

# Catherine Hill Bay

CONCEPT PLAN  
ENVIRONMENTAL ASSESSMENT  
NOVEMBER 2010

COAL  
&  
ALLIED

urbis



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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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Address:	Urbis Level 21 321 Kent Street Sydney NSW 2000	
In respect of:	Catherine Hill Bay (Middle Camp) 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: 10 November 2010



Signature

Name: Tom Goode

Date: 10 November 2010



## Executive Summary

This report has been prepared in support of an application for Concept Plan approval under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act) for Catherine Hill Bay (Middle Camp). It has been prepared on behalf of Coal & Allied Industries Limited (Coal & Allied), the owner of the Catherine Hill Bay (Middle Camp) site.

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 Catherine Hill Bay (Middle Camp) site has been recognised for its State and Regional significance based on its inclusion in the LHRS and LHRCP for proposed urban development and conservation land dedication.

Coal & Allied propose to develop 28.2ha of Catherine Hill Bay (Middle Camp) for residential development with a proposed yield of 222 dwelling lots. The majority of the balance of the Catherine Hill Bay (Middle Camp) site (525.87ha or 93%) is proposed to be dedicated to the New South Wales Government (NSWG) for conservation purposes. Other Coal & Allied owned sites in the Lower Hunter and Central Coast region are the subject of similar but separate Part 3A applications to the Department of Planning (DoP). Overall Coal & Allied proposes to dedicate approximately 3,260ha of Coal & Allied land to the NSWG to provide and enhance important conservation corridors identified in the LHRS, LHRCP

The Coal & Allied owned land at Catherine Hill Bay (Middle Camp) that is proposed to be dedicated for conservation will play a significant role in securing in perpetual public ownership the long sought-after Wallarah Peninsula conservation corridor, which will provide an inter-regional green buffer separating the Lower Hunter from the Central Coast.

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 will apply to the entire 569ha Catherine Hill Bay (Middle Camp) site. The key considerations for the proposed development of the site are as follows:

- Dedication of 525.87ha of conservation land to the NSWG that is identified in the LHRS and LHRCP, comprising approximately 93% of the Catherine Hill Bay (Middle Camp) site.
- Dedication of 12.3ha of public open space to Lake Macquarie Council.
- Retention of 12.21ha of land to maintain the existing occupied dwellings in Coal & Allied ownership.
- Proposed dwelling yield of 222 dwellings (including 57 integrated housing lots) and 3 super lots over 28.2ha.
- Two areas developable for residential purposes are identified under the Concept Plan located to the north of the Middle Camp heritage township:
  - Developable area A (northeast) = 7.32ha.  
Area A (Sawmill Camp) is located north of the existing settlement on the eastern side of Flowers Drive in an existing cleared area. It is proposed to be set back behind a buffer of proposed vegetation.
  - Developable area B (northwest) = 20.88ha.  
Area B (Colliery Hamlet) is located to the west of Flowers Drive and north west of the existing settlement. Development is proposed to be set back from Flowers Drive behind a buffer of proposed vegetation.

The above development and conservation areas have been established on the basis of detailed investigations with respect to existing environmental constraints and opportunities for future sustainable growth.

- Indicative development staging.
- The provision of associated infrastructure.
- Torrens title subdivision of the Catherine Hill Bay (Middle Camp) site. The Torrens title subdivision and boundary realignment of Coal & Allied land will enable the following:
  - transfer of land 525.87ha in area that is owned by Coal & Allied to be excised and to be dedicated to NSWG for conservation land.
  - transfer of land 2.3ha in area that is owned by Coal & Allied, located between the cemetery and the oval and south of the Bowling Club including the adjacent beach car park, to Lake Macquarie City Council.
  - enable land 12.21ha in area that is owned by Coal & Allied comprising four houses north west of Northwood Road and land 0.17ha east of Flowers Drive, to be retained by Coal & Allied post transfer of the conservation land.

Approval is not sought under the Concept Plan for a specific lot or road layout. An indicative lot and road layout will indicate how a dwelling yield of 222 dwellings could be achieved on the site.

Similarly, approval is not 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 in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site.

It is proposed to dedicate land for conservation purposes as part of the Major Project 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 not permissible under the existing planning provisions and therefore a State Significant Site listing/rezoning is proposed under Schedule 3 of State Environmental Planning Policy (Major Development) 2005 (Major Development SEPP), which will provide the statutory mechanism for approval of the Concept Plan and associated future development. A separate report has been prepared and lodged with the NSW Department of Planning (DoP) in support of an application for listing and rezoning of the Coal & Allied owned Catherine Hill Bay (Middle Camp) site as a 'State Significant Site' (SSS). This report should be read in conjunction with the SSS Listing Report.

On 15 July 2010, the Minister for Planning determined that the development proposal for Catherine Hill Bay (Middle Camp) needs to be considered as a Major Project under Part 3A of the EP&A Act. The Minister also determined to consider the Middle Camp site at Catherine Hill Bay 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 relate to:

- Urban design and built form;
- Coastal Foreshore and Public Access;
- Biodiversity impact;
- Traffic and Accessibility
- Noise Impacts;
- Mining Activities;
- Heritage;

- Water Quality;
- Flooding;
- Visual;
- Bushfire;
- Infrastructure and Utilities;
- Ecologically Sustainable Development;
- Site Preparation Works;
- Subdivision; and
- Future Public Land.

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

In summary, the Concept Plan will facilitate the orderly use, development and conservation of a regionally important site of environmental and social significance to the State and region. The Environmental Assessment contained within this report demonstrates that all potential adverse environmental impacts of the project can be suitably mitigated, resulting in net social, economic and environmental benefits. In view of the merits of the project, we therefore recommend that the Minister for Planning approve the Concept Plan.





# 1 Introduction

This Environmental Assessment (EA) accompanies a Major Project application on behalf of Coal & Allied for a Concept Plan for the future residential subdivision of land and conservation land transfer at Catherine Hill Bay (Middle Camp) (CHB), known as “Catherine Hill Bay (Middle Camp)”. The Concept Plan provides for a new coastal village of 222 dwellings; the proposed dedication of conservation land comprising approximately 93% of the site and associated infrastructure.

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

- Background to the identification of the land sought for future development including the proposed dedication of the conservation land and the community consultation.
- Description of the site in respect to its regional and local context.
- Description of the proposed Concept Plan.
- 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.
  - 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. Three are located in the southern area comprising of Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan. Four are located in the northern area comprising of Black Hill, Tank Paddock, Stockrington and Minmi (including land north and south of Link Road). The landholdings are located in four local government areas of Lake Macquarie, Wyong, Newcastle and Cessnock.

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

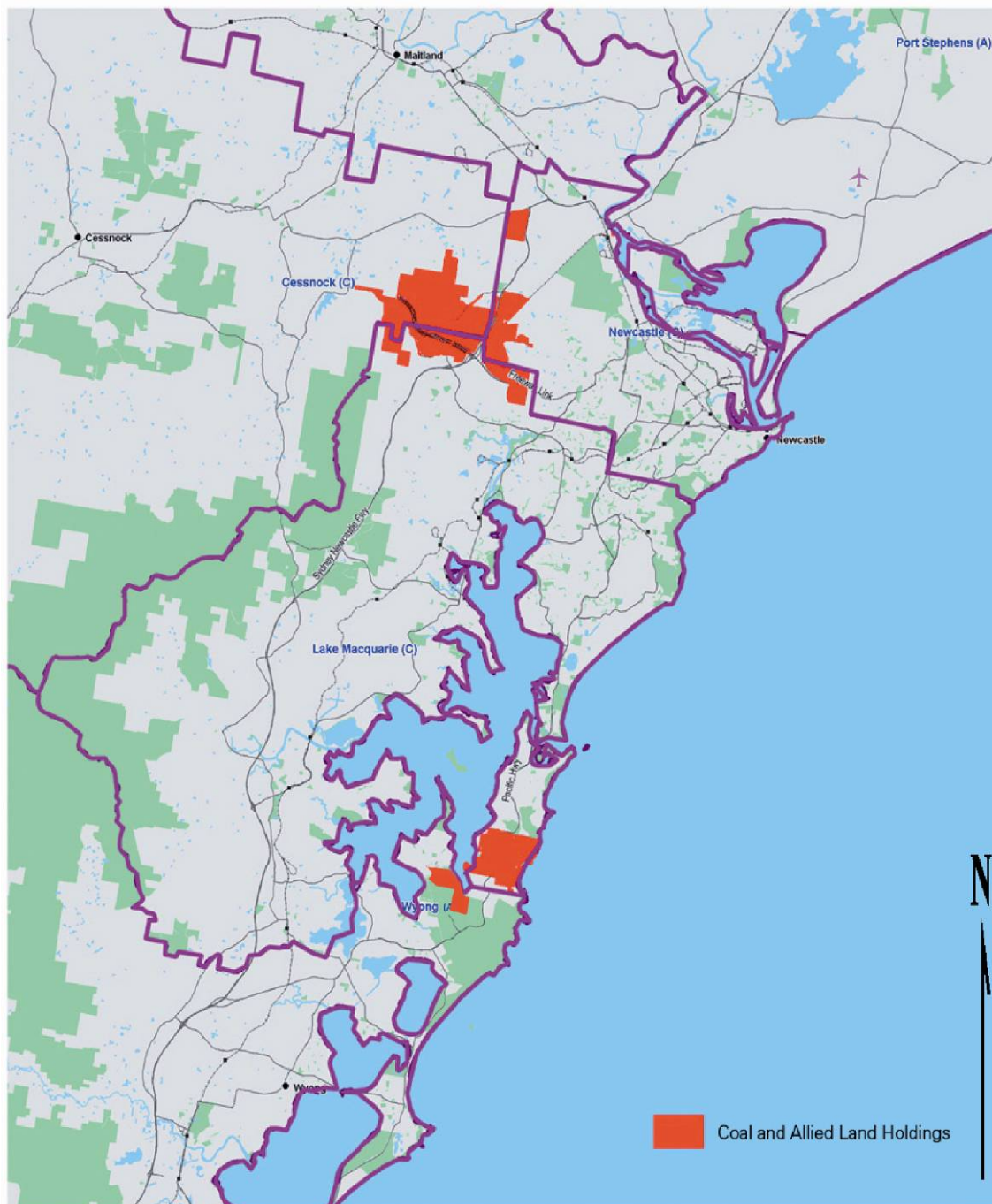
The Coal & Allied northern lands are located approximately 20 kilometres west of Newcastle and are almost halfway between Newcastle and Cessnock.

The 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 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.

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

The Coal & Allied lands are shown in Figure 1, below.

Figure 1 – Coal & Allied landholdings in the Lower Hunter



The southern lands will provide 935 dwellings to the existing communities of Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan. This additional population will contribute economic and social support to Swansea and Lake Munmorah as town centres. The main transportation corridor to the southern lands is the Pacific Highway.

### 1.1.2 Regional Planning Context

The Catherine Hill Bay (Middle Camp) 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 conservation. The securing, protection and management of conservation corridors is a key focus of both the LHRS and the companion LHRCP.

The proposed development of 28.2ha of Catherine Hill Bay (Middle Camp) for residential purposes and proposed dedication of 525.87ha of lands at Catherine Hill Bay (Middle Camp) for conservation purposes is crucial in achieving the State Government's objective of securing major conservation corridors identified in the LHRS and LHRCP, most notably the Wallarah Peninsula Corridor.

### 1.1.3 New South Wales 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 s.93F of the EP&A Act.

## 1.2 Project Objectives

Coal & Allied has a long term commitment to the preservation of the environment in the Hunter Valley and has had an involvement in the region for over 150 years. The company is pleased to be able to contribute to the establishment and realisation of the long sought after conservation corridors between Watagans Range to Stockton Bight and the Wallarah Peninsula through 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 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 proposed dedication of land to the NSWG for conservation corridors through a VPA;
- 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;
- Incorporate 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);
- Meeting market demands for land and housing products and employment generating land through desirable product mix; and
- Maintaining and enhancing Coal & Allied's reputation in the Lower Hunter community.

## 1.3 Value of Project

The estimated capital investment value of the proposal for Catherine Hill Bay (Middle Camp) is \$57,001 million. Refer to **Appendix D** - Quantity Surveyor advice.

## 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 and conservation for Catherine Hill Bay (Middle Camp) 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 identified for proposed conservation land dedication has regional ecological value that provides substantial areas of contiguous vegetation with surrounding reserves/forests, and can enhance the vitally important conservation corridors, notably the long sought after Wallarah Peninsula conservation corridor.

The land identified for proposed development is located in areas which are less physically constrained and adjoins the existing township at Catherine Hill Bay (Middle Camp).

### 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 to accompany the Concept Plan for the proposed development and the requirements of the State Significant Study.

A Concept Plan was prepared with the PEA for the site to show the proposed development as well as a plan showing the proposed areas of conservation and development for the site.

On 15 July 2010, the Minister for Planning determined that the development proposal for Catherine Hill Bay (Middle Camp) is considered to be a Major Project under Part 3A of the EP&A Act. The Minister also determined to consider the Catherine Hill Bay (Middle Camp) 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 for Planning also authorised submission of a Concept Plan for the site. 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.

On 19 August 2010, the Department of Planning (DoP) issued Director-General's Environmental Assessment Requirements (DGEARs) for the site for preparation of a Concept Plan. The DGEARs are provided in **Appendix E**.



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

Table 1 – Director General's Environmental Assessment Requirements

Requirement	Response
<b>General Requirements.</b>	
The Environmental Assessment (EA) must include:	
(1) An executive summary.	See beginning of Concept Plan
(2) A detailed description of the project including the: <ul style="list-style-type: none"> <li>(a) strategic justification for the project;</li> <li>(b) alternatives considered; and</li> <li>(c) various components and stages of the project in detail (and should include infrastructure staging).</li> </ul>	See Section 4
(3) A consideration of the following with any variations to be justified: <ul style="list-style-type: none"> <li>(a) all relevant State Environmental Planning Policies (with particular regard to <i>SEPP Major Development 2005</i>, <i>SEPP 44</i>, <i>SEPP 55</i>, <i>SEPP 71</i>, <i>SEPP (Infrastructure) 2007</i>, and <i>SEPP (Mining, Petroleum Production and Extractive Industries) 2007</i>;</li> <li>(b) applicable planning instruments; and</li> <li>(c) relevant legislation and policies, including the <i>NSW Coastal Policy 1997</i>, <i>Lower Hunter Regional Strategy</i>, and <i>Lower Hunter Regional Conservation Plan</i>.</li> </ul>	See Section 5
(4) A consideration of the proposal and cumulative impacts in relation to the development of other future urban land identified in the <i>Lower Hunter Regional Strategy</i> .	See Section 5.3 and 5.4
(5) A draft Statement of Commitments, outlining specific commitments to the project's management, mitigation and monitoring measures with a clear identification of the timing and responsibility for these measures.	See Section 7 and <b>Appendix C</b> .
(6) A conclusion justifying the project, taking into consideration the environmental impacts of the proposal, mitigation measures to address these impacts, the cumulative impacts of the proposal, the suitability of the site, and whether or not the project is in the public interest.	See Sections 8 and 9
(7) An outline of development contributions applicable to the site between <ul style="list-style-type: none"> <li>(i) the Proponent and Lake Macquarie Council;</li> </ul>	See Section 7 and Statement of Commitments at <b>Appendix C</b> to this EA report.

Requirement	Response
<p>(ii) the Proponent and State Government agencies for State infrastructure in accordance with <i>Planning Circular PS 07-018</i>; and</p> <p>(iii) if relevant, any public benefits to be provided with the development.</p>	
(8) A signed statement from the author of the EA certifying that the information contained in the report is neither false nor misleading.	Included in EA.
(9) A report from a quantity surveyor identifying the correct capital investment value for the concept plan and the four project applications.	See <b>Appendix D</b>
<p><b>Key Assessment Criteria</b></p> <p>The Environmental Assessment must address the following key issues:</p>	
<p><b>Urban design and built form –</b></p> <p>(1) Provide an assessment against the <i>Coastal Design Guidelines for NSW</i> and <i>NSW Coastal Policy</i> (1997).</p> <p>(2) Propose development controls and design guidelines for the site which ensure that the future development responds to the site location appropriately.</p> <p>(3) Provide details of the proposed treatment of all public domain areas.</p> <p>(4) Identify opportunities to link the proposed development to the existing urban areas, including through appropriate pedestrian and cycleway connections.</p> <p>(5) Address the principles of Crime Prevention Through Environmental Design.</p>	See Section 6.1 and Urban Design Guidelines prepared by AJ+C Architects at <b>Appendix B</b>
<p><b>Coastal Foreshore and Public Access</b></p> <p>(1) Outline measures to protect and enhance existing public access through the site to and along the foreshore and provide, where appropriate, new opportunities for public access that is compatible with the natural attributes of the coastal foreshore.</p>	See Section 6.2
<p><b>Flora and Fauna Impact</b></p> <p>(1) Identify the potential impact of the development on threatened species and their habitats having regard to the Draft Threatened Species Assessment Guidelines (DEC July 2005), and outline measures proposed to avoid or mitigate impacts on threatened species and their habitat.</p> <p>(2) Demonstrate that biodiversity impacts can be appropriately offset in accordance with the NSW Government's policy for 'improvement or maintenance' of biodiversity values.</p> <p>(3) Address the impact of the development on wetlands identified under State Environmental Planning Policy no. 14 – Coastal Wetlands.</p> <p>(4) Consider and identify measures to manage interface impacts on land proposed to be dedicated for</p>	See Section 6.3 and Ecological Assessment Report prepared by RPS (Prev RPS Harper Somers O'Sullivan) at <b>Appendix F</b> .

Requirement	Response
<p>conservation.</p> <p>(5) Provide an assessment of the cumulative impacts on biodiversity of the proposed development, and other development proposed in the area.</p> <p>(6) Demonstrate consistency with the approval granted by the Commonwealth Department of Environment, Water, Arts and Heritage under the Environmental Protection and Biodiversity Conservation Act, 1999.</p>	
<p><b>Traffic and Transport</b></p> <p>(1) Prepare a Traffic Study in accordance with RTA's Guide Traffic Generating Developments that includes (but is not limited to) the following:</p> <ul style="list-style-type: none"> <li>(a) an identification of all relevant vehicular traffic routes and intersection for access to/from the area;</li> <li>(b) current traffic counts for all of the above traffic routes and intersections;</li> <li>(c) the anticipated vehicular traffic generated from the proposed development and associated trip distribution on the road network;</li> <li>(d) consideration of the traffic impact on the existing and proposed intersections and the capacity of the local and classified road network to safely and efficiently cater for the additional vehicular traffic generated;</li> <li>(e) an analysis of the cumulative traffic and transport impacts of the development taking into consideration other proposed developments;</li> <li>(f) details of necessary road network infrastructure upgrades required to maintain existing levels of service both on the local and classified road network;</li> <li>(g) An intersection analysis, using SIDRA or similar traffic model, as well as a micro simulation model to determine the need for intersection and mid block capacity upgrades and to ensure traffic signal coordination;</li> <li>(h) proposed pedestrian and cycleway access within and to the site that connects to all relevant transport services, nearby settlements and other jey off-site locations having regard to the NSW Planning Guideliens for Walking and Cycling (2004, and the NSW Bike Plan (2010)</li> <li>▪ timing of delivery of proposed transport infrastructure including road and intersection upgrades, pedestrian and cycle paths, and public transport infrastructure; and</li> <li>▪ consideration of impacts on existing property access.</li> </ul> <p>(2) Assess the proposal against the objectives of the Integrating Land Use and Transport policy package.</p>	<p>See Section 6.4 and Traffic Impact Assessment prepared by Hyder at <b>Appendix G</b>.</p>
<p><b>Noise Impacts</b></p> <p>(1) Assess noise impacts in accordance with the Environmental Criteria for Road and Traffic Noise (EPA, 1999), and outline any proposed measures to mitigate or manage impacts.</p>	<p>See Section 6.5 and Acoustic Report prepared by Renzo Tonin &amp; Associates at <b>Appendix P</b>.</p>
<p><b>Mining Activities</b></p> <p>(1) Identify the requirements of previous consents, approvals, lease arrangements, and current legal and financial responsibilities in relation to the mine operation</p>	<p>See Section 6.6 and Geotechnical Assessment prepared by Douglas Partners at <b>Appendix H</b>.</p>

Requirement	Response
<p>and closure and the impact approvals will have on these arrangements;</p> <p>(2) 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;</p> <p>(3) Identify measures that would be implemented to avoid, minimise or remediate potential subsidence issues encountered on the site.</p> <p>(4) Investigate the impacts of future mining activities.</p>	
<p><b>Heritage</b></p> <p>(1) Provide an archaeological assessment and heritage impact statement in accordance with NSW Heritage Office guidelines. The statement should assess the impacts of the application on the area and any significant components of the site, including indigenous heritage.</p> <p>(2) Provide an assessment in accordance with the draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005).</p>	See Section 6.7 and Heritage Impact Assessment prepared by ERM at <b>Appendix I</b> .
<p><b>Water Quality</b></p> <p>(1) Provide appropriate detailed information on the drainage and stormwater management measures to be incorporated on site including: on site stormwater detention; water sensitive urban design measures; and drainage infrastructure.</p> <p>(2) Identify future management arrangements for the proposed stormwater infrastructure, including where relevant, in consultation with Council.</p> <p>(3) Assess the impact of the proposal on the hydrology of the site and surrounding area including impacts on surface water, groundwater, the sea or any nearby beach, or an estuary, a coastal lake, a coastal creek or other similar body of water, or a rock platform.</p>	
<p><b>Visual</b></p> <p>(1) Address and provide mitigation measure in response to potential visual impacts of the project in the context of adjoining development, impact on any heritage items (on-site or in the vicinity) and the development as viewed from publicly accessible areas and the natural environment.</p>	See Section 6.10.
<p><b>Bushfire</b></p> <p>(1) Identify how the proposed concept plan addresses the requirements of Planning for Bush Fire Protection and Australian Standard 3959 (Building in Bush Fire Prone Areas).</p> <p>(2) Outline ongoing management arrangements of any proposed APZs, including through negotiation with relevant agencies where APZs are proposed to be located on land to be dedicated for a public purpose.</p>	See Section 6.11 and Bushfire Threat Assessment prepared by RPS <b>Appendix J</b> .
<p><b>Infrastructure and Utilities</b></p> <p>(1) Identify and address the impacts of additional demand created by the development on existing infrastructure including public transport, open space,</p>	See Section 6.12 and Infrastructure Study prepared by Cardno at <b>Appendix K</b> .

Requirement	Response
<p>and recreation facilities, retail facilities and other social and community facilities. Identify the need for additional facilities through negotiation with State and local government agencies. This should inform the scope of proposed State and local infrastructure contributions.</p> <p>(2) Prepare a utility and infrastructure servicing report and plan for the Site that includes (but is not limited to):</p> <ul style="list-style-type: none"> <li>▪ Identification and assessment of the capacity of existing utility and infrastructure servicing the site; and</li> <li>▪ Identification and assessment of all necessary augmentation works to service the site and whether these works can sustain this and other development foreshadowed for the Wallarah Peninsula shown in the Lower Hunter Regional Strategy.</li> </ul>	<p>See Section 6.8.1 and Hydrology/Stormwater Management Study prepared by GHD at <b>Appendix L</b>.</p>
<p><b>Ecologically Sustainable Development</b></p> <p>(1) Demonstrate how the development will commit to ESD principles in design, construction and ongoing operation phases.</p> <p>(2) Demonstrate that the development is capable of achieving the requirements of BASIX.</p>	<p>See Section 6.13 and Sustainability Report prepared by Ensign at <b>Appendix M</b>.</p>
<p><b>Site preparation works</b></p> <p>(1) Identify the likely extent of site preparation works with respect to cut and fill activities to cater for the proposed residential development. In particular, assess how the proposed built form will respond to final levels of the site and demonstrate consideration to minimise the extent of cut and fill required.</p>	<p>See Section 6.14 and Geotechnical Assessment prepared by Douglas Partners at <b>Appendix H</b>.</p>
<p><b>Subdivision</b></p> <p>(1) 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.</p>	<p>See Section 6.18.</p>
<p><b>Future Public Land</b></p> <p>(1) Identify any proposed open space or conservation land, and arrangements for ownership and control, management and maintenance, funding, public access, revegetation and rehabilitation works and bushfire management.</p>	
<p><b>Consultation Requirements</b></p> <p>An appropriate and justified level of consultation should be undertaken. Where consultation has already been undertaken this should be documented in the EA. Consultation must be undertaken with the following relevant agencies.</p> <p>(a) Agencies and other authorities:</p> <ul style="list-style-type: none"> <li>▪ Lake Macquarie Council</li> <li>▪ Wyong Shire Council</li> <li>▪ Hunter Water</li> <li>▪ Catchment Management Authority - Hunter – Central Rivers</li> <li>▪ NSW Department of Industry and Investment</li> <li>▪ NSW Department of Environment, Climate Change</li> </ul>	<p>See Section 3.</p>



Requirement	Response
<ul style="list-style-type: none"> <li>and Water;</li> <li>▪ NSW Office of Water</li> <li>▪ Transport NSW</li> <li>▪ Roads and Traffic Authority</li> <li>▪ NSW Emergency Service agencies, namely NSW Police Department, the Ambulance Service of NSW, the State Emergency Service, NSW Rural Fire Service, and NSW Fire Brigades;</li> <li>▪ All utility providers;</li> <li>▪ Relevant Local Aboriginal Land Councils.</li> </ul>	

## 1.6 Proponent and Project Team

The proponent of the development is 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: AJ+ C Architects;
- Town Planning: Urbis;
- Social Planning: Urbis;
- Flora & Fauna (Biodiversity): RPS;
- Bushfire Risks: RPS;
- Contamination, Geotechnical, Mine Subsidence and Groundwater: Douglas Partners Pty Ltd;
- Hydrology, Stormwater Management, Flooding and Climate Change: GHD;
- Aboriginal and Cultural Heritage: ERM;
- Traffic & Transport: Hyder;
- Acoustic: Renzo Tonin and Associates Acoustic Consultants;
- Civil (infrastructure) Engineering: Cardno;
- Surveyors: Monteath & Powys Pty Ltd Consulting Surveyors & Planners;
- ESD: Ensign;
- Landscape: Aspect Studios; and
- Economic: Sphere.

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

## 2 Site Description

### 2.1 Regional Context

Catherine Hill Bay (Middle Camp) is positioned within the Lake Macquarie Council Area and is located approximately 90km from Sydney and 30km from Newcastle.

Swansea, located approximately 9 kilometres north of the site, is the closest town centre, providing shopping and business services. Morisset, to the south west, is identified as an emerging major regional centre which provides a wider focal point of employment, business, higher order retailing, professional services and other subregional functions.

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 relevantly to the Catherine Hill Bay (Middle Camp) site the Wallarah Peninsula Corridor. This is an extensive corridor of land with high environmental value. The corridors align with existing public reserves, some of which are proposed to be expanded under the LHRS and LHRCP.

Situated between the Wallarah National Park to the north and Munmorah State Conservation Area to the south, the Catherine Hill Bay (Middle Camp) site forms part of the Wallarah Peninsula Conservation Corridor. The LHRS and LHRCP identify that the Wallarah Peninsula Corridor is to be conserved and protected to provide a natural break between the Central Coast and the Lower Hunter.

The Coal & Allied owned land at Catherine Hill Bay (Middle Camp) that is proposed to be dedicated for conservation will play a significant role in securing in perpetual public ownership the long sought-after Wallarah Peninsula conservation corridor, which will provide a green inter-regional buffer separating the Lower Hunter from the Central Coast.

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.

Figure 2 – Regional Context in Lower Hunter

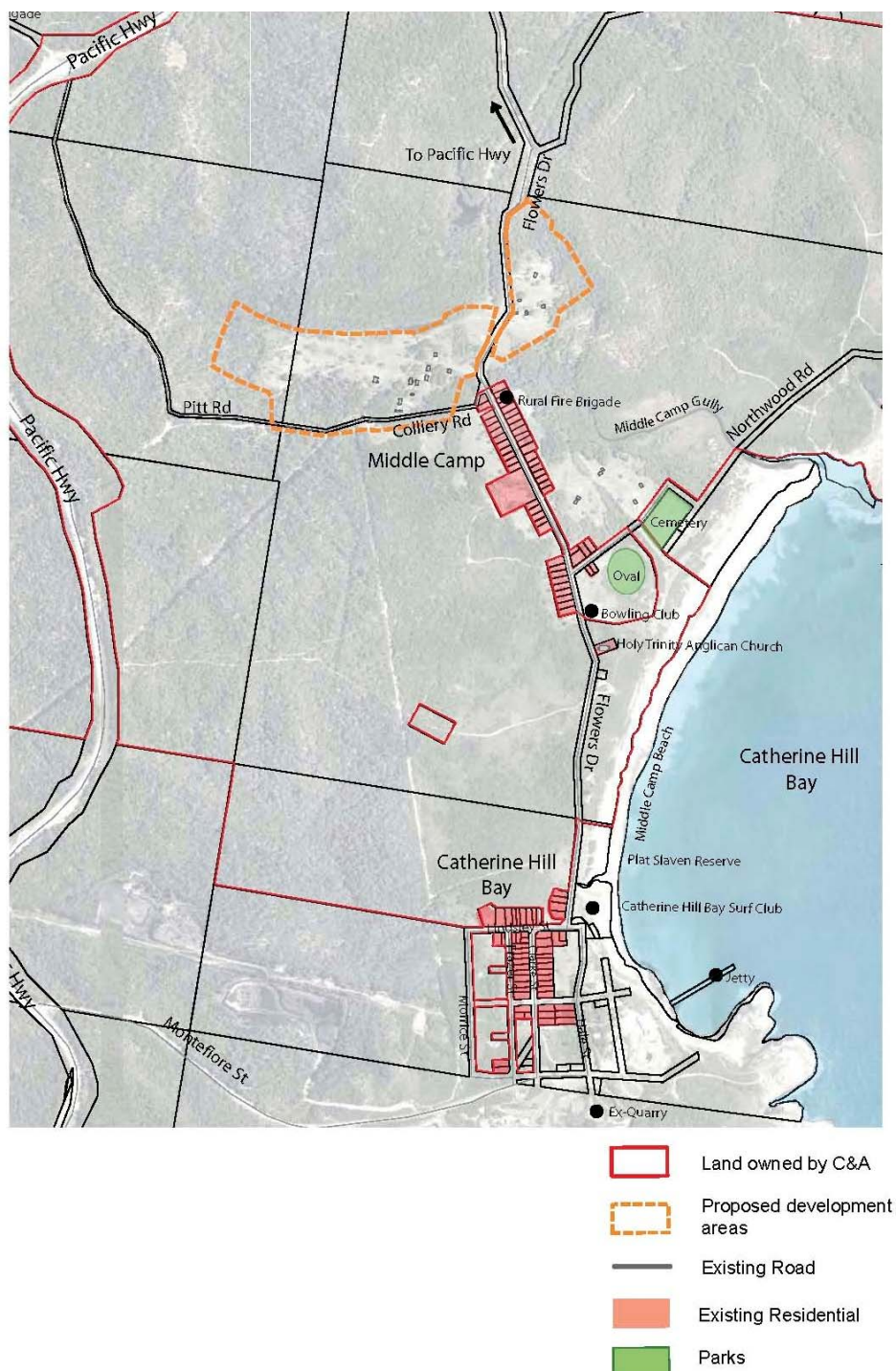


## 2.2 Local Context

Catherine Hill Bay is located between the Pacific Highway and the Pacific Ocean and comprises two small townships: Middle Camp and Catherine Hill Bay. In total, Catherine Hill Bay has an estimated population of 153 persons and represents a small and relatively undeveloped community located in natural surrounds.

The proposed Concept Plan relates to land within Middle Camp, accessed from Pacific Highway and, Flowers Drive from the north or Montefiore Street from the south.

Figure 3 – Local Context



Currently, Middle Camp is comprised of approximately 50 residential dwellings along Flowers Drive, the central spine between Middle Camp and the Catherine Hill Bay township to the south.

The natural topography contributes to the distinctive character of Catherine Hill Bay area as follows:

- The dramatic vista appreciated on arrival to the Catherine Hill Bay area.
- The general grassed setting to existing buildings within bushland which has occurred predominantly in the lower more sheltered areas.
- The varied and dramatic juxtaposition of landscapes which range from exposed ridges and cliff forms to sheltered sloping land.

The distinct character of the built environment is observed through:

- The scale of the town dominated by the natural topography.
- The repetitive and ordered series of houses along Flowers Drive and the scattered random built houses stepping up and down the hills.
- The character of the dwellings along Flowers Drive that are modest, simple forms of predominantly timber cladding and fibro with metal roofs.

The existing infrastructure at Catherine Hill Bay includes:

- Water – There is no existing water infrastructure in Catherine Hill Bay.
- Sewer – There is no existing sewer infrastructure at Catherine Hill Bay. Each lot is serviced by either a septic tank or pump out facilities.
- Energy – Existing zone substations at Swansea and Lake Munmorah service the existing residents at Catherine Hill Bay. Energy Australia has indicated that these zone substations will not have the capacity to service the new development area.
- Gas – There are no existing gas mains at Catherine Hill Bay (Middle Camp), with the closest gas main at Swansea approximately 8kms north of the site.
- Telecommunications – Telstra standard telephony service can be provided to the proposed developed areas.
- Transport – access into the area is primarily from the Pacific Highway arterial and Flowers Drive from the north or Montefiore Street from the south.
- Social infrastructure – there is a small number of social infrastructure services, limited to the Anglican Church and Cemetery, two club facilities and a hotel in the centre of the existing township.
- Catherine Hill Bay is serviced by an infrequent private bus service, from Lake Haven to Charlestown and Charlestown return via Gwandalan and Nords Wharf.

## 2.3 The Site

The subject Concept Plan relates to land within the Middle Camp township of Catherine Hill Bay. The Middle Camp site is owned by Catherine Hill Bay Land Pty Ltd and Coal & Allied Operations Pty Ltd, both wholly owned subsidiaries of Coal & Allied Industries Ltd (Coal & Allied) and is legally described as follows:

- Lot 202 DP 702669;
- Lot 2030 DP 841175;
- Part Lot 6 DP 746077;
- Part Lot 5 DP 736170;
- Part Lot 12 DP 854197;
- Lot 223 DP 1102989 (note that this title reference has superseded Lot 22 DP 593154 following a recent road widening acquisition in favour of Lake Macquarie Council);
- Lot 16 DP 755266; and
- Lots 9 and 10 Sec D DP 163.

The Catherine Hill Bay (Middle Camp) site is approximately 568.93ha in area and includes all the land owned by Coal & Allied located east of Pacific Highway. The whole of the site forms part of the Concept Plan for the purposes of excising the proposed conservation lands from the proposed developable lands.

The site is well vegetated by natural bushland communities with some areas around Middle Camp exhibiting weed infestations. The proposal provides two developable areas. These two areas contain approximately 28.2ha of developable land, most of which has been cleared as a consequence of previous land uses.

The key aspects of the site are:

- The site is currently zoned 7(1) Conservation (Primary) Zone and 7(4) Environmental (Coastline) Zone, along the eastern edge of the site pursuant to the Lake Macquarie LEP 2004. The proposed developable area is confined to the 7(1) zoned portion of the Coal & Allied lands.
- There are several existing houses owned by Coal & Allied on the site and Coal & Allied's ownership will continue, however some of the houses will be demolished.
- The proposed developable sites are located on relatively flat to moderate sloping land.
- Several creeks run through the site to the Middle Camp Gully and discharge at the Middle Camp Beach.
- Access to Middle Camp is from the Pacific Highway and Flowers Drive from the north and Montefiore Street from the south.



Figure 4 – Images of the Site and Surrounds



Picture 1 – Flowers Drive, looking south upon approach into Middle Camp township



Picture 2 – Northern end of the Middle Camp township at junction of Flowers Drive and Colliery Road



Picture 3 – Middle Camp Beach, Catherine Hill Bay



Picture 4 – Flowers Drive and associated dwellings within the Middle Camp township



Picture 5 – View towards Area A looking north along Flowers Drive



Picture 6 – Eastern boundary of Area B looking south along Flowers Drive



Picture 7 – Former industrial building and land with Area B

## 2.4 Opportunities and Constraints

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

### 2.4.1 Opportunities

- The Coal & Allied land provides for opportunity for development to meet the anticipated future housing needs.
- Middle Camp comprises discreet areas that have been cleared of vegetation or have vegetation regrowth suitable for development.
- Opportunity for open space areas on lands constrained by past mining activities.
- Catherine Hill Bay's coal mining history contributes to the European historic heritage value of the town.
- Reinterpretation of key heritage and archaeological items to promote and enhance the historic character of Catherine Hill Bay.
- Demands associated with additional population provide opportunity for new infrastructure and community services and facilities in the locality.
- Enhance the economic vitality of the existing village where the population is progressively declining.

### 2.4.2 Constraints

- Potential development opportunities will be impacted by the risk of mine subsidence and potholes occurring as a result of former mining in the Wallarah Seam.
- High heritage significance of the town and impacts upon key heritage items. Heritage items within the town include the former Catherine Hill Bay Colliery Railway and the Flowers Drive Streetscape.
- Presence of archaeological sites including European and potential Aboriginal sites. Archaeological items include the potential moderate Aboriginal archaeological area located along the Middle Camp Gully; and the Wallarah East Pit Potential Archaeological Site.
- Middle Camp Gully and associated creeks extend through the site and potential flooding and stormwater management considerations.
- Traffic impacts on the amenity and ambience of the historic township.



- The need for services infrastructure. No significant service delivery problems have been identified, although it is cost prohibitive to provide reticulated natural gas to the site.
- Impact of development upon surrounding areas of ecological significance.
- The site is identified as bushfire prone land.

### 2.4.3 Design Considerations

- Minimise the impact of the proposed dwellings by maintaining existing contours and natural features where possible.
- Development should seek to minimise the visual impact to coastal foreshores and heritage settings.
- Minimise impacts on the historic nature of the existing village by the creation of small precincts. Maintain the heritage streetscape of Middle Camp and Flowers Drive. Enhance recognition of the Heritage Railway.
- Riparian corridors along Middle Camp Gully and associated creeks will be required to be established.
- Integrate existing houses with the new subdivision.
- Design future subdivision layout so that mining potholes are located outside of potential building footprints.
- Asset protection zones (APZ) establishes a bushfire protection area that requires maintenance. The area required for APZs is determined by assessment of the surrounding vegetation and topography. No habitable structures are allowed within APZs.
- Water quality can be managed through water sensitive urban design.
- Traffic noise from the Pacific Highway is not predicted to adversely impact the site.
- Consider and mitigate impacts on existing Middle Camp residents.
- Protection of riparian corridor areas by appropriate setbacks to water bodies.
- Provide public access through the proposed new development, conservation and archaeological heritage areas to the foreshore.
- Proposed dedication of conservation land. Provision of 526.58 ha of 'conservation land' as an extension of the Wallarah National Park to the north and Munmorah State Conservation Area to the south.
- Provide for low scale coastal village development that is integrated with the natural landscape and setback appropriately from the coastal foreshore.
- Maintain and enhance the natural landscape setting of Catherine Hill Bay.
- Maintain dwellings currently in the ownership of Coal & Allied which have heritage value.

### 3 Strategy for Consultation

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

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

Briefings of stakeholders and the community will continue throughout the statutory process in accordance with the requirements of the DGEARs issued on 19 August 2010.

The final concept plan has been shaped by a series of community consultation initiatives undertaken by Coal & Allied to ensure that the views of the community were considered in the process. The consultation included:

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

The design charette process drew together key government, community and project stakeholders to make recommendations to inform the final Concept Plan for the Catherine Hill Bay (Middle Camp) site.

#### 3.1 Overview

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

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

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

The tasks completed to implement this plan include:

- Establishing and maintaining a project database;
- Establishing a community information line (1800 727 745);
- Establishing and maintaining a project website (via the Coal & Allied website);
- Community briefings (three 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 masterplans;
- Community newsletter, newspaper advertising and media releases; and
- Community input into the regional forum and charettes.
- Community information sessions.

## 3.2 Community Engagement Strategy and Community Consultation Process

### 3.2.1 Public Meetings

Three public meetings were held in 2006. Each meeting featured a presentation outlining the broad overview of the project, highlighting the proposed development lands and the conservation areas and the planning process. The meetings were held at:

- Minmi Town Hall, 14 November 2006;
- Catherine Hill Bay, 17 November 2006; and
- Gwandalan/Summerland Point – 11 December 2006.

### 3.2.2 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, Wyong Council, Newcastle Council, Koombahtoo Aboriginal Lands Council, Mindaribba Aboriginal Lands Council, Awabakal Aboriginal Lands Council, Bahtabah Aboriginal Lands Council, Darkingung Aboriginal Lands Council, Nords Wharf Scouts, Hunter Economic Development Corporation, Awarbukal Cultural Resource Association, Hunter Business Chamber, Hunter Community Environment Centre, Landcare (Hunter), Mine Subsidence Board, Catherine Hill Bay Progress Association, Minmi Progress Association, National Parks Association, Newcastle Wilderness Society, Hunter Chapter, Property Council and Green Corridor Coalition.

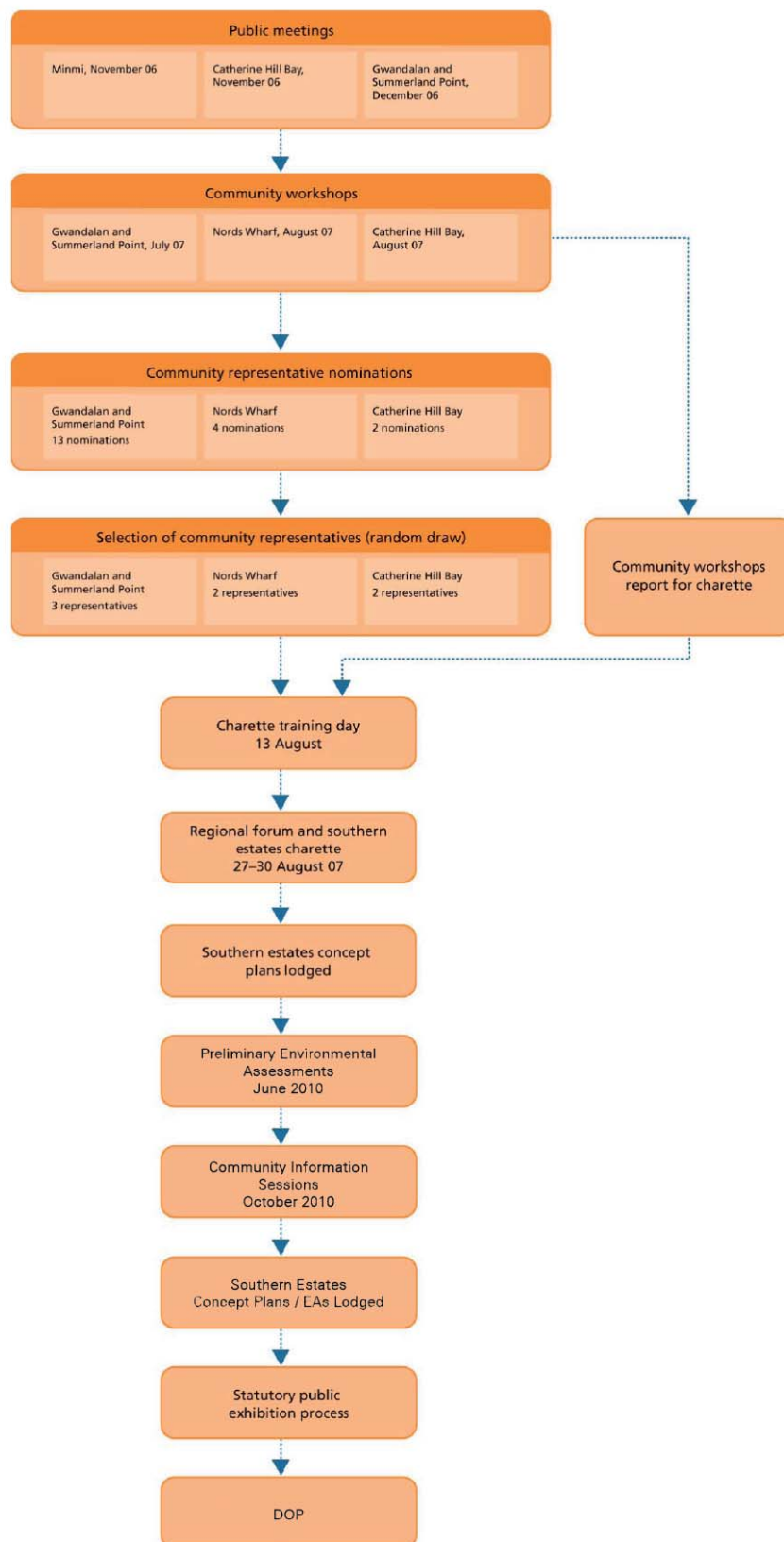
Some of the key messages received from these stakeholder meetings included reinforcing the importance of achieving the conservation corridors and the high biodiversity areas. A preference for higher densities rather than low-density urban sprawl was also put forward. Infrastructure and transport options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

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

### 3.2.3 Community Workshops

In July and August 2007 a series of community workshops were held for the residents of Gwandalan/Summerland Point, Catherine Hill Bay and Nords Wharf. The figure overleaf outlines the community workshop process.

Figure 5 – Community Workshop Process



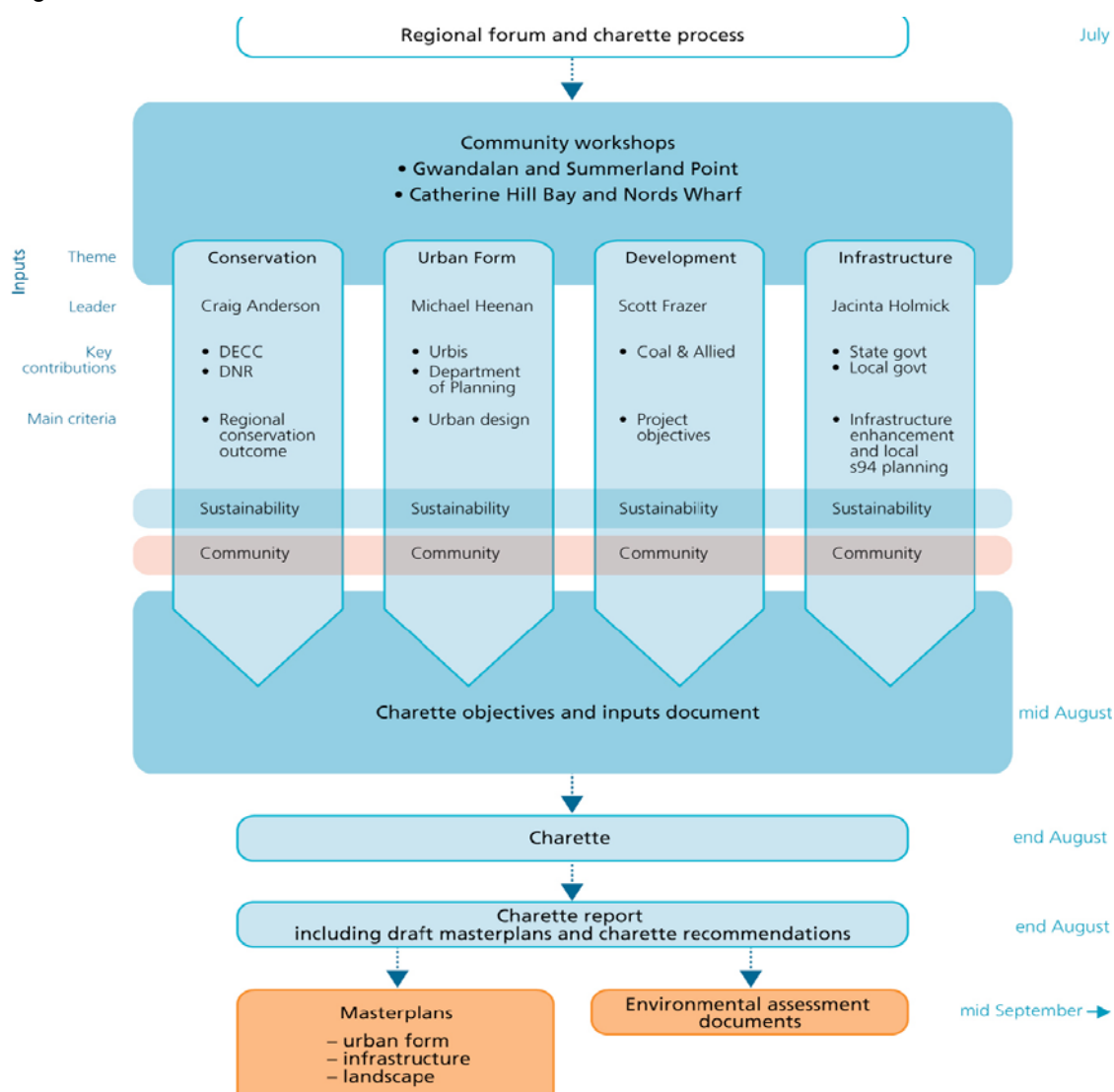
### 3.3 Regional Forum and Design Charette

The Lower Hunter lands project will contribute a number of economic, environmental and social benefits to the Lower Hunter region. Equally, the masterplanning and development process will need to address local issues and needs for each estate. To address these regional and local aspects, Coal & Allied 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 southern estates are Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan. 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 masterplans for the estates.

#### 3.3.1 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 6 – Charette Model



### 3.3.2 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. A complete list of regional forum attendees is included in Section 3.4 of this report.

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. Coal & Allied has provided a response to questions on the Lower Hunter lands project page of the Coal & Allied website ([www.coalandallied.com.au](http://www.coalandallied.com.au)). The aim of the Charette was to provide a regional context to the masterplanning work.

### 3.3.3 Southern Estates Design Charette

Following the regional forum, a separate three day charette was held, from 28 to 30 August 2007 for the southern 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 southern estates charette involved a total of 58 participants. Section 3.4 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.
- Industry experts.
- Consultants and technical specialists.

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

The Southern Design Charette and regional forum provided Coal & Allied with a series of recommendations for primary input to future concept plan applications. The outcomes of the regional forum and charette were:

- A recommended statement of commitments for each of the southern estates, namely Catherine Hill Bay (Middle Camp), Gwandalan and Nords Wharf.
- Options for concept plans for each estate including details of conservation, landscape, urban form and infrastructure.
- Priority initiatives to be funded under Coal & Allied's \$5 million southern estates allocation (beyond statutory requirements) as identified during the charette.

### 3.4 Agencies and Authorities

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

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

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

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

It is noted that representatives from the NSW Department of Natural Resources, NSW Department of Primary Industries, NSW Heritage office, NSW Police Department, the State Emergency Service, NSW Rural Fire Service and all utility providers were invited to attend the Regional Forums but could not attend. Consultation with these representatives and relevant adjoining landowners has been undertaken separately as detailed in Section 1.6.3.

### 3.4.1 Design Charette

Representatives from each of the communities of Catherine Hill Bay, Gwandalan, Nords Wharf, the local Aboriginal communities and representatives of environmental groups such as URGE and the Green Corridor Coalition were also invited to participate in the Design Charette process. The following participants attended the three (3) day Southern Estate Design Charette held on 28 -30 August 2007.

.Community representatives – Catherine Hill Bay;

- Community representatives – Nords Wharf;
- Community representatives – Gwandalan;
- URGE;
- Board Member, Awabakal Corporation;
- Environmental Planner, Lake Macquarie City Council;
- CEO, Awabakal Local Aboriginal Land Council;
- Chairperson, Awabakal Local Aboriginal Land Council;
- CEO, Bahtabah Local Aboriginal Land Council;
- Conservation planning officer, Department of Environment and Climate Change;
- Nords Wharf Progress Association representative;
- Catherine Hill Bay Progress Association representative, heritage consultant;
- Chairperson, Guringai Traditional Land Owners Corporation;
- Trainee planner, Wyong Council;
- Manager land use planning, Wyong Council;
- Hunter Valley Research Foundation;
- Civil engineer, development assessment, Lake Macquarie City Council;
- Green Corridor Coalition; and
- Central Coast Public Health Unit, NSW Health.



In addition the following consultation has been undertaken:

- Over the past 3 years Coal & Allied has undertaken extensive consultation with the Department of Planning (DOP) and Department of Environment, Climate Change and Water (DECCW) relative to its surplus land holdings in the Lower Hunter. Catherine Hill Bay forms part of that total land holding. Negotiations with the Minister for Planning, DOP, and DECCW together with the results of the GIS constraints mapping has resulted in the 28.2Ha being identified as being suitable for residential development;
- Hunter Water as detailed in the Infrastructure Report prepared by Cardno;
- 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, Lake Macquarie Council 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;
- Mine Subsidence Board as detailed in the Preliminary Contamination, Geotechnical and Mine Subsidence Assessment prepared by Douglas Partners; and
- Lake Macquarie Council, NSW Health and Department of Education and Training as detailed in the Social Infrastructure Report prepared by Urbis.

### 3.5 Adjoining Landowners

Co-ordination meetings between Coal & Allied, Rose Group and Stockland have been held.

The main purpose of the meetings was to establish a joint working party to deal with the following :

- Cumulative traffic impacts of the proposed development.
- Cumulative infrastructure services requirements for the proposed developments.
- Status of discussions and negotiations with the various supply authorities with regards to locations, timing and developer charges in relation to major infra-structure upgrades and/or amplifications.
- Timing of the respective proposed developments.
- Sharing of construction and/or funding of any items identified in the relevant statutory contributions plans.

Joint meetings and presentations between Rose Group, Stockland and Coal & Allied in relation to various authorities, including Local Councils, RTA, Energy Australia, Hunter Water and Telstra have been undertaken to ensure that the cumulative impact of the proposed developments is managed and controlled in an appropriate fashion.

### 3.6 Community Information Sessions and Community Reference Group

#### 3.6.1 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 a number of community information sessions were conducted in October 2010.

The following table details the information session schedule:

Table 2 – Information Session Times

Date	Time	Location
Thursday 14 October 2010	3.30 to 6.30pm	Gwandalan Community Hall
Friday 15 October 2010	4.00 to 7.00pm	Nords Wharf Community Hall
Saturday 16 October 2010	9.00 to 12noon	Catherine Hill Bay Surf Club

The purpose of the sessions was to:

- (a) raise awareness of the plans being submitted
- (b) provide an overview of the process to lodge the Environmental Assessment and State Significant Site studies
- (c) highlight revisions to previous concept plans
- (d) provide an avenue for personal interactions with impacted communities
- (e) provide details of the statutory submission process.

A summary of the Community Information Sessions is included at **Appendix N**.

#### 3.6.2 Community Reference Group

Membership of the CRG was finalised by DoP. The CRG represent a diverse range of stakeholder and it is therefore assumed that the members of the CRG may hold diverse views. Members were invited on the basis of having demonstrated interest or links to the site, prior involvement with the planning process or connections with the local community. Specifically the CRG membership comprises the following groups, business and individuals:

- Wyong Shire Council
- Lake Macquarie City Council
- Catherine Hill Bay Progress Association
- Central Coast Community Environment Network
- Gwandalan Progress Association
- Swansea RSL
- Invited local residents.

The CRG provides a forum to:

- Provide information and a forum to enable a diverse range of stakeholders to make a considered response to the proposal and prepare informed submission to the assessment process; and
- Provide an opportunity for the Department of Planning to understand and consider stakeholder views, issues and comments as made by members of the CRG through the assessment process.

### Meetings

The CRG met on four occasions to coincide with key steps in the proposal's planning assessment process.

### 3.6.3 Additional Consultation

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

Table 3 – Additional Agency Consultation

Agency	Summary
Lake Macquarie City Council	Information session at LMCC on 8 November 2010.
Wyong Shire Council	Information session at WSC on 2 November 2010.
Hunter Water	As detailed in Section 4 of the Concept Plan Infrastructure Report plus various other ongoing correspondence/meetings.
CMA – Hunter; Central Rivers	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
NSW I&I	Southern Estates 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	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
RTA	Meeting on 17 September 2010 plus various other ongoing correspondence /meetings.
NSW Police	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
Ambulance NSW	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
SES	Southern Estates Regional Forum and Charette
Rural Fire Service	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
NSW Fire Brigades	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
All Utility providers	Southern Estates Regional Forum and Charette plus correspondence

	received following these sessions.
Relevant Local Aboriginal Land Council	As detailed in section 3.4.1

### 3.7 Strategy for Future Consultation

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

DoP has provided an undertaking to the CRG that a further meeting will be held during the public exhibition period.

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

Briefings of stakeholders will continue through out the statutory process.



## 4 Development Description

### 4.1 Concept Plan

The Concept Plan for a proposed residential subdivision and conservation land transfer applies to the entire 569ha Catherine Hill Bay (Middle Camp) site. The key parameters for the proposed development of the site are as follows:

- Dedication of 525.87ha of conservation land to the NSWG that is identified in the LHRS and LHRCP, comprising approximately 93% of the Catherine Hill Bay (Middle Camp) site.
- Dedication of 2.3ha of public open space to Lake Macquarie Council.
- Two areas developable for residential purposes identified under the Concept Plan are located to the north of the Middle Camp heritage township,:
  - Developable area A (northeast) = 7.32ha.  
Area A (Sawmill Camp) is located north of the existing settlement on the eastern side of Flowers Drive in an existing cleared area. It is proposed to be set back behind a buffer of proposed vegetation;
  - Developable area B (northwest) = 20.88ha.  
Area B (Colliery Hamlet) is located to the west of Flowers Drive and north west of the existing settlement. Development is proposed to be set back from Flowers Drive behind a buffer of proposed vegetation.
- A dwelling yield of 222 dwellings (including 57 integrated housing lots) and 3 super lots over 28.2ha.
- Retention of 12.21ha of land to maintain the existing dwellings in Coal & Allied ownership.
- Indicative development staging.
- The provision of associated infrastructure.
- Torrens title subdivision of the Catherine Hill Bay (Middle Camp) site. The Torrens title subdivision and boundary realignment of Coal & Allied land will enable the following:
  - transfer of land 525.87ha in area that is owned by Coal & Allied to be excised and to be dedicated to NSWG for conservation land.
  - transfer of land 2.3ha in area that is owned by Coal & Allied, located between the cemetery and the oval and including the adjacent car park, to Lake Macquarie City Council.
  - enable land 12.21ha in area that is owned by Coal & Allied comprising four houses north west of Northwood Road and land 0.17ha east of Flowers Drive, to be retained by Coal & Allied post transfer of the conservation land.

Approval is not sought under the Concept Plan for a specific lot or road layout. An indicative lot and road layout indicates how a dwelling yield of 222 dwellings could be achieved on the site.

Similarly, approval is not sought under the Concept Plan for subdivision or construction of individual houses. Urban Design Guidelines have been prepared by AJ+ C Architects and Aspect Studios to inform the Concept Plan in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site (refer to **Appendix A** and **B**).

It is proposed to dedicate land for conservation purposes as part of the Major Project Application via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG / LMCC in accordance with s.93F of the EP&A Act.

The proposed Concept Plan seeks to facilitate residential development that is 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 4.2.

A Plan showing the proposed development areas and conservation areas is shown at **Figure 5**. The proposed Concept Plan for the site is shown at **Figure 6**.

Figure 7 – Proposed Development and Conservation Areas





Figure 8 – Proposed Catherine Hill Bay (Middle Camp) Concept Plan



## 4.2 State Significant Site Listing

A separate report has been prepared and lodged concurrently with the DoP in support of an application for listing and rezoning of the Coal & Allied owned Catherine Hill Bay (Middle Camp) site as a SSS on Schedule 3 of the Major Development SEPP. This Environmental Assessment Report should be read in conjunction with the SSS Listing Report. The proposed zoning for the site is:

- R2 – Low Density to apply to all developable areas with “Additional Permitted Land Uses” for attached dwellings and multi dwelling housing.
- E1 – National Parks and Nature Reserves to apply to all land proposed to be dedicated to the NSWG.
- E2 – Environmental Conservation zone for land proposed to be dedicated to Lake Macquarie Council.
- E4 – Environmental Living zone for land to be retained by Coal & Allied.
- RE1 – Public Recreation

The proposed SSS listing/rezoning for the site delineates zones and associated development controls, as well as establishes the future approval/consent authority regimes. The proposed SSS listing/rezoning for the site also proposes what areas are to be developed and what areas are to be conserved and the future planning controls that will apply.



As stated, a new planning regime is required to rezone the sites to upgrade the permissible land uses and to enable the proposed development of the site for residential uses. The Schedule 3 amendment to the Major Development SEPP will introduce a new statutory planning framework for the Catherine Hill Bay (Middle Camp) site that includes:

- Aims and objectives for each site.
- Zoning and permissible uses.
- Key development controls.
- The future consent/approval regime.

### 4.3 Strategic Justification for the Project

The Coal & Allied owned Catherine Hill Bay (Middle Camp) site has been recognised for its State and regional significance based on its inclusion in the LHRS for proposed urban development and conservation.

Coal & Allied propose to develop 28.2ha of Catherine Hill Bay (Middle Camp) for residential development with a dwelling yield of 222 dwelling lots. The proposed 222 dwellings at Catherine Hill Bay (Middle Camp) will help achieve the State Government's objective to cater for the predicted population growth for the Lower Hunter Region until 2031. The balance of the Catherine Hill Bay (Middle Camp) site (526.58ha or 93%) is proposed to be dedicated to the NSWG for conservation purposes.

As stated, the securing, expansion, management and protection of the Wallarah Peninsula Corridor for conservation and biodiversity is a key focus of the LHRS and the companion LHRCP. Two major conservation corridors have been identified running through the Lower Hunter Region, namely the Wallarah Peninsula Corridor and the Watagan to Stockton Corridor. These are extensive corridors of land with high environmental value which will be managed for conservation purposes. The corridors align with existing public reserves, some of which will be expanded.

The proposed dedication of 526.58ha of the Catherine Hill Bay (Middle Camp) site to the NSWG as 'conservation land' will help provide an important component of the Wallarah Peninsula Corridor. The proposed Coal & Allied land dedication will clearly help expand and enhance the biodiversity and conservation values of the Wallarah Peninsula Conservation Corridor.

Coal & Allied is also proposing to dedicate approximately 116.6ha of Nords Wharf and approximately 206ha of Gwandalan to the NSWG for conservation as part of separate Part 3A applications. The proposed Coal & Allied land dedications will help protect the Wallarah Peninsula Corridor and provide a natural break between the Central Coast and the Lower Hunter.

The 526.58ha of Catherine Hill Bay (Middle Camp) that is proposed to be dedicated for conservation provides substantial areas of contiguous vegetation, some of which has state ecological value. The proposed dedication of land to NSWG will also ensure that substantial and significant land parcels will be protected from development by locking away this land as 'conservation land' in public ownership and perpetuity. The environmental gain from the proposed conservation land dedication is a once in a generation opportunity that will provide an enduring legacy for the community. The proposed dedication of 526.58ha of the Catherine Hill Bay (Middle Camp) site for conservation to the NSWG by Coal & Allied is clearly of state and regional significance.

The offsets to be provided by Coal & Allied through dedication of the conservation corridor land have been tested for appropriateness against the criteria set out in Appendix 1 of the LHRCP.

Coal & Allied is also proposing to dedicate 2.3ha of land, located between the cemetery and the oval and including adjacent car park to Lake Macquarie City Council.

Importantly the proposal for Catherine Hill Bay (Middle Camp) site will also result in the protection of:

- Sensitive coastal foreshore areas, by ensuring development is located away from the coastal foreshore.
- Ecologically endangered communities.
- Riparian zones and waterways.

## 4.4 Alternatives Considered

Coal & Allied has considered a number of development alternatives to be tested and considered. It should be recognised that the 'do nothing' scenario has been considered and dismissed as a realistic option since this will not achieve the conservation outcomes sought under the LHRS and LHRCP and will not contribute to the future housing needs of the Lower Hunter region.

The options considered for the site were developed during a 3 day charette which included community members, agencies, and other stakeholders. The options are detailed below.

### 4.4.1 Option 1

Option 1 contains the following features:

- Dedication of 530 ha of conservation land.
- Providing extensive landscape buffer areas at key locations and takes into consideration environmental constraints.
- Four development footprints with a total area of 50ha providing 300 lots, equivalent to an average density of 6 dwellings per hectare.
- The four development footprints are located around the existing settlement of Middle Camp. The density and size of development in the more visible southern areas is low. There is an intensification of the development in the northern areas where development is less visible from existing roads.
- The four developable areas, considered as individual hamlets, are located as follows:
  - Area A (Sawmill Camp), 7.3 hectares located north of the existing settlement on the eastern side of Flowers Drive in an existing clearing, setback behind a buffer of proposed vegetation.
  - Area B (Colliery Hamlet), 21.4 hectares located to the west of Flowers Drive, and north of the existing settlement, setback significantly from Flowers Drive.
  - Area C (South-west Hamlet), 13.9 hectares bound by two local ridges, located to the immediate west of the existing settlement, beyond the existing clearings, in an area of regenerated heathland.
  - Area D (South-east Hamlet), 7.4 hectares located between the cemetery, the wetlands and the existing settlement, in an existing clearing.
- Area B accommodates a higher density of dwellings to reflect the historic occupation of larger industrial buildings.
- Provides for marketable product.
- Provision of hamlets as small pockets of development within an open space framework, thus preserving the scale and fabric of the existing character of Middle Camp and the current amenity of the existing residents.
- Provision of a curtilage around the existing settlement of Middle Camp to protect its heritage streetscape and setting and sensitive riparian areas.
- Retention of existing vegetated ridges.

- Protection of endangered ecological communities.
- Provision of a 'gateway park' near Colliery Precinct, to formalise the natural clearing and include public art that interprets the mining history of the area.
- Provision of a new road that will bypass the existing Middle Camp settlement, discouraging Flowers Drive as a through route.
- Provision of a network of parks and linkages along the alignment of the historic railway line and around remnants of cultural heritage.
- Landscape on Flowers Drive that will screen development from the road users and existing residents of Middle Camp.

Figure 9 – Alternative Option 1



#### 4.4.2 Option 2

Option 2 proposes development in the following locations:

- Within Site A where the land is predominantly cleared of vegetation and set within rolling topography. This option included development to immediately front onto Flowers Drive.
- Within Area B, set in the clearings of the Pit E workings area where large footprint industrial buildings formerly occupied the site.
- Within Area C, set within a natural amphitheatre created by the landform between two ridge lines.
- Within Area D, set into the existing flat grasslands to the east of the settlement.
- Additional 300 houses and medium density development sites.
- No road diversion on Flowers Drive.

Figure 10 – Alternative Option 2



#### 4.4.3 Option 3 - The Preferred Option

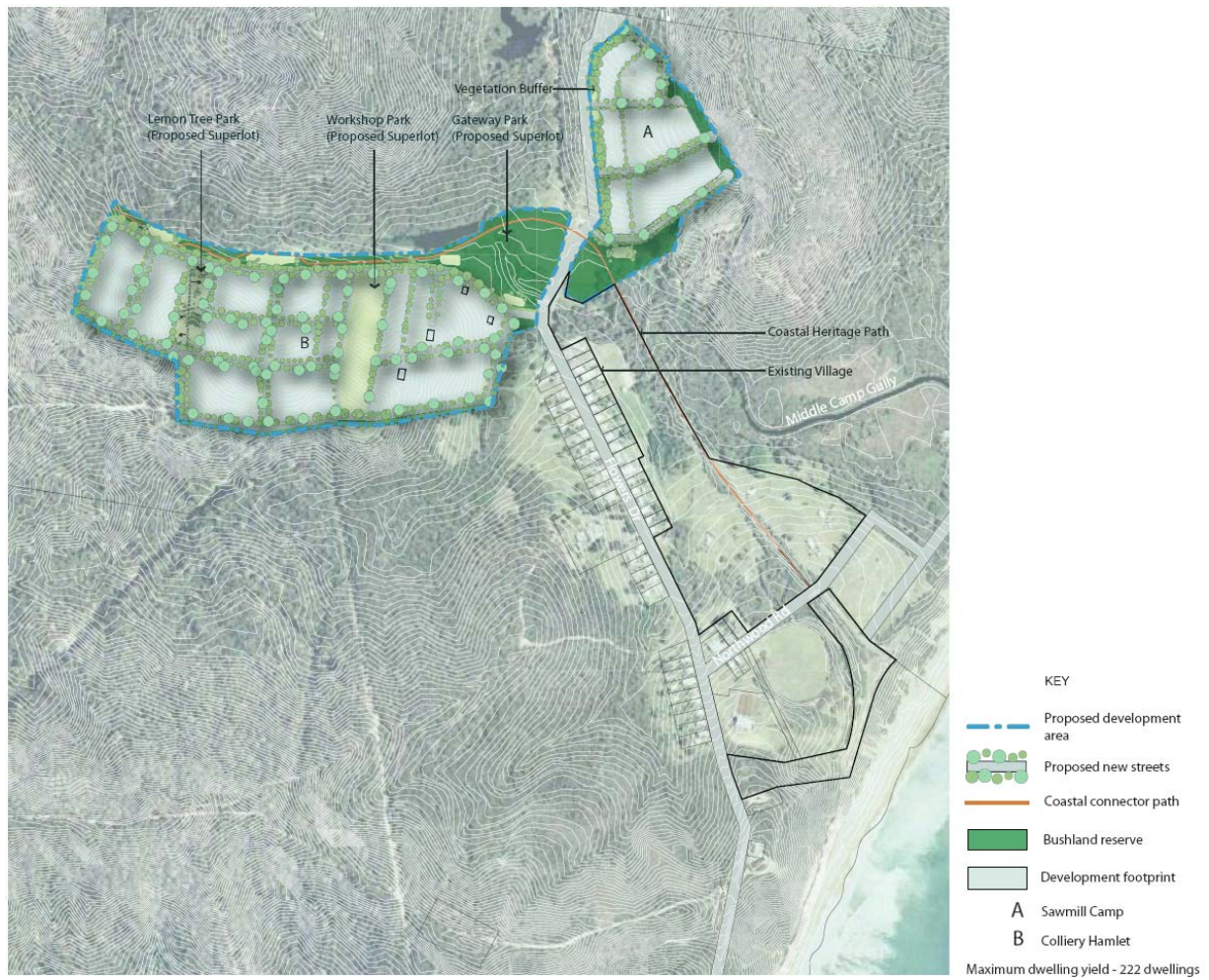
This Option was selected as the preferred option. Overall, this option entails:

- Dedication of 525.87 ha of conservation land.
- Two development footprints with a total area of 28.2ha, located as follows:

- Developable area A (northeast) = 7.32ha. Area A (Sawmill Camp) is located north of the existing settlement on the eastern side of Flowers Drive in an existing clearing. It is proposed to be set back behind a buffer of proposed vegetation.
- Developable area B (northwest) = 20.88ha. Area B (Colliery Hamlet) is located to the west of Flowers Drive and north west of the existing settlement. Development is proposed to be set back from Flowers Drive behind a buffer of proposed vegetation.
- Protection of endangered ecological communities in 'conservation land' proposed to be dedicated to NSWG.
- Area B accommodates a higher density of dwellings to reflect the historic occupation of larger industrial buildings.
- Provides for marketable product.
- Retention of existing vegetated ridges.
- Provision of a curtilage around the existing settlement of Middle Camp to protect its heritage streetscape and setting.
- Provision of hamlets as small pockets of development within an open space framework, thus preserving the scale and fabric of the existing character of Middle Camp and the current amenity of the existing residents.
- Provision of a 'gateway park' near Colliery Precinct, which will formalize the natural clearing and include public art that interprets the mining history of the area. The gateway park will create a sense of arrival to Middle Camp.
- Interpretation of mining heritage in parks.
- Provision of a network of parks and linkages along the alignment of the historic railway line and around remnants of cultural heritage.
- Landscape on Flowers Drive that will screen development from the road users and existing residents of Middle Camp.



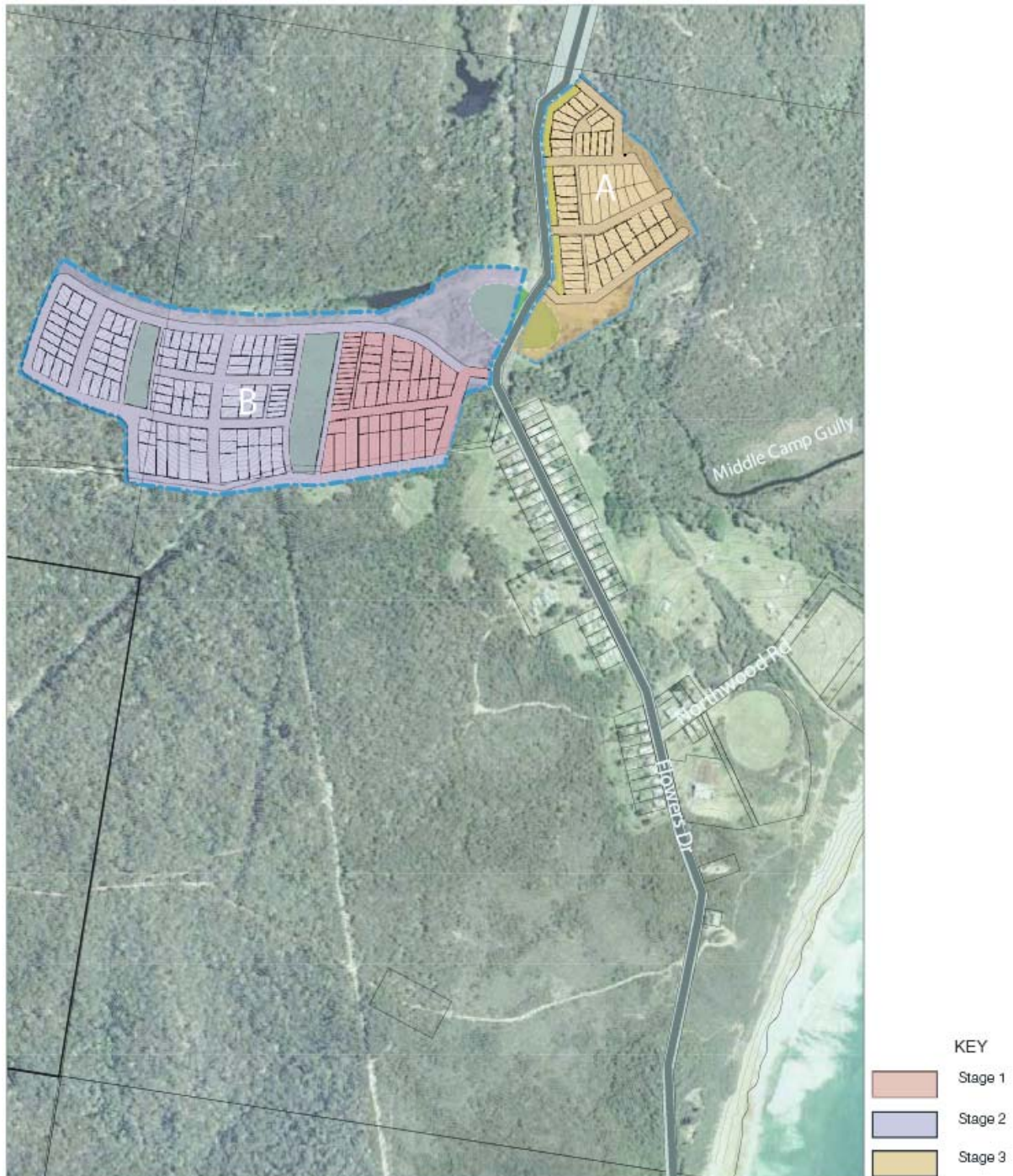
Figure 11 – Alternative Option 3



## 4.5 Stages of Project

An indicative development staging plan will be provided following determination of the Concept Plan. The number of lots and extent of staging for release areas will be largely dictated by the service infrastructure requirements as well as responding to market forces.

Figure 12 – Indicative Project Staging



Infrastructure is proposed to be connected as per the following staging arrangements:

- **Sewer:** The sewer pump stations, rising mains and trunk gravity mains would be provided for the first stage of development. Subsequent stages would be serviced by connections to these primary mains.

Subject to the development program for the Rose Group residential zoned land, the sewer infrastructure provided as part of the initial stages may need to be staged to meet capital and technical constraints.

- **Water:** The lead-in water main, reservoir(s) and pressure reduction valve would be staged to provide for the first stage of development. Subsequent stages would be serviced by connections to these primary mains.
- **Electricity:** The timing of connection to the zone substation will depend on Energy Australia's delivery of the zone substation. Trenching and cabling will be provided in each new road reserve as it is constructed. However a temporary connection may be maintained to the existing system if the first stage of development precedes the commissioning of the zone substation.
- **Telecommunications:** Telecommunications cabling will be provided in conjunction with the electrical cabling. Each stage of the works will be serviced in turn, with minor lead-in works from Flowers Drive. Refer to Section 6.12.5 for additional information regarding the National Broadband Network (NBN) rollout.





## 5 Environmental Planning Assessment

Consistent with the provisions of the Environmental Planning & Assessment Act 1979, the DGEAR's require the proponent to consider the all 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* with approval as a "controlled action" granted by the Minister on 23 March 2010

### 5.1 Relevant Planning Provisions & Policies

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

- Heritage Act 1977;
- Lower Hunter Regional Strategy;
- Lower Hunter Regional Conservation Plan 2009;
- NSW Coastal Policy;
- Coastal Design Guidelines for NSW;
- NSW Sea Level Rise Policy Statement;
- SEPP Major Development;
- SEPP 71 - Coastal Protection;
- SEPP 14 - Coastal Wetlands;
- SEPP 44 - Koala Habitat Protection;
- SEPP 55 - Remediation of Land;
- SEPP Mining, Petroleum Production and Extractive Industries 2007;
- SEPP Building Sustainability Index;
- SEPP (Infrastructure) 2007;
- Infrastructure Contributions Plan Circular PS08-017;
- Hunter Regional Environmental Plan 1989 (Heritage);
- Lake Macquarie Local Environmental Plan 2004;
- Lake Macquarie Development Control Plan No.1.

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

### 5.2 Heritage Act 1977

The State Heritage Register is established under Part 3A of the Heritage Act 1977 for listing of items of environmental heritage which are of state heritage significance.

The WWII RAAF Radar Station 208 (Former) was recently included in the NSW State Heritage Register and the potential impacts of the proposal have been assessed by ERM in the Heritage Impact Assessment at **Appendix I**. The item is situated approximately 1km from the developable areas and the proposal will not have any physical or visual impacts on the Radar Station site and its heritage values.

The incorporation of the Radar Station within the conservation lands proposed to be transferred to NSWG represents a positive outcome.

The Catherine Hill Bay Cultural Precinct is currently being considered for inclusion on the State Heritage Register with a decision expected in late 2010. This proposed listing recognises the mining history of Catherine Hill Bay along with the town's streetscape values and archaeological resources.

### 5.3 Lower Hunter Regional Strategy

The 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 Catherine Hill Bay (Middle Camp) site for proposed urban development and proposed conservation land dedications. The proposal is entirely consistent with the LHRS.

The Catherine Hill Bay (Middle Camp) site is one of the four Coal & Allied sites in the southern and northern 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 28.2ha of land at Catherine Hill Bay (Middle Camp) and proposed dedication of 526.28ha of conservation land to NSWG at Catherine Hill Bay (Middle Camp) is crucial in achieving the State Government's objective of securing major conservation corridors identified in the LHRS, most notably the Wallarah Peninsula Corridor. The proposed development of the Catherine Hill Bay (Middle Camp) site and proposed substantial land dedication is an integral element of the LHRS.

### 5.4 Lower Hunter Regional Conservation Plan 2006

The NSWG released the Lower Hunter Regional Conservation Plan (LHRCP) in December 2009. The plan is a key and complimentary component of the LHRS 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. While the objectives of the LHRCP focus solely on biodiversity values, it acknowledges that, in some instances, the application of sound planning principles will result in unavoidable biodiversity impacts. It notes that whilst the LHRS proposed development footprints to maximise use of already cleared or degraded land, there will be losses to biodiversity values as the LHRS is implemented, including areas of high conservation value vegetation.

Future proposed developments in the Lower Hunter will be assessed against the LHRCP. Impacts to biodiversity, including threatened species, should be firstly be avoided then mitigated. Where appropriate, the Government will consider offsetting future development by entering into planning agreements with the developer. Under these agreements the developer is required to dedicate free of cost land that has been identified as having conservation value. Where appropriate, such land could be incorporated into the reserve system. Offsets will be developed in accordance with government policy and guidelines.

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

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

Relative to the LHRCP, the proposal for Coal & Allied's Catherine Hill Bay (Middle Camp) site is significant due to:

- The site is located within the area identified in the LHRCP as a green conservation corridor. The South Wallarah Peninsula area is currently affected by fragmented land ownership and therefore the proposed dedication of 525.87ha of conservation land at Catherine Hill Bay (Middle Camp) will make a significant contribution to achieving a key objective of the LHRCP which is securing major conservation corridors.
- The proposed residential development of Catherine Hill Bay (Middle Camp) on 28.2ha of land will be more than offset through the proposed dedication of 525.87ha of conservation land; and
- The proposed dedication will make a significant contribution to achieving key biodiversity objectives contained in the LHRCP including expanding and strengthening the value of key corridor linkages and the valued natural green buffer between the Lower Hunter and Central Coast regions.

The detailed studies by RPS and contained in the Ecological Assessment Report at **Appendix F** have confirmed that the measures taken to avoid any development in particularly sensitive areas where practical and considering the large area of conservation land that is proposed to be set aside as part of the proposed development, overall it is considered that the proposal will provide excellent ecological outcomes across the entire Catherine Hill Bay (Middle Camp) site.

## 5.5 NSW Coastal Policy 1997

The NSW Coastal Policy aims to guide the future management and planning of the coastal zone. The coastal zone is identified under the Coastal Protection Act 1979 and includes the land subject to the proposed Concept Plan. The relevant considerations of the Policy are addressed below. These considerations relate to the range of objectives which underpin the long term goals of the Policy.

Table 4 – NSW Coastal Policy Assessment

Objectives	Comment
<ul style="list-style-type: none"> <li>▪ Identification of coastal lands and aquatic environments with conservation values. Implementation of acquisition policies, management strategies and controls to protect land of high conservation value.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Concept Plan respects the Catherine Hill Bay coastline, as the proposed developable areas A and B are situated in discreet hamlets away from foreshore areas and west of lands that have already been modified for development.</li> <li>▪ The proposal protects land of high conservation value that forms an integral ecological corridor of a wider network of regional conservation lands.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Conservation, protection and recovery of native threatened and endangered flora and fauna.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The proposal protects land of high conservation value that forms an integral ecological corridor of a wider network of regional conservation lands.</li> <li>▪ The ecological studies confirm that the proposed development is largely confined to disturbed areas of lesser ecological quality and that proposed conservation offset lands provide excellent outcomes for the vast majority of species and communities.</li> <li>▪ The quantum of the proposed conservation lands, when viewed holistically with existing and proposed conservation reserves is assessed to provide a robust long-term outcome for all species and communities.</li> </ul>

Objectives	Comment
<ul style="list-style-type: none"> <li>Water quality protection and improvement.</li> </ul>	<ul style="list-style-type: none"> <li>A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment.</li> <li>A number of initiatives are proposed to ensure that future development will meet the target requirements of Lake Macquarie City Council.</li> </ul>
<ul style="list-style-type: none"> <li>Minimisation of impacts to environmentally sensitive areas and cultural heritage.</li> </ul>	<ul style="list-style-type: none"> <li>Catherine Hill Bay is widely recognised for its heritage values and this has been a fundamental consideration in the preparation of the Concept Plan.</li> <li>The location of proposed developable areas was established taking into account cultural heritage and environmentally sensitive locations to retain the historic nature of the township.</li> <li>All significant development is proposed outside of the cultural heritage and environmentally sensitive locations. Cultural heritage items are to be retained.</li> </ul>
<ul style="list-style-type: none"> <li>Protection of areas of high natural or built aesthetic quality.</li> </ul>	<ul style="list-style-type: none"> <li>The visual setting of the Catherine Hill Bay coastline and foreshore will be maintained. Proposed development areas A and B are appropriately sited away from the foreshore.</li> <li>The approach from the north into the township along Flowers Drive will similarly maintain a predominantly natural landscaped approach through the implementation of landscaped buffers.</li> <li>Landscaped buffer areas are proposed between the proposed developable areas and Flowers Drive.</li> </ul>
<ul style="list-style-type: none"> <li>Design and siting of development to complement surrounding environments and promote good aesthetic qualities.</li> </ul>	<ul style="list-style-type: none"> <li>Design guidelines by AJ+C Architects are proposed to ensure that future development is responsive to the existing natural and built aesthetic character.</li> <li>Future development will be required to meet these guidelines.</li> </ul>
<ul style="list-style-type: none"> <li>Encourage towns to reinforce or establish their particular identities in a form which enhances the natural beauty of the Coastal Zone.</li> </ul>	<ul style="list-style-type: none"> <li>The natural beauty of the Coastal Zone and the unique historic character of this coastal hamlet have been key considerations in approaching the structure of the Concept Plan.</li> <li>Proposed developable areas A and B will be discreetly set in a manner that will retain the existing historic identity of the township and the natural beauty of the coastline.</li> </ul>
<ul style="list-style-type: none"> <li>Management and conservation of cultural heritage places, items and landscapes.</li> </ul>	<ul style="list-style-type: none"> <li>The location of proposed developable areas was established taking into account the presence of cultural heritage and environmentally sensitive landscapes.</li> <li>All significant development is proposed outside of the culturally heritage and environmentally sensitive locations.</li> <li>Cultural heritage items are to be retained.</li> <li>The setting of Flowers Drive will also be retained through sensitive siting and buffers to proposed developable areas A and B.</li> </ul>
<ul style="list-style-type: none"> <li>Recognise the rights and needs of indigenous people.</li> </ul>	<ul style="list-style-type: none"> <li>Aboriginal community consultation was undertaken in accordance with the Department of Environment and Climate Change "Interim Community Consultation Requirements Guideline" (2004).</li> </ul>

Objectives	Comment
<ul style="list-style-type: none"> <li>Implementation of “best practice” approaches to achieving sustainable development and resource management.</li> </ul>	<p>Sustainable development and resource management were key considerations in the development of the Concept Plan through:</p> <ul style="list-style-type: none"> <li>The proposed dedication of natural resources: i.e. 93% of the Catherine Hill Bay (Middle Camp) Coal &amp; Allied land holding.</li> <li>The provision of environmental protection: The proposal will help secure key regional green corridors which will conserve significant biodiversity resources and heritage attributes; and</li> <li>Environmental Stewardship: 93% of the Catherine Hill Bay (Middle Camp) site is proposed to be dedicated for conservation purposes, which is well in excess of traditional conservation outcomes from development offset processes. The proposal will also provide appropriate waste water treatment systems and incorporate environmental design elements to maximise integration of built and natural environments.</li> </ul>
<ul style="list-style-type: none"> <li>Ensure future expansion or redevelopment of urban and residential areas, including the provision of infrastructure, avoids or minimises impacts on environmentally sensitive areas and cultural heritage.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed development to be focussed on clear, degraded areas of lesser environmental quality.</li> </ul>
<ul style="list-style-type: none"> <li>Promote compact and contained planned urban development.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed development to be contained within two separate precincts in proximity to established urban areas.</li> </ul>
<ul style="list-style-type: none"> <li>Provide choice in both housing and lifestyle.</li> </ul>	<ul style="list-style-type: none"> <li>A range of lots sizes will provide for a range of dwellings from detached to integrated housing.</li> </ul>

The above assessment illustrates that the development concept for the future development of the Catherine Hill Bay (Middle Camp) site satisfactorily achieves objectives of managing the NSW coastal zone as outlined in the NSW Coastal Policy 1997. The main points are summarised below:

- The two proposed residential sites have been confined to areas that are well setback from the coastal foreshore to ensure no impacts on the coastal setting. The proposed developable areas are also confined to areas that have already been disturbed and to those areas that are of lesser ecological value;
- Cultural heritage has been taken into consideration in the design of the proposed development and items of cultural heritage are to be retained within open space areas;
- Landscaped buffers to Flowers Drive off areas A and B are to be incorporated into the proposal to assist in maintaining the character and amenity of the area; and
- Sustainable development and resource management have been addressed through the proposed dedication of a large proportion of the Catherine Hill Bay (Middle Camp) land (93%) for conservation purposes and the inclusion of environmental management measures such as stormwater and erosion control to mitigate potential pollutant impacts.

## 5.6 NSW Sea Level Rise Policy Statement

The Department of Planning released the final NSW Coastal Planning Guideline: Adapting to Sea Level Rise in August 2010. The Guideline adopts the sea level rise planning benchmarks in the NSW Sea Level Rise Policy Statement to assist the planning for future development proposals for all coastal areas of NSW.

The term ‘coastal areas’ is used broadly to include the coastline, beaches, coastal lakes, estuaries, as well as the tidal reaches of coastal rivers. It also includes other low-lying land surrounding these areas that may be subject to coastal processes in the future as a consequence of sea level rise.

The Guideline adopts the following six coastal planning principles for sea level rise adaptation:

- Assess and evaluate coastal risks taking into account the NSW sea level rise planning benchmarks.
- Advise the public of coastal risks to ensure that informed land use planning and development decision-making can occur.
- Avoid intensifying land use in coastal risk areas through appropriate strategic and land-use planning.
- Consider options to reduce land use intensity in coastal risk areas where feasible.
- Minimise the exposure to coastal risks from proposed development in coastal areas.
- Implement appropriate management responses and adaptation strategies, with consideration for the environmental, social and economic impacts of each option.

The NSW Sea Level Rise Policy Statement specifies sea level planning benchmarks for the NSW coastline. These benchmarks are an increase above 1990 mean sea levels of 40 centimetres by 2050 and 90 centimetres by 2100 and have been considered in the preparation of the Concept Plan for Catherine Hill Bay.

## 5.7 Coastal Design Guidelines for NSW

The Coastal Design Guidelines for NSW (CDG) provides for urban design practices and principles to achieve the sensitive development of unique natural and urban settings of coastal places in NSW. The Guidelines identify seven coastal settlement types and provide “desired future character” guidelines for each type of coastal settlement type. The most relevant character guidelines to the Catherine Hill Bay (Middle Camp) project relate to New Coastal Settlements “Villages and Hamlets”. :

Table 5 – Summary of Desired Future Character Guidelines

Desired Future Character	Comment
<p>New settlements are located according to a regional and local strategy, that avoids creating ribbon development along the coast and considers ecological qualities, settlement types, separation between settlements, transportation, employment opportunities and population capacity. New settlements:</p> <ul style="list-style-type: none"> <li>▪ Respect the ecological limits of the site and its context</li> <li>▪ Are developed with careful consideration for landform and views from public areas</li> <li>▪ Provide alternative transport option from private car use</li> <li>▪ Have a public domain.</li> </ul> <p>Part of the key to the success of new settlements is the way the public domain relates to the geographic location and topography. The components of the public domain include:</p> <ul style="list-style-type: none"> <li>▪ A pattern of development based on unique natural, urban, historic, visual and environmental features of the location</li> <li>▪ Reserves for nature conservation and flood processes</li> <li>▪ Open space and public spaces for the recreation and social needs of residents and visitors</li> <li>▪ An interconnected street pattern providing long-term access and social and economic opportunities for the settlement</li> </ul>	<ul style="list-style-type: none"> <li>▪ The design of the proposed new settlements has considered the local topography, environmental limits and separation between urban areas.</li> <li>▪ Public transportation is a regional level service, which is available to the proposed development areas.</li> <li>▪ Public domain treatments are proposed as well as the private allotments, which will help to contribute to a sustainable settlement.</li> </ul> <ul style="list-style-type: none"> <li>▪ Public domain elements proposed within the Catherine Hill Bay (Middle Camp) area include <ul style="list-style-type: none"> <li>– Three areas of public parkland for recreation</li> <li>– A strong network of public streets creating a legible settlement pattern</li> <li>– Beside the creek, a linear park will incorporate the heritage walk along the alignment of the former railway line. The heritage walk will link the hamlets to the beach and community facilities of Middle Camp and Catherine Hill Bay.</li> <li>– Bushland Reserves will be dedicated in areas around the periphery of the development footprints, combining a buffer zone to the conservation lands and bushfire asset</li> </ul> </li> </ul>

Desired Future Character	Comment
<ul style="list-style-type: none"> <li>Areas for total water cycle management</li> </ul>	<p>protection zones.</p> <ul style="list-style-type: none"> <li>Bushfire asset protection zones will occur on all peripheral areas of the development footprint.</li> </ul> <p>More detail on these approaches are provided in the remainder of this table.</p>
<p><b>Relationship to the environment</b></p> <ul style="list-style-type: none"> <li>New development avoids areas of ecological value and respects setbacks between natural areas.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed developable areas A and B will be contained within areas predominantly cleared or disturbed.</li> </ul>
<ul style="list-style-type: none"> <li>Wildlife corridors, mature trees, waterways and natural features are to be incorporated into green space networks, reserves and riverine and foreshore corridors.</li> </ul>	<ul style="list-style-type: none"> <li>Surrounding ecological areas are maintained by the proposed dedication of 93% of the site for conservation to the NSWG for inclusion to help secure the Wallarah Peninsula conservation corridor.</li> </ul>
<ul style="list-style-type: none"> <li>Aboriginal and European places, relics and items are protected</li> </ul>	<ul style="list-style-type: none"> <li>Future development has been planned and designed to avoid and minimise impacts on historic heritage buildings and areas of archaeological potential, including retention of significant items.</li> </ul>
<ul style="list-style-type: none"> <li>Foreshore and estuarine vegetation is protected.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed developable areas A and B are located well beyond the foreshore area. A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment.</li> </ul>
<ul style="list-style-type: none"> <li>The potential disturbance to acid sulphate soils is managed</li> </ul>	<ul style="list-style-type: none"> <li>Acid sulphate soil assessment has been carried out by Douglas Partners, which indicates the presence of potential acid sulphate soils. A general acid sulphate soil management procedure is proposed and a detailed acid sulphate soil management plan should be prepared prior to construction, if disturbance of the alluvial areas is proposed.</li> </ul>
<ul style="list-style-type: none"> <li>Original native landscape is maintained and reinstated.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed developable areas A and B will be contained within areas predominantly cleared or disturbed. Surrounding ecological areas are maintained by the proposed dedication of 93% of the site for conservation to the NSWG for inclusion to help secure the Wallarah Peninsula conservation corridor.</li> </ul>
<ul style="list-style-type: none"> <li>Waterways and coastal lakes are protected through water sensitive urban design and total cycle water management.</li> </ul>	<ul style="list-style-type: none"> <li>A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment.</li> <li>Water and waste services infrastructure will be provided to meet forecasted demands.</li> </ul>
<ul style="list-style-type: none"> <li>Degraded natural areas are rehabilitated</li> </ul>	<ul style="list-style-type: none"> <li>Park and reserve areas within proposed developable areas are proposed to be landscaped and rehabilitated with vegetation endemic to the locality. Indigenous vegetation will be reinstated in proposed development areas.</li> </ul>
<ul style="list-style-type: none"> <li>Vegetation is maintained whilst managing asset protection areas for bushfire protection.</li> </ul>	<ul style="list-style-type: none"> <li>Asset protection areas for bushfire protection will be managed and include maintaining vegetation where possible in accordance with the Planning for</li> </ul>



Desired Future Character	Comment
	Bushfire Protection Guidelines.
<ul style="list-style-type: none"> <li>Land swaps, community stewardship programs, transferable development rights and voluntary conservation agreements provide opportunities to sensitively locate development and protect ecosystems and views.</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable development and resource management were key considerations in the development of the Concept Plan through the proposed dedication of 93% of the Catherine Bay (Middle Camp) site for securing key regional green corridors, which will conserve significant biodiversity resources and heritage attributes.</li> <li>Environmental Stewardship: 93% of Catherine Hill Bay (Middle Camp) is proposed to be dedicated for conservation purposes, which is well in excess of traditional conservation outcomes from development offset processes.</li> </ul>
<ul style="list-style-type: none"> <li>Native vegetation is preferred on public and private land.</li> </ul>	<ul style="list-style-type: none"> <li>Native species are proposed.</li> </ul>
<ul style="list-style-type: none"> <li>Land is revegetated with species native to the local area.</li> </ul>	<ul style="list-style-type: none"> <li>Park and reserve areas within proposed developable areas are proposed to be landscaped and rehabilitated with vegetation endemic to the locality. Indigenous vegetation will be reinstated in proposed development areas.</li> </ul>
<b>Visual Sensitivity.</b> <ul style="list-style-type: none"> <li>Views to and along the foreshore align with streets;</li> <li>Views and vistas of the foreshore and natural features in or surrounding the site are aligned with public streets.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed development areas A and B are well sited from the foreshore area, such that the visual setting of the beach and dune areas are preserved.</li> </ul>
<b>Edges to the water and natural areas</b> <ul style="list-style-type: none"> <li>The centre and surrounding residential areas are to be separated from the foreshore by open space or roadway;</li> <li>Setbacks from coastal edge and other surrounding natural areas respect environmental constraints and protect properties from coastal hazards.</li> <li>Public access along the foreshore is located on boundary between public and private land and along streets.</li> <li>Restricted pathways through foreshore vegetation to maintain ecological integrity.</li> <li>Foreshore vegetation is not removed to create views and land is not to be filled to promote views.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed development areas A and B are well sited from the foreshore area and will be separated from the foreshore by other established development and the land to be transferred to NSWG for conservation.</li> <li>Appropriate setbacks are provided from coastal areas and creeks to ensure future properties are protected from coastal processes.</li> <li>No direct access is proposed to the foreshore from either area A or B, except as part of the Coastal Heritage Walk which will extend to the land proposed to be dedicated to Lake Macquarie City Council.</li> <li>The proposed Coastal Heritage Walk will provide access from the proposed developable areas to the northern boundary of land proposed to be dedicated to Council.</li> <li>Foreshore vegetation will not be required to be removed. Filling is not proposed for view gain.</li> </ul>
<b>Streets</b> <ul style="list-style-type: none"> <li>Provide a street pattern similar to coastal hamlets or coastal villages by responding to the landform, views and permitting a high level of visual, pedestrian, cycle and vehicular permeability.</li> </ul> <p>The street pattern also:</p> <ul style="list-style-type: none"> <li>Creates public neighbourhood centres and a main street</li> <li>Avoids privatised enclaves by providing direct access to the foreshore</li> </ul>	<ul style="list-style-type: none"> <li>Location of roads are planned to minimise changes to the natural topography.</li> <li>Network of proposed local perimeter roads, local roads and minor roads will cater for pedestrian and bicycle connections.</li> <li>Proposed roads will coordinate with the proposed network of open space areas to provide for central focus areas within Area B.</li> <li>No direct access is proposed to the foreshore from either Area A or B, except as part of the Coastal</li> </ul>

Desired Future Character	Comment
<ul style="list-style-type: none"> <li>Provides an interconnected and permeable street pattern</li> <li>Responds to pedestrian and cycle distances and connects to a local and regional network.</li> </ul>	<p>Heritage Walk which will extend to the land proposed to be dedicated to Council.</p> <ul style="list-style-type: none"> <li>The proposed road connections will connect to northern end of Flowers Drive as part of the regional network to Pacific Highway.</li> </ul>
<p><b>Buildings</b></p> <ul style="list-style-type: none"> <li>Pattern of land development is designed to provide amenity;</li> <li>Design for a compact footprint to reduce land take;</li> <li>Blocks and streets are walkable and safe;</li> <li>Buildings address the street;</li> <li>Lot size and configuration to support a range of housing types and integrate with street pattern and functions of settlement;</li> <li>Residential areas to consist of coastal cottages, detached and semi-detached houses, townhouses and terraces;</li> <li>Design to suit the climate and ESD design and materials;</li> <li>House types optimise visual and acoustic privacy, integrate passive solar design principles, minimise water use and seek architectural distinction and excellence.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed area A and B provide for two distinct, compact and discrete precincts.</li> <li>Urban design guidelines identify housing typology, site cover, height, streetscape, setbacks and open space.</li> <li>A range of house types are proposed from traditional lots, hamlet lots, village courtyard lots, small house courtyard lots and townhouse lots (Integrated housing).</li> <li>ESD principles to be incorporated.</li> </ul>
<p><b>Heights</b></p> <ul style="list-style-type: none"> <li>Residential buildings, neighbourhood centre or the main street are to be one to two storeys;</li> <li>Three storeys may be achieved where visual prominence is not apparent;</li> <li>Heights are to be subject to place-specific urban design studies. New development is appropriate to the predominant form and scale of surrounding development, surrounding landforms and the visual setting; and</li> <li>Avoid overshadowing of public open spaces, the foreshore and beaches in centres before 3pm midwinter and 6.30pm summer. Elsewhere avoid overshadowing of the above open space areas before 4.00pm midwinter and 7.00pm summer.</li> </ul>	<p>Indicative dwelling heights are proposed to be:</p> <ul style="list-style-type: none"> <li>2 storeys in Area A and most of Area B where removed from the existing Middle Camp settlement; and</li> <li>Single storey height is also proposed in Area B where there is sensitivity that new built form should not dominate existing built form or natural ridgelines.</li> <li>No overshadowing impacts to existing public open space areas as precincts are well sited from the foreshore areas and facilities such as the bowling club.</li> </ul>
<p><b>Defining the settlement footprint</b></p> <ul style="list-style-type: none"> <li>To control coastal sprawl, the guidelines recommend four ways in which coastal settlement can accommodate development:             <ul style="list-style-type: none"> <li>No or limited development;</li> <li>Maintaining a compact settlement footprint;</li> <li>Expanding the boundary of a settlement; or</li> <li>Creating a new settlement.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Catherine Hill Bay is identified under the LHRS as an area to accommodate population growth. In respect to the significant heritage value of Catherine Hill Bay, the most appropriate manner in accommodating future development within two separate, discreet precincts from the main township.</li> </ul>
<p><b>Connecting open spaces</b></p> <ul style="list-style-type: none"> <li>Connect new and existing open spaces to maintain environmental protection areas, the scenic values of the visual catchment and remnant vegetation;</li> <li>Establish continuous ecological corridors;</li> <li>Provide appropriate setbacks for protection from hazards such as bushfire;</li> <li>Locate open spaces to enhance special attributes</li> </ul>	<ul style="list-style-type: none"> <li>The proposal will contribute significantly to the successful implementation of the LHRS and the LHRCP.</li> <li>93% of the site is proposed to be transferred to the NSWG for conservation land. This will further contribute to habitat corridors and significant ecological links through the Region. These are extensive corridors of land with high environmental value which will be managed for conservation</li> </ul>

Desired Future Character	Comment
<p>of an area for long term public amenity and identity of the place;</p> <ul style="list-style-type: none"> <li>Preserve settings for places of cultural heritage within the open-space network;</li> <li>Provide areas within open space network to detain and cleanse stormwater runoff;</li> <li>Establish edge open spaces with streets and pedestrian pathways;</li> <li>Appropriately locate pedestrian and cycle access in respect to minimising impacts to highly valued conservation areas and connectivity throughout the settlement;</li> <li>Design for a variety of open spaces in respect to size and recreational roles; and</li> <li>Co-locate recreational facilities with shops, schools and community facilities.</li> </ul>	<p>purposes.</p> <ul style="list-style-type: none"> <li>Appropriate bushfire management measures including APZ will be implemented.</li> <li>Open space areas are sited in consideration of preserving heritage elements and allow for new heritage interpretation of the township.</li> <li>WSUD practice will include stormwater runoff strategies incorporated within proposed open space areas.</li> <li>Enhanced pedestrian access to the coastline is proposed by the Coastal Heritage Walk from Areas A and B up to the land proposed to be dedicated to Council.</li> <li>A range of open space areas are proposed to meet the needs of passive and more active recreational needs of future residents.</li> </ul>
<p><b>Protecting the natural edges</b></p> <ul style="list-style-type: none"> <li>Define key characteristics and functions of public spaces along the foreshore;</li> <li>Maintain foreshore areas and setbacks in public ownership;</li> <li>Protect existing and remnant native vegetation by generous setbacks and defined points of access;</li> <li>Avoid remodelling foreshore areas to ameliorate coastal process;</li> <li>Define clear pedestrian and vehicular entry points and access routes through foreshore reserves;</li> <li>Manage land use impacts to maintain ecological integrity of vegetation on foreshores; coastal habitats; visual amenity and improvement of water quality; and</li> <li>Setbacks should address coastal erosion hazards, protect ecosystems and reserves, with foreshore setbacks at a minimum 50m to 100m. Protect visual amenity by adopting appropriate setbacks.</li> </ul>	<ul style="list-style-type: none"> <li>Proposed developable areas A and B are sited to the north of the Middle Camp township and are well beyond the foreshore such that these design principles will be met.</li> <li>Enhanced pedestrian access to the coastline is proposed by the Coastal Heritage Walk from Areas A and B up to the land proposed to be dedicated to Council.</li> </ul>
<p><b>Reinforcing the Street Pattern</b></p> <ul style="list-style-type: none"> <li>Build on the established street and block patterns in terms of circulation and access;</li> <li>Design navigable and logical layout of settlements;</li> <li>Design for high accessibility and permeability by optimising connections within the street hierarchy;</li> <li>Street patterns should be designed in response to the topography and natural features;</li> <li>Protect streets that provide access to significant natural features;</li> <li>Reinforce main streets as commercial and social focus;</li> <li>Establish pedestrian pathway systems throughout the settlement and between settlements; and</li> <li>Reinforce streets with street planting.</li> </ul>	<ul style="list-style-type: none"> <li>Access to proposed Areas A and B will be from the northern end of Flowers Drive, north of the Middle Camp Township.</li> <li>Road widths are designed to meet Council requirements in general.</li> <li>Select road reserves are designed narrower than the Council requirements to contribute to the character of the area and or precinct; allowance for maximum space for tree retention in verges; to function as traffic management measures and for surveillance reasons.</li> <li>Street layout in discrete pockets is designed to incorporate landscaping and safe cycling and walking routes.</li> <li>Street hierarchy is made legible by the loose grids of local streets and a permeable street pattern of through roads.</li> <li>Footpaths are proposed on all streets, either on one or both verges.</li> <li>Cycleways are proposed on street, in recognition of flow traffic volumes.</li> </ul>

Desired Future Character	Comment
<p><b>Appropriate buildings in a coastal context</b></p> <ul style="list-style-type: none"> <li>Locate and design buildings to respond to respond to the local context; the desired future character and the streetscape;</li> <li>Provide buildings appropriate in terms of location, uses, scale, height, site configuration and street setbacks;</li> <li>Rationalise car related uses on site e.g. driveways, widths and lengths;</li> <li>Protect views by appropriate siting and heights of buildings;</li> <li>Ensure developments and neighbouring properties have access to daylight, natural ventilation, privacy (visual and acoustic), private open space, pleasant microclimate conditions;</li> <li>Achieve high levels of amenity for individual buildings by appropriate building design, lot size, access and landscaping; and</li> </ul> <p>Along settlement edges:</p> <ul style="list-style-type: none"> <li>Prevent privatisation of public open space by ensuring development adjacent to the edge maintains public access;</li> <li>Provide adequate setbacks for bushfire asset protection zones; and</li> <li>Buildings to address open spaces and edge.~</li> </ul> <p>Heritage/significant elements: – respond to heritage protection controls for development adjacent to heritage items.</p>	<p>Urban design guidelines accompany the EA which will guide the future development in a manner that integrates the existing character and the natural surrounds.</p> <ul style="list-style-type: none"> <li>The preservation of key views will be maintained from appropriate siting of proposed Areas A and B.</li> <li>Proposed settlement edges will be designed to be publicly accessible by incorporating roads or landscaped areas.</li> <li>Bushfire protection areas will be provided by way of asset protection zones, which will include road reservations.</li> <li>To maximise surveillance and pleasant outlooks, the indicative lot layout illustrates lots designed to orientate towards open spaces and roads.</li> <li>Archaeological items will be incorporated as part of the network of open space areas to allow for heritage interpretation.</li> </ul>

The proposal is consistent with the desired future character of coastal hamlets as set out in the Coastal Design Guidelines for NSW. The key points are summarised below:

- Developable areas will be separated from the natural and built surrounds by buffer landscape treatments.
- Impacts on sensitive heritage and archaeological places will be minimised through appropriate siting of development and preservation within future open space areas.
- The development has been planned so that it will have minimal visual impacts upon the coastal environment through the placement of buildings well back from the foreshore.
- The street design for the proposal will be of similar nature to the existing network and is consistent with the street hierarchy suggested for New Coastal Settlements “Villages and Hamlets”.
- Specific design guidelines have been devised to ensure that the desired character for the area is maintained and development remains consistent in terms of scale.

Design principles of the Policy aim to achieve the identified future character for coastal settlements. The application of these principles relative to Catherine Hill Bay (Middle Camp) and the proposal is assessed in the table below:

Table 6 – Summary of Design Principles

Design Principles	Comment
<ul style="list-style-type: none"> <li>The objective is to discourage new development, such as large tourist developments or residential subdivisions, on the outskirts that will create sprawling urban development and loss of a clear settlement type.</li> <li>Location of new settlements are to be determined through processes of a settlement strategy involving local and regional contextual studies and are consistent with regional plans and state policies.</li> </ul>	<ul style="list-style-type: none"> <li>In respect to the significant heritage value of Catherine Hill Bay (Middle Camp), the most appropriate manner in accommodating future development is by separate and discreet precincts from the main township.</li> <li>Catherine Hill Bay (Middle Camp) is identified under the LHRS as an area to accommodate population growth.</li> </ul>
<p>Connecting open spaces</p> <ul style="list-style-type: none"> <li>Connect new and existing open spaces to maintain environmental protection areas, the scenic values of the visual catchment and remnant vegetation;</li> <li>Establish continuous ecological corridors;</li> <li>Provide appropriate setbacks for protection from hazards such as bushfire;</li> <li>Locate open spaces to enhance special attributes of an area for long term public amenity and identity of the place;</li> <li>Preserve settings for places of cultural heritage within the open-space network;</li> <li>Provide areas within open space network to detain and cleanse stormwater runoff;</li> <li>Establish edge open spaces with streets and pedestrian pathways;</li> <li>Appropriately locate pedestrian and cycle access in respect to minimising impacts to highly valued conservation areas and connectivity throughout the settlement;</li> <li>Design for a variety of open spaces in respect to size and recreational roles; and</li> <li>Co-locate recreational facilities with shops, schools and community facilities.</li> </ul>	<ul style="list-style-type: none"> <li>The proposal will contribute significantly to the successful implementation of the LHRS and LHRCS;</li> <li>The LHRS recognises the importance of large vegetation areas being linked via habitat corridors at a landscape scale. The proposed development of Catherine Hill Bay (Middle Camp) is associated with the establishment of significant ecological links with major green corridors through the Region. These are extensive corridors of land with high environmental value which will be managed for conservation purposes;</li> <li>Appropriate bushfire management measures including APZ will be implemented;</li> <li>Open space areas are sited in consideration of preserving key heritage elements which will allow for new heritage interpretation of the township;</li> <li>WSUD practice will include stormwater runoff strategies incorporated within proposed open space areas;</li> <li>Enhanced pedestrian access to the coastline is proposed by the Coastal Heritage Walk from areas A and B up to the land proposed to be dedicated to Council; and</li> <li>A range of open space areas are proposed to meet the needs of future residents.</li> </ul>
<p>Protecting the natural edges</p> <ul style="list-style-type: none"> <li>Define key characteristics and functions of public spaces along the foreshore;</li> <li>Maintain foreshore areas and setbacks in public ownership;</li> <li>Protect existing and remnant native vegetation by generous setbacks and defined points of access;</li> <li>Avoid remodelling foreshore areas to ameliorate coastal process;</li> <li>Define clear pedestrian and vehicular entry points and access routes through foreshore reserves;</li> <li>Manage land use impacts to maintain ecological integrity of vegetation on foreshores; coastal habitats; visual amenity and improvement of water quality; and</li> </ul>	<ul style="list-style-type: none"> <li>Proposed developable areas A and B are sited to the north of the Middle Camp township, well beyond the foreshore such that these design principles will be met.</li> <li>Enhanced pedestrian access to the coastline is proposed by the Coastal Heritage Walk from areas A and B up to the land proposed to be dedicated to Council.</li> </ul>

Design Principles	Comment
<ul style="list-style-type: none"> <li>Setbacks should address coastal erosion hazards, protect ecosystems and reserves, with foreshore setbacks at a minimum 50m to 100m. Protect visual amenity by adopting appropriate setbacks.</li> </ul>	
<p>Reinforcing the Street Pattern</p> <ul style="list-style-type: none"> <li>Build on the established street and block patterns in terms of circulation and access;</li> <li>Design navigable and logical layout of settlements;</li> <li>Design for high accessibility and permeability by optimising connections within the street hierarchy;</li> <li>Street patterns should be designed in response to the topography and natural features;</li> <li>Protect streets that provide access to significant natural features;</li> <li>Reinforce main streets as commercial and social focus;</li> <li>Establish pedestrian pathway systems throughout the settlement and between settlements; and</li> <li>Reinforce streets with street planting.</li> </ul>	<ul style="list-style-type: none"> <li>Road widths are designed to meet Council requirements in general;</li> <li>Select road reserves are designed narrower than the Council requirements to contribute to the character of the area and or precinct; allowance for maximum space for tree retention in verges; to function as traffic management measures and for surveillance reasons;</li> <li>Street layout is designed to incorporate landscaping and safe cycling and walking routes;</li> <li>Street hierarchy is made legible by a permeable street pattern of through roads;</li> <li>Footpaths are proposed on all streets, either on one or both verges; and</li> <li>Cycleways are proposed on street, in recognition of low traffic volumes.</li> </ul>
<ul style="list-style-type: none"> <li>Appropriate buildings in a coastal context</li> <li>Locate and design buildings to respond to the local context; the desired future character and the streetscape;</li> <li>Provide buildings appropriate in terms of location, uses, scale, height, site configuration and street setbacks;</li> <li>Rationalise car related uses on site eg driveways, widths and lengths;</li> <li>Protect views by appropriate siting and heights of buildings;</li> <li>Ensure developments and neighbouring properties have access to daylight, natural ventilation, privacy (visual and acoustic), private open space, pleasant microclimate conditions;</li> <li>Achieve high levels of amenity for individual buildings by appropriate building design, lot size, access and landscaping; and</li> <li>Along settlement edges: <ul style="list-style-type: none"> <li>Prevent privatisation of public open space by ensuring development adjacent to the edge maintains public access;</li> <li>Provide adequate setbacks for bushfire asset protection zones; and</li> <li>Buildings to address open spaces and edge.</li> </ul> </li> <li>Heritage/significant elements: <ul style="list-style-type: none"> <li>Respond to heritage protection controls for development adjacent to heritage items.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Urban design guidelines accompany the EA which will guide the future development in a manner that integrates the existing character and the natural surrounds;</li> <li>Detailed design guidelines have been prepared for the site with respect to built form, bulk and scale, heights, site configuration, setbacks, landscaping, car parking and amenity considerations; and</li> <li>Proposed settlement edges will be designed to be publicly accessible by incorporating roads or landscaped areas;</li> <li>Bushfire protection areas will be provided by way of asset protection zones;</li> <li>To maximise surveillance and pleasant outlooks, development lots are designed to enable an address to open spaces and edge roads; and</li> <li>Developable areas are appropriately sited away from key heritage items. Archaeological items will be incorporated as part of the network of open space areas to allow for heritage interpretation.</li> </ul>

The proposal is also consistent with the design principles that are outlined in the Coastal Design Guidelines for NSW. The main points are summarised below:

- Development is contained within two small scale, individual precincts;
- The open space areas within the proposal have been sited to incorporate key historic elements or function as stormwater management that also function as both passive and active recreation areas;
- The proposal will improve pedestrian accessibility to Middle Camp Beach through the establishment of the Coastal Heritage Path and proposed land dedication to Lake Macquarie City Council. Similarly, pedestrians will be accommodated through the provision of pathways along all proposed roads; and
- Visual and environmental amenity will be preserved through the preparation of design guidelines to ensure built form that is sensitive to the coastal context of the site.

## 5.8 State Environmental Planning Policy 71 – Coastal Protection

The site is subject to the provisions of State Environmental Planning Policy 71 – Coastal Protection (SEPP 71) as the site is situated within the Coastal Zone identified under the Coastal Protection Act 1979. SEPP 71 was established to ensure that development in the NSW coastal zone is appropriate and suitably located. The SEPP also aims to ensure a consistent and strategic approach to coastal planning management.

The matters for consideration in determining a proposed development or the preparation of a draft LEP are summarised in the table below:

Table 7 – SEPP 71 Relevant Provisions

Provision	Response
<b>Aims of the Policy (Clause 8):</b> <ul style="list-style-type: none"> <li>▪ Protection of the attributes of the NSW Coast;</li> <li>▪ Protection of existing public access to foreshores and provision for new public access compatible with natural attributes of the coast;</li> <li>▪ Protection of Aboriginal heritage and places;</li> <li>▪ Visual amenity and beach environment and amenity is protected;</li> <li>▪ Native coastal vegetation; the marine environment and rock platforms are protected;</li> <li>▪ Ensure ecologically sustainable development and appropriate design and location of development to preserve natural scenic amenity; and</li> <li>▪ Encourage a strategic approach to coastal management.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The proposed development satisfactorily meets the aims SEPP 71. The proposed development areas have been confined to areas that are well setback from the coastal foreshore areas of the beach such that there is no impact on visual amenity and development is proposed to be located in areas that are already disturbed or areas of lesser environmental quality;</li> <li>▪ The proposed dedication of 93% of Catherine Hill Bay (Middle Camp) lands for conservation is a key element of the ESD principles entailed with the scheme; and</li> <li>▪ Appropriate environmental management measures such as stormwater and erosion control will be implemented to mitigate potential pollutant impacts.</li> </ul>
<b>Specific matters (Clause 8):</b> <ul style="list-style-type: none"> <li>▪ Retention of existing public access (including disabled access) and where possible the improvement of public access, including for disabled persons.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The proposed development is sited in a location that does not compromise existing public access to foreshore areas.</li> <li>▪ Enhanced pedestrian access to the coastline is proposed by the Coastal Heritage Walk from Areas A and B up to the land proposed to be dedicated to Council.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Suitability of development in respect to type, location, design and relationship to surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Concept Plan respects the conservation values of the Catherine Hill Bay coastline, by providing for two proposed developable areas away from foreshore areas and north of lands that have already been modified for development; and</li> <li>▪ Development areas are structured into two</li> </ul>

Provision	Response
	separate precincts sensitively located with respect to existing environmental and conservation attributes.
<ul style="list-style-type: none"> <li>Impacts upon amenity of the coastal foreshore, including potential overshadowing and loss of public views to the foreshore.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development areas have been confined to areas that are well setback from the coastal foreshore areas of the beach such that there are no issues with respect to sunlight amenity and public views.</li> </ul>
<ul style="list-style-type: none"> <li>Impact upon the scenic quality of the coast.</li> </ul>	<ul style="list-style-type: none"> <li>Future residential sites have been confined to areas that are well setback from the coastal foreshore areas of the beach such that there are no impacts with respect to scenic amenity.</li> </ul>
<ul style="list-style-type: none"> <li>Measures to conserve flora, fauna and fish including habitat; and Impacts on wildlife corridors.</li> </ul>	<ul style="list-style-type: none"> <li>The ecological studies confirm that the proposed development is largely confined to disturbed areas of lesser ecological quality and that proposed conservation offset lands provide excellent outcomes for the vast majority of species and communities.</li> </ul>
<ul style="list-style-type: none"> <li>Impacts on coastal processes and coastal hazards.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development areas have been confined to areas that are well setback from the coastal foreshore areas of the beach such that there are no impacts with respect to coastal processes and coastal hazards.</li> </ul>
<ul style="list-style-type: none"> <li>Measures to minimise conflict between land-based and water-based activities.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development areas have been confined to areas that are well setback from the coastal foreshore areas of the beach such that no conflicts will arise between land uses.</li> </ul>
<ul style="list-style-type: none"> <li>Measures to protect Aboriginal places and culture; and conservation of heritage, archaeological and historic significance.</li> </ul>	<ul style="list-style-type: none"> <li>The location of proposed developable areas was established taking into account the presence of cultural heritage and environmentally sensitive landscapes; and</li> <li>Cultural heritage items are to be retained and incorporated within open space areas.</li> </ul>
<ul style="list-style-type: none"> <li>Impacts upon water quality.</li> </ul>	<ul style="list-style-type: none"> <li>A number of initiatives are proposed to ensure that future development will meet the target requirements of Lake Macquarie City Council.</li> </ul>
<ul style="list-style-type: none"> <li>The cumulative impacts on the environment and proposed efficient water and energy usage.</li> </ul>	<ul style="list-style-type: none"> <li>Cumulative impacts are mitigated by implementing sustainability criteria in developing the Concept Plan are identified as: <ul style="list-style-type: none"> <li>Natural resources: 93% of the Catherine Hill Bay land holding is proposed to be dedicated for conservation. Proposed development areas are focussed on clear, degraded areas. Species/ communities likely to be affected are well represented within proposed conservation areas;</li> <li>Environmental protection: The proposal will assist in the securing of key regional green corridors which will conserve significant biodiversity resources and heritage attributes; and</li> <li>Environmental Stewardship: 93% of the site is proposed to be dedicated to the NSWG for</li> </ul> </li> </ul>



Provision	Response
	<p>conservation purposes. This is well in excess of traditional conservation outcomes from development offset processes. The proposal will provide appropriate waste water treatment systems and incorporate environmental design elements to maximise integration of built and natural environments.</p> <ul style="list-style-type: none"> <li>▪ A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment.</li> </ul>
<p><b>Public Access (Clause 14):</b></p> <ul style="list-style-type: none"> <li>▪ The development is not to impede or diminish land based right of access of the public along the foreshore.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The proposed development is sited in a location that does not compromise existing public access to foreshore areas.</li> <li>▪ Enhanced pedestrian access to the coastline is proposed by the Coastal Heritage Walk from Areas A and B up to the land proposed to be dedicated to Council.</li> </ul>
<p><b>Effluent Disposal (Clause 15):</b></p> <ul style="list-style-type: none"> <li>▪ Non reticulated sewer disposal systems are discouraged as no impacts upon the water quality of nearby water bodies are to occur.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Refer to Infrastructure Report at <b>Appendix K</b>.</li> </ul>
<p><b>Stormwater (Clause 16):</b></p> <ul style="list-style-type: none"> <li>▪ Stormwater quality control to ensure that stormwater disposal does not adversely impact on the sites sensitive coastal characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment. Refer to <b>Appendix L</b>.</li> </ul>

Master plans may be required in association with the proposed subdivision of land zoned within a residential zone or a rural residential zone. Whilst the land is not zoned for residential or rural residential, the proposed Concept Plan associated with this Major Project application meets the requirements of a Master plan under SEPP 71 and is sufficient in addressing the criteria for a master plan listed in Clause 20(2) of the SEPP.

The provisions of SEPP 71- Coastal Protection relative to the proposal identify that:

- Proposed developable areas are provided away from the coastline within two separate precincts in order to preserve the scenic quality of the coastline setting of the development;
- The proposed dedication of 93% of Catherine Hill Bay (Middle Camp) lands to the NSWG for conservation purposes will provide a positive long term outcome for the vast majority of species and communities within the area;
- The proposed Water Sensitive Urban Design Strategy Plan (WSUD) will ensure that stormwater disposal does not adversely impact on the site's sensitive coastal characteristics; and
- The proposed developable areas have been determined with consideration of the cultural heritage and environmentally sensitive landscape and key items of heritage significance will be retained and incorporated into the open space areas.

## 5.9 State Environmental Planning Policy (Major Development)

State Environmental Planning Policy (Development Project) 2005 (the “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 “Major Development” under the provisions under Section 75B(1) of the EP&A Act in which the Minister for Planning makes an order to the effect to which Part 3A applies to a project. With respect to the subject project, an order by the Minister for Planning under these provisions was gazetted on the 15 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:

- The State or regional planning significance of the site (having regard to the Guideline for SSSs under the Major Development SEPP);
- 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 ;
- The implications of any proposed land use for local and regional land use, infrastructure, service delivery and natural resource planning;
- The means by which developer contributions should be secured in respect of the site;
- The local and regional economic impacts of the proposed development;
- The likelihood of the proposed rezoning for residential purposes achieving the desired outcomes of the State Government’s regional strategies;
- The recommended land uses and development controls for the site that should be included in Schedule 3;
- Those parts of the site which should be subject to Part 4 of the EP&A Act with the relevant council as the consent authority; and
- Appropriate arrangements (if relevant) for the management of land for open space purposes.

The State Significant Site listing/rezoning application is submitted to the DOP concurrently with the separately proposed Concept Plan under this Major Development Application.

## 5.10 State Environmental Planning Policy 44 – Koala Habitat Protection

State Environmental Planning Policy No 44 - Koala Habitat Protection 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 requires an assessment of the core koala habitat of sites subject to development proposals prior to determination of development applications.

Ecological surveys conducted by RPS identify that the chance of occurrence of koalas on the site is low to moderate. Records for Koalas occur to the south of the site, but no evidence was observed during fauna surveys. The likely level of impact within the proposed development is assessed to be low as those areas representing potential foraging habitat for the Koala will be retained within the current proposal. In this respect, it is unlikely that the current proposal will represent a significant threat to local populations of this species.

## 5.11 State Environmental Planning Policy 14 – Coastal Wetlands

SEPP 14 aims to ensure that coastal wetlands are preserved and protected in the environmental and economic interests of the State.

Coal & Allied acknowledges the proposed boundaries that will define the area proposed to be classified as SEPP 14 Wetland. The boundaries do not impact the proposed development areas in the Concept Plan for Catherine Hill Bay (Middle Camp) other than a few lots that are within 100 meters of the proposed Wetland boundary. Coal & Allied does not agree with sections of the proposed Wetland in the north and to the east, although neither of these areas impact the proposed Concept Plan.

## 5.12 State Environmental Planning Policy - Infrastructure

State Environmental Planning Policy (infrastructure) 2007 (Infrastructure SEPP) aims to facilitate the delivery of infrastructure across the State by improving regulatory certainty and efficiency.

The draft Schedule 3 listing/rezoning for the site proposes that all development for the purpose of a public utility undertaking that is carried out on land across the entire Catherine Hill Bay (Middle Camp) site does not require development consent. Furthermore, the draft Schedule 3 listing/rezoning for the site proposes that bushfire protection requirements; earthworks; electricity generating works; flood mitigation works, public utility undertakings; drainage; environmental protection works, roads, sewerage system, telecommunication facilities, water supply system are permissible without development consent in the proposed R2 Low Density Zone.

The provision of infrastructure services are discussed in detail within the Infrastructure Study prepared by Cardno included at **Appendix K**. 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 during the assessment process and at the relevant subdivision stage.

Any future works to be undertaken by or on behalf of a public authority will require consideration to the relevant considerations of the Infrastructure SEPP.

## 5.13 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 (**Appendix H**). The results of the preliminary assessment indicated that site remediation will be required in Area B, concentrated on the former Pit E site, with possible less extensive remedial work in Area A. Additional investigation is recommended across the site prior to development to provide additional delineation of affected areas.

Areas of additional investigation should include, but not necessarily be limited to, the following:

- Further assessment of the presence of, and delineation of contaminated filling, and/or contamination from mining operations. A range of potential contaminants should be assessed, including heavy metals, PAH, TRH, BTEX, OCP/CPP pesticides, PCBs and asbestos;
- Assessment of groundwater quality near locations of soil contamination;
- Specific assessment for PCBs in the vicinity of the former transformer and substation associated with the former Pit E in Area B;
- Assessment of surface fibro to confirm the presence of asbestos in fibro fragments and possibly in near surface soils. Assessment of asbestos materials should be undertaken by a qualified asbestos consultant.

Remediation, where required, would include the preparation of a remediation action plan (RAP), appropriate excavation and removal/disposal/capping of contaminated soil, followed by validation sampling and analysis to the requirements of SEPP 55 and DECCW. Immobilisation of the black slag material by a licensed contractor may be required prior to disposal.

Based on the known and potential contaminants in parts of the site and the ability to remediate the above listed contaminants, Douglas Partners is satisfied that the land will be suitable, after remediation, for residential purposes. The land is required to be remediated before the land is used for such a purpose and the following must be undertaken as part of any application for land subdivision to ensure that the site is suitable for residential development with respect to contamination:

- Detailed contamination assessment for Areas A and B in accordance with SEPP 55 and NSW DECC guidelines;
- Development of a Remediation Action Plan based on the results of the detailed contamination assessment and verification through the NSW DECC site auditor process undertaken;
- Appropriate remediation conducted to removed identified contaminants exceeding the DECC land use criteria;
- Deleterious materials and possible associated surface impact removed;
- Validation testing and verification;
- Validation of asbestos contamination should be conducted by a qualified asbestos consultant;
- Waste classification to DECCW guidelines of any materials destined for off-site disposal at a licensed landfill.

## 5.14 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.

In conjunction with the Concept Plan, development guidelines will be prepared for the future design of dwellings to meet energy and water saving targets sought by BASIX. An Energy & Water Savings Action Plan has been prepared by Ensign and is included at **Appendix M**.

## 5.15 State Environmental Planning Policy (Mining, Petroleum Production and 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.

In the case of Coal & Allied's land at Catherine Hill Bay parts of the site have been used for mining in the past. Future mining at the site is unlikely, however possible. Future mining at the site, if it occurred, may affect the standard guidelines outlined above. Restrictions on development due to future mining are provided by the DARZL committee and a formal application to the MSB is required for consideration by DARZL.

## 5.16 Hunter Regional Environmental Plan 1989 (Heritage)

The Hunter Regional Environmental Plan 1989 (Heritage) (Heritage REP) provides a regional statutory framework for the conservation of environmental heritage. The Heritage REP also aims to promote the appreciation of the Region's cultural heritage and the conservation of historic townscapes.

Catherine Hill Bay is listed as a Conservation Area under Schedule 5 of the Heritage REP.

The provisions of the Heritage REP relative to Catherine Hill Bay are applicable in the circumstances of the preparation of a draft Local Environmental Plan (LEP) by Lake Macquarie Council. Where the draft LEP applies to the conservation area, Council is required to examine the significance of the heritage conservation area and prepare development control guidelines for the conservation area.

Development guidelines have been established for the Catherine Hill Bay Area which have considered the Heritage REP, Lake Macquarie Local Environmental Plan 2004 and Lake Macquarie Development Control Plan No.1.

## 5.17 Lake Macquarie Local Environmental Plan 2004

Lake Macquarie Local Environmental Plan 2004 (LMLEP 2004) applies to the site, which zones the site as follows:

- 7(1) Conservation (Primary) Zone; and
- 7(4) Environmental (Coastline) Zone, along the eastern edge of the site.

The proposed developable areas for residential purposes are confined to the 7(1) zoned portion of the Coal & Allied lands, with no developable areas proposed within the 7(4) zoned land.

The proposed residential development is prohibited under the provisions of LMLEP 2004. Although, the land proposed to be dedicated to the NSWG is currently zoned for conservation, some development is permissible within this zone and it is also currently in private ownership. Permissible uses for 7(1) zoned land, in addition to "exempt development" that require development consent are: bed and breakfast establishments; drainage; dwelling houses; earthworks; environmental facilities; home businesses; home industries; roads; signs; stormwater management facilities and utility installations. Consequently these lands cannot be protected in accordance with NPWS best practice and it is quite possible that the zoning and use of the land will be subject to change over time.

If these lands are rezoned to the highest level of conservation zoning available under the Standard Instrument – Principal Local Environmental Plan (E1 – National Parks and Nature Reserves) and dedicated to NSWG, they will be protected in perpetuity. This is a significant gain to the community.

The objectives of the 7(1) Conservation (Primary) zone relate to:

- Provision and conservation of land having ecological, scientific, geological, educational, faunal, floristic or aesthetic values;
- Preservation and enhancement of areas of significant vegetation and habitat to promote the regeneration of ecosystems;
- Conservation and management of corridors to facilitate species movement;
- Exclusion of activities that would impact upon the conservation and rehabilitation of land; and encourage activities that meet conservation objectives;
- Protection of land from adjacent development on adjoining zones; and
- Provision of sustainable water cycle management.

The proposed development of Catherine Hill Bay (Middle Camp) will achieve the overall general objectives of enhancing the conservation values of the South Wallarah Peninsula.

Any future development will be designed to integrate with the natural bushland surroundings and will implement sustainable water cycle management infrastructure to minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies.

As discussed, the proposed Concept Plan seeks to facilitate residential development that is not permissible under the existing planning provisions and therefore the 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.

The LMLEP 2004 also contains a number of controls that may be relevant to the project and future subdivision and development of the land. These provisions are discussed in the table below, which identify that the Concept Plan is in accordance with the relevant statutory considerations:

Table 8 – Summary of Lake Macquarie LEP 2004

Provision	Response
<p>Clause 16 – Identifies consideration of development to have regard to the Lifestyle 2020 Strategy and the objectives of the zone.</p>	<p>Coal &amp; Allied 's objectives are centred upon the environmental, social and economic sustainable development of Middle Camp, reflective of the core values and aims of the Lifestyle 2020 Strategy through:</p> <ul style="list-style-type: none"> <li>▪ The establishment and realisation of the long sought-after conservation corridors, notably the Wallarah Peninsula Corridor;</li> <li>▪ Contribution towards the social development of the Catherine Hill Bay area by the provision of social infrastructure to meet the needs of the current and future community; and</li> <li>▪ Contribution toward the economic development of the Lower Hunter Region through providing land for residential development to meet the growth targets set out in the LHRS.</li> </ul> <p>Fundamental considerations of the proposal that particularly accord with the strategic directions of the Lifestyle Strategy include:</p> <ul style="list-style-type: none"> <li>▪ The protection of the City's biodiversity and maximising opportunities for environmental enhancement;</li> <li>▪ Facilitates the supply of adequate land and housing and associated infrastructure, services and facilities;</li> <li>▪ Provision of interconnected open space areas that include key environmental and heritage features;</li> <li>▪ Protection of the scenic amenity of Catherine Hill Bay (Middle Camp) and to promote high quality urban design of future neighbourhoods; and</li> <li>▪ Provides land use and movement systems that respect the heritage and cultural integrity of the established Catherine Hill Bay (Middle Camp) neighbourhood.</li> <li>▪ The objectives of the 7(1) Conservation (Primary) zone are discussed above.</li> </ul>
<p>Clause 17 – Requires that arrangements for the provision of infrastructure are made to cater to the demands of proposed development.</p>	<ul style="list-style-type: none"> <li>▪ Infrastructure required to meet the physical and social demands of the proposed development have been investigated in detail. These provisions are addressed under the key issues of this EA report.</li> </ul>

Provision	Response
Clause 22 to 23 – Requires consideration to the siting of development with respect to foreshore building lines.	<ul style="list-style-type: none"> <li>The siting of the proposed development is proposed away from foreshore areas to preserve the existing coastal setting and amenity.</li> </ul>
Clause 24 – Provides for subdivision of land subject to development consent and minimum subdivision lot sizes. A minimum lot size of 100ha applies to land zoned 7(1) within South Wallarah Peninsula, east of the Pacific Highway. No standards apply for land zoned 7(4).	<ul style="list-style-type: none"> <li>Proposed subdivision lot sizes do not meet the minimum 100ha provision;</li> <li>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.</li> </ul>
Clause 26 – Provides for dwelling houses and dual occupancies considerations on certain zones, including zone 7(1) which restricts the number of dwelling houses on one lot to one dwelling only.	<ul style="list-style-type: none"> <li>The proposed subdivision of land provides for 222 new dwellings. In conjunction with the Concept Plan, 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.</li> </ul>
Clause 28 – Identifies that a dwelling house may only be built on land zoned 7(1) within the South Wallarah Peninsula on land 100ha or more in size.	<ul style="list-style-type: none"> <li>Proposed subdivision lot sizes do not meet the minimum 100ha provision; and</li> <li>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.</li> </ul>
Clause 29 – Relates to compatibility between proposed building heights over 8m in height and surrounding buildings, relative to site attributes and provisions under the LEP and any relevant Development Control Plans.	<ul style="list-style-type: none"> <li>Building heights will range from single to two storeys (refer Building Heights Map at <b>Appendix O</b>). Specific guidelines will guide the future neighbourhood character and have been developed in consideration of the existing built form character of Catherine Hill Bay (Middle Camp) and the principles of appropriate integration with the natural surrounds. (<b>Refer Appendix B</b>).</li> </ul>
Clause 30 & 31 - Relate to the measures to minimise pollution and erosion and sediment control.	<ul style="list-style-type: none"> <li>Potential pollution control has been investigated for the proposed development through the implementation of erosion and sediment control measures prior to construction on site.</li> </ul>
Clause 32 – Development on flood prone land requires development consent and is to be designed in accordance with any relevant flood management plan or development control plan.	<ul style="list-style-type: none"> <li>Flood risk management measures have been investigated by the proponent's engineers, GHD, in accordance with NSW Floodplain Development Manual, including considerations to flood planning levels and flood evacuation. This further addressed under Section 6 of this EA report.</li> </ul>
Clause 33 – Development on bushfire prone land is to have regard to Planning for Bushfire Protection guidelines and include measures to avoid or mitigate the threat from bushfire.	<ul style="list-style-type: none"> <li>Bushfire management and protection measures have been investigated and identified by the proponent's bushfire consultants RPS. This further addressed under Section 6 of this EA report.</li> </ul>
Clause 34 – Consent is required for the removal of native vegetation and must be assessed in respect to potential soil impacts; water quality; amenity; and flora and fauna impacts.	<ul style="list-style-type: none"> <li>The proposed development is to be predominantly situated within disturbed areas of lesser ecological quality and where possible, native vegetation has been avoided;</li> <li>Ecological investigations confirm that fauna species will not be detrimentally affected to any degree of significance; and</li> </ul>



Provision	Response
	<ul style="list-style-type: none"> <li>Where significant native vegetation may be affected, suitable actions are proposed to minimise potential impacts. This further addressed under Section 6 of this EA report.</li> </ul>
Clause 35 – The likelihood of acid sulphate soils occurring during development works is required to be assessed and if required, an acid sulphate management soils plan is to be prepared prior to determination of a DA.	<ul style="list-style-type: none"> <li>Acid sulphate soil assessment has been carried out by Douglas Partners, which indicate the presence of potential acid sulphate soils. A general acid sulphate soil management procedure is proposed and a detailed acid sulphate soil management plan is to be prepared prior to construction, if disturbance of alluvial soils is proposed.</li> </ul>
Clauses 43 to 54 – Relates to heritage and archaeological considerations. Consent is required for development on land that is affected by heritage items and consideration must be given to the heritage items concerned and its setting.	<ul style="list-style-type: none"> <li>Extensive European and Aboriginal heritage and archaeological assessment has been undertaken by ERM to determine the most appropriate options in the siting of the proposed developable areas and heritage interpretation. This further addressed under Section 6 of this EA report.</li> </ul>
Clause 60 – Development on land adjoining land zoned 7(1) and 7(4) is required to consider impacts that may affect the conservation of such lands and impacts in respect to public access, amenity and environmental management.	<ul style="list-style-type: none"> <li>The subject Coal &amp; Allied lands of Middle Camp include land zoned 7(4) but no development is proposed on such lands. The siting of the proposed developable areas therefore ensures no disturbance to lands affected by natural coastal processes and no impacts in respect to coastal amenity; cultural heritage; public access; and environmental and ecological significance. The implementation of sustainable water cycle management infrastructure will minimise potential impacts in respect to the quality of surface and groundwater and the overall water quality of the beach and Catherine Hill Bay (Middle Camp).</li> </ul>

### 5.17.1 Catherine Hill Bay Heritage Conservation Area

An amendment to the Lake Macquarie Local Environmental Plan 2004 (LEP 2004) was gazetted on 20 March 2008 to identify Catherine Hill Bay as a heritage conservation area. The extent of the heritage conservation area applies to the majority of the land owned by Coal & Allied and subject to the proposed Concept Plan.

The HIA included at **Appendix I** provides an assessment relative to the Catherine Hill Bay Heritage Conservation Area. The HIA has determined that the proposed Concept Plan represents an acceptable outcome provided that mitigation measures are implemented which will adequately minimise the visual impacts on the Heritage Conservation Area and the impacts on the archaeological resources of E Pit. The draft Statement of Commitments included at **Appendix C** includes these mitigation measures.

In summary, it is assessed that the proposal will pose minimal impact to the visual catchment of Middle Camp as it does not impact on the heritage values of the individual buildings and surrounding areas. The development is planned to respect the visual catchment of Middle Camp, achieved by creation visual buffers and complementary building forms. The retention of heath land will also provide additional buffering and screening between new and established areas.

In conclusion, the proposal is largely consistent with the provisions 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 proposed dedication of 93% of Catherine Hill Bay lands to NSWG for conservation purposes which will help create important conservation corridors, provision of social infrastructure and contribution to the economic development of the Lower Hunter Region;
- The proposed development will occur in areas that have already been disturbed and are of lesser ecological value in order to preserve as much native vegetation as possible;
- The proposed siting of developable areas has been determined such that no development will occur on land zoned 7(4) resulting in no impacts regarding coastal amenity, cultural heritage, public access or environmental significance;
- The Concept Plan has been sensitively designed to address potential heritage impacts of the proposed development on the Heritage Conservation Area; and
- Building heights and design guidelines for each of the precincts have been determined so as to have minimal impact on the visual amenity of the area and to provide integration between the built and natural environments.

## 5.18 Non compliances with EPIs and DCPs

The current land use zoning of the site under Lake Macquarie Council's local environmental plan does not facilitate the residential scheme proposed under the Concept Plan. In this regard, a State Significant Site listing is proposed under the Major Development SEPP, which will provide the statutory mechanism for approval of the Concept Plan and associated future development.

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

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.

## 6 Key Issues

### 6.1 Urban Design and Built Form

#### 6.1.1 Design Guidelines

Design Guidelines have been prepared by AJ+C Architects as part of the Concept Plan which provide guidelines towards dwelling design (see **Appendix B**). The Design Guidelines provide objectives and controls for which future development must adhere including:

- Building Types;
- Density;
- Building height;
- Streetscape and Street Setbacks;
- Side and Rear Setbacks;
- Private Open Space and Landscaping;
- Sustainability; and
- Site Planning and Management.

The Design Guidelines also contain a Public Domain Strategy identifying the potential treatment of public domain areas.

A Draft Statement of Commitments is prepared and included at **Appendix C**, which commits the Concept Plan to the Design Guidelines. All future development is to comply with the Design Guidelines.

#### 6.1.2 Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) principles have been fundamental considerations in the subdivision planning of the four precincts and will continue to apply in the detailed Project Applications for each subsequent development stage. The Concept Plan entails the following CPTED principles:

- Legible street patterns with clear sightlines;
- A permeable street pattern that ensures there are no entrapment spots or enclosed pathways;
- Appropriate street lighting to be implemented;
- Orientation of dwellings to address the street, particularly at perimeter areas of the precinct to provide for informal surveillance; and
- Design for open landscaping at the ground level to encourage visibility.

#### 6.1.3 Coastal Design Guidelines Response

Assessment under the Coastal Design Guidelines for NSW and the NSW Coastal Design Policy 1997 has been undertaken under Section 5 of the EA. The assessment identifies that the Concept Plan for the proposed development of the Catherine Hill Bay (Middle Camp) site satisfactorily achieves the objectives of managing the NSW coastal zone.

- The proposed development footprints create a clear and distinct boundary that will separate the proposed development from bushland reserves and from riparian zones;

- The proposed development footprint is generally confined to the cleared or regenerated bushland and therefore limiting unnecessary sprawl into remnant bushland;
- The street patterns are proposed in a loose grid arrangement that is appropriate and in keeping with the existing settlement pattern of Catherine Hill Bay (Middle Camp);
- The proposed precincts are sited considerably to the west of the coastal foreshore areas of Middle Camp beach such that the scenic amenity of the Middle Camp beach and associated foreshore areas will not be impacted. In doing so, the existing contiguous landscape areas character of Catherine Hill Bay (Middle Camp) is maintained;
- The valued heritage integrity of Catherine Hill Bay (Middle Camp) will be maintained by the discreet siting of the proposed developable areas from the existing township and key heritage items. Open space and parks are to be provided around the remnant buildings and former rail line where there is an opportunity to reinterpret the character of the former industrial fabric; and
- A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment. A number of initiatives are proposed to ensure that future development will meet the target requirements of Lake Macquarie City Council.

Figure 13 – Middle Camp Beach



Picture 8 – The predominantly natural surrounds of Middle Camp Beach.

Buildings are not readily perceived through the appropriate siting of the Middle Camp township

## 6.2 Coastal Foreshore and Public Access

As identified above, the coastal foreshore and existing public access will not be affected due to the siting of development away from foreshore areas.

A potential significant benefit of the proposal will entail the provision of the Heritage Railway Line Walk extension from the land that is proposed to be transferred to Lake Macquarie City Council by Coal & Allied for beach access and car park, to the beach car park south of 4 Pines House including a heritage interpretation strategy to guide the provision of on-site interpretation to celebrate the historic significance of Catherine Hill Bay (Middle Camp). This will be delivered as part of the \$5 million Allocation priorities provided by Coal & Allied.

This new link will function as a safe pedestrian and bicycle path that will be separate from the street network. A raised boardwalk may need to be incorporated over sensitive ecological areas to maintain the integrity of the conservation lands.

## 6.3 Biodiversity Impact

An Ecological Assessment Report for Catherine Hill Bay (Middle Camp) has been prepared by RPS and is included at **Appendix F**. The detailed flora and fauna studies undertaken confirm that development of a small portion of the site as a whole will provide a mechanism for beneficial ecological outcomes within the proposed conservation lands for the vast majority of species and communities contained therein. The quantum of the offset lands, when viewed holistically with proximate existing and proposed conservation reserve areas, provides a robust long-term outcome for all species and communities. Furthermore, suitable actions are proposed to minimise potentially deleterious permanent and ongoing impacts to the conservation lands. The offsets to be provided by Coal & Allied through dedication of the conservation corridor land have been tested for appropriateness against the criteria set out in Appendix 1 of the LHRCP.

A total of 420 flora species were identified over the Catherine Hill Bay site during targeted flora surveys, including three threatened flora species and four Endangered Ecological Communities. The vast majority of these areas of identified EEC (and in one case, all) will be contained within the proposed conservation lands.

The field and desktop studies have recorded the following parameters of ecological significance within both the conservation lands and the development estate:

- 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.

With these potential ecological issues noted, a series of recommendations have been outlined in the Ecological Report to aid in the reduction of potential impacts associated with the proposal.

Given that measures have been taken to avoid ecological impacts and that where native vegetation may be affected, efforts have been made to avoid particularly sensitive areas where practical. It is considered unlikely that any significant impacts would occur upon threatened species, communities or populations.

The large areas of conservation lands that are proposed to be set aside as part of the development provide excellent ecological outcomes across the site. As a result of conservation of these offset lands, coupled with other large land parcel dedications in the locality, a large vegetation corridor will be created across the Wallarah Peninsula. These conservation lands will link three state conservation areas of Lake Munmorah State Conservation Area, Lake Macquarie State Conservation Area and Wallarah National Park. This large tract of native vegetation will provide habitat for a wide variety of native flora and fauna.

The Ecology Assessment Report concludes 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.

Further, it is noted that an approval for the scheme as a "controlled action" has been granted by the Minister for the Environment under the Environmental Protection and Biodiversity Conservation Act on 23 March 2010. This demonstrates that appropriate measures are proposed to conserve endangered species and their habitat.

The proposal maintains consistency with the approval granted under the Environment and Biodiversity Conservation Act 1999 and the relevant conditions as indicated in the following table:

Table 9 – EPBC Act Approval consistency

Condition	EPBC Act Approval	Consistency of Concept Plan with EPBC Act Approval
B1.	The person taking the action must undertake the action in accordance with the conditions of this approval and as described in the referral documentation dated 20 August 2008. Where the referral documentation and these conditions are contradictory, these conditions shall prevail to the extent of the contradiction.	The Proposal is consistent with the relevant conditions of the EPBC Act approval as set out in the responses below.
B2.	Prior to any commencement of works, the person taking the action must dedicate the approximate 527ha of land identified as the Catherine Hill Bay conservation area to the NSW Government to be conserved in perpetuity.	The Catherine Hill Bay conservation area will be dedicated to the NSW Government, in accordance with clause 4 of Schedule 4 of the Voluntary Planning Agreement, prior to any commencement of works.
B3.	<p>In order to minimise any potential impacts on the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) listed threatened species and suitable habitat that is known to, or likely to occur in the Catherine Hill Bay conservation area, a management and monitoring plan must be developed to address the following interface management issues between the Catherine Hill Bay development area and the Catherine Hill Bay conservation area:</p> <ul style="list-style-type: none"> <li>(a) pedestrian access arrangements;</li> <li>(b) edge effects due to disturbance of adjacent areas;</li> <li>(c) procedures for identifying and conserving, hollow bearing and old growth habitat trees in the Catherine Hill Bay development area;</li> <li>(d) sediment and erosion control measures;</li> <li>(e) water quality and quantity;</li> <li>(f) domestic animals; and</li> <li>(g) spread of exotic and invasive species.</li> </ul> <p>The plan must be approved in writing by the Minister prior to the commencement of works. The approved plan must be implemented.</p>	<p>The Proposal is consistent with this condition as follows:</p> <ul style="list-style-type: none"> <li>▪ The Proposal commits to the preparation of a Statement of Interim Management Intent (SIMI) in the “Environmental Management” clause of the Statement of Commitments. The SIMI will be prepared in consultation with DECCW and will be, to the extent possible, consistent with the plan approved by the Minister with respect to clauses (a), (b), and (g) of this condition B3.</li> <li>▪ The Proposal commits to the preparation of a Tree Management Plan in the “Tree Management” clause of the Statement of Commitments. The Tree Management Plan will be, to the extent possible, consistent with the plan approved by the Minister with respect to clause (c) of this condition B3.</li> <li>▪ The Proposal commits to the preparation and implementation of a range of stormwater management measures in the “Water Quality and Quantity Management” clause of the Statement of Commitments. The management measures will be, to the extent possible, consistent with the plan approved by the Minister with respect to clause (d) and (e) of this condition B3.</li> </ul>

		<ul style="list-style-type: none"> <li>▪ The Proposal commits to the development of strategies to address potential impacts associated with pet ownership in the “Pet Management” clause of the Statement of Commitments. The management measures will be, to the extent possible, consistent with the plan approved by the Minister with respect to clause (f) of this condition B3.</li> </ul>
B4.	In order to minimise the potential impacts on the EPBC Act listed threatened species and suitable habitat that is known to, or likely to occur in the Catherine Hill Bay conservation area, the person proposing to take the action must develop a Stormwater Management Plan which ensures that stormwater discharged from the Catherine Hill Bay development area meets the objective reductions set out in the October 2007 draft Managing Urban Stormwater: environmental targets, Department of Environment and Climate Change NSW.	The Proposal commits to the preparation and implementation of a range of stormwater management measures in the “Water Quality and Quantity Management” clause of the Statement of Commitments. The stormwater management measures will be, to the extent possible, consistent with the plan approved by the Minister with respect to this condition B4.
B5.	Within ten calendar days of commencement of the works, the person taking the action must advise the department in writing of the actual commencement date.	Not Applicable.
B6.	Within three months of every 12 month anniversary of the commencement of the works, the person taking the action must submit to the Department an annual report addressing compliance with the conditions of this approval, including measures taken to implement the management plans required by this approval. Annual reports must be provided until the Minister is satisfied and the department advises in writing that the proponent has complied with all conditions of the approval.	Not Applicable. (Copies of the annual report would be provided to relevant NSW Government agencies upon request).
B7.	If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, reports or strategies referred to in condition numbers B3 and B4 the person taking the action must submit for the Minister’s approval a revised version of any such plan, report or strategy. If the Minister approves such a revised plan, report or strategy, that plan, report or strategy must be implemented in place of the plan, report or strategy originally approved.	Not Applicable.
B8.	If the Minister believes it is necessary or desirable for the better protection of listed	Not Applicable.



	threatened species and communities to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or strategies approved pursuant to condition numbers B3 and B4 and submit the revised plan, report or strategy for the Minister's approval. The person taking the action must comply with any such request. The revised approved plan, report or strategy must be implemented.	
B9.	If, at any time after 5 years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of the action, the action must not thereafter be commenced without the written agreement of the Minister.	Not Applicable.
B10.	The person undertaking the action must maintain accurate records substantiating all activities associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Departments website. The results of audits may also be publicised through the general media.	Not Applicable.

## 6.4 Traffic and Accessibility

A Traffic and Transport Assessment has been undertaken and a report prepared by Hyder in relation to the proposed development. This report is included at **Appendix G**.

This Traffic and Transport Assessment presents the findings of investigations into the traffic implications of the proposed Catherine Hill Bay (Middle Camp) Concept Plan. The report documents a review of existing traffic conditions, the development of a spreadsheet based traffic model, the determination of future traffic demand, cumulative traffic impact and a traffic assessment of the proposed short listed future network options with full development.

### 6.4.1 Public Transport

Most trips in the CHB area are undertaken by car. Journey to work data shows that car accounts for 94% of journey to work trips with 3% using the public transport. Public transport is limited. There is one direct bus service to Catherine Hill Bay township, being Busways Wyong Route 99 which runs from Lakehaven Shopping Centre to Swansea. At present there are five services to Catherine Hill Bay in each direction on weekdays and two services on weekends. The services generally commence after 9am and end before 4pm and therefore are more suited for shopping or school children than for commuting. Route 99 runs along Flowers Drive and provides the public transport opportunity to the subject site. The nearest railway station to the site is Wyee, at 24km away.

The operator of Busways was contacted regarding upgrades to the service. Busways advised that bus services were continually under review and that more frequent services would be considered as additional residential development occurs in Catherine Hill Bay, Gwandalan and Nords Wharf.

#### 6.4.2 Proposed Road Network

The two proposed hamlets are located on either side of Flowers Drive, with a single entry point to the western hamlet and two entry points to the eastern hamlet, off this main roadway.

The street hierarchy within the hamlets is made legible by the loose grids of local streets, creating a permeable street pattern of through-roads. Perimeter roads will be used as Asset Protection Zones for bushfire protection. Cycle ways will be provided on streets, in recognition of low traffic volumes. Parallel on-street car parking will occur on all streets.

The streets of Catherine Hill Bay (Middle Camp) are designed as one of 4 types with one sub-type. These types are:

- Edge streets that occur on the periphery of the development and which include the APZ. These have been designed to incorporate swales, and the road reserve will be 20m in width.
- Internal streets that form the estate's grid. These local streets will have a 17m road reserve.
- 6m wide laneways that service areas of higher density.
- One way streets around parks, being 9m in width, and
- A local road 17m in width.

The proposed roads will be designed generally in accordance with Lake Macquarie Council's guidelines.

#### 6.4.3 Traffic Generation

The traffic generation from the proposed development of 222 dwellings is predicted to result in a maximum of 189 peak hour vehicles and 2,000 daily vehicle movements to the surrounding road network. With the proposed development, Flowers Drive through Middle Camp is forecast to carry about 220 vehicles in one peak hour and 2,130 vehicles per day. The post development traffic on Flowers Drive will be less than the environmental goals for residential streets set out by the RTA.

#### 6.4.4 Intersection Upgrading Works on Regional Network

An analysis of cumulative traffic impact resulting from the development of the subject site and other potential Coal & Allied and Rose Group developments at Nords Wharf, Catherine Hill Bay and Gwandalan suggests that the following proposed upgrades to intersections at the Pacific Highway would be required:

- Cams Wharf Road/ Flowers Drive: maintain right turn from Pacific Highway to Cams Wharf Road. Ban right turn from Cams Wharf Road onto Pacific Highway. Flowers Drive traffic will be restricted to left in/left out only;
- Montefiore Street: provide a seagull intersection with full access to Montefiore Street and traffic signal control on the Pacific Highway southbound and Montefiore Street.

In the event that the proposed Coal & Allied Middle Camp development proceeds ahead of the proposed Rose Group development at Catherine Hill Bay, traffic analysis has determined the need for staged upgrades at the Pacific Highway/Flowers Drive/Cams Wharf Road intersection. The staged upgrades at this intersection would be in line with the above mentioned ultimate intersection configuration determined from cumulative traffic generated by both developments. The following modifications would be required until the cumulative traffic from the other development in the vicinity (Rose Group) impacts the intersection performance:

1. Ban right turn from Pacific Highway to Cams Wharf Road.
2. Maintain right turn out from Flowers Drive to Pacific Highway.
3. Maintain left in and left out movements to/from Flowers Drive
4. Ban right turn from Cams Wharf Road onto Pacific Highway.

The traffic analysis has identified no upgrading requirements of the Pacific Highway / Montefiore Street intersection deriving from existing traffic and the Coal & Allied development at Middle Camp only.

Should the Rose Group development proceed after completion of the staged upgrade works at the Pacific Highway/Flowers Drive/Cams Wharf Road intersection, then both movements (a) and (b), and the Montefiore / Pacific Highway intersection should be modified as per the assessed ultimate intersection configuration determined from cumulative traffic impacts. Movements (c) and (d) at Pacific Highway/Flowers Drive/Cams Wharf Road would be unchanged.

#### 6.4.5 Integrating Land Use and Transport policy

The Traffic Report assesses the proposal against the objectives of the Integrating Land Use and Transport policy document. The ILUT provides a framework for State Government agencies, councils and developers to integrate land use and transport planning at the regional and local levels. The ILUT is designed to increase access to services and improve the choice of transport available.

The report shows proposal complies with the five key objectives of the ILUT policy document.

### 6.5 Noise Impacts

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

- Assess noise impacts in accordance with the *Environmental Criteria for Road Traffic Noise* (EPA, 1999), and outline any proposed measures to mitigate or manage impacts.

Traffic noise from Flowers Drive is predicted to comply with the relevant ECRTN noise requirements at existing residences in Middle Camp due to additional traffic on Flowers Drive as a result of the proposed Catherine Hill Bay (Middle Camp) estate.

Traffic noise from the Pacific Highway and Flowers Drive is predicted to comply with the relevant ECRTN noise requirements for the proposed Catherine Hill Bay (Middle Camp) estate.

Therefore, no further noise mitigation measures would be required for the proposed residential development. The assessment of road traffic noise accompanies this EA report at **Appendix P**.

### 6.6 Mining Activities

A Preliminary Contamination, Geotechnical and Mine Subsidence Assessment has been prepared by Douglas Partners and is included at **Appendix H**.

#### 6.6.1 Operational and Lease Arrangements

It is understood that mining operations at Catherine Hill Bay (Middle Camp) ceased in the mid 1980's and that there are no mining titles affecting the subject site. As such no further operation and lease arrangements are required to be addressed to enable the development of the land.

#### 6.6.2 Geotechnical Constraints

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

site constraints relative to the former coal mining use. The assessment was carried out in accordance with all the relevant guidelines and legislation.

As discussed at Section 5.13 of this EA, the results of the preliminary assessment indicated that site remediation will be required in Area B, concentrated on the former Pit E site, with possible less extensive remedial work in Area A. Additional investigation is recommended across the site prior to development to provide additional delineation of affected areas.

Based on the known and potential contaminants in parts of the site and the ability to remediate the above listed contaminants, Douglas Partners is satisfied that the land will be suitable, after remediation, for residential purposes. The land is required to be remediated before the land is used for such a purpose. Remediation, where required, would include the preparation of a remediation action plan (RAP), appropriate excavation and removal/disposal/capping of contaminated soil, followed by validation sampling and analysis to the requirements of SEPP 55 and NSW DECC.

Potential geotechnical constraints identified at the site include:

- Contamination (discussed above);
- Disturbed ground and mound filling;
- Founding conditions (uncontrolled surface filling; possible soft alluvial soils, clay soils);
- Potential for combustion of remnant coal;
- Erodable soils;
- Aggressive soils with respect to buried structures.

Detailed analysis of soil conditions and implementation of recommendations identify that the site will be suitable to accommodate future development as follows:

- Based upon the investigation of soil and past filling activities, future development will require the reworking of fill; ground improvement works or use of footings dependent on ground conditions.
- The presence of potential acid sulphate soils has been identified within the alluvial soils on the northern parts of the site. A general acid sulphate soil management procedure is provided by Douglas Partners and a detailed Acid Sulfate Soil Management Plan is recommended to be prepared prior to construction if alluvial soils are proposed to be disturbed.
- Any natural alluvial soils excavated should be stockpiled separately prior to lime treatment in a bunded area to collect any leachate that may form.
- Evidence of combustible material comprising coal and chitter was found in Area A and B. It is recommended that additional investigation be undertaken in Areas A and B prior to development to further characterise the distribution of combustible material to allow refinement of suitable options for management of the combustible material.
- The site is considered to have a low to moderate risk of slope instability however the northern slopes of Area B includes an outcrop of the Wallarah Seam which is recommended for further investigation prior to development. Similarly, further geotechnical investigation is required if significant cuts or fills are proposed for the site, which may be managed by implementing suitable supportive measures.
- There was generally no obvious soil erosion evident on the site, however based on the Soil Landscape Sheet for Gosford – Lake Macquarie the soils on the slopes typically have high erosion potential. Any potential erosion and sedimentation are readily amenable to mitigation measures.
- Non-aggressive and mild soil exposure classifications were found in respect to naturally acidic or saline soils which may be aggressive to buried structures or services. However Area B contains some soils which have been identified with a Moderate Classification but it is recommended that sufficient concrete over and appropriate strength will mitigate such impacts.

In summary, additional geotechnical investigation is expected to be required prior to development which may include the following:

- Additional assessment of combustible material and improvement measures.
- Specific foundation investigation for proposed buildings or excavations.
- Site classifications to AS 2870.
- Earthworks procedures and specifications.
- Pavement thickness design for roads.

### 6.6.3 Former Mining Activities

The site is underlain by coal mine workings in two seams, the Wallarah and The Great Northern Seams. Relative to the proposed developable areas, record traces indicate:

- Area B is underlain by workings in the Wallarah Seam at depths of cover ranging from about 10m to about 40 m.
- The Wallarah Seam is the upper seam and was worked from Pit E, located in Area B.
- Only the south-western corner of Area B (Pit E area) is underlain by works in the Great Northern Seam. The depth of cover is more than 50m.
- The record traces indicate that there was no mining within Area A. There was also no mining along the base of the gully feature in Area B as the depth of cover was very shallow.

Based upon subsurface investigations, the following requirements for future buildings shall apply to each precinct area in order to appropriately address future development:

Table 10 – Mining Restrictions

Precinct	Requirement
Area A	Mine records indicate no mine workings in Area A. Therefore no restrictions with respect to mine subsidence are expected.
Area B	<p>Area B is has been divided into zones, with respect to expected mine subsidence related development restrictions, as follows:</p> <ul style="list-style-type: none"> <li>▪ No mapped workings are identified for the northern, lower lying parts of the area and therefore no mine subsidence related restrictions are expected to this area.</li> <li>▪ Mapped workings with less than 20m cover is evident and has a high risk of pothole subsidence. Groutings of workings would be required to allow development in this area.</li> <li>▪ Possible unmapped workings with less than 20m cover and additional assessment would be required to confirm the presence of such workings and if present would represent a high risk of pothole subsidence.</li> <li>▪ Areas with greater than 20m cover are located along the western parts of the southern boundary area. Development is likely to be restricted to single storey brick veneer or similar and grouting of the workings may be required for two storey development.</li> <li>▪ Area B also includes a number of backfilled shafts and tunnel entries which require remedial works.</li> </ul>

## 6.7 Heritage

Catherine Hill Bay is formally recognised as a place of heritage significance and contains several individually heritage listed places. The Catherine Hill Bay Cultural Precinct is currently being considered for inclusion on the State Heritage Register with a decision expected in late 2010. This proposed listing recognises the mining history of Catherine Hill Bay along with the town's streetscape values and archaeological resources.

Environmental Resources Management (ERM) has prepared the Heritage Impact Assessment (HIA) which considers and provides for:

- Aboriginal heritage and archaeology investigations, particularly with regard to the requirements of the draft "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" by the Department of Environment Climate Change and Water;
- Historical archaeology and built heritage of the lands investigations;
- Potential impacts of the proposed development; and
- An impact mitigation strategy.

In summary, the key assessment findings indicate that:

- The study area does not contain any recorded Aboriginal sites. Given the level of disturbance that has occurred throughout the study area, in-situ archaeological material is not predicted to remain except for an Aboriginal Potential Archaeological Deposit in the vicinity of the creek that leads to the northern end of Middle Camp Beach. This area is assigned a "moderate" scientific / research significance. If this area can be avoided by development, then no direct or ancillary impacts on Aboriginal significance are anticipated.
- Two significant landscape features exist in the study area: the former CHB colliery railway which provides evidence at a local level for the movement of coal within the area and the E Pit, a recognised archaeological zone in the north-western precinct that provides evidence of the development and continuity of mining activity.
- Catherine Hill Bay is listed as a Conservation Area under Schedule 5 of the Hunter REP - Heritage, which includes the Middle Camp sites. The identified heritage items in the vicinity of the proposed development include the Uniting Church; cottages on Flowers Drive; Hall on Northwood Road; and the Cemetery. Various potential heritage items are also listed under the 1993 City of Lake Macquarie Heritage Study.
- Relative to the proposed Concept Plan and areas of significance, it is identified that:
  - Areas of E Pit and potentially a portion of the zone assigned with moderate Aboriginal archaeological potential may be affected by the proposal.
  - Development is to be set back from Flowers Drive and significant plantings and screening is proposed between the existing and new development to mitigate potential impacts to heritage views and features of Middle Camp. New roads are planned into each developable area to minimise additional traffic onto Flowers Drive.
  - Provision for retention of the railway embankment along its extent, as part of Gateway Park and the Bushland reserve. This route will also preserve some of the terracing and former building locations (earth pads) located within E Pit.
  - A bushland reserve has been proposed around part of the E Pit area with high historical archaeological potential, with an additional buffer provided through the proposed Lemon Tree Park.
  - Workshop Park is proposed around the E Pit workshop building, which would create a visual buffer around this building and also conserve some of the landscape terracing associated with the site.

- An assessment on the impact of views from a heritage perspective has been undertaken. The visual impact assessment concludes that the heritage values of the individual buildings and surrounding areas will not be adversely impacted. The incorporation of visual buffers, including retention of heath land and built form structures sought under the urban design guidelines of select bulk, scale, materials and colours ensures a satisfactory visual impact.
- The historic character of Middle Camp and identified areas of archaeological potential will not be impacted by the proposed development due to the appropriate siting of future development sought in the Concept Plan. Extensive development of the Concept Plan, including a public consultation process has ensured that potential impacts upon the heritage significance of CHB is minimised. In conjunction with the implementation of recommended mitigation measures, it is assessed that the heritage values of CHB will be satisfactorily respected and conserved.
- The Catherine Hill Bay Cultural Precinct is expected to be included on the SHR during late 2010. This proposed listing reflects the importance of the Catherine Hill Bay and Middle Camp areas to the mining history of NSW. The siting of the proposed development areas respects the visual and physical heritage curtilage established by the proposed Cultural Precinct and the proposed Cultural Precinct will provide ongoing protection of the bushland setting of Catherine Hill Bay. The proposed listing is supported by Coal & Allied.
- Recommended mitigation measures have been included within the ERM and the Draft Statement of Commitments. These mitigation measures have been informed by consideration of the NSW Heritage Office, DECCW guidelines and the NSW Coastal Design Guidelines and aim to ensure that the heritage values of the study area in terms of the built heritage, historical archaeological heritage and Aboriginal heritage will be protected and preserved. Refer to the Statement of Commitments for further detail.

As part of the heritage interpretation of Middle Camp, Coal & Allied propose to provide a Coastal “Heritage Path”, a walkway that will follow the former rail line and provide access from Area B to the land to be transferred to Lake Macquarie City Council for a public car park. This facility is identified in the Statement of Commitments. It is not proposed to construct the walkway beyond the northern boundary of the land to be transferred to Council as Council intends to utilise this area for car parking and / or recreation uses, however the land will be dedicated by Coal & Allied to Council for future design and construction.

## 6.8 Water Quality

A Hydrology/Stormwater Management Assessment Report has been prepared by GHD and is included as **Appendix L**.

### 6.8.1 Drainage and Stormwater Management

Middle Camp Gully is a major watercourse with a number of smaller gullies that convey stormwater through to the Tasman Sea. The configuration of the development, as indicated in the Concept Plan, has taken into consideration the general location of these watercourses and aims to maintain the existing connectivity for stormwater passage through the site. This is achieved through the inclusion of a series of cascading pools within riparian corridors nominated as well as swales incorporated into road profile where grades permit.

In terms of the impact of the proposal on the hydrology of the site and surrounding area including impacts on body of water, storm water flows will be collected in detention basins and treated at this stage. It is proposed to incorporate both on-lot and community treatment measures within a Water Sensitive Urban Design strategy to achieve the Director General’s requirement and Lake Macquarie Council’s requirements. Numerical modelling was undertaken by GHD for the proposed strategy and it was determined that this system has the ability to satisfy both the existing hydrological regime and water quality level requirements, including an additional net benefit of achieving a reduction of the existing pollutant loads will occur.

The GHD Flooding and Stormwater Report notes the requirements of the Water Management Act and while the proposal seeks to encompass the intent of the Water Management Act, under Part 3A of the EP & A Act this legislation is not triggered. Notwithstanding this, adequate setbacks are proposed for the Middle Camp site, which will cater for the proposed drainage requirements while making due consideration to the existing ecological character of the gullies.

A number of mitigation and management measures are recommended to prevent direct and indirect impacts on flora and fauna and their habitat. Proposed mitigation measures will be detailed in the Construction Environmental Management Plan (CEMP) for the Development.

- Implementation of erosion and sediment control measures.
- Avoidance of protected marine flora. It is recommended that the contractor conducts an on-site identification of these species before work commences, ensuring machinery is not used in close proximity to protected flora, and identify work methods to minimise disturbance.
- Implementation of Acid Sulphate Soils Assessment and Management response.
- The containment of waste materials in designated waste storage areas and disposal to licensed waste management facilities.
- Installation of erosion and sediment control devices during construction and operation of the development to assist with sediment containment.
- Retention of foreshore vegetation to maintain bank integrity.

## 6.9 Flooding

A Hydrology/Stormwater Management Assessment Report has been prepared by GHD and is included as **Appendix L**. The report also provides an assessment of impacts of the development on the quality of surface water, groundwater and nearby water bodies are also carried out as required in the DGEAR's.

The site is affected by the 100 year ARI and Probable Maximum Floods (PMF) from Middle Camp Gully. The areas of inundation are located adjacent to the riparian corridors and the extent of impact on the proposed estate is limited to the area in the vicinity of Flowers Drive crossing of Middle Camp Gully. In this respect, the majority of the proposed estate will be located outside the extents of the 100 year ARI and PMF flood water level.

The Concept Plan has been developed in accordance with the Lake Macquarie Floodplain Management Policy and the NSW Floodplain Development Manual. In assessing the flood risk, consideration needs to be given to the full range of risks to people and property, for a full range of flood events up to and including the PMF. Interim development guidelines specify, amongst others:

- Habitable floor levels of new residences together with normally occupied floors of special use developments should either be at or above the Flood Planning Level or be flood proofed to this level (making additional provision for potential subsidence).
- In flood storage and flood way areas, development must not lead to a significant increase in flood levels, flood damages, flood behaviour or flood hazard at the site or elsewhere. Provision of adequate and acceptable compensating works to offset must be provided.
- In high flood hazard areas, effective evacuation procedures must be provided.

All future dwellings will be located above the 100 year ARI flood level associated with Lake Macquarie, local overland flow paths and stormwater facilities across the site. It is proposed that Flood Planning Levels be adopted that locate floor levels of future dwelling with a freeboard of 500mm above 100 year ARI flood levels.

As discussed above, most of the site is generally located above the PMF flood level however the extent of flooding encroachment affects some sections of the proposed roadway in the vicinity of the Flowers



Drive crossing of Middle Camp Gully. To alleviate the potential impact, these areas would be filled and sufficient waterway opening provided. The lots fronting these areas would be filled and have sufficient grading to enable the potential dwelling to be located above the nominated flood planning level.

The preparation of a flood evacuation strategy will be required during further design stages but it is considered that the site has sufficient space and locations to assemble and evacuate during flood events.

The development has taken into account possible impacts of climate change in terms of sea level rise and increased storm intensities and volumes.

The NSW Sea Level Rise Policy Statement (2009) supersedes DECCW Practical Consideration of Climate Change, October 2007 guidelines on the topic of sea level rise. This 2009 Policy promotes an adaptive, risk-based approach to managing the impacts of sea level rise. The NSW Government has adopted sea level rise planning benchmarks to support this adaptive risk-based approach. The primary purpose of the benchmark is to provide guidance supporting consistent considerations of sea level rise impacts, within applicable decision-making frameworks. The NSW sea level rise planning benchmarks are an increase above 1990 mean sea levels of 40 cm by 2050 and 90 cm by 2100, with the two benchmarks allowing for consideration of sea level rise over different timeframes.

Lake Macquarie City Council has adopted these levels for future planning and risk management. Climate change modelling also predicts changes in the frequency and severity of storms, possibly with larger waves and more intense rainfall. However, these predictions are more uncertain than those for temperature and sea level rise.

In summary, Lake Macquarie City Council resolved to adopt a Lake Macquarie Sea Level Rise Preparedness and Adaptation Policy (2008). The key elements of the Policy are:

- Council will use a sea level rise (and lake level rise) figure for the year 2100 of 0.91 metres to assist Council staff to proceed with risk assessment, policy development, planning, development decisions, and community empowerment.
- Council adopt a Schedule of Activities Leading to Preparedness for Sea Level Rise which sets out nearly 40 actions for Council to plan for and adapt to the predicted rise in sea and lake levels over the next 100 years.
- Floor levels for new buildings around the lake foreshore will be adjusted to take into consideration the risk from sea level rise and higher flood levels. Information on new guidelines for floor heights in buildings on low lying land and are available upon application for a Development Restrictions Certificate Flooding/Tidal Inundation.

The DECCW Practical Consideration of Climate Change, October 2007 guidelines recommend that the following sensitivity analysis be undertaken in relation to the climate change impacts on rainfall intensities. It recommends assessment of increases of rainfall intensities considering:

- 10% increase in peak rainfall and storm volume.
- 20% increase in peak rainfall and storm volume.
- 30% increase in peak rainfall and storm volume.

For the Catherine Hill Bay site the high sea level ocean impact scenario was adopted, together with the 30% increase in storm rainfall intensity and storm volume. This was considered an upper envelope of climate change for a 2100 planning horizon. On this basis, the RAFTS and TUFLOW models were re-simulated in the GHD report attached as **Appendix L**.

As a downstream boundary a level of 4.0m AHD was adopted. This included 1.5m for wave run up, 0.4m for barometric setup and 0.2m for wind setup on top of the ocean level rise of 0.91m applied to the existing climate mean high water level of 1.0 m AHD.

All dwellings are to be located above the 100-year ARI flood level associated with the creeks, local overland flow paths and stormwater management facilities.

## 6.10 Visual Impact

Fundamental principles in the development of the Concept Plan have centred upon the potential visual impacts of future development with consideration to the site's coastal, heritage and landscape setting. The outcomes represent a development scheme that will appropriately integrate with the township and the natural surrounds.

The visual impact is addressed in the Concept Plan Principles prepared by AJ+C Architects and Aspect Studios as part of the Concept Plan (see **Appendix A**).

Proposed development areas A and B are designed as discreet hamlets within an area confined to disturbed bushland and are well setback from the coastal foreshore and no development is proposed between the Middle Camp and Catherine Hill Bay villages. The visual impact of the proposed development has been a key consideration in the concept planning of the site and to provide for additional visual mitigation measures, proposed developable areas A and B will include screen planting buffer areas to Flowers Drive. The vegetation buffer to area A is effectively 23m wide. The vegetation buffer to Area B is 30m wide. These buffers are considered to be more than adequate to shield the proposed development Area A and B from Flowers Drive.

Appropriate building heights and built form controls have been established and submitted with the Concept Plan. Building heights mapping has been completed for Catherine Hill Bay and is included at **Appendix O**.

ERM has undertaken a visual impact assessment of the scheme relative to the gazetted Catherine Hill Bay (Middle Camp) Heritage Conservation Area where it is assessed that the proposal will pose minimal impact to the visual catchment of Middle Camp as it does not impact on the heritage values of the individual buildings and surrounding areas. The development is planned to respect the visual catchment of Middle Camp, achieved by creating visual buffers and complementary building forms. The retention of heath land will also provide additional buffering and screening between new and established areas. Importantly, no development is proposed between Middle Camp and Catherine Hill Bay villages. For further details refer to the Heritage Impact Assessment by ERM under **Appendix I**.

## 6.11 Bushfire

A Bushfire Threat Assessment has been undertaken by RPS and is included at **Appendix J**. It is clear from these investigations and assessment that the CHB sites in part constitute Bushfire Prone Land.

Therefore, the proposed residential development estate will have to be carried out in accordance with the specification contained within 'Planning for Bushfire Protection' (RFS, 2006) ('PBP') and Australian Standard 3959 – Construction of Buildings in Bush Fire Prone Areas, as assessed and presented within the report.

Subject to the recommendations contained within the bushfire threat assessment report being incorporated, it is considered that the fire hazard present is containable to a level considered necessary to provide an adequate level of protection to life and property on the site.

In summary, the following key recommendations have been generated to enable any future proposal to meet the relevant legislative requirements:

- APZ's from 20 metres to 50 metres will be required from vegetation external to the site. Perimeter roads have been implemented between bushfire hazards and future dwellings, these will form all or part of the required APZ's. Any remaining part of the APZ will be established within allotments if required.
- Any proposed development should be linked to 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 need a performance-based assessment to be undertaken.
- Any future dwelling within the proposed development estates should have due regard to the specific considerations given in the Building Code of Australia (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 any future dwelling within the development estate will comply with the BCA.
- 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.

## 6.12 Infrastructure and Utilities

An infrastructure report has been prepared by Cardno, and outlines the existing and proposed infrastructure required for the proposed development at Catherine Hill Bay (Middle Camp) (**Appendix K**). The following infrastructure elements have been identified:

### 6.12.1 Sewer

- There is no existing sewer infrastructure at Catherine Hill Bay. Each lot is serviced by either a septic tank, aerated waste water treatment system or pump out facilities.
- The proposed development will be required to be connected to the Swansea South Pump Station by a series of rising mains, gravity mains and sewer pump stations.
- Swansea South Pump Station connects to the Belmont Sewer Treatment Plant via the Swansea 3A Pump Station. The Swansea 3A Pump Station required upgrade works and Hunter Water has advised that the upgrade works will be brought forward if required to ensure that the proposed development is not inhibited. The Belmont STP has sufficient capacity to service the new development.
- The sewer infrastructure will be designed to also service the Rose Group residential zoned land at Catherine Hill Bay and the Stockland development at Wallarah Peninsula.
- A Sewer Servicing Strategy to service the Coal & Allied, Rose Group and Stockland developments has been prepared by ADW Johnson (Wastewater Servicing Strategy – Catherine Hill Bay, Wallarah Peninsula, Middle Camp and Nords Wharf, July 2010, Ref: 211688(51), Rev C). The strategy has been approved by Hunter Water.
- The sewer pump stations, rising mains and trunk gravity mains would be provided in accordance with Hunter Water requirements. Subsequent stages would be serviced by connections to these primary mains.

### 6.12.2 Water

- There is no existing water infrastructure in Catherine Hill Bay (Middle Camp).
- The proposed development requires the construction of a new reservoir at North Wallarah and a trunk watermain from North Wallarah to Catherine Hill Bay (Middle Camp) whilst a second reservoir will be required at Catherine Hill Bay (Middle Camp).
- A Water Servicing Strategy to service future development in the area has been approved by Hunter Water, which outlines the proposed upgrades and augmentation to the existing network that will be required to service the Coal & Allied proposed development, the Rose Group residential zoned land and Stockland developments. Based upon the Water Servicing Strategy, detailed design plans will be prepared and submitted to Hunter Water for approval. The RTA and Lake Macquarie City

Council will be consulted in relation to the construction of the watermain and pressure reducing valve within the local and state road network. The location of both reservoirs is subject to negotiation with the relevant land owners.

- The lead-in watermain, reservoir(s) and pressure reduction valve would be staged to provide for the first stage of development. Subsequent stages would be serviced by connections to these primary mains.

### 6.12.3 Electricity

- The existing zone substations at Swansea and Lake Munmorah will not have the capacity to service the new development at Catherine Hill Bay (Middle Camp).
- Energy Australia has proposed the construction of a new zone substation in CHB in 2009-2012.
- Coal & Allied may be required to provide 11kv lead-in works from the new zone substation to the site. The zone substation will augment existing capacity and provide capacity for the proposed developments by Rose Group and Coal & Allied. Energy Australia are responsible for the construction of the zone substation. They have advised that the zone substation will be operational to suit the development programme.
- The timing of connection to the zone substation will depend on Energy Australia's delivery of the zone substation. Trenching and cabling will be provided in each new road reserve as it is constructed. However a temporary connection may be maintained to the existing system if the first stage of development precedes the commissioning of the zone substation.

### 6.12.4 Gas

- Alinta has advised that the closest gas main is at Swansea approximately 8kms north of the site.
- Catherine Hill Bay is currently not serviced with gas services.
- Alinta has undertaken a preliminary economic assessment and identified that natural gas reticulation is not economically feasible without significant developer contributions. Therefore it is not proposed to provide natural gas reticulation to the proposed development.

### 6.12.5 Telecommunications

- Telstra advised that they would service the proposed Catherine Hill Bay (Middle Camp) development site by extending existing cabling in Flowers Drive. Telstra cabling will be provided in a shared trench arrangement along with electrical cabling.
- There is local LAN line traversing the site (exact location unknown) which would need to be relocated by Coal & Allied during the construction works.
- Telstra cabling will be provided in conjunction with the electrical cabling, with servicing extending from the existing cabling in Flowers Drive. Each stage of the works will be serviced in turn, with minor lead-in works from Flowers Drive.
- Since previous consultation with Telstra, 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 Middle Camp site is currently unconfirmed.

In summary, extensive lead-in works are required to provide water and sewer infrastructure to Catherine Hill Bay (Middle Camp). There is a Hunter Water approved Water Servicing Strategy for the area and an approved Sewer Servicing Strategy, prepared by ADW Johnson, to service the proposed developments by Coal & Allied, Rose Group and Stockland Developments in the area.

Energy Australia has advised that the Catherine Hill Bay zone substation will be provided to meet the development timetable and will augment existing capacity, in addition to providing capacity for future developments. Lead-in electrical infrastructure from the proposed zone substation may be delivered in conjunction with Rose Group, depending on the location of the zone substation.

Gas mains are not feasible for this area given the long distance to existing supplies. Telstra does not envisage any constraints to providing telecommunications to the development.

## 6.13 Ecologically Sustainable Development

An Ecologically Sustainable Development Report has been prepared for Catherine Hill Bay (Middle Camp) by Ensign (see **Appendix M**). This report addresses the DGEARs related to ESD principles for design, construction and operation. The report demonstrates that the project can commit to ESD principles in the design, construction and operational phases of the development.

Coal & Allied has a sustainable development strategy for the Middle Camp estate that should, when combined with ESD principles, guide its overall decision-making. The strategy establishes the overall project outcomes sought by Coal & Allied. The Middle Camp ESD Strategy is to:

*Develop the Middle Camp residential estate to create a social, economic and environmental legacy for the people of the Lower Hunter region as set out in the ESD strategy.*

The ESD Design Outcomes will be achieved through the Urban Design Guidelines for the site which include sustainability principles for which future development must adhere. The ESD Construction outcomes will be achieved through the development and implementation of a Construction Management Plan (CMP), under the existing Coal & Allied Environmental Management Strategy.

The CMP 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.

ESD Operation outcomes will be achieved through a comprehensive reporting and monitoring process that will also be addressed in the CMP.

The proposed development of 28.2ha of Catherine Hill Bay (Middle Camp) and the proposed dedication of 526.58ha of land for conservation purposes provides the opportunity to create new communities for the Lower Hunter region and in doing so, implement key objectives and outcomes of the LHRS and LHRCP associated with accommodating sustainable population and employment growth and environmental outcomes.

The 1997 NSW Coastal Policy is based on four principles of ESD contained in the Intergenerational Agreement on the Environment (IGAE) signed in 1992. These principles are addressed in the proposed rezoning as follows:

- The environmental gain from the proposed dedication of 525.87ha of Catherine Hill Bay (Middle Camp) to the NSWG for conservation purposes is a once in a generation opportunity that will provide an enduring legacy for the community and future generations. This is entirely in accordance with the principles of inter generational equity;
- The 525.87ha of Coal & Allied land at Catherine Hill Bay (Middle Camp) that is proposed to be dedicated for conservation will play a significant role in securing in perpetual public ownership of the long sought-after Wallarah Peninsula conservation corridor which will provide a green inter-regional buffer separating the Lower Hunter from the Central Coast. The proposed land dedication is a positive conservation step. The protection of an important array of vegetation communities, flora and fauna species, and natural landscape assets, including threatened species and EECs in the conservation lands is in accordance with the principles of conservation of biological diversity and ecological integrity;
- There are no significant environmental threats arising from the proposed development as adequate management and mitigation measures can be implemented. Adequate APZs are proposed to protect from bushfire risk. Overall, it is submitted that the proposed development is suitable for existing and future predicted climate and flooding conditions. Any potential contamination risks can be addressed through the development assessment process. As discussed, the risk of loss of biodiversity is offset by the level of preservation afforded by the proposed dedication of conservation lands which provides a more than adequate offset outcome. It is crucial to note that 93% land dedication for conservation purposes is well in excess of traditional conservation outcomes from development offset processes. This is in accordance with the precautionary principles; and
- The developer will pay for the establishment of infrastructure and environmental management measures on the part of the site proposed to be rezoned for residential purposes. This is in accordance with the polluter pays principles.

### 6.13.1 Energy and Water Savings Action Plan

An Energy and Water Savings Action Plan for Catherine Hill Bay (Middle Camp), has been prepared by Ensign and is included at **Appendix M** to address both energy and water from a householder's perspective – not from a developer's perspective. This approach is consistent with Coal & Allied's development approach, that of selling freehold lots.

The Energy and Water Savings Plan details a range of design, construction and operational methods through which energy and water consumption can be reduced across the site. The Plan details how 'compliance' can be achieved with the minimum 40% reduction in energy and water consumption, required by BASIX, as well as how the proposed development can further reduce consumption levels 'beyond compliance'.

#### **Compliance Approach**

The Compliance approach to energy use reduction achieves an annual greenhouse gas emission (GHG) saving of an estimated 1,149 kgs per lot. The total GHG saving over the estate is estimated at 255 tonnes per annum. Energy saving measures include; passive building design and electric boosted solar water heating. Incorporating these measures are predicted, according to the NSW DEUS Energy and Water Savings Action Frameworks, to reduce energy use by 15%. The Compliance approach to water use reduction achieves an estimated annual water savings of 149 kilolitres per lot.

The total water savings over the estate is estimated at 33,078 kilolitres per annum. Water saving measures include; water efficient taps / fittings, collecting stormwater at each lot to supply toilet flushing and landscape watering. Incorporating these measures are predicted to reduce water use by 51%.

### **Beyond Compliance**

The Beyond Compliance approach to energy use reduction achieves an annual greenhouse gas emission (GHG) saving of an estimated 4,869 kgs per lot. The total GHG saving over the estate is estimated at 1,081 tonnes per annum. Energy saving measures include; 1kW photovoltaic grid interactive array, gas boosted solar water heating and gas oven and cook tops. Incorporating these measures are predicted, according to the BA tool, to reduce energy use by 61%. The Beyond Compliance approach to water use reduction achieves an estimated annual water savings of 198 kilolitres per lot. The total water savings over the estate is estimated at 43,956 kilolitres per annum. Water saving measures include; collecting rainwater at each lot to supply toilet flushing and the household washing machine. Incorporating these measures are predicted to reduce water use by 67%.

Future purchasers of allotments within the proposed development will be encouraged to include methods to achieve 'beyond compliance' reductions for their dwellings.

In summary, the proposed 222 lot residential development at Catherine Hill Bay (Middle Camp), can achieve BASIX energy and water compliance.

## **6.14 Site Preparation Works**

A Concept Site Grading plan has been prepared by Monteath & Powys which shows the extent of site preparation works with respect to cut and fill activities to cater for the proposed residential development. This is included at **Appendix Q**.

Notwithstanding that this plan has been prepared for the Concept Plan stage only, and that detailed analysis will need to be undertaken as part of any future Project Applications, the plan shows that the extent of cut and fill is suitable and any future site preparation works will be minimised to form the final site levels.

## **6.15 Future Public Land**

The Statement of Commitments submitted with the Concept Plan Environmental Assessment identifies that the transfer of identified land will occur in accordance with the terms of the VPA.

The conservation land is to be transferred to the NSWG and other land to Lake Macquarie City Council all in accordance with the Transfer Plan prepared by Monteath Powys and submitted with the EA.

- The dedication and transfer of the conservation lands to the State Government will be undertaken in accordance with Transfer Plan "Proposed Subdivision of Lot 202 DP 702669, Lot 2030 DP 841175, Pt LP 6 DP 746077, Pt Lot 5 DP 736170, PT Lot 12 854197, Pt Lot 9 Sec D DP 163, Pt Lot 10 Sec D DP 163, Lot 223 DP 1102989 & Lot 16 DP 755266, Catherine Hill Bay", Sheet 1 and 2 Rev 01 by Monteath & Powys Pty Ltd.
- Land is to be dedicated to Lake Macquarie City Council, including the land that currently accommodates the car park in the vicinity of Middle Camp Oval and as illustrated in the plan of proposed subdivision.

The conservation lands identified in the Concept Plan to be dedicated to DECCW will be subject to a future agreement between Coal & Allied and DECCW as to the ongoing management requirements of the dedicated conservation land, the details of which will be included in the VPA under s93F of the Act.

Parks, reserves, roads and infrastructure created through each future Project Application subdivision will be developed by Coal & Allied.

The three parks have been included in the Concept Plan as 'superlots' which could be developed for other land uses (other than open space) at a future date.

LMCC has advised that it will not accept the dedication of the parks as Open Space Contributions under Section 94. Council requires the Open Space and Recreational contributions to go towards the upgrade and expansion of the Catherine Hill Bay oval facilities.

The Statement of Commitments requires that the Owner is to prepare a Plan of Management (PoM) for Lemon Tree Park, Workshop Park, Gateway Park, heritage workshop and heritage walk. Areas to be dedicated as public roads will be constructed and embellished in accordance with the Urban Design Guidelines included in the Concept Plan EA. All road reserves to be constructed will be dedicated to Lake Macquarie City Council at no cost to Council.

The Statement of Commitments also requires that Coal & Allied shall maintain the vegetation buffer to Hamlet A along Flowers Drive for the first 5 years or until all lots of Hamlet A are sold (whichever is lesser). This vegetation buffer will be 15 m as shown on the revised Concept Plan drawings. After this period, LMCC will be required to manage this vegetation buffer.

In terms of Asset Protection Zone (APZ) areas, all APZs are located in proposed road reserves or alternatively in private lots. A Bushfire Management Plan will be prepared with the construction certificate for each stage and certified by a suitably qualified consultant as complying with the requirements of the document *Planning for Bushfire Protection Guidelines 2006* and any requirements of the NSW Rural Fire Service.

In terms of environmental management, Coal & Allied will prepare a Statement of Interim Management Intent (SIMI) prior to commencement of works for the protection of transferred conservation lands to DECCW. The SIMI will relate to the interface (maximum width of 100m) between the development areas and the conservation lands as identified in the plan prepared by RPS. Coal & Allied commit to:

- The cost of preparing the SIMI.
- The actions arising from the SIMI for a specified period of the lesser of 5 years commencing from the date the SIMI takes effect or until all the lots are sold.

Management will be undertaken in accordance with Council / NPWS best practice respective to the land ownership plan prepared by RPS included in the Statement of Commitments.

## 6.16 The Coal & Allied \$5million Allocation

It should be noted that Coal & Allied have allocated \$1,400,000 from the Southern Estates \$5Mill Allocation for walking tracks for public access in conservation land external to the development areas of all three estates. This is all subject to approval by DECCW.

\$500,000 of this is identified for Catherine Hill Bay, between Catherine Hill Bay and Nords Wharf (subject to application to DECCW).

An additional \$440,000 is being allocated for a Heritage Railway Line Walk extension from the land being transferred to LMCC by Coal & Allied for beach access and car park, to beach car park south of 4 Pines House including a heritage interpretation strategy to guide the provision of on-site interpretation.

## 6.17 Impact on Crown Land

The Munmorah State Conservation Area (MSCA) is located to the south of Catherine Hill Bay (Middle Camp). It forms a significant area of green space at the southern end of the Wallarah Peninsula. The 'Munmorah State Conservation Area and Bird Island Nature Reserve' Plan of Management applies to the MSCA. Munmorah State Conservation Area is a relatively large, undisturbed coastal area which complements the conservation values of other protected areas, state forests and Crown reserves in the region. Natural bushland coastal lake and beaches are defining characteristics of the area.

Lake Macquarie State Conservation Area (LMSCA) is located to the west of Catherine Hill Bay (Middle Camp) beyond Crangan Bay. It comprises approximately 650 hectares of bushland on the western and south-eastern foreshores of Lake Macquarie. LMSCA comprises headlands, foreshores, cliffs and coves, which all contribute to the scenic quality and character of Lake Macquarie.



It is popular for walking, fishing, swimming, boating, bird watching and nature appreciation. LMCA contributes to the conservation of the regions biodiversity and provide important habitat for flora and fauna.

The large area of conservation land that is proposed to be set aside as part of the Catherine Hill Bay (Middle Camp) development (526.58ha) together with the Coal & Allied owned land at Nords Wharf (116.6ha) and Gwandalan (206ha) that is proposed to also be dedicated to the NSWG provide excellent ecological outcomes across the region.

The proposed dedication of conservation lands by Coal & Allied will help link the three state conservation areas of Lake Munmorah State Recreation Area, Lake Macquarie State Recreation Area and Wallarah National Park. This large tract of native vegetation will provide habitat for a wide variety of native flora and fauna.

In summary the proposed dedication of 526.58ha of Catherine Hill Bay (Middle Camp) for conservation presents a significant opportunity to extend and create significant contiguous area of important conservation land in public ownership under the care and control of NSWG. This makes a significant contribution to achieving key biodiversity outcomes in accordance with the LHRS and LHRCP.

## 6.18 Planning Agreements and/or Developer Contributions

A Draft Statement of Commitments is included at **Appendix C**. 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. This may involve the implementation of various 'developer agreements', prepared in accordance with the EP&A Act, between Coal & Allied and the DoP prior to final approval of a construction certificate for Stage 1 subdivision.

The proposed State and local infrastructure contributions are proposed in the Draft Statement of Commitments to be allocated in the following manner:

### *Local infrastructure – Section 94*

Current Section 94 Contribution rates for Catherine Hill Bay are listed in the current Lake Macquarie Section 94 Contributions Plan No. 1 – Citywide (2004) as amended – Belmont Catchment. The contributions identified for Catherine Hill Bay (per lot) have been determined and are outlined below. These are effective from the 15 August, 2010 to 14 November, 2010

#### Open space and recreation

- |                          |         |
|--------------------------|---------|
| ▪ Open Space acquisition | \$7,640 |
| ▪ Recreation facilities  | \$5,725 |

#### Community Facilities:

- |                     |                 |
|---------------------|-----------------|
| ▪ East Lake Capital | \$2,271         |
| ▪ East Lake Land    | \$632           |
| ▪ Management fee    | \$174           |
| <b>Total</b>        | <b>\$16,442</b> |

A deed of agreement will be agreed with Lake Macquarie City Council (LMCC) to arrange timely payment of Section 94 contributions commensurate with the staging of the overall development. This agreement will consider the dedication of land for local open space, recreation and community facilities. It has been agreed with Council that sporting needs will be accommodated by an upgrade/redevelopment of Catherine Hill Bay oval and surrounds to which Section 94 contributions for open space and recreation will be applied less the value of dedicated land to Council. Timing of the dedication of the land around the oval will be agreed with LMCC.

Dedication will not be any earlier than the timing under the terms of the LMCC Section 94 Contributions Plan as if the land value being dedicated was an “open space” cash contribution.

### *State infrastructure – Voluntary Planning Agreement*

Coal & Allied is finalising a Voluntary Planning Agreement with the NSW Planning and Environment Ministers. This planning agreement is currently in draft form. Subject to finalisation of the Part 3A process Coal & Allied will commit to the following:

- **Emergency Services Contribution** – provide a monetary contribution to the Planning Minister, totalling \$29,006.52 (subject to indexation) towards the proposed acquisition of a 3,000 square metre site for location of emergency services, amounting to a per lot contribution of \$130.66 if the contribution is paid on or prior to 30 June 2011. The monetary contribution if paid after 30 June 2011 (subject to indexation) is \$43,509.78 amounting to a contribution of \$195.99 per lot. Coal & Allied have offered land to NSW Ambulance in lieu of the above contribution being part Lot 2030 DP 841175, east of Frazer Street having an area of 4,200 square metres. A decision from NSW Ambulance is still pending. Refer Figure 14 for the proposed land dedication.

Figure 14 – Proposed NSW Ambulance land transfer



- **Road Contribution** – The Landowner is to upgrade the intersection at Flowers Drive and Pacific Highway, Middle Camp. The intersection is to be designed and constructed to restrict Flowers Drive traffic movements to left in / left out only. Physical barriers are to be designed and constructed to implement a right turn ban from Cams Wharf Road into the Pacific Highway. A u-turn facility is to be provided on the Pacific Highway or at Nords Wharf Road to accommodate northbound vehicles exiting Flowers Drive.

Should Coal & Allied proceed with its development in advance of the proposed Rose Group, Coal & Allied have detailed alternative Pacific Highway intersection upgrade requirements until such time that the cumulative impact of the Coal; & Allied development and the proposed Rose Group development at Catherine hill Bay. These details are included in the traffic report and the Environmental Assessment (Section 6.4.4).

#### *Other Contributions*

- **Environmental Offset Land Contribution** – The Landowner must transfer the Environmental Offset Land to the Environment Minister or his nominee. This will include the transfer, acquisition and rezoning of these lands. This includes the dedication of approximately 527 ha of land for environmental conservation under an offset arrangement.
- **Land Remediation And Reserve Establishment Works** – The Landowner must undertake the following works:
  - Bunker on the Land owned by the Landowner at Radar Hill to be cleared of rubbish and debris and installation of security features to prevent vandalism, unauthorised access, dumping and fires.
  - Undertake erosion control works.
  - Treatment of major weed infestations including spraying at optimum times over successive seasons and follow up work including replanting.
  - Treatment of aquatic weed infestation including initial harvesting and successive treatments for 3 years.
  - Rehabilitate the land to the satisfaction of the Environment Minister or his nominee.

## 6.19 Subdivision

In response to the subdivision considerations of the DGEARs, the following outlines the proposed subdivision arrangements:

- Land is to be dedicated to Lake Macquarie City Council, including the land that currently accommodates the car park in the vicinity of Middle Camp Oval and as illustrated in land transfer plans prepared by Monteath & Powys.
- Easements and Covenants for individual lots will be dealt with in future application for subdivision works.
- It is intended for the individual dwelling allotments to be subdivided in accordance with the provisions of the Real Property Act to become Torrens Title lots as part of a future application.
- Roads accessing these lots will be dedicated as public roads in accordance with the provisions of the Roads Act. The long term management and maintenance of the road network will be the responsibility of Lake Macquarie City Council. The maintenance of the adjoining conservation lands, including the foreshore will be the responsibility of the National Parks and Wildlife Service (NPWS).

The proposed subdivision plan which outlines the boundary of the proposed land transfer to NSWG has been prepared by Monteath & Powys and is included at **Appendix R**.

## 6.20 Cumulative Impacts in Consideration of other Future Urban Land of the Lower Hunter Region

Cumulative impacts including consideration to Nords Wharf and Gwandalan proposals by Coal & Allied in conjunction with the Rose Group residential zoned land at Catherine Hill Bay and Gwandalan have been examined in respect to traffic, impacts on Crown land, heritage and service infrastructure.

### 6.20.1 Infrastructure

Augmentation to the water supply network will be required to be undertaken to cater for the proposed development. In order to service the proposed Coal & Allied Catherine Hill Bay (Middle Camp) development, Hunter Water has identified that a reservoir will need to be built at North Wallarah and a watermain provided from the reservoir to Catherine Hill Bay. Stage 1 will have capacity for 4ML, whilst Stage 2 will include an additional 1ML storage capacity. Hunter Water has approved the water strategy for the area. The sewer strategy for the area is under review by Hunter Water with final approval anticipated in the second half of 2010.

### 6.20.2 Impact on Crown Land

The proposed Coal & Allied development at Catherine Hill Bay, Nords Wharf and Gwandalan in conjunction with other Wallarah Peninsula developments will introduce an increased population which has the potential to affect conservation of biodiversity through increased use of Crown land.

The proposed dedication of 849ha of Coal & Allied lands at Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan in conjunction with other land dedications on the Wallarah Peninsula has the positive cumulative effect of providing large, contiguous north south and east west conservation corridors with high environmental value which will be dedicated to NSWG for conservation purposes. These corridors align with existing public reserves and will link and expand the three state conservation areas of Lake Munmorah State Recreation Area, Lake Macquarie State Recreation Area and Wallarah National Park. Securing and the long term protection and management of these corridors for conservation and biodiversity is a key focus of the LHRS and the companion LHRCP developed by the DECCW.

### 6.20.3 Heritage

The cumulative effect of the proposed rezoning of a substantial part of the Coal & Allied owned Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan sites for environmental protection and proposed dedication of this land for conservation purposes means that any potential Archaeological remnants located in coastal areas and other water bodies such as around Crangan Bay from Nords Wharf to Gwandalan will be conserved in perpetuity.

### 6.20.4 Traffic

Cumulative impacts are likely to arise from the interaction of the future construction and operation of the Coal & Allied site at Catherine Hill Bay (Middle Camp) with other development proposals planned for the Coal & Allied sites at Nords Wharf. The combination of these developments would result in impacts on the following key intersections with the Pacific Highway:

- Cams Wharf Road/Flowers Drive;
- Montefiore Street;
- Awabakal Drive; and

Proposed intersection upgrading works on the Pacific Highway are triggered by the Coal & Allied proposed development at Catherine Hill Bay (Middle Camp). In the future, the surrounding road network would need to cater for traffic from the full proposal and for the growth in cross-regional traffic on the Pacific Highway.

Hyder Consulting has assessed the proposed yield of 222 residential lots in terms of the impacts on the local road network taking into account the cumulative impacts of the other proposed Coal & Allied developments at Nords Wharf and other proposed Wallarah Peninsula developments. Overall it was determined that the cumulative traffic impacts will be satisfactorily accommodated by the existing road network subject to upgrading requirements as follows:

- Cams Wharf Road/Flowers Drive: provision of no right turn from Cams Wharf Rd to Pacific Highway and left in/left out only for Flowers Drive.
- Montefiore Street: provision of a seagull intersection with full access to Montefiore Street and traffic signal control on the Pacific Highway southbound and Montefiore Street.
- Awabakal Drive: provision of a seagull intersection with full access to Awabakal Drive and traffic signal control on the Pacific Highway northbound and Awabakal Drive.

Responsibility for undertaking the works listed above is to be apportioned to proposed developments and agreed with DoP.

In summary, no significant adverse cumulative effects are likely to arise from the proposed Catherine Hill Bay (Middle Camp) project.

## 7 Statement of Commitments

The Draft Statement of Commitments included at **Appendix C** 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', prepared in accordance with the EP&A Act, between Coal & Allied and the Department of Planning prior to final approval of a construction certificate for 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 made by the proponent.
- Measures to mitigate any environmental impacts.
- Measures to monitor the environmental performance of the project.
- Achieving minimal impact in the environment and a positive environmentally sustainable outcome.

### 7.1 Coal & Allied \$5 million Allocation

In addition, Coal & Allied has allocated an amount of \$5 million for initiatives associated with the delivery of social infrastructure to support the existing and future communities at Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan. The \$5 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 \$5 million allocation may be used for sustainability initiatives for future residents, additional infrastructure to support existing and future residents, educational and or community programs. In summary, for Catherine Hill Bay (Middle Camp) the list of initiatives relate to:

- Employment generation.
- Heritage interpretation.
- Sustainability.
- Community Infrastructure.
- Coastal Care.
- Aboriginal Community.
- Walking Tracks external to the Development Areas.

The full description of each particular initiative is included at **Appendix C**. The final list of initiatives to be implemented for the Catherine Hill Bay (Middle Camp) site is subject to on-going consultation and final approval by the Coal & Allied Board.



## 8 Suitability of Site

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

### 8.1 Environmental

As discussed, Coal & Allied proposes to dedicate 525.87ha of Catherine Hill Bay (Middle Camp) to the NSWG as 'conservation land' (93% of the site). The proposed conservation land dedication is crucial in achieving the State Government's objective of securing major conservation corridors, most notably the Wallarah Peninsula Corridor. It is crucial to note that the 93% land dedication for conservation purposes is well in excess of traditional conservation outcomes from development offset processes.

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. 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. The two most valued of these areas in the Lower Hunter contain large land areas owned and controlled by Coal & Allied:

- The Wallarah Peninsula lands provide a regionally significant break between urban areas, and contain areas of high biodiversity, scenic amenity and heritage value; and
- The corridor that links the Watagans and Yengo National Parks with the coastal plains of the Tomago Sandbeds, Stockton Bight and Port Stephens.

The Coal & Allied land at Catherine Hill Bay (Middle Camp) that is proposed to be dedicated will help complete the linkage of identified regional corridors, notably the Wallarah Peninsula.

In addition to its important strategic location in a wider landscape context, the proposed conservation lands contain valuable biodiversity resources. The conservation land contains 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 lands, including significant occurrences of *Tetratheca juncea* (Black-eyed Susan).

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 proposed conservation lands are known to contain important populations of numerous threatened fauna species, including birds, mammals and herpetofauna. The proposed 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.

The 525.87ha of Coal & Allied land that is proposed to be dedicated for conservation will play a significant role in securing in perpetual public ownership the long sought after Wallarah Peninsula conservation corridor which will provide a green inter-regional buffer separating the Lower Hunter from the Central Coast.

In addition, environmental outcomes will also be achieved within the proposed Catherine Hill Bay (Middle Camp) development area by best practice approaches to urban design and use of landscaping, feature retention, and considered development edge treatments. Such approaches and techniques include:

- Incorporate water sensitive urban design features into the development to ensure that there is no increased export of stormwater, pollutants and sediments;



- Incorporate the coastal foreshore into the conservation lands, thus protecting natural attributes of the site, visual aesthetics of the site from the Beach;
- Retain vegetation along ridges to reinforce the existing local bushland backdrop; and
- Respect the existing townships through the establishment of urban design guidelines for new housing, addressing proportion, size and landscape elements.

## 8.2 Social

The land identified for future residential development is considered to be an appropriate extension of the existing township of Catherine Hill Bay (Middle Camp). The site is in close proximity to an existing range of amenities and community facilities.

A Social Infrastructure Study has been prepared by Urbis for the site and is included at **Appendix S**. This report summarises local social infrastructure, community consultation and assesses the likely consequences of the development. The Social Impact Assessment identifies that there will be an impact on the existing community but staging the project is one process to seek to ensure that local service capacity is gradually built over time.

A Draft Statement of Commitments is included at **Appendix C** for the site. This details the various monetary contributions, additional studies, applications and works the proponent commits to undertake in association with the project. In addition, Coal & Allied has allocated an amount of \$5 million for initiatives associated with the delivery of social infrastructure to support the existing and future communities at Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan. The \$5 million allocation may be used for sustainability initiatives for future residents, additional infrastructure to support existing and future residents, educational and or community programs. This is discussed in detail at Section 7.1.

## 8.3 Economic

An Economic Impact Assessment has been prepared by Sphere to support the Concept Plan for the site. This report concludes that the proposed development of Catherine Hill Bay (Middle Camp) will result in the following economic impacts:

- Injection of an estimated \$75 million (in 2010 dollars) new, capital investment into the economy from expenditure on housing, infrastructure services both internal and external to the site including road, energy services, water, sewer and communication works.
- Create an estimated 436 direct, full time equivalent jobs of which up to 200 will be in the Hunter and will extend over an 8 year period. .
- Support a further 700 jobs (350 local) from the multiplied employment stimulus among construction related industries resulting from the primary expenditure.
- Provide additional flow-on economic effects of around \$87 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 1.3 using NSW treasury methodology.

## 8.4 Public Interest

The proposed dedication of 525.87ha of conservation land to include as a significant part of the vitally important Wallarah Peninsula conservation corridor, which provides a natural break between the Central Coast and the Lower Hunter, 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, the proposal has a range of public benefits including:

- Provision of public access between historic precincts, conservation lands and coastal foreshore;
- Meeting of regional housing needs;
- Creation of jobs through construction and investment in the order of \$126 million;
- Payment of local and regional developer contributions;
- Provision of infrastructure to proposed development and Catherine Hill Bay / Middle Camp generally;
- Upgrade of Flowers Drive, Awabakal Drive and Montefiore Street intersections with Pacific Highway;
- Protection of sensitive coastal foreshore areas and visual aesthetics of the site from Middle Camp beach;
- Protection of endangered ecological communities and threatened species in the proposed conservation area; and
- Preservation and interpretation of historic mining remnants for public enjoyment and education.



## 9 Conclusion

The Catherine Hill Bay (Middle Camp) proposal will achieve substantial conservation outcomes through the proposed dedication of 525.87ha of conservation land to NSWG via a VPA.

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;
- Improve public access between historic precincts, conservation lands and coastal foreshore;
- Incorporate water sensitive urban design features into the development to ensure that there is no increased export of stormwater, pollutants and sediments;
- Incorporate the foreshore into the conservation lands, thus protecting natural attributes of the site and the visual aesthetics of the site from the beach;
- Preserve the historic integrity of Catherine Hill Bay (Middle Camp) by the sensitive siting of discreet precincts;
- Retain vegetation along ridges to reinforce the existing local bushland backdrop;
- Respect the existing townships through the establishment of urban design guidelines for new housing, addressing proportion, size and landscape elements; and
- Provide housing to help achieve the Lower Hunter Strategy dwelling targets to cater for the predicted population growth for the Region by 2031.

In summary, the project is of clear significance to the region and state in terms of its significant delivery of environmental gain from the environmental land offset package and the implementation of the objectives of the LHRS and LHRCP. In view of the clear merit of the proposal, we therefore seek approval of the Concept Plan for Catherine Hill Bay (Middle Camp), subject to consideration of any issues raised during the public exhibition of the application and relevant provisions of the EP&A Act.



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