incorporating these measures, it is predicted to reduce water use by 67%.

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

- Provide accessible pedestrian ways to connect to public domains.
- Provide, through joint development, estate accessible convenience shopping and cafes to reduce vehicle-kilometres (vkms) from necessary supplies.
- Provide an integrated bikeway network to existing regional public infrastructure.
- Contribute to a fuel efficient community bus to link to existing regional public infrastructure.
- Provide each dwelling with access to the NBN network to encourage home office and work at home professionals to reduce the need for travel.

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 and Local Governments

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' or Voluntary Planning Agreements (VPAs) between Coal & Allied and the DoP prior to final approval of a construction certificate for Stage 1 subdivision.

Coal & Allied has offered to enter into a Voluntary Planning Agreement (VPA) with the State Government for the payment of monetary contributions, land dedications or works in kind for the provision of regional infrastructure as determined by the NSW state government

The NSW Department of Planning has developed a draft plan to streamline the contributions process for regional infrastructure in the Lower Hunter region. The plan is proposed for those non-urban lands that are rezoned to residential and industrial purposes and will fund a wide range of road, education, emergency services, health and regional open space infrastructure.

Coal & Allied has offered to pay the State Infrastructure Contribution rate current at the time of future development applications, offset by land dedications and any appropriate "works-in-kind". This will be the subject of future negotiations with the NSW Dept of Planning pending the outcome of the regional infrastructure contribution determination;

At the time of writing, The Lower Hunter Special Infrastructure Contributions Plan is a draft document on exhibition. As a result, State Infrastructure Contributions will be in accordance with any plan once finalised. 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.

In lieu of monetary contribution for open space, a number of parks will be developed by the owner and then dedicated to Lake Macquarie City 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.

6.16 Social and Economic Impact Assessment

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 Assessment which is attached at **Appendix F**. The social impact analysis (SIA) identifies the impact of the development on the existing surrounding communities and to determine recommendations in relation to the provision of social infrastructure including open space, recreation, community facilities and retail provision in the development area.

The gap analysis of social infrastructure has been based upon the anticipated population growth of up to 9,720 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 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;
- Open Space and Recreation facilities including multi-purpose sports fields, incorporating rugby, soccer pitches and cricket wickets, four netball courts, two double-court tennis courts, local and district parks. Open space offsets will be determined when open space ownership details are finalised with Newcastle City Council and Lake Macquarie City Council and the final determination of the LGA common boundary between the two Councils.
- Monetary contribution towards a BMX track or skate-park or another regional facility as part of the Community Facilities Section 94 Contributions.
- Contributions for community facilities for a community hall/centre or similar building that may accommodate flexible uses, including visiting health services such as baby and child health, community nursing and allied health services. All facilities to be built and maintained for a maximum of five years before handover to the relevant Council in accordance with current standards set out in Council's Development Contribution Plans.

In terms of the retail facilities proposed in the master plan, Urbis and RPS identify the following facilities:

- Mixed Use Village Centre including Village Park and entry to Blue Gum Hills Regional Park
- Minmi East Mixed Use Village (Stage 1).

The Social Impact Assessment included as **Appendix F** provides an analysis of the potential for retail facilities within the Lower Hunter Northern Lands region. The Concept Plan seeks 8,000sqm of gross lettable retail floor space, capped to 2026 based on the retail trade analysis up to that date. It should be noted that the proposed Minmi development is not expected to be fully developed by 2026 which, in addition to other developments in the area, may support additional retail floor space within the Minmi proposal beyond the projected 2026.

The retail floor space will be spread across the 6.6ha of mixed use areas of:

- Village Centre (Mixed use/retail) 4.1ha;
- Minmi Township (Mixed Use/Retail) 0.2ha;
- Minmi High Street (Mixed use/retail) 2.3ha.

Main Trade Area

The main trade area which is likely to serve the future residents of the Minmi/Link Rd area comprises a primary and a secondary sector as follows:

- The **primary sector** comprises the suburb of Minmi and northern parts of Cameron Park. This sector is bounded to the west by the Sydney-Newcastle Freeway, to the south by Link Road and to the east by the surrounding conservation area.
- The **secondary sector**, located to the south of the primary sector incorporates the suburb of Cameron Park, bounded to the west by the Sydney-Newcastle Freeway and to the east by retail facilities at Edgeworth.

Given that the primary sector is relatively isolated by the natural barrier of the surrounding undeveloped area to the east and the freeway to the west, it is likely that any supermarket facilities located in this area will largely serve residents within this limited locality.

Retail Potential

The Social Impact Assessment report provided as **Appendix F** assesses the retail potential for supermarket facilities in Minmi/Link Rd. Key points include:

- The Retail Analysis assumes that a small supermarket (of around 400 sqm with a few other convenience type retailers) located at Minmi in 2016 and a 3,200 sqm supermarket is developed as part of a 'Town Centre' at Minmi in 2026.
- Over time, given the anticipated population growth within the area, in particular, the primary sector, there is the potential to offer a more complete range to serve the needs of surrounding residents and reduce escaped expenditure beyond the main trade area. It is likely that this could occur by 2026, when the primary sector population reaches around 7,000 and growing to in excess of 9,000 by 2031.
- In terms of supportable specialty retailers, single supermarket based centres in non-metropolitan locations typically support around 1,500 sqm of retail specialty shops and 500 sqm of mini major floor space.
- In terms of supportable retail floor space at Minmi, the report recommends that around 1,000 sqm of convenience type retail floor space (including a small supermarket of 400sq.m) is supportable by 2016. By 2026, around 6,000 sqm of additional retail floor space could be developed at Mimi.
- In addition to the retail floor space, other non retail uses such as a post office, doctors, dentist, real estate agent, travel agent etc. could co-locate at the centre, to maximise cross usages and create a town centre within Minmi. Typically such uses locate on an upper level above the retail component.
- The report recommends that a further 500-1,000 sqm of non retail floor space could be supported. In total, therefore, around 8,000 sqm of floor space could be developed at Minmi, assuming that 3,300 residential lots are developed in the finalisation of the project.

In addition to the floor space allocated to retail uses, the Concept Plan includes the areas to be dedicated by Coal & Allied to NSW Health, Ambulance and Police (14,000sqm). The Village Centre Precinct is also assumed as single level as substantial underground mine grouting costs would be incurred should any development in the Centre be proposed as two storey.

The analysis is based on a mid range scenario, where 3,300 dwellings are ultimately developed at Minmi. The tables below show the supermarket potential for the Minmi main trade area for 2016 – 2026 and the proposed retail composition of Minmi.

Table 11 – Supermarket potential Minmi main trade area for 2016 – 2026

Minmi - Main Trade Area Supermarket Potential Assessment, 2016 - 2026			
Factor	Unit	Amount (Constant \$2010 and Ex GST)	
		2016	2026
MTA Population			
• Primary Sector	Persons	1,530	6,750
• Secondary Sector	Persons	<u>9,795</u>	<u>11,200</u>
Total MTA Population	Persons	11,325	17,950
Total Available Spending to TA Smkts	\$M.	44.5	85.3
Existing & Proposed Supermarket Space ¹	Sq.m	4,600	7,800
Resulting Average Trading Levels ²	\$/Sq.m	9,663	10,930
Average Supermarket Turnover	\$/sq.m	9,273	9,748
Supportable Supermarket Floorspace	Sq.m	4,793	8,746
Surplus/Deficiency (+/-)	Sq.m	-193	-946
Minmi MTA Smkt Potential	Sq.m	400	3,600
Share of Total TA F&G to TA Smkts			
• Primary Trade Area	%	15%	85%
• Secondary Trade Area	%	10%	15%
• Main Trade Area	%	10%	40%
Share of Total TA F&G to TA Smkts	\$M	3.0	22.7
Plus Business from Beyond TA	%	8.0%	15.0%
Total F&G Turnover	\$M	3.3	26.7
Plus GM Turnover	%	6.0%	6.0%
Total Store Potential	\$M	3.5	28.4
Average Trading Level	\$/sq.m	8,763	7,894
Inflated (@ 2.5% per annum)	\$M	4.1	42.2
Average Trading Level	\$/sq.m	10,163	11,719

1. Existing supermarket floorspace consists of

2. Assumes 0.5% real increase in average trading levels per year

Source : Urbis

Table 12 – Proposed Minmi Retail Composition

Minmi Proposed Retail Composition			
Tenant	2016	2026	
	Convenience Centre	Convenience Centre	Neighbourhood Centre
Supermarket	400	400	3,200
Mini Major	0	0	500
Specialty Stores	<u>500</u>	<u>500</u>	<u>1,500</u>
Total Retail Centre	900	900	5,200
Non Retail	0	0	750
Total Centre	900	900	5,950

Source: Urbis

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 draft Statement of Commitments includes the following:

- General terms that the project will adhere to;
- Contributions proposed by the proponent;
- Measures to mitigate any environmental impacts;
- Measures to monitor the environmental performance of the project.

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 allocation 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 allocation may be used for sustainability initiatives for future residents, additional infrastructure to support existing and future residents, educational and or community programs.

8 Suitability of Site

Environmental investigations to date demonstrate that all potential adverse impacts of the project can be sustainably managed, resulting in significant social, environmental and economic benefits to the immediate and surrounding communities.

The environmental, social and economic factors arising from the project are addressed below.

8.1 Environmental

Coal & Allied's Lower Hunter lands including Minmi/Link Road and Stockrington are included in the Lower Hunter Regional Strategy (LHRS) for urban development and conservation purposes.

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 will dedicate 1,561ha of Stockrington and Minmi to the NSWG as 'conservation land'. The conservation land dedication is crucial in achieving NSWG'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 draft 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 dedicate to conservation purposes. 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 while 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:

- Incorporating 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;
- Protecting sensitive riparian areas by establishment appropriate riparian corridors and rehabilitation and revegetation where required;
- Incorporating significant Aboriginal and European heritage, archaeological and cultural elements into the urban design;
- Retaining vegetation along ridges to reinforce the existing local bushland backdrop;
- Respecting 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.

8.2 Social

The 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 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 of the opportunity to augment 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, retail, employment and professional services are established as part of the growth of regional centres and generally include civic functions and facilities that 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 draft Strategy specifies a yield of between 5 and 9 dwellings per hectare, lower than that determined in the LHRS due to the various environmental and geotechnical 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 above.

8.3 Economic

An Economic Impact Assessment was prepared by Sphere to guide the Concept Plan for the site. This report concludes that the proposed development of Minmi/Link Road estates result in the following economic impacts:

- Injection of an estimated \$862 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 (2010 dollar terms);
- Create an estimated 3,662 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 2032;
- Support a further 9,400 jobs (up to half local) over the project life resulting from the multiplied employment stimulus among construction related industries from the primary expenditure;
- Provide additional flow-on economic effects over 20 years of around \$1,250 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 1.31 using NSW Treasury methodology.

8.4 Public Interest

The proposed dedication of 1,561ha 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 \$839 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;
- 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 and Stockrington estates form an integral part of the overall Coal & Allied environmental land package which will achieve substantial conservation outcomes through the dedication of 1,561ha of conservation lands to 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 Wetland;
- 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 Regional 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 proposed dedication of conservation lands via the VPA process and the implementation of the objectives of the LHRP and draft LHRCP.

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.

CONCLUSION

Appendix R.1 SEPP Infrastructure 2007 Summary Table

SEPP (Infrastructure) 2007

Provision	Requirement	Response
Part 2, Division 1 Consultation Clause 13 Consultation with Councils – development with impacts on council-related infrastructure or services.	Development to be carried out by or on behalf of a public authority that will have substantial impacts relating to Council infrastructure such as stormwater management; the local traffic system; sewerage systems; water supply system and footpaths do not require development consent. However, prior to the development work, written notice to council must be given and consideration to the response from Council.	The provision of infrastructure services are embodied within the Infrastructure Study by Cardno attached under Appendix R . This report will be referred to all relevant public authorities and Councils as part of the Part 3A referral process by the DoP. The requirements for each authority will be further addressed at the relevant subdivision stage under future applications.
Clause 14 Consultation with Councils – development with impacts on local heritage	Development to be carried out by or on behalf of a public authority that will have an impact on a local heritage item or a heritage conservation area may be carried out without development consent. However, prior to the development work, an assessment of the impact is required and written notice including an assessment report must be given to the Council with consideration to the response from Council.	Any development works to be undertaken by or on behalf of a public authority will require consideration to this provision as part of the subdivision stage under future applications.
Clause 15 Consultation with Councils – development with impacts on flood liable lands	Development to be carried out by or on behalf of a public authority on flood liable land that will change flood patterns may be carried out without development consent. However, prior to the development work written notice must be given to the Council with consideration to the response from Council.	Any development works to be undertaken by or on behalf of a public authority will require consideration to this provision as part of the subdivision stage under future applications.
Clause 16 Consultation with public authorities other than Councils	Development to be carried out by or on behalf of a public authority for specified development may be carried out without consent providing that written notice is made to relevant specified authorities with consideration to their respective comments. In this regard, this would apply in regard to: <ul style="list-style-type: none"> Development adjacent to land reserved under the National Parks and Wildlife Act 1974 and the Department of Environment and Climate Change. Development for the purposes of an education establishment, health services facility or for residential purposes in a bush fire prone land and the NSW Rural Fire Service. 	This application will be referred to DECC and the NSW Rural Fire Service by the DoP in accordance with the Part 3A referral process.
Clause 17 Exceptions	The above provisions (13 to 16) do not apply with respect to development to the extent that they would require notice of the intention to carry out development to be given to a Council or public authority from whom an approval is required in order for the development to be carried out lawfully.	This application will be referred to all relevant Councils and public authorities by the DoP in accordance with the Part 3A referral process such that the appropriate level of consultation occurs.
Division 4 Exempt	Identifies the criteria required to be met for consideration of whether certain works may be	Future consideration to exempt development will be undertaken as

APPENDICES

Provision	Requirement	Response
Development Clause 20 Exempt Development	carried out as exempt development listed in Schedule 1 of the Infrastructure SEPP that is carried out by or on behalf of a public authority.	part of the subdivision stage under future applications.
Part 3 Development controls Division 3 Educational Establishments Clause 28 Development permitted with consent	Development consent is required for an educational establishment.	A separate application for consent for school facilities will be lodged at the relevant stage and time.
Division 5 Electricity transmission or distribution networks	Provides considerations as to whether development for electricity transmission or distribution networks by or on behalf of a public authority may occur with or without development consent. Provides procedures for notifications relating to other developments that may potentially impact on existing electricity networks.	These considerations will be addressed at the relevant phase of the project.
Division 6 Emergency services facilities and bush fire hazard reduction	Provides considerations as to whether development for emergency services facilities and bushfire hazard reduction works by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.
Division 7 Flood mitigation work	Provides considerations as to whether flood mitigation works by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.
Division 9 Gas transmissions or distributions	Provides considerations for the delivery of gas transmission and distribution by or on behalf of a public authority relating to consent requirements and developments adjacent to a gas pipeline corridor.	These considerations will be addressed at the relevant phase of the project.
Division 10 Health services facilities	Provides considerations to the provision of health services facilities.	These considerations will be addressed at the relevant phase of the project.
Division 12 Parks and other public reserves	Provides considerations as to whether development for parks, public reserves and recreational facilities by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.
Division 17 Roads and traffic Subdivision 1 Road Infrastructure facilities	Provides considerations as to whether development for road or road infrastructure facilities by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.
Subdivision 2 Development in or adjacent to road corridors and road reservations Clause 101 Development with frontage to a	Development with frontage to a classified road provides: <ul style="list-style-type: none"> where practicable, vehicular access to the land is provided by a road other than the classified road; 	The proposed road layout and indicative subdivision pattern is designed to ensure no direct access from lots will be available off Newcastle Link Road or the F3 Freeway.

Provision	Requirement	Response
classified road; and Clause 102 Impact of road noise or vibration on non-road development	<ul style="list-style-type: none"> Safety, efficiency and ongoing operation of the classified road will not be adversely affected in respect to the design of the vehicular access to the land; by smoke or dust; or by the nature, volume or frequency of vehicles. Development is of a type that is not sensitive to traffic noise or vehicle emissions, or is appropriately designed to be ameliorated from such potential impacts. <p>Impact of road noise or vibration on non-road development provides:</p> <ul style="list-style-type: none"> Sensitive land uses adjacent to road corridors with an average daily traffic volume of more than 40,000 vehicles to take account of road noise or vibration guidelines issued by the DG and published in the Gazette. Internal noise levels are required to meet minimum requirements. 	<p>Traffic impacts to the safety, efficiency and ongoing operation of Newcastle Link Road and the F3 Freeway will be minimised through appropriate design and upgrading of intersection to the proposed estate. Refer to Traffic and Transport Report in Appendix M.</p> <p>Noise impact assessment with reference to the interim guideline "Development near Rail Corridors and Busy Roads" has been undertaken by Renzo Tonin & Associates which indicates that residential properties within the vicinity to major traffic routes will be affected by traffic noise. A range of mitigation measures is provided to achieve appropriate noise amenity levels. This is discussed in Section 6.8 of the EA.</p> <p>Vibration and noise considerations to be further addressed at relevant phase of the project to ensure acceptable future construction.</p>
Clause 104 Traffic-generating development	<p>Proposed subdivision exceeds the creation of 200 allotments and therefore the proposal is required to be referred to the RTA. The consent authority is required to take into consideration:</p> <ul style="list-style-type: none"> Comments from the RTA; and Accessibility; efficiency of movement; extent of multi-purpose trips; the potential to minimise the need for travel by car; traffic safety, road congestion; and parking implications. 	<p>Consultation with the RTA has occurred during the preparation of the Concept Plan and will be ongoing.</p> <p>The Concept Plan will be referred to the RTA by the DoP as part of the Part 3A process.</p> <p>Traffic assessment by Hyder Consulting is submitted with the EA.</p> <p>Concept Plan is designed to encourage "walkable neighbourhoods" with proximity to open space, public transport and neighbourhood centres.</p>
Division 18 Sewerage systems	Provides considerations as to whether development for sewage treatment plants or biosolids treatment facilities; water recycling facilities; sewage reticulation systems by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.
Division 19 Soil Conservation works	Provides considerations as to whether development for the purposes of soil conservation works by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.

APPENDICES

Provision	Requirement	Response
Division 20 Stormwater management systems	Provides considerations as to whether development for the purposes of stormwater management systems by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.
Division 21 Telecommunications and other communication facilities	Provides considerations as to whether development for the purposes of telecommunications facilities requires development consent.	These considerations will be addressed at the relevant phase of the project.
Division 24 Water supply systems	Provides considerations as to whether development for the purposes of water reticulation systems by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.
Division 25 Waterway or foreshore management activities	Provides considerations as to whether development for the purposes of waterway or foreshore management activities by or on behalf of a public authority may occur with or without development consent.	These considerations will be addressed at the relevant phase of the project.

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