



# Nords Wharf

CONCEPT PLAN  
ENVIRONMENTAL ASSESSMENT  
NOVEMBER 2010



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&  
ALLIED

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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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Qualifications	BA App Sc (Planning) RMIT	BaPL (UniSA)
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In respect of:	Nords Wharf 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: 9 November 2010



Signature

Name: Tom Goode

Date: 9 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. It has been prepared on behalf of Coal & Allied Industries Limited (Coal & Allied), the owner of the Nords Wharf 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 Nords Wharf site has been recognised for its State and Regional significance based on its inclusion in the LHRS and LHRCP for proposed urban development and proposed conservation land dedications.

Coal & Allied propose to develop 10.18ha of Nords Wharf for residential development with a maximum yield of 90 dwelling lots. The balance of the Nords Wharf site (116.6ha or 92%) 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 and Central Coast Regional Strategy (CCRS).

The Coal & Allied land owned land at Nords Wharf 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 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 for a proposed residential subdivision of the Nords Wharf site will apply to the entire 127ha Nords Wharf site. The key parameters for the proposed development of the site are as follows:

- Dedication of approximately 116.6ha of conservation land to the NSWG that is identified in the LHRS and LHRCP, comprising approximately 92% of the Nords Wharf site.
- Maximum dwelling yield of 90 dwellings over 10.18ha.
- Indicative development staging.
- The provision of associated infrastructure.
- Torrens title subdivision and boundary realignment of the Nords Wharf site. The Torrens title subdivision and boundary realignment of Coal & Allied land will enable land 116.6ha in area that is owned by Coal & Allied to be excised and to be dedicated to NSWG for 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 the maximum dwelling yield of 90 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 is included in Urban Design Guidelines. Urban Design Guidelines have been 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 Department of Planning (DoP) in support of an application for listing/rezoning of the Coal & Allied owned Nords Wharf 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 Nords Wharf is to be considered as a Major Project under Part 3A of the EP&A Act. The Minister also determined to consider the Nords Wharf site as a potential State Significant Site (SSS) under Schedule 3 of the Major Development SEPP. Given the site 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;
- Transport and Accessibility;
- Mining Activities;
- Heritage;
- Water quality;
- Flooding;
- Visual;
- Bushfire;
- Impact on Crown Land;
- Infrastructure and utilities;
- Ecologically Sustainable Development;
- Site Preparation Works;
- Subdivision; and
- Future Public Land.

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.

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 Nords Wharf, known as “Nords Wharf”. The Concept Plan provides for a new coastal village of up to 90 dwellings; the proposed dedication of conservation land comprising approximately 92% 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 (DGEARs):

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

## 1.1 Background

### 1.1.1 Context – The Coal & Allied Lower Hunter Lands Project

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

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

Coal & Allied has seven separate holdings in the Lower Hunter totalling approximately 4,078 hectares. 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.

Nords Wharf and Catherine Hill Bay (Middle Camp) 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 (Middle Camp) is located on the east coast halfway between Swansea Heads and the Budgewoi Peninsula.

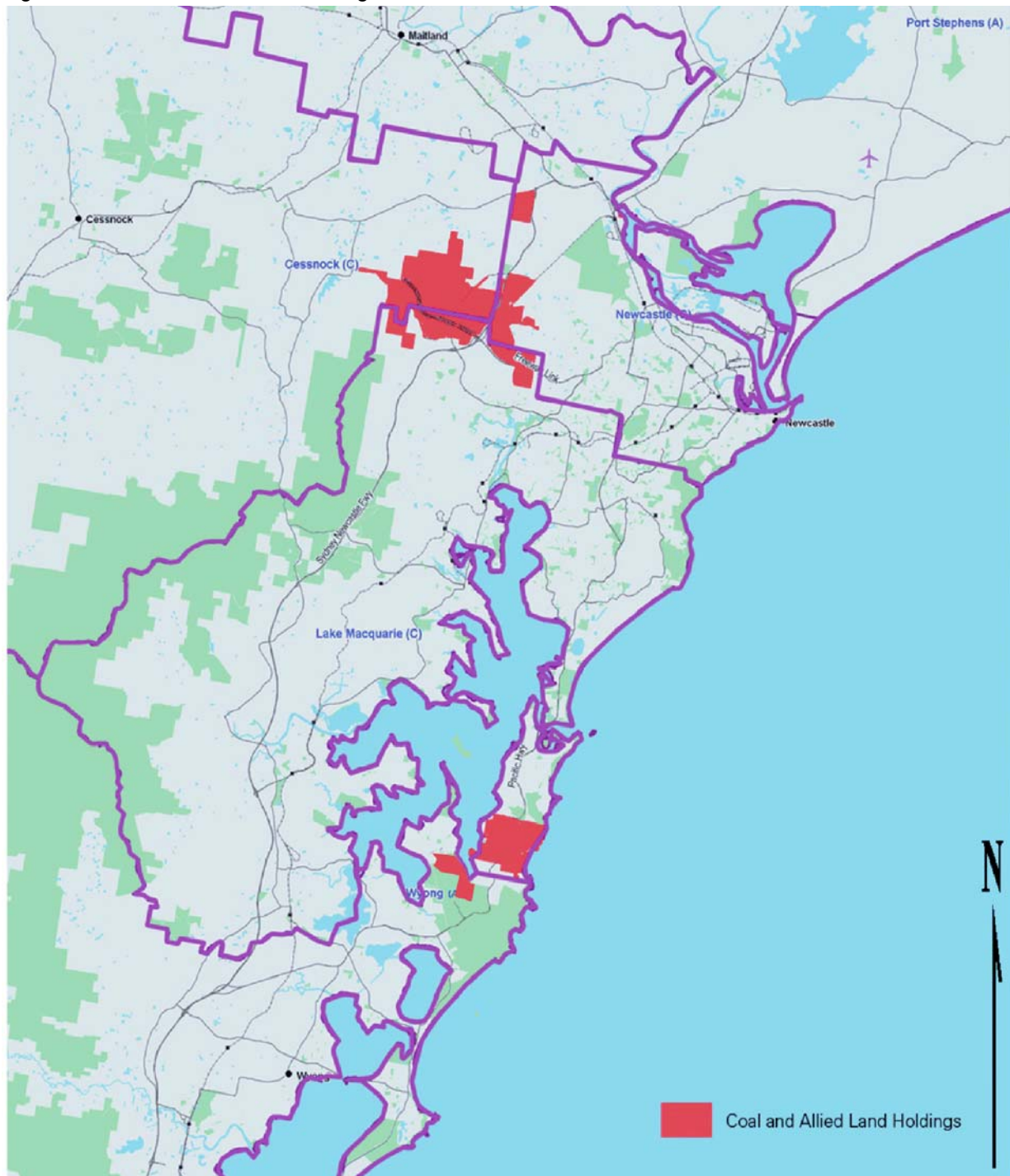
The Coal & Allied northern lands are located approximately 20 kilometres west of Newcastle and are almost halfway between Newcastle and Cessnock.



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 Lower Hunter Regional Strategy. 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 Lower Hunter Regional Strategy (LHRS) and Lower Hunter Regional Conservation Plan.

Figure 1 – Coal & Allied Land Holdings



The southern lands are proposed to provide 935 dwellings to the existing communities of Nords Wharf, Catherine Hill Bay (Middle Camp) 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 Nords Wharf 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 for residential purposes of 10.18ha and the proposed dedication of 116.6ha of lands for conservation purposes at Nords Wharf 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 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 Nords Wharf is \$22.62 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 Nords Wharf 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 Nords Wharf.

#### 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 Nords Wharf is considered to be a Major Project under Part 3A of the EP&A Act. The Minister also determined to consider the Nords Wharf project 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 Assessment Requirements

Requirement	Response
<b>General Requirements.</b>	
The Environmental Assessment (EA) must include:	
An executive summary.	Included in this report.
A detailed description of the project including the: <ul style="list-style-type: none"> <li>▪ strategic justification for the project;</li> <li>▪ alternatives considered; and</li> <li>▪ various components and stages of the project in detail (and should include infrastructure staging);</li> </ul>	See Section 4
A consideration of the following with any variations to be justified: all relevant State Environmental Planning Policies (with particular regard to Major Development SEPP, SEPP 44, SEPP 55, SEPP 71 and SEPP (Mining, Petroleum Production and Extractive Industries) 2007, applicable planning instruments, relevant legislation and policies, including the NSW Coastal Policy 1997, Lower Hunter Regional Strategy and Lower Hunter Regional Conservation Plan.	See Section 5
A consideration of the proposal and cumulative impacts in relation to the development of other future urban land identified in the Lower Hunter Regional Strategy.	See Section 5.2
A draft Statement of Commitments, outlining 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>
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
Identify the development contributions applicable to the site between <ul style="list-style-type: none"> <li>(a) the Proponent and Lake Macquarie Council,</li> <li>(b) the Proponent and State Government agencies for State infrastructure in accordance with Planning Circular PS 07-018, and</li> <li>(c) if relevant, any public benefits to be provided with the development.</li> </ul>	See Section 7 and <b>Appendix C.</b>
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.

Requirement	Response
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> .
<b>Key Assessment Criteria</b> The Environmental Assessment must address the following key issues:	
<b>Urban Design and Built Form</b> (1) Provide an assessment against the Coastal Design Guidelines for NSW and NSW Coastal Policy (1997). Propose development controls and design guidelines for the site which ensure that the future development responds to the site location appropriately. (2) Provide details of proposed treatment of all public domain areas. (3) Identify opportunities to link the proposed development to the existing village and surrounding areas, including through appropriate pedestrian and cycleway connections. (3) Address the principles of Crime Prevention Through Environmental Design.	See Section 6.1 and Urban Design Guidelines prepared by AJ+C Architects at <b>Appendix B</b> .
<b>Coastal Foreshore and Public Access</b> 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.	See Section 6.2
<b>Biodiversity impact</b> (1) Identify impacts of the development on threatened species and their habitats having regard to the draft Threatened Species Assessment Guidelines (DEC July 2005) and outline measures to avoid or mitigate impacts on threatened species and their habitat. (2) Demonstrate that biodiversity impacts can be appropriately offset in accordance with the NSW Government's policy for 'improvement or maintenance' of biodiversity values. (3) Consider and identify measures to manage interface impacts on land proposed to be dedicated for conservation. (4) Provide an assessment of the cumulative impacts on biodiversity of the proposed development, and other development proposed in the area. (5) 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.	See Section 6.3 and Ecological Assessment Report prepared by RPS at <b>Appendix F</b> .
<b>Transport and Accessibility</b> (1) Prepare a Traffic Study in accordance with RTA's Guide Traffic Generating Developments that includes (but is not limited to) the following: (a) an identification of all relevant vehicular traffic routes and intersection for access to/from the area; (b) current traffic counts for all of the above traffic routes and intersections; (c) the anticipated vehicular traffic generated from the	See Section 6.4 and Traffic Impact Assessment prepared by Hyder at <b>Appendix G</b> .



Requirement	Response
<p>proposed development and associated trip distribution on the road network;</p> <p>(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.</p> <p>(e) an analysis of the cumulative traffic and transport impacts of the development taking into consideration other proposed developments;</p> <p>(f) details of necessary road network infrastructure upgrades required to maintain existing levels of service both on the local and classified road network;</p> <p>(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;</p> <p>(h) proposed pedestrian and cycleway access within and to the site that connects to all relevant transport services, nearby settlements, and other key off-site locations having regard to the NSW Planning Guidelines for Walking and Cycling (2004), and the NSW Bike Plan (2010);</p> <p>(i) timing of delivery of proposed transport infrastructure including road and intersection upgrades, pedestrian and cycle paths, and public transport infrastructure; and</p> <p>(j) consideration of impacts on existing property access.</p> <p>(2) Assess the proposal against the objectives of the Integrating Land Use and Transport policy package.</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 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 that would be implemented to avoid, minimise or remediate potential mine subsidence issues encountered on the site.</p> <p>(4) Investigate the impacts on future mining activities.</p>	<p>See Section 6.5 and Preliminary Contamination, Mine Subsidence and Geotechnical Assessment prepared by Douglas Partners at <b>Appendix H</b>.</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>	<p>See Section 6.6 and Heritage Impact Assessment prepared by ERM at <b>Appendix I</b>.</p>

Requirement	Response
<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 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 areas including impacts on quality of surface water, groundwater, a coastal lake, a coastal creek or other similar body of water, or a rock platform) in accordance with the NSW Groundwater Dependant Ecosystems Policy.</p>	<p>See Section 6.8 and Infrastructure Study prepared by Cardno at <b>Appendix J</b></p>
<p><b>Flooding</b></p> <p>(1) Develop suitable flood planning levels for the proposed development and identify flood evacuation requirements for land up to the Probable Maximum Flood level. Demonstrate consistency with the NSW Floodplain Development Manual: the management of flood liable land (2005), the DECCW Floodplain Risk Management Guideline – Practical Consideration of Climate Change, the NSW Sea Level Rise Policy Statement (DECCW 2009), and Draft NSW Coastal Planning Guideline: Adapting to Sea Level Rise (Department of Planning 2009).</p>	<p>See Section 6.9 and Hydrology/Stormwater Management Study prepared by GHD at <b>Appendix K</b>.</p>
<p><b>Visual</b></p> <p>(1) Assess and provide mitigation measures in response to the 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>	<p>See Section 6.11 and Urban Design Guidelines and Concept Plan Design Principles at <b>Appendix B</b>.</p>
<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>	<p>See Section 6.12 and Bushfire Threat Assessment prepared by RPS <b>Appendix L</b>.</p>
<p><b>Impact on Crown Land</b></p> <p>Identify potential direct and indirect impacts arising from development on the adjacent Munmorah State Conservation Area, Point Wollstonecraft State Recreation Area and Lake Macquarie State Recreation Area.</p>	<p>See Sections 6.13 and 6.18.2</p>
<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, and recreation facilities, retail facilities and other social and community facilities. Identify the need for</p>	<p>See Section 6.7 and Social Infrastructure Study prepared by Urbis as <b>Appendix M</b> and Infrastructure Study prepared by Cardno at <b>Appendix J</b></p>

Requirement	Response
<p>additional facilities through negotiation with State or 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> <p>(a) Identification and assessment of the capacity of existing utility and infrastructure servicing the site; and</p> <p>(b) Identification and assessment of all necessary augmentation works to service the site and whether these works can sustain this and others development foreshadowed for the Wallarah Peninsula shown in the Lower Hunter Regional Strategy.</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 6.10 and Sustainability Report and Energy Savings Action Plan prepared by Ensign at <b>Appendix N</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 6.16 and Site Grading Plans prepared by Monteath &amp; Powys Pty Ltd at <b>Appendix O</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 6.15 and Land Transfer Plans prepared by Monteath &amp; Powys Pty Ltd at <b>Appendix P</b>.</p>
<p><b>Future Public Land</b></p> <p>(1) Identify any proposed open space or conservation lands and outline arrangements for ownership and control, management and maintenance, funding, public access, revegetation and rehabilitation works, and bushfire management.</p>	<p>See Section 6.17 and Statement of Commitments at <b>Appendix C</b>.</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.</p> <p>Consultation must be undertaken with the following relevant agencies:</p> <ul style="list-style-type: none"> <li>▪ Lake Macquarie Council</li> <li>▪ Wyong Shire Council</li> <li>▪ Hunter Water</li> <li>▪ Local Aboriginal Land Council</li> <li>▪ Catchment Management Authority - Hunter – Central Rivers</li> <li>▪ NSW Department of Industry and Investment</li> </ul>	<p>See Section 3.</p>

Requirement	Response
<ul style="list-style-type: none"> <li>▪ NSW Department of Environment, Climate Change 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>▪ Utility providers</li> </ul> <p>The consultation process and the issues raised should be described in the Environmental Assessment.</p>	

## 1.6 Proponent and Project Team

The proponent of the development is Coal & Allied. The preparation of the Concept Plan has included a comprehensive project team from various fields of expertise as follows.

- Development Management: Catylis;
- Urban Design: AJ+ C Architects;
- Town Planning: Urbis;
- Social Planning: Urbis;
- Flora & Fauna (Biodiversity): RPS (Formerly Harper Somers O'Sullivan);
- Bushfire Risks: RPS;
- Contamination, Geotechnical, Contamination, Mine Subsidence and Groundwater: Douglas Partners Pty Ltd;
- Hydrology, Stormwater Management, Flooding and Climate Change, Water Quality: 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

Nords Wharf is positioned within the Lake Macquarie Council Area, and is located approximately 90km north of Sydney and 30km south of Newcastle.

Swansea, located approximately 10 kilometres north of the site, is the closest town centre providing shopping and business services. Morriston 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 Nords Wharf 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 Nords Wharf 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 Nords Wharf 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 proposed conservation land dedication 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

The Nords Wharf site is located at the southern end of the Nords Wharf township, which is situated on the eastern shore of Crangan Bay of Lake Macquarie. The existing township of Nords Wharf is generally characterised by long narrow lots, some with direct water access.

Nords Wharf supports a small community of an estimated 870 persons, which swells over the summer period by holiday makers who come to the area particularly for boating, fishing and other water sports. The site is ideally located in close proximity to the Pacific Highway, which is the major transportation corridor between Sydney and Newcastle and the North Coast.

The existing infrastructure at Nords Wharf includes:

- **Water** – The residents of Nords Wharf are serviced with potable mains water by Hunter Water from Cams Wharf water supply zone. Initial water modelling by Hunter Water indicates that the existing lead-in main is constrained in relation to minimum pressure and fire fighting requirements.

A Water Servicing Strategy to service the Coal & Allied, Rose Group and Stockland developments has been prepared by ADW Johnson. The strategy has been approved by Hunter Water. The site will be serviced by a 150mm diameter main from the existing Cams Wharf reservoir. The new 150mm diameter main will be cross linked with the existing network to provide benefit to existing residents in the area. The existing Cams Wharf reservoir is intended to be connected to the proposed Wallarah Reservoir as detailed in the approved Water Servicing Strategy.

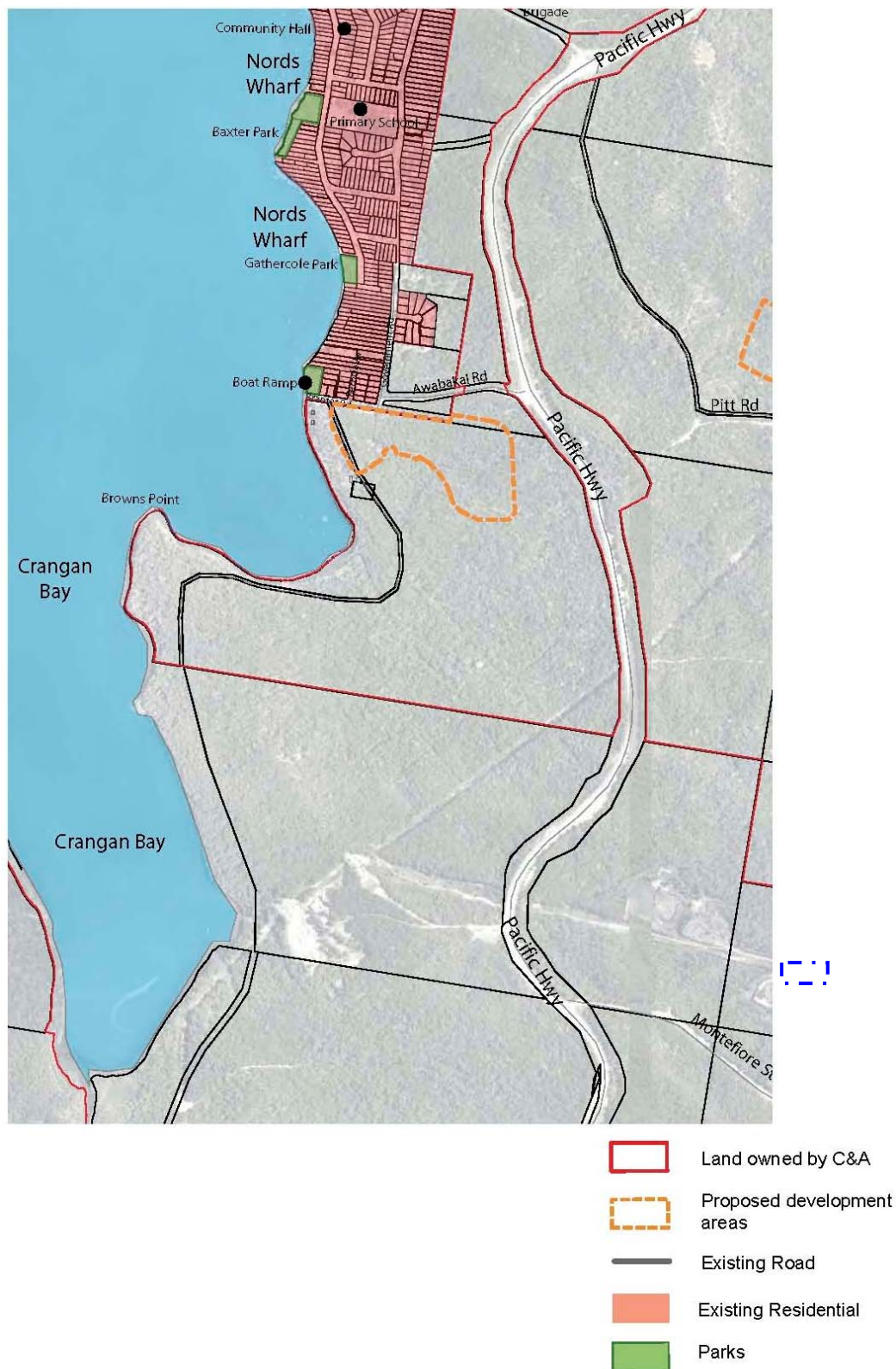
- **Sewer** - Hunter Water has advised that Nords Wharf is located in the Belmont Wastewater Treatment Works catchment. A series of existing Sewer Pump Stations (SPSs) run along the lake front before discharging to Swansea South SPS. Hunter Water have identified that two of the downstream pump stations – Swansea South and Swansea 3A – are scheduled for upgrades in 2013 and 2013/2014 respectively, however the development of Nords Wharf is not dependent upon these upgrades.

A Wastewater Servicing Strategy to service the Coal & Allied, the Rose Group zoned land at Catherine Hill Bay and Stockland developments in the area has been prepared by ADW Johnson. The strategy has been approved by Hunter Water. The Wastewater Servicing Strategy outlines the proposed upgrades and augmentation to the existing network that will be required to service the proposed developments.

Preliminary investigations by Cardno on behalf of Coal & Allied suggest the construction of a low lift pump station to be located on land currently owned by Hunter Water may be required. Further investigations by ADW Johnson as part of the above Strategy indicate that the site could possibly be connected by gravity to the existing network. Further detailed survey and design work will be carried out post concept plan approval to determine whether or not a low lift pump station will be required.

- **Existing zone substations** at Swansea and Lake Munmorah service the existing residents in Nords Wharf. Energy Australia has indicated that these zone substations may not have the capacity to service the new development area.
- **Gas** - There are no existing gas mains within Nords Wharf, with the nearest gas main 8km away.
- **Telecommunications** – Telstra standard telephone service available to existing developed areas;
- **Transport** – Access into the area is primarily from the Pacific Highway arterial and Awabakal Drive. Nords Wharf is serviced by an infrequent private bus service, from Lake Haven to Charlestown and Charlestown to Lake Haven, via Gwandalan, Catherine Hill Bay and Nords Wharf; and
- **Social infrastructure** – there is a small number of social infrastructure services in Nords Wharf including a pre-school, primary school, a local shop, community hall, Church, several pocket parks and a boat ramp.

Figure 3 – Site Context: Nords Wharf





## 2.3 The Site

The Nords Wharf site is owned by Coal & Allied Operations Pty Ltd, a wholly owned subsidiary of Coal & Allied Industries Ltd (Coal & Allied) and is legally described as follows:

- Part Lot 6 DP 746077.
- Part Lot 5 DP736170.
- Part Lot 12 DP 854197.

The land is located in the Lake Macquarie City Council local government area and the site is currently zoned 7(1) Conservation (Primary) Zone pursuant to the Lake Macquarie LEP 2004.

The proposed development site is bounded by the proposed Crangan Bay foreshore reserve to the west, Branter Road to the North and a parcel of land owned by Hunter Water to the south. The proposed development site is divided into two parts by a 'paper road' which is a Crown road. (A paper road is a road which is unbuilt but has been dedicated and included on the title.) Any roads constructed within the Crown road reserve will be dedicated to Lake Macquarie City Council as will all other roads within the proposed development.

The Nords Wharf site is approximately 126.78 ha in area, and includes all the land owned by Coal & Allied located west of Pacific Highway and east of Crangan Bay. The proposed Concept Plan applies to the whole of the site for the purposes of excising the proposed conservation lands from the proposed developable lands.

The site is well vegetated with established trees set back from the main lake foreshore frontage that is generally less vegetated. The under storey is dense across the site with the exception of the Scout camp area, which has been generally cleared. There are some lightweight structures on the site, which are used by the Scouts Association. Coal & Allied is involved in on-going discussions with the association regarding the future use of the site for residential development purposes.

The Nords Wharf land parcel generally has steep gradients that level out along the lake foreshore. The land generally slopes west towards Lake Macquarie. There are no major watercourses draining the site.

Photographs of the site and its surrounds are provided below.

Figure 4 – Photos of Nords Wharf and surrounds



Picture 1 – View looking east along Branter Road



Picture 2 – View looking south east across Branter Road and Kanangra Camping Ground



Picture 3 – View looking south towards Kanangra Camping Ground



Picture 4 – View looking north from Branter Road towards Nords Wharf residential properties



Picture 5 – Looking west from the site across Crangan Bay to Gwandalan

## 2.4 Opportunities, Constraints and Design Considerations

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

### 2.4.1 Opportunities

- The Nords Wharf land parcel generally has moderate to steep gradients that level out along the lake foreshore. Branter Road and the Pacific Highway are ridge roads creating south and west facing slopes on the site.
- There are no major watercourses within the site however there are a number of gullies that provide a path for the passage of stormwater through to Lake Macquarie.
- Existing vehicular entry points to the site are from Government Road and Branter Road. A paper road divides the site into two parts.
- There are bush and water views when approaching the site from Branter Road. Lake Macquarie views from the foreshore include Browns Point and Gwandalan. Views to the north are of the existing Nords Wharf township.

### 2.4.2 Constraints

- Aboriginal archaeological potential in the form of middens has been identified along the waterfront area. The site, east of the paper road has lower Aboriginal archaeological potential.
- The site is underlain by coal mine working. The depth of cover to the Wallarah Seam working range from about 60m to 80m depth, with the Great Northern at about 105m to 125m. No shafts or tunnels are shown on the Record Traces. This means that building development over the site would be restricted to double storey brick veneer, up to 30m in length. The most south eastern corner would be restricted to single storey building height brick veneer.
- Under Lake Macquarie LEP 2004 (LMLEP) the site is subject to a 36m foreshore building line (FBL) measured from the high water mark. No habitable buildings are allowed in the FBL. The site is also located within a Sensitive Coastal Location (i.e. land within 100m above mean high water mark of the sea, a bay or an estuary under SEPP 71).
- There will be a need for services infrastructure. No significant service delivery problems have been identified, although it is cost prohibitive to provide reticulated and natural gas to the site.
- Protection of endangered ecological communities to the south of the land identified for proposed development. The ecologically significant Swamp Mahogany Forest occurs at the confluence of drainage lines.
- Parts of the site have slopes steeper than 20%.

### 2.4.3 Design Considerations

- Vegetation along the ridge to the east should be retained to reinforce the existing bushland backdrop to Nords Wharf and maintain a vegetation corridor along the Pacific Highway.
- Development should seek to minimise the visual impact from the water.
- Asset protection zones (APZ) establish a bushfire protection area that requires maintenance. The area required for APZ is determined by assessment of the surrounding vegetation and topography. No habitable structures are allowed within APZs and they will require continuous vegetation control.
- Water quality discharging into Lake Macquarie can be managed through water sensitive urban design.
- The existing Scout Camp has expanded over time outside the licensed area and requires relocation.
- Traffic noise from the Pacific Highway is not predicted to adversely impact the site.
- The design needs to consider and mitigate impacts on existing Branter Road residents.
- Protection of sensitive lake foreshore area and areas of aboriginal cultural significance by limiting development along the lake foreshore.
- Provide parkland and public access along the foreshore.
- Dedication of conservation land. Proposed dedication of 116.6ha of land including lake foreshore and bushland as '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 lake foreshore.
- Maintain and enhance the natural landscape setting of Nords Wharf.
- Provide water sensitive urban design.



### 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 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.

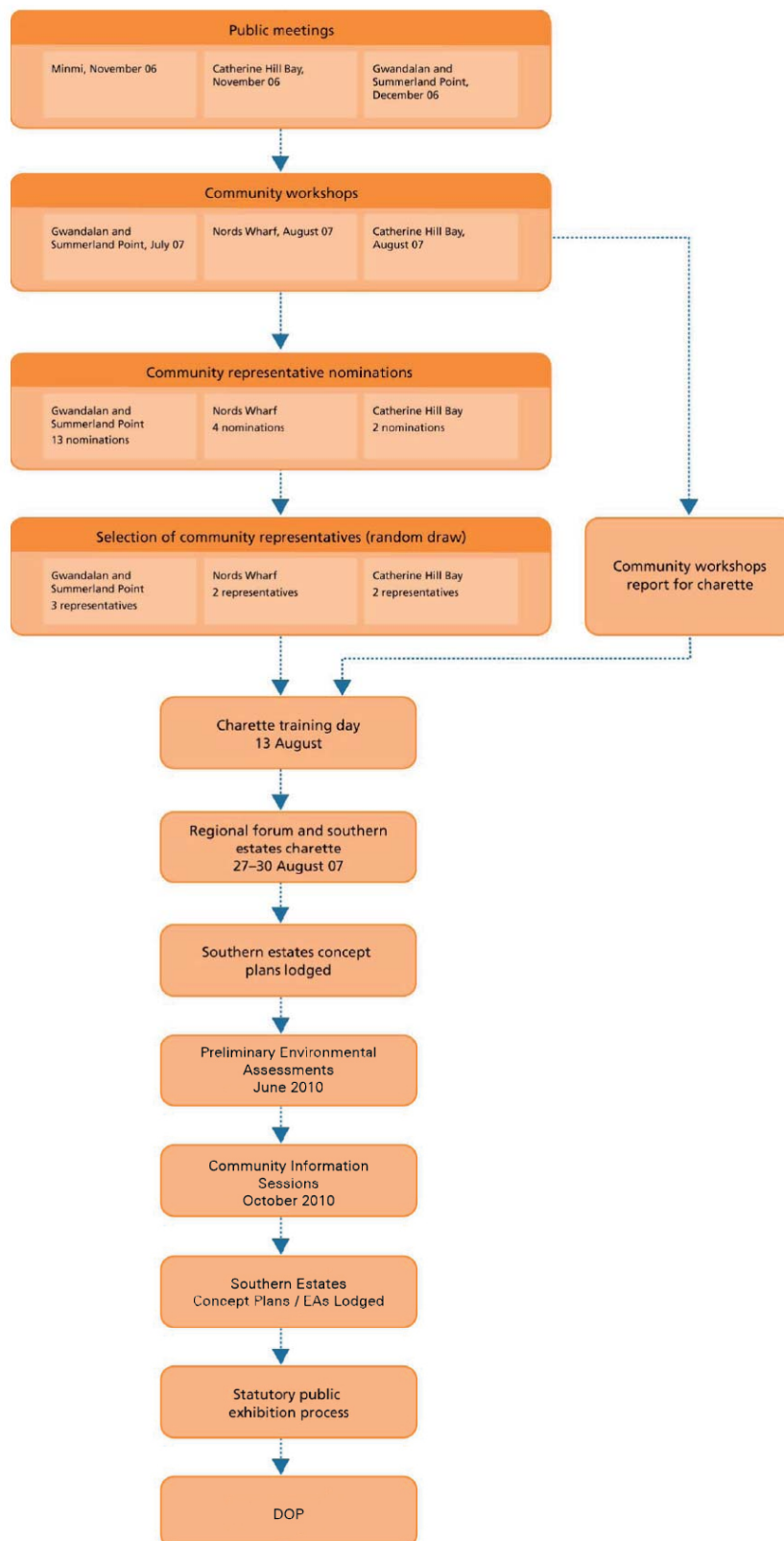
Some of the key messages received from these stakeholder meetings included reinforcing the importance of achieving the conservation corridors and the high biodiversity areas. A preference for higher densities rather than low-density urban sprawl was also put forward. Infrastructure and transport options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



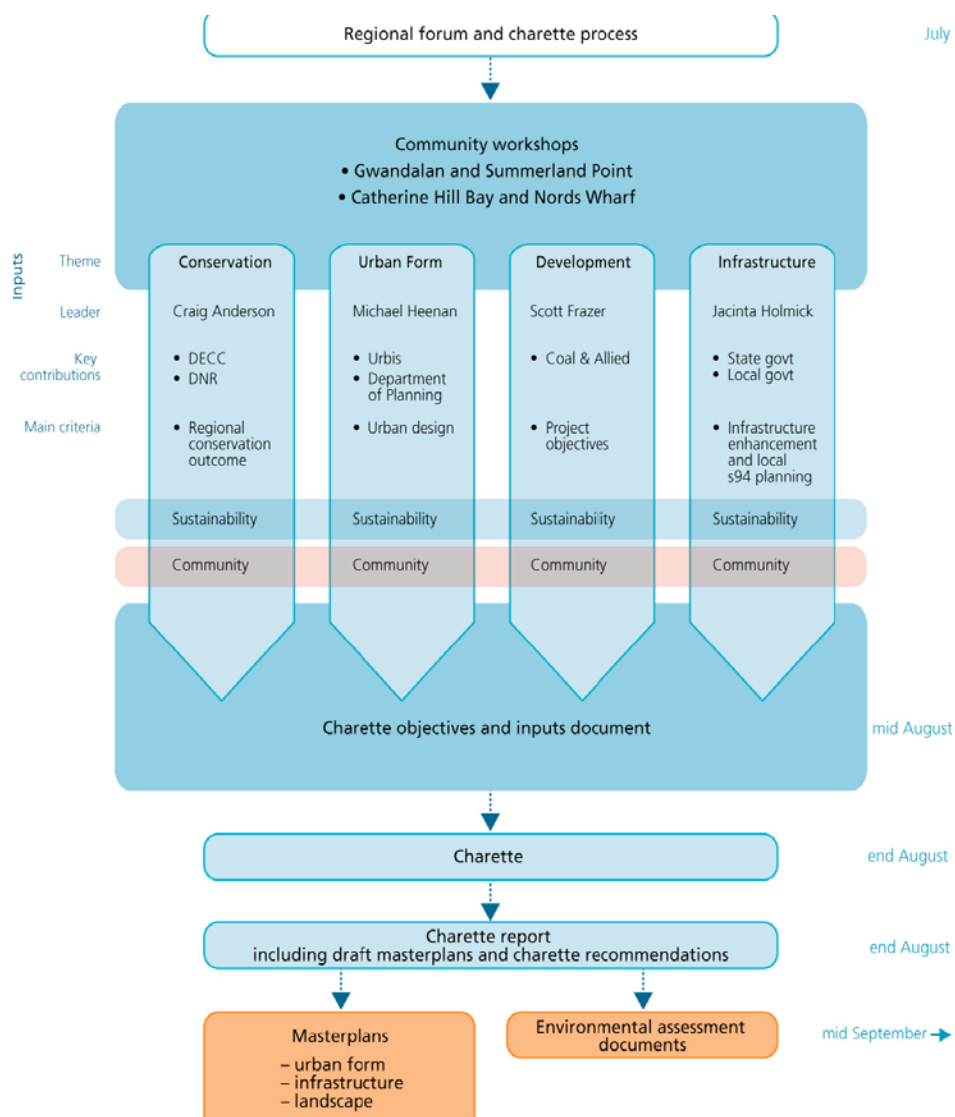
### 3.3 Regional Forum and Design Charette

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 10.18Ha 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:

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:

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

A summary of the response from each of the Community Information Sessions is included at **Appendix Q** of this EA

#### 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 2 – 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.

Agency	Summary
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 for which approval is currently sought

The Concept Plan for a proposed residential subdivision and conservation land transfer at Nords Wharf applies to the entire 127ha site. The key parameters for the proposed development of the site are as follows:

- Dedication of 116.6ha of conservation land to the NSWG that is identified in the LHRS and LHRCP, comprising approximately 92% of the Nords Wharf site.
- Maximum dwelling yield of 90 dwellings over 10.18ha.
- Indicative development staging.
- The provision of associated infrastructure.
- Torrens title subdivision and boundary realignment of the Nords Wharf site. The Torrens title subdivision and boundary realignment of Coal & Allied land will enable land 116.6ha in area that is owned by Coal & Allied Industries Ltd to be excised and to be dedicated to NSWG for 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 the maximum dwelling yield of 90 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 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 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 A1.13 - Nords Wharf conservation and development area

Figure 8 – Proposed Nords Wharf Concept Plan



## 4.2 State Significant Site Listing and Rezoning

A separate report has been prepared and lodged concurrently with the Department of Planning (DoP) in support of an application for listing and rezoning of the Coal & Allied owned Nords Wharf 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.

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 which areas are to be developed and which 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 Nords Wharf 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 Project

The Coal & Allied owned Nords Wharf 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 10.18ha of the Nords Wharf site for residential development with a maximum dwelling yield of 90 dwelling lots. The proposed 90 dwellings at Nords Wharf will help achieve the State Government's objective to cater for the predicted population growth for the Region until 2031. The balance of the Nords Wharf site (116.6ha or 92%) is proposed to be dedicated to the NSWG for conservation purposes.

As stated, the 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 Watagan to Stockton Corridor and the Wallarah Peninsula 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 116.6ha of the Nords Wharf 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 526 ha of Catherine Hill Bay (Middle Camp) 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 116.6ha of Nords Wharf 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 116.6ha of the Nords Wharf site for conservation to the NSWG by Coal & Allied is clearly of state and regional significance.

Importantly the proposal for Nords Wharf site will also result in the protection of:

- Sensitive lake foreshore areas by limiting development along the lake foreshore;
- Ecologically significant Swamp Mahogany Forest communities; and
- Areas of aboriginal cultural significance along the lake foreshore that contain middens.

### 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 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 included the following features:

- Dedication of 127ha of conservation land, including lake foreshore and bushland;
- Provision of 90 residential lots over 9ha with an average density of 10 dwellings a hectare;
- Provides for marketable product;
- Mix of housing type lot sizes including:
  - 24 “Village” housing lots with minimum site frontage of 14m and minimum site area of 500sqm;
  - 36 “Bushview” housing lots with minimum site frontage of 20m and minimum site area of 570sqm;
  - 6 “Lakeview” housing lots with minimum site frontage of 18m and minimum site area of 900sqm; and
  - 5 “Hillside” housing lots with minimum site frontage of 18m and minimum site area of 900sqm.
- Protection of endangered ecological communities (EEC) by dedication of this land to NSWG and provision of a 20m buffer around EECs;
- Protects areas of aboriginal heritage value, including Aboriginal midden sites (Archaeology zones 1 and 2) and natural landscape along the foreshore;
- Provides a swale for overland flow to provide water sensitive stormwater drainage and a green wildlife corridor;
- Provision of 2 detention basins within the buffer zone to the EECs;
- Provides a foreshore park and public access along the coastal foreshore;
- Provides vegetated buffer along Branter Road to minimise impacts to Branter Road residents;
- Retains vegetation along the ridge to the east to reinforce the existing bushland backdrop to Nords Wharf and maintain a vegetation corridor along the Pacific Highway;
- Retain existing trees along foreshore to screen the development from the other side of Crangan Bay and ensure the current natural landscape edge of Crangan Bay is maintained.

In addition to the typical lots there would be 3 superlots of integrated housing. These are shown in the additional uses zoning plan and also shown below by the dotted lot boundaries. These superlots range from 1600sqm to 5000sqm and can be subdivided into lots with a minimum site area of 350sqm. While the smaller lots are less than Lake Macquarie Council’s minimum site area requirement of 450sqm the community had expressed a desire for a range of lot sizes.

No parks will be provided within the development footprint. The development of the Nords Wharf Estate supports the provision of a park on Council land located between the existing Nords Wharf settlement and the new estate. This will ensure that the new park is centrally located for existing and new residents. This proposal for off site open space was not supported by LMCC.



Figure 9 – Alternative Option 1



#### 4.4.2 Option 2

Option 2 included the following features:

- Dedication of conservation land. Provision of 127ha of land including lake foreshore and bushland as 'conservation land' as an extension of the Wallarah National Park to the north and Mummorah State Conservation Area to the south;
- Provision of 90 residential lots over 9ha;
- Approximate housing mix of 300sqm to 1,000sqm;
- Provides for marketable product;
- Protection of endangered ecological communities including Swamp Mahogany;
- Provides a 20m buffer around the EEC;
- Protects areas of aboriginal heritage value, including Aboriginal midden sites (Archaeology zones 1 and 2) and natural landscape along the foreshore;
- Provides a swale for overland flow to provide water sensitive stormwater drainage and a green wildlife corridor;
- Provision of 2 detention basins within the buffer zone to the EECs; and
- Provides a foreshore park and public access along the coastal foreshore;
- Provides vegetated buffer to minimise impacts to Branter Road residents;
- Retains vegetation along the ridge to the east to reinforce the existing bushland backdrop to Nords Wharf and maintain a vegetation corridor along the Pacific Highway.

Figure 10 – Alternative Option 2



#### 4.4.3 Option 3 – The Preferred Option

The current proposal was selected as the preferred option for the following reasons:

- Dedication of 116.6ha of conservation land (92% of the site), including lake foreshore and bushland. The 92% of the Nords Wharf site proposed to be dedicated for conservation purposes is well in excess of traditional conservation outcomes from development offset processes.
- Maximum dwelling yield of 90 lots over 10.18ha. The larger development footprint than Options 1 and 2 (from 9Ha to 10.18 Ha) was as a result of DECCW requirements not to batter slopes in the area that was to be dedicated.
- Typical lots range from 450sqm to 930sqm.
- Three superlots of integrated housing ranging from 1600sqm to 5000sqm that can be further subdivided.
- Provides for marketable product.
- Provides a mix of housing type lot sizes.
- Protection of endangered ecological communities (EEC).
- Protects areas of aboriginal heritage value, including Aboriginal midden sites (Archaeology zones 1 and 2) and natural landscape along the foreshore.
- Provide a swale for overland flow to provide water sensitive stormwater drainage and a green wildlife corridor.
- Provision of two detention basis within the proposed development footprint.
- Provides public access along the coastal foreshore.

- Provides vegetated buffer along Branter Road to minimise impacts to Branter Road residents.
- Retains vegetation along the ridge to the east to reinforce the existing bushland backdrop to Nords Wharf and maintain a vegetation corridor along the Pacific Highway.
- Retains existing trees along foreshore to screen the development from the other side of Crangan Bay and ensure the current natural landscape edge of Crangan Bay is maintained.

No parks will be provided within the development footprint. However, the Owner will pay contributions for Open Space and Recreation facilities in accordance with the Lake Macquarie Council Section 94 Contributions Schedule operational from 2004. 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 Nords Wharf, Catherine Hill Bay (Middle Camp) and Gwandalan. As part of this fund Coal & allied propose to:

- Contribute \$10,000 to a local playgroup at Nords Wharf; and
- Contribute \$100,000 to upgrade of Gathercole Park.

Figure 11 – Alternative Option 3 – the Preferred Concept



Figure A1.3.1 - Indicative lot layout

## 4.5 Stages of Project

Due to the relatively small nature of the proposed development (90 lots) in comparison to the other Coal & Allied proposed developments, it is anticipated that the sub-division will be constructed in one single stage including all roads, public domain and services infrastructure. However, depending on market forces, it may be decided to develop the lots in 3-4 stages of 25-30 lots each.

Note that approval is not sought under the Concept Plan for subdivision within the proposed development footprint – except for the Torrens title subdivision and boundary realignment of the overall site to enable the excise and dedication of conservation land to the NSWG.

All servicing will be connected to the site in a single stage.



## 5 Environmental Planning Assessment

Consistent with the provisions of the Environmental Planning & Assessment Act 1979, the DGEAR's require the proponent to consider 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" provided 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:

- Lower Hunter Regional Strategy;
- Lower Hunter Regional Conservation Plan;
- 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 2009;
- SEPP Building Sustainability Index;
- SEPP (Infrastructure) 2007;
- Infrastructure Contributions Plan Circular PS08-017;
- Hunter Regional Environmental Plan 1989 (Heritage); and
- Lake Macquarie Local Environmental Plan 2004.

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

### 5.2 Lower Hunter Regional Strategy

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

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

The LHRS identifies the Nords Wharf site for proposed urban development and proposed conservation land dedications. The proposal is entirely consistent with the LHRS.



The Nords Wharf 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 LHRP and the companion LHRCP. The proposed development of 10.18ha of land at Nords Wharf and proposed dedication of 116.6ha of conservation land at Nords Wharf to NSWG is crucial in achieving the State Government's objective of securing major conservation corridors identified in the LHRP, most notably the Wallarah Peninsula Corridor. The proposed development of the Nords Wharf site and proposed substantial land dedication is an integral element of the LHRP.

### 5.3 Lower Hunter Regional Conservation Plan

The NSWG released the Lower Hunter Regional Conservation Plan (LHRCP) in December 2009. The plan is a key and complimentary component of the LHRP as it establishes the key principles and actions proposed to achieve the biodiversity and conservation outcomes that have been outlined in the LHRP.

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 LHRP proposes development footprints to maximise use of already cleared or degraded land, there will be additional loss of biodiversity values, including areas of high conservation value vegetation as the LHRP is implemented.

Future proposed developments in the Lower Hunter will be assessed against the LHRCP. Impacts to biodiversity, including threatened species, should firstly be avoided or 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 Nords Wharf 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 116.6ha of conservation land at Nords Wharf will make a significant contribution to achieving a key objective of the LHRCP which is securing major conservation corridors.
- The proposed residential development of Nords Wharf on 10.18ha of land will be more than offset through the proposed dedication of 116.6ha 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 given that measures have been 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 Nords Wharf site.

## 5.4 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 Nords Wharf.

## 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 3 – NSW Coastal Policy

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 conservation values of the Nords Wharf coastline by providing for proposed developable areas away from lake foreshore areas;</li> <li>▪ The proposed development area is sensitively located with respect to existing environmental and conservation attributes; and</li> <li>▪ The draft VPA provides a legal mechanism to protect the land which is proposed to be dedicated to NSWG and is of high conservation value that</li> </ul>



Objectives	Comment
	<p>forms an integral ecological corridor of a wider network of regional conservation lands.</p>
<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>As identified above, the Concept Plan and draft VPA represents an agreement between State Government and the proponent to protect land of high conservation value that forms an integral ecological corridor of a wider network of regional conservation lands; and</li> <li>The ecological studies confirm that the proposed development is largely confined to disturbed areas of lesser ecological quality and that proposed conservation lands provide excellent outcomes for the vast majority of species and communities. The quantum of the conservation lands proposed to be dedicated, 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>
<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; and</li> <li>A number of initiatives are proposed in the WSUD Strategy 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>The location of proposed developable areas was established taking into account Aboriginal heritage values of high significance along the foreshore area;</li> <li>The Concept Plan protects aboriginal cultural significance along the foreshore that contains middens by providing an appropriate setback of 100m to the lake foreshore; and</li> <li>The HIA and Draft Statement of Commitments details the mitigation measures the proponent commits to undertake in association with the project. The HIA has determined that provided the mitigation measures outlined in the HIA are implemented by Coal &amp; Allied, the potential impacts on Aboriginal heritage will be avoided and minimised to an acceptable level.</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 proposed development area is set back from the water's edge and has a buffer of trees between it and the water. The change in level and extent of existing trees will ensure that there is very limited visibility of the proposed development from the foreshore or the water body.</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; and</li> <li>Future development will be required to meet these guidelines.</li> </ul>

Objectives	Comment
<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 Lake Macquarie has been a key consideration in approaching the structure of the Concept Plan.</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 the proposed developable area was established taking into account the presence of Aboriginal heritage values of the foreshore area and environmentally sensitive landscapes; and</li> <li>The Concept Plan protects aboriginal cultural significance along the foreshore that contains middens by providing an appropriate setback of 100m to the lake foreshore.</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 carried out in accordance with the Department of Environment and Climate Change "Interim Community Consultation Requirements Guideline" (2004).</li> </ul>
<ul style="list-style-type: none"> <li>Implementation of "best practice" approaches to achieving sustainable development and resource management.</li> </ul>	<p>Key sustainability criteria adopted in developing the Concept Plan are identified as:</p> <ul style="list-style-type: none"> <li>Natural resources: 92% of the Nords Wharf land holdings are proposed to be dedicated for conservation. The proposed development area focuses on clear, degraded areas. Species/communities likely to be affected are well represented within proposed conservation areas;</li> <li>Environmental protection: The proposal will help secure key regional green corridors which will conserve significant biodiversity resources and heritage attributes, as well as contribute to air and water quality; and</li> <li>Environmental Stewardship: 92% of the Nords Wharf site is proposed to be dedicated for conservation purposes is well in excess of traditional conservation outcomes from development offset processes.</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>Given the sites location adjacent to the southern edge of the existing Nords Wharf settlement, it is ideally located.</li> <li>Proposed development is to be focussed on clear, degraded areas of lesser environmental quality. Where native vegetation may be affected, suitable actions are proposed to minimise any potentially deleterious impacts.</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>The proposed development is to be contained within a small development footprint in close proximity to an established urban area.</li> </ul>
Provide choice in both housing and lifestyle.	<ul style="list-style-type: none"> <li>Mix of housing lots including:               <ul style="list-style-type: none"> <li>–integrated housing lots with minimum site area of 350sqm;</li> <li>–"Village" housing lots with minimum site area of 500m;</li> <li>– "Bushview" housing lots with minimum site area of 570sqm; and</li> <li>–"Lakeview" and "Hillside" housing lots with minimum site area of 900sqm.</li> </ul> </li> </ul> <p>In addition to the typical lots there will be 3 superlots</p>

Objectives	Comment
	of integrated housing. These superlots range from 1,600sqm to 5,000sqm and can be subdivided into lots with a minimum site area of 350sqm. While the smaller lots are less than Lake Macquarie Council's minimum site area requirement of 450sqm the community has expressed a desire for a range of lot sizes.

The above assessment illustrates that the development concept for the proposed development of the Nords Wharf site satisfactorily achieves objectives of managing the NSW coastal zone. The proposed development area has been confined to areas that are well setback from the sensitive foreshore area and located in areas that are already disturbed or areas of lesser environmental quality. Appropriate environmental management measures such as stormwater and erosion control will be implemented to mitigate potential pollutant impacts.

## 5.6 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 Nords Wharf project relate to "coastal hamlets" settlements. Under the CDG, coastal hamlets are described as:

- The smallest settlement type with population generally less than 500 people;
- Are isolated settlements often accessible by one road only; and
- Contain few dwellings and limited facilities, up to one or two shops.

Nords Wharf has a population of approximately 870 people; and is accessed from the Pacific Highway via two roads. Commercial facilities are limited to one shop. In this regard, the proposed Concept Plan is assessed in consideration to the desired character guidelines for coastal hamlets, as summarised in the table below:

Design principles of the Policy aim to achieve the identified future character for coastal settlements. The application of these principles relative to Nords Wharf and the proposal is assessed in the table below:

Table 4 – Coastal Design Guidelines – Assessment table

Desired Future Character	Comment
Coastal Hamlets offer an authentic and informal coastal lifestyle experience within a small collection of coastal dwellings and a few basic urban amenities. The natural environment dominates individual buildings and the settlement as a whole. Visual and physical connection to the surrounding environment is effortless and within walking distance. New development is within the settlement boundaries and the scale and architectural character of new buildings allows the setting to predominate.	
<b>Relationship to the environment</b> <ul style="list-style-type: none"> <li>▪ Clear boundaries are established between urban areas and the surrounding environment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A 10m landscape buffer will screen the proposed development from residences along Branter Road. The proposed development area is set in a south facing amphitheatre, thus minimising its visibility from the Branter Road and other developments.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Surrounding ecological systems are intact and large areas of indigenous vegetation and mature trees visually dominate the settlement.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Surrounding ecological areas are maintained by the proposed dedication of 116.6ha of conservation land to the NSWG. The proposed development</li> </ul>

Desired Future Character	Comment
	footprint sits within a natural amphitheatre, well setback from the foreshore and surrounded by bushland. Accordingly the proposed development will have a character that is dominated by bushland setting.
<ul style="list-style-type: none"> <li>Aboriginal and European places and relics are retained as an integral part of the settlement's history.</li> </ul>	<ul style="list-style-type: none"> <li>The Concept Plan protects aboriginal cultural significance along the foreshore that contains middens by providing an appropriate setback of 100m to the lake foreshore.</li> </ul>
<ul style="list-style-type: none"> <li>Indigenous vegetation separates development from nearby settlements.</li> </ul>	<ul style="list-style-type: none"> <li>A 10m landscape buffer will screen the proposed development from residences along Branter Road.</li> </ul>
<ul style="list-style-type: none"> <li>A total water cycle management system is achieved by capturing rainwater; stormwater infiltration within the street reserve; local parks function as detention basins and permeation; and</li> <li>Waterways are protected through planning for peak visitor demands on water and waste services.</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; and</li> <li>Water and waste services infrastructure will be provided to meet forecasted demands.</li> </ul>
<ul style="list-style-type: none"> <li>Micro-climatic conditions are managed by established mature landscaping and trees; and</li> <li>Invasive plant species are removed and reinstatement of indigenous vegetation in bushland, reserves and setback areas.</li> </ul>	<ul style="list-style-type: none"> <li>Landscape concepts to integrate the built and natural environments will contribute to management of micro-climatic conditions. Indigenous vegetation will be reinstated in proposed development areas.</li> </ul>
<ul style="list-style-type: none"> <li>Demands for bushfire protection and natural asset protection are managed respecting competing values.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to Bushfire Threat Assessment at <b>Appendix L</b>.</li> </ul>
<b>Visual Sensitivity</b> <ul style="list-style-type: none"> <li>Vegetation and landform visually dominate development; and</li> <li>Development is set well back from the foreshore, not dominating vistas from and to the coast.</li> </ul>	<ul style="list-style-type: none"> <li>The character of the indicative road layout responds to the landform of the site and the proposed development footprint sits within a natural amphitheatre, well setback from the foreshore and surrounded by bushland.</li> <li>The proposed development area is set back from the water's edge and has a buffer of trees between it and the water. The change in level and extent of existing trees will ensure that there is very limited visibility of the proposed development from the foreshore or the water body.</li> </ul>
<ul style="list-style-type: none"> <li>Edges to the water and natural areas</li> <li>Foreshore and settlement edges are controlled and readily accessible to pedestrians;</li> <li>Boundaries between public and private land are informal but well defined;</li> <li>Restricted vehicle access to the beach;</li> <li>Properties are protected from coastal processes and flooding by appropriate setbacks from the coast, lakes and other waterways; and</li> <li>Informal pedestrian pathways to the coastal and foreshore reserves and waterways.</li> </ul>	<ul style="list-style-type: none"> <li>Public foreshore access will be available along the lake foreshore as part of the development proposal and conservation land dedications;</li> <li>The APZ and buffer zones will ensure that there is legible management between the proposed development and the sensitive Bushland;</li> <li>Generous setbacks from coastal areas and creeks ensure future properties are protected from coastal processes; and</li> <li>Pedestrian networks are proposed to be incorporated within future subdivision to connect residential areas with the existing township at Nords Wharf.</li> </ul>
<b>Streets</b> <ul style="list-style-type: none"> <li>The street hierarchy within a hamlet contains</li> </ul>	<ul style="list-style-type: none"> <li>Location of roads are planned to minimise changes</li> </ul>

Desired Future Character	Comment
<p>streets of a similar size and design and laid out in response to the topography and natural features;</p> <ul style="list-style-type: none"> <li>▪ The street hierarchy for a hamlet contains: <ul style="list-style-type: none"> <li>–An entry road leading from the freeway to the settlement;</li> <li>–Streets revealing important vistas;</li> <li>–Streets defining the edge of public areas and the foreshore;</li> <li>–Streets providing cycle routes throughout the settlement; and</li> <li>–Unmade roads or pedestrian pathways on the boundary between developed and natural areas.</li> </ul> </li> <li>▪ Internal pedestrian and bike connections are along streets.</li> </ul>	<p>to the natural topography. Street hierarchy is similar to existing hierarchy of streets. Refer to the Traffic Report at <b>Appendix G</b>.</p>
<p><b>Buildings</b></p> <ul style="list-style-type: none"> <li>▪ Large-scale residential, retail / commercial and tourist developments are avoided;</li> <li>▪ Large developments in prominent locations; surrounding the settlement or along the main access road are avoided;</li> <li>▪ Buildings are sensitive in scale to existing buildings. Range from detached and semi-detached dwellings, coastal cottages and bed and breakfast accommodation; and</li> <li>▪ Buildings are consistent in scale and landscaping treatment throughout the settlement is achieved through consideration of car parking, landscaping, setbacks, site coverage, bulk and scale, materials and colours.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Proposed subdivision design is to provide for low density living;</li> <li>▪ Design Guidelines have been prepared by AJ+C Architects (<b>Appendix B</b>) as part of the Concept Plan which provide objectives and controls for which future development must adhere;</li> <li>▪ The Draft Statement of Commitments also commits to preparation of a set of more detailed urban design guidelines to which future development must adhere prior to construction of the first dwelling on site; and</li> <li>▪ The design guidelines will achieve compatibility with the natural surrounds and the existing township of Nords Wharf.</li> </ul>
<p><b>Heights</b></p> <ul style="list-style-type: none"> <li>▪ Heights of up to two storeys are maintained throughout the settlement;</li> <li>▪ Heights are 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>	<ul style="list-style-type: none"> <li>▪ Indicative dwelling heights are proposed to be 1 and 2 storeys (refer to building height map at <b>Appendix R</b>); and</li> <li>▪ No significant overshadowing impacts from the future 1 and 2 storey development to public open space areas are envisaged as a 100m setback is provided to the foreshore.</li> </ul>

Design principles of the Policy aim to achieve the identified future character for coastal settlements. The application of these principles relative to Nords Wharf and the proposal is assessed in the table below:

Table 5 – Coastal Design Principles – Assessment table

Design Principles	Comment
<b>Defining the settlement footprint</b> <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>The Nords Wharf site is identified under the LHRS as an area to accommodate population growth; and</li> <li>The proposed development footprint is contiguous with the existing development, thus expanding the boundary of the existing settlement, and limiting unnecessary sprawl.</li> </ul>
<b>Connecting open spaces</b> <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>No parks will be provided within the development footprint. However, the Owner will pay contributions for Open Space and Recreation facilities in accordance with the Lake Macquarie Council Section 94 Contributions Schedule operational from 2004.</li> <li>The proposal will contribute significantly to the successful implementation of the LHRS and the LHCPR;</li> <li>The LHRS recognises the importance of large vegetation areas being linked via habitat corridors at a landscape scale. The proposed dedication of 116.6ha of conservation land to the NSWG will help establish significant ecological links with major green corridors through the Region identified in the LHRS and LHCPR. 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>The proposed dedication of land to the NSWG for conservation will help preserve endangered ecological communities, sensitive foreshore areas and will protect aboriginal cultural values;</li> <li>The indicative road layout is designed to provide safe walking and bicycle routes that link the site with the foreshore and existing services and facilities in Nords Wharf.</li> </ul>
<b>Protecting the natural edges</b> <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</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development footprint is setback considerably from the foreshore, such that no impacts will occur with respect to access and visual and environmental amenity; and</li> <li>Public foreshore access will be available along the lake foreshore as part of the development proposal and proposed conservation land dedications.</li> </ul>

<p>habitats; visual amenity and improvement of water quality; and</p> <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><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>The indicative road layout responds to the landform;</li> <li>Overall road widths are designed to meet Council requirements in general. Refer to Traffic and Transport Report at <b>Appendix G</b>;</li> <li>The indicative road layout is designed to incorporate landscaping and safe cycling and walking routes;</li> <li>Street hierarchy is made legible by extending the main north-south road of the existing settlement of Nords Wharf through the site creating a loop road;</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>
<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;</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> </ul> <p>Heritage/significant elements:</p> <ul style="list-style-type: none"> <li>Respond to heritage protection controls for development adjacent to heritage items.</li> </ul>	<ul style="list-style-type: none"> <li>Urban design guidelines for the site 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 and landscaping;</li> <li>The design guidelines will achieve compatibility with the natural surrounds and the existing township of Nords Wharf.</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 pleasant outlooks, where possible development lots are designed to enable an address to open spaces and lake views; and</li> <li>Proposed developable areas are appropriately sited away from key aboriginal heritage areas.</li> </ul>

## 5.7 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 identified under Clause 8, 14 – 16 of the SEPP. These considerations are summarised in the table below:

Table 6 – 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 development concept for the proposed development of the Nord Wharf site satisfactorily meets the aims SEPP 71. The proposed developable area is well setback from the lake foreshore area such that there is limited impact on visual amenity and development is located in areas that are already disturbed or areas of lesser environmental quality;</li> <li>The proposed dedication of 92% of Nords Wharf 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>Public foreshore access will be available along the lake foreshore as part of the development proposal and proposed conservation land dedications. This is currently not available.</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 scenic values of the Lake Macquarie foreshore, by providing for the proposed developable areas away from the foreshore; and</li> <li>Proposed development areas are sensitively located with respect to existing environmental and aboriginal heritage attributes.</li> </ul>
<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 developable areas has been confined to an area that is well setback from the lake foreshore area such that there will be no significant issues with respect to sunlight amenity and loss of 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>The proposed developable area is well setback from the foreshore areas 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</li> </ul>



Provision	Response
	outcomes for the vast majority of species and communities. 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.
<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 developable area is well setback from the foreshore areas such that there are no impacts with respect coastal processes and coastal hazards.</li> </ul>
<ul style="list-style-type: none"> <li>Measures minimise conflict between land-based and water-based activities.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed developable area is well setback from the foreshore areas 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 the proposed developable areas has been established taking into account the presence of cultural heritage and environmentally sensitive landscapes.</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>Natural resources: 92% of the Nords Wharf land holdings is proposed to be dedicated for conservation. The development area focused on clear and degraded areas. Species/ communities likely to be affected are well represented within proposed conservation areas;</li> <li>Environmental protection: The proposal will help secure key regional green corridors which will conserve significant biodiversity resources and heritage attributes. The proposal will provide appropriate waste water treatment and water quality systems; and</li> <li>Environmental Stewardship: 92% of the Nords Wharf site is proposed to be dedicated for conservation purposes. This is well in excess of traditional conservation outcomes from development offset processes.</li> <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>
<b>Public Access (Clause 14):</b> <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>Currently there is limited public access arrangements to Lake Macquarie in Nords Wharf; and</li> <li>Public foreshore access will be available along the lake foreshore as part of the development proposal and proposed conservation land dedications.</li> </ul>
<b>Effluent Disposal (Clause 15):</b> <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 J</b>.</li> </ul>

Provision	Response
<ul style="list-style-type: none"> <li>Stormwater (Clause 16):</li> <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.</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.

## 5.8 State Environmental Planning Policy (Major Development) 2005

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 of 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.

## 5.9 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.

Four tree species listed in Schedule 2 of SEPP No. 44 – ‘Koala Habitat Protection’ occur on site, namely Grey Gum, Swamp Mahogany, Scribbly Gum and Forest Red Gum can be considered as ‘Potential Koala Habitat’ according to the provisions of the SEPP. Searches were conducted by RPS for any secondary indications of Koalas on the site including scats, scratches on tree trunks, scent markings on tree trunks, tracks in the soil and audible noises including territorial or mating calls, fighting and movement in the trees. Searches for direct observations of Koalas were also conducted during a nocturnal survey. No animals were noted on site and no secondary evidence of the presence of Koalas could be found. However, a Koala record exists 1.2km outside the site to the south, which represents a distance of some 2km from the proposed residential development. Therefore, the Nords Wharf site is not considered by the definitions of the SEPP to constitute ‘Core Koala Habitat’.

## 5.10 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 SSS listing/rezoning for the site under the Major Development SEPP proposes that all development for the purpose of a public utility undertaking that is carried out on land across the entire Nords Wharf 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 by Cardno included at **Appendix J**. 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.

## 5.11 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.

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

In summary, localised site remediation would be required for Nords Wharf. Based on the known and potential contaminants in parts of the site and the ability to remediate the 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:

- Further delineate the extent of contamination.
- Development of a Remediation Action Plan.

- Appropriate remediation conducted to remove identified contaminants exceeding the DECCW land use criteria.
- Deleterious material 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.

It is noted that it is likely that the above localised remedial measure could be readily managed during the initial stage of earthworks and construction.

The above recommendations of Douglas Partners have been included as a draft Statement of Commitment for Nords Wharf.

## 5.12 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 N**.

## 5.13 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.

Review of the Mine Subsidence Board (MSB) maps for the area indicated that the site is underlain by coal workings in two seams, the Wallarah and the Great Northern. The Wallarah workings underlie most of the site, the Great Northern workings only encroaching on the south east corner of the site.

The depth of cover to the Wallarah Seam working range from about 60m to 80m depth, with the Great Northern at about 105m to 125m. The Douglas Partners report indicates building development over the site would be restricted to double storey brick veneer. The most south eastern corner would be restricted to single storey brick veneer. Refer to Building Height map at **Appendix R**. All future development will be required to comply with this.

Reference to the NSW Department of Primary Industries web site indicates that the site is not underlain by any existing coal or minerals titles, although the area below the lake to the immediate north west of the site is covered by Mining Lease ML1370 held by Centennial Coal. The proposed development would not preclude future mining. Any future mining, however would need to be undertaken in a manner which limits surface subsidence and this may require bord and pillar mining. Restrictions on development due to future mining are normally provided by the Development Application and Rezoning Liaison Committee (DARZL) Committee and a formal application to the MSB is required for consideration by DARZL.

The Owner will also undertake further geotechnical assessments prior to development commencing on the site as recommended in the preliminary contamination, geotechnical and mine subsidence assessment reports prepared by Douglas Partners included at **Appendix H**.

## 5.14 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 conserve the environmental heritage (including the historic, scientific, cultural, social, archaeological, architectural, natural and aesthetic heritage) of the Hunter Region.

Nords Wharf is not listed as a heritage item under the Heritage REP.

## 5.15 Lake Macquarie Local Environmental Plan 2004

Lake Macquarie Local Environmental Plan 2004 (LMLEP 2004) applies to the site, which zones the site 7(1) Conservation (Primary) Zone. The proposed residential development is prohibited under the provisions of LMLEP 2004.

Although the land to be dedicated to the NSWG is currently zoned for conservation, some development is permissible in the zone and it is also currently in private ownership. 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, however, 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 locked away permanently and 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 the Nords Wharf site will achieve the general overall objectives of enhancing the conservation values of the South Wallarah Peninsula. 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.

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 7 – 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 Nords Wharf, 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 between Watagans Range to Stockton Bight and the Wallarah Peninsula;</li> <li>▪ Contribution towards the social development of the Nords Wharf area by developer contributions to meet the needs of the current and future community;</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 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 Nords Wharf and to promote high quality urban design of future neighbourhoods; and</li> <li>▪ Provides land use and movement systems that respect the established Nords Wharf neighbourhood.</li> </ul> <p>The objectives of the 7(1) Conservation (Primary) zone are discussed above.</p>
<p>Clause 17 – Requires that arrangements for the provision of infrastructure are made to cater to the demands of proposed development.</p>	<ul style="list-style-type: none"> <li>▪ Infrastructure required to meet the physical and social demands of the proposed development have been investigated in detail. These provisions are addressed under the key issues of this EA report.</li> </ul>
<p>Clause 22 to 23 – Requires consideration to the siting of development with respect to foreshore building lines.</p>	<ul style="list-style-type: none"> <li>▪ The siting of future development is proposed away from foreshore areas to preserve the existing coastal setting, aboriginal heritage and amenity.</li> </ul>
<p>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).</p>	<ul style="list-style-type: none"> <li>▪ Proposed subdivision lot sizes do not meet the minimum provision; and</li> <li>▪ Concurrent with the Concept Plan, it is proposed to apply for a State Significant Site listing/rezoning under the Major Development SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal.</li> </ul>
<p>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.</p>	<ul style="list-style-type: none"> <li>▪ The proposed subdivision of land provides for 90 new dwellings. In conjunction with the Concept Plan, it is proposed to apply for a State Significant Site listing/rezoning under the Major Development SEPP which will provide the statutory mechanism</li> </ul>

Provision	Response
	that will enable the Minister for Planning to determine the proposal.
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/rezoning 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 be one/ two storeys. Specific guidelines for the site will guide the future character of development and have been developed in consideration of the existing built form character of Nords Wharf and the principles of appropriate integration with the natural surrounds.</li> </ul>
Clause 30 & 31 - Relate to the measures to minimise pollution and erosion and sediment control.	<ul style="list-style-type: none"> <li>Potential pollution control will be investigated both during the construction and ongoing management phases of the development through the implementation of erosion and sediment control measures.</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>In summary, all the lots within the site are located above the existing climate and assessed 2100 climate change flood levels (including freeboard and wave run up flood levels). Minor affectation of the foreshore road is expected under the extreme climate change conditions. For the extreme PMF climate change scenario, allowing for wave run up, one lot would experience a minor flood impact. Overall, it is submitted that the proposed development is suitable for existing and future predicted climate conditions..</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. Refer to <b>Appendix L</b>.</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 affected to any degree of significance; and</li> <li>Where significant native vegetation may be affected, suitable actions are proposed to minimise potential impacts. Refer to <b>Appendix F</b>.</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 in limited areas. 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>

Provision	Response
Clauses 43 to 54 – Relates to heritage and archaeological considerations. Consent is required for development on land that is affected by heritage items and consideration must be given to the heritage items concerned and its setting.	<ul style="list-style-type: none"> <li>Extensive European and Aboriginal heritage and archaeological assessment has been undertaken by ERM to determine the most appropriate options in siting the developable areas. Refer to <b>Appendix I</b>.</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>As discussed the subject land is zoned 7(1). However, the siting of the proposed developable area ensures no disturbance to lands affected by natural coastal processes and no detrimental 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.</li> </ul>

## 5.16 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 the 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 (**Appendix B**) as part of the Concept Plan (**Appendix A**) which 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 contains 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

In accordance with Crime Prevention through Environmental Design (CEPTD) principles the concept plan will achieve:

- A flowing street pattern with clear sightlines, and no blind corners;
- A permeable street pattern that ensures there are no entrapment spots or enclosed pathways;
- Appropriate lighting on main streets;
- Housing addressing streets, especially at perimeter of development to provide informal surveillance; and
- Open landscape at the ground plane to encourage visibility.

#### 6.1.3 Coastal Design Guidelines Response

As discussed in Section 5 in accordance with the Coastal Design Guidelines for NSW and NSW Coastal Policy 1997, the Concept Plan achieves the following:

- The proposed development footprint defined by roads at the edges creates a clear and distinct boundary that will separate the proposed development from bushland reserves;
- The proposed development footprint is contiguous with the existing development, thus expanding the boundary of the existing settlement and limiting unnecessary sprawl;
- The indicative street pattern which predominantly follows contours is designed to be in sympathy with the topography;

- The proposed development footprint is setback considerably from the foreshore, thus protecting the key scenic resources of the locality and the region;
- All existing trees within 100m of the foreshore will assist to visually screen the settlement from the other side of Crangan Bay and will ensure that the current contiguous landscape character of Crangan Bay is maintained;
- The APZ and buffer zones will ensure that there is legible management between the proposed development and the sensitive bushland;
- The main streets in the proposed development will reinforce and extend the street pattern of the existing development, encouraging walking and passive recreation; and
- A setting for appropriate low density built form which will have setbacks, height, scale and massing appropriate to the setting.

## 6.2 Coastal Foreshore and Public Access

Nords Wharf is generally characterised by long narrow blocks, some with direct water access. Currently there are limited areas of public access or public owned land along the Lake Macquarie foreshore within and to the south of Nords Wharf.

The Concept Plan provides an appropriate 100m setback to the lake foreshore. This setback will protect sensitive lake foreshore areas by ensuring that the development does not contribute to lake edge erosion and also protects Aboriginal cultural heritage which is a key principle underlying the NSW Coastal Policy. Furthermore, the 116.6ha of Coal & Allied land that will be dedicated for conservation is entirely in accordance with the key actions of the NSW Coastal Policy to increase the opportunities for public access to coastal foreshore areas.

Public access is proposed along the lake foreshore as part of the proposed development and conservation land dedications. This is entirely in accordance with the key actions of the NSW Coastal Policy to acquire and reserve coastal land with high conservation values for public purposes.

Given that currently there are limited areas of public access or public owned land along the Lake Macquarie foreshore within and to the south of Nords Wharf, the proposed dedication of foreshore land to the NSWG in public ownership will be of significant public benefit.

## 6.3 Biodiversity Impact

The Ecological Assessment Report for Nords Wharf prepared by RPS Pty Ltd at **Appendix F** report addresses the DGRs and its findings informed the proposed layout and design of the site. It demonstrates that the proposed residential development has been situated within disturbed areas of lesser ecological quality and where significant native vegetation may be affected, suitable actions are proposed to minimise potentially deleterious impacts. Where possible, the removal of native vegetation has been avoided. To achieve this, a considerable amount of time has been spent on the location of the developable area to ensure that ecological impacts are minimised. In particular, the proposed development footprint is located to avoid the nearby Endangered Ecological Communities of Swamp Mahogany Paperbark Forest EEC and Swamp Oak Rushland Forest.

It is important to note that it is not the intent that every threatened species individual in the proposed development lands will be protected as part of the proposed dedication of conservation lands, rather a regional approach has been adopted where large parcels of offset land have been identified for conservation purposes. The large parcels provide greater habitat value, greater linkages across the landscape, increased protection against events such as fire and improved management outcomes. Accordingly, there will be some loss of biodiversity in the proposed development lands, but this loss would be more than off-set by the substantial areas of conservation lands proposed to be dedicated to NSWG.

It is noted that 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.

In summary, the detailed flora and fauna studies undertaken have confirmed that development of a small portion of the site as a whole will provide a mechanism for adequate 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 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 above, a series of recommendations are outlined in the Ecological Assessment Report to aid in the reduction of potential impacts associated with the proposal.

Given that 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.

Therefore, it has been concluded 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 8 – EPBC Act Approval consistency

Condition	EPBC Act Approval	Consistency of Concept Plan with EPBC Act Approval
C1.	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:
C2.	Prior to any commencement of works, the person taking the action must dedicate the approximate 116ha of land identified as the Nords Wharf conservation area to the NSW Government to be conserved in perpetuity.	The Gwandalan 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.
C3.	<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 Nords Wharf conservation area, a management and monitoring plan must be developed to address the following interface management issues between the Nords Wharf development area and the Nords Wharf 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 Nords Wharf 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>	The Proposal commits to the preparation of an <i>A. inopina</i> Management Plan in the “Landscape Buffer to Kanangra Drive” clause of the Statement of Commitments. The management plan will be, to the extent possible, consistent with plan approved by the Minister with respect to this condition C3.
C4.	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 Nords Wharf conservation area, the person proposing to take the action must develop a Stormwater Management Plan which ensures that stormwater discharged from the Nords Wharf development area meets the objective reductions set out in the October 2007 draft Managing Urban Stormwater: environmental targets, Department of	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 plan approved by the Minister with respect to this condition C4. The SIMI will include details of the short and long

	Environment and Climate Change NSW.	term management and future ownership of the buffer area which includes the A. <i>inopina</i> and when the buffer area is to be dedicated to Council. Details of the dedication and ongoing management will be included in a Deed of Agreement with Wyong Shire Council. The terms of the Deed relating to the dedication, timing and management requires the approval of both DECCW and SEWPAC (prev DEWHA) SEWPAC is aware of the potential mine and will enforce like requirements on any subterranean mining proposal
C5.	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.	<p>The Proposal is consistent with this condition C5 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), (g) and (h) of this condition.</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.</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.</li> <li>▪ The Proposal commits to the development of strategies to address potential impacts associated with pet ownership in</li> </ul>

		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.
C6.	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.	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 A6.
C7.	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 C3 and C4 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.
C8.	If the Minister believes it is necessary or desirable for the better protection of listed 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 C3 and C4 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.	Not Applicable. Copies of the annual report would be provided to relevant NSW Government agencies upon request
C9.	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.
C10.	The person undertaking the action must maintain accurate records substantiating all activities associated with or relevant to the above conditions of approval, including	Not Applicable.

	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.	
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## 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 Nords Wharf 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 Nords Wharf area are undertaken by car. Journey to work data shows that car accounts for 94 percent of journey to work trips with 3 percent using public transport (other modes such as walking and cycling account for the remaining 3%). The main operator of the bus service in Nords Wharf is Busways Wyong. Presently, route 99 operates five services to Nords Wharf in each direction, connecting Lakehaven Shopping Centre and Swansea. The services generally commence after 9am and end before 4pm and are therefore more suited for shopping or school children than for commuting.

Busways was contacted regarding upgrades to the service, which, along with Nords Wharf, serves the existing townships at Gwandalan and Catherine Hill Bay as well. Busways advised that bus services were continually under review and that more frequent services would be considered as additional residential development occurs in Gwandalan, Nords Wharf and Catherine Hill Bay.

The nearest rail station to Nords Wharf is approximately 24km away at Wyee, on the Newcastle and Central Coast Line. Commuters wanting to use the rail service would need to drive or cycle to the station. From Wyee passengers can travel to Gosford or Wyong on the Central Coast, Sydney or Newcastle. Train services are provided over 24 hours and at weekends.

### 6.4.2 Proposed Road Network

The proposed road network for the concept plan consists entirely of local roads. The main connection to the development is via the existing local road, Government Road at Branter Road. A second connection is also provided into Branter Road further to the west. The Pacific Highway is the major north-south arterial road providing access to the subject site via Awabakal Drive and Nords Wharf Road.

The street pattern within the site has been designed to facilitate clear, safe and permeable pedestrian and bicycle movement and access around the site, linking the site with the existing road system, services and facilities in Nords Wharf. The street reserves vary in width depending on the internal hierarchy. Street widths range from 14m (including swale) to 24m (including central swale). 17m wide streets are also provided, with and without swales. On-street car parking is provided on all but the 14m street.



The previously established access management strategy for the Catherine Hill Bay and Nords Wharf developments identified the following three intersections on the Pacific Highway would require upgrading works to minimise the cumulative impact of the additional traffic:

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

#### 6.4.3 Traffic Generation

The traffic generation from the proposed development of 90 dwellings is predicted to result in a maximum of 77 peak hour vehicles and 810 daily vehicle movements to the surrounding road network. The forecasts indicate that the proposal would result in a small impact in overall traffic generated in the long term (2011) on the existing network. The local network, comprising Awabakal Drive and Government Road are expected to accommodate the greatest long-term increase in additional traffic as a result of the full proposal.

#### 6.4.4 Intersection Upgrading Works on Regional Network

Cumulative impacts are likely to arise from the interaction of the construction and operation of the Coal & Allied site at Nords Wharf with other development proposals planned for the Coal & Allied site at Catherine Hill Bay (Middle Camp), Coal & Allied site at Gwandalan and potential for development of the Rose Group sites at both Catherine Hill Bay and Gwandalan. The combination of these developments would result in impacts on key intersections with the Pacific Highway. The three intersections below would have a significant cumulative impact and would require improvements to operate at a reasonable level of service. They are:

- Pacific Highway / Flowers Drive
- Pacific Highway / Awabakal Drive; and
- Pacific Highway / Kanangra Drive.

It has been assessed that the Pacific Highway / Awabakal Drive intersection upgrading works are triggered by the Coal & Allied development at the Nords Wharf site alone. With RTA's concurrence, a new partial signal is recommended at the Pacific Highway / Awabakal Drive intersection from safety grounds.

#### 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 Mining Activities

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

### 6.5.1 Mine Subsidence and Future Mining Activities

Mine subsidence and future mining activities is addressed in detail at Section 5.13 of this report.

### 6.5.2 Geotechnical Constraints

There is generally no evidence of previous or incipient deep seated slope instability observed over the site. The site is generally considered to have a low to moderate risk of slope instability with respect to the natural topography. Lake Macquarie Council documentation indicates that the soils on the slopes generally have high erosion potential. In the event that significant cuts or fills are proposed for the future development of the site, further geotechnical investigation to specifically assess the risk of slope instability due to cuts and fills, should be undertaken. Such risks are generally managed by limiting batter slopes, drainage measures or suitably designed support.

The report also identifies the following geotechnical constraints:

- Conventional shallow footings are expected to be suitable across most of the site. Footings should be founded in natural clay or rock and therefore in areas with filling deeper than about 0.4 m, deepening of the footings may be required. If the filling near Pits N6 to N9 is to remain on site, then piled footings may be required in this location;
- The clay soils on site are expected to be reactive. Reactive soils shrink and swell with changing moisture conditions, leading to ground surface movements. Soil reactivity can be readily accommodated in design, and should be confirmed during future detailed investigations prior to construction; and
- A preliminary acid sulphate soil assessment was undertaken by Douglas Partners. Based on the results of this assessment, development in the southern portion of the site may disturb marginal acid sulphate soils, particularly during deeper excavation if required (depths greater than 1 m below current site levels). It is noted that the acid sulphate soil risk map indicates a low probability of acid sulphate soils at a depth greater than 3 m below surface levels. It is unlikely that the proposed residential development will require excavations to such depths. In addition, the presence of acid sulphate soils to the west of the site (i.e. on the Lake foreshore) was not investigated as this area is a potentially sensitive archaeological area and development is not proposed for this area. It is noted that minimal development is proposed for southern portion of the site. If the proposed development layout changes, it is recommended that additional acid sulphate assessment is undertaken at the site to further delineate possible affected areas, and to confirm treatment requirements. A general acid sulphate soil management procedure is presented in the Douglas Partners Report at **Appendix H** which should be confirmed prior to construction.

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

- Specific investigation for proposed buildings footings or excavations, including maximum depths of cut and safe batter slopes;
- Site classifications to AS 2870;
- Earthworks procedures and specifications;
- Pavement thickness design for roads.

The report provides other additional recommendations which should be met in the excavation and construction phases of the project.

## 6.6 Heritage

A detailed Heritage Impact Assessment (HIA) undertaken by ERM accompanies the Concept Plan (**Appendix I**). The HIA includes a detailed history of and assessment of the heritage significance of the site.

The HIA has determined that the site does not have any inherent European historic heritage value nor does it contain items of historical heritage. The proposed development will not impact on any known historical heritage items.

The Scout Camp has been located at the Nords Wharf site since the mid to late 1970s. The heritage assessment of their occupation of the site determined that no physical buildings or remains at Nords Wharf were considered to have heritage values. As the camp is not associated with one Scout group the site does not have a special connection with a troop, other than the general 'Scout' movement. Coal & Allied will take action in accordance with the existing occupation licence relating to the land that will be dedicated for conservation. Negotiations with the Scouts have been ongoing for a couple of years in an effort to find satisfactory alternate accommodation. Notwithstanding, the draft Statement of Commitment for the site includes the following:

*"Prior to commencement of works on site, the Owner is to recognise the Scout's occupation of the site through heritage interpretation.*

*The Owner is to compile an oral history and documentary history of Scouts in the region and produce a publication of the Regional Scout History."*

The HIA has determined that the proposed development at Nords Wharf has the potential to impact on the Aboriginal heritage values of the foreshore area. There are midden sites within the Nords Wharf site. The midden sites are divided into three zones of archaeological potential. Land around the shores of Lake Macquarie has high archaeological potential with low archaeological potential on the central and eastern portion of the site.

The HIA and Draft Statement of Commitments that accompanies the Concept Plan details the mitigation measures the proponent commits to undertake in association with the project. The HIA has determined that provided the mitigation measures outlined in the HIA and Draft Statement of Commitments are implemented by the proponent, the potential impacts will be avoided and minimised to an acceptable level.

In addition, the proposed zoning boundaries reflect the environmental sensitivities of the site. It is proposed that the foreshore area be dedicated to the NSWG and will be zoned "E1 - National Parks and Nature Reserves". The proposed zoning means that the majority of the Aboriginal midden at Nords Wharf will be conserved in perpetuity. Further, the effect of the E1 zone is that it will protect Aboriginal sites along and adjacent to the coast in the local area from any future development.

In summary, all elements identified as being of "aboriginal heritage significance" are to be generally retained and protected.

## 6.7 Infrastructure and Utilities

### 6.7.1 Social Infrastructure

A Social Infrastructure study was undertaken in respect to the local area of Nords Wharf by Urbis. The study accompanies this EA report at **Appendix M**.

The Study found that in the existing Nords Wharf township social infrastructure provision is modest, and commensurate with communities of its size and rate of development. There is little apparent excess capacity in current service provision, although there are some exceptions in this regard, for example, the Department of Education and Training has indicated that primary schools serving the area have some capacity for increased enrolments.

In relation to Nords Wharf, it was concluded that the impact of development is unlikely to have an adverse impact upon social infrastructure and has the potential for positive effects.

The Statement of Commitments at **Appendix C** outlines the social benefits proposed to be provided by Coal & Allied, both through Council's s94 mechanisms and through the \$5 million allocation to be shared between the three Coal & Allied southern estates. .

### 6.7.2 Services Infrastructure

An infrastructure report has been prepared by Cardno and included at **Appendix J**. It outlines the existing and proposed infrastructure required to service the proposed development at Nords Wharf. The following infrastructure elements have been identified:

#### **Sewer**

Hunter Water has advised that Nords Wharf is located in the Belmont Wastewater Treatment Works catchment. A series of existing Sewer Pump Stations (SPS) run along the lake front before discharging to Swansea South SPS. Hunter Water have identified that two of the downstream pump stations – Swansea South and Swansea 3A – are scheduled for upgrades in 2011 and 2014 respectively, however the development of Nords Wharf is not dependent upon these upgrades.

A Wastewater Servicing Strategy to service the site has recently been approved by Hunter Water. The Wastewater Servicing Strategy outlined the proposed upgrades and augmentation to the existing network that will be required to service the proposed development at Nords Wharf, Coal & Allied's proposed development at Catherine Hill Bay (middle Camp), Rose Group residential zoned land at Catherine Hill Bay and the Stockland development at Wallarah. The site will be serviced in accordance with this strategy.

#### **Water**

The residents of Nords Wharf are serviced with potable mains water by Hunter Water from Cams Wharf water supply zone. Initial water modelling by Hunter Water indicates that the existing lead-in main is constrained in relation to minimum pressure and fire fighting requirements. Augmentation to the water supply network is required to cater for the proposed development.

A Water Servicing Strategy to service a number of future developments in the area (Coal & Allied's proposed development, Rose Group residential zoned land and the Stockland development at Wallarah), including the proposal has been approved by Hunter Water. The Water Servicing Strategy outlined the proposed upgrades and augmentation to the existing network that will be required to service the proposed developments. The site will be serviced by a main line from the existing Cams Wharf reservoir. The new main will be cross linked with the existing network to provide benefit to existing residents in the area. The existing reservoir will be linked to the proposed Wallarah reservoir.

### **Electricity**

Existing zone substations at Swansea and Lake Munmorah service the existing residents in Nords Wharf. Energy Australia has indicated that these zone substations may not have the capacity to service the new development area.

Energy Australia is planning for a new zone substation in the Catherine Hill Bay area to be built in 2009-2012. This zone substation will augment the existing network and provide capacity sufficient to service the proposed Nords Wharf development. No lead-in works are required by Coal & Allied. The Nords Wharf development will connect into the existing network in Branter Road.

### **Gas**

The closest gas main is located at Swansea, 8kms north of the site. Gas mains are not feasible for this area given the long distance to existing supplies.

### **Telecommunications**

The nearest Telstra access to the Nords Wharf site is from the corner of Government Road and Awabakal Drive. Telstra cabling will be provided in a shared trench arrangement along with electrical cabling and extended from the existing supply. Telstra does not envisage any constraints to providing telecommunications to the development.

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, with the exception of water infrastructure, the infrastructure proposed in this report will service only Coal & Allied's Nords Wharf development and no other developments identified in the LHRS. In relation to water infrastructure, the proposed augmentation works would be designed and constructed to suit the cumulative needs of the proposed Coal & Allied's developments at Nords Wharf and Catherine Hill Bay (Middle Camp) and other development on the Wallarah Peninsula.

## **6.8 Water Quality**

A Hydrology/Stormwater Management, Water Sensitive Urban Design, Flooding and Climate Change Assessment Report has been prepared by GHD and is included at **Appendix K**.

### **6.8.1 Drainage and Stormwater Management**

There are no major watercourses within the Nords Wharf site. The land generally slopes west towards Lake Macquarie and runoff discharges to Lake Macquarie (Crangan Bay) via dispersed overland flow. No evidence of incised channels was noted in the site inspection. At present a portion of the site drains to Crangan Bay via a conservation area in the low lying portion of the site. Runoff enters Crangan Bay via overland flow.

The configuration of the development, as indicated in the concept plan, has taken into consideration the general location of these gullies and aims to maintain the existing connectivity for stormwater passage through the site. This is achieved through the inclusion of swales in a number of the road profiles with particular note being the road that has the swale contained within the median.

A number of opportunities for management of stormwater quality, quantity and flooding exist at the Nords Wharf site. This management would benefit from the implementation of Water Sensitive Urban Design (WSUD) practices.

WSUD encompasses all aspects of urban water cycle management including water supply, wastewater and stormwater management which promotes opportunities for linking water infrastructure, landscape design and the urban built form to minimise the impacts of development upon the water cycle and achieve sustainable outcomes.

A WSUD strategy for management of stormwater quality and quantity has been developed for the Nords Wharf site that nominates:

- Foreshore and riparian setbacks will provide the best outcome for treatment of stormwater, control of erosion and protection of the water quality in Crangan Bay.
- Vegetated infiltration swales provided along the identified main overland flow routes and roadside green areas. The required width of the vegetated swales are approximately 4 to 6m.
- Two precinct scale detention/bio-retention systems are proposed within the low point of the proposed development site, before discharge to the conservation area draining to Crangan Bay.
- Gross pollutant traps will be provided upstream of precinct scale basins to remove coarse sediment and gross pollutants prior to discharging into basins and open areas.
- On-lot detention will be provided in addition to the precinct scale basins.
- Provision of rainwater tanks for individual lots will be maximised.
- Construction phase water quality impacts will be managed through the implementation of a Soil and Water Management Plan detailing stormwater management strategies in accordance with relevant best practice guidelines.

To test the effectiveness of the WSUD strategy, numerical modelling was used for the proposed WSUD Strategy and it was determined that this system had the ability to satisfy the requirements of the LMCC DCP 1, the LMCC Floodplain Management Policy and the NSW Floodplain Development Manual for management of stormwater quantity, quality and flooding at the Nords Wharf site.

It is proposed that the stormwater infrastructure be located within public reserves that will be dedicated to Council, or within the conservation lands to be dedicated to the NSWG. Management of this infrastructure is detailed in the Statement of Commitments at **Appendix C**.

### 6.8.2 Groundwater Dependent Ecosystems

In addition, Douglas Partner and RPS have undertaken an assessment of the likely impacts of the proposed development on identified groundwater dependent ecosystems (GDEs) (See **Appendix H and Appendix F**).

In summary, it considered that only groundwater levels in GDE 3 (Swamp Mahogany Paperbark Forest in low lying land to the south of the proposed development) would be affected by the proposed development. Provided that the existing surface water flow rates/levels and fluctuations within the low lying area to the south of the site are maintained there will be minimal impact on the groundwater levels and therefore GDEs. This can be achieved by appropriate WSUD facilities (as discussed above), which would include the provision of surface water storage devices such as ponds or swales to limit peak flows. These have been included in the Concept Plan.

The potential for adverse impacts on groundwater quality from the proposed development would most likely come from surface runoff. As with groundwater/surface water levels, the surface water quality and therefore groundwater quality can be managed by appropriate water sensitive urban design. It is proposed that the development of the site would incorporate water sensitive urban design measures including a detailed surface water management plan which will be prepared prior to any construction occurring on the site.

### 6.8.3 Impacts on the Water Quality of Lake Macquarie and the Natural Value of Crangan Bay, including Seagrass Beds and Coastal Floodplain EECs

As discussed above, a WSUD strategy has been developed for the management and treatment of stormwater quality from the Nords Wharf development. In the case of Nords Wharf, the development discharges would be routed to the bio-retention/detention basins. These will not have a single point of discharge to the lake. Instead they will discharge to the conservation land via a number of outlets, for drainage to the lake via existing overland flow paths. These existing overland flow paths may require erosion protection using rock and other environmentally acceptable strategies. In summary, the WSUD measures proposed together with the foreshore and riparian setbacks will provide the best outcome for treatment of stormwater, control of erosion and protection of the water quality in Crangan Bay.

### 6.8.4 Marine Habitat Impacts

A Marine Baseline Assessment has been prepared by GHD to reduce potential impacts on Crangan Bay. This report is attached in **Appendix S**. This report assesses the existing environmental characteristics of Crangan Bay in proximity to the site and the prevalence of existing seagrass populations.

The report notes that the marine habitat adjacent to the site offers very little in the way of constraints to development but rather urban development near the shoreline requires consideration during design and construction. The marine baseline assessment recommended a number of mitigation measures to be adopted to prevent direct and indirect impacts on flora and fauna and their habitat in Crangan Bay. These mitigation measures are included in the Draft Statement of Commitments which are attached in **Appendix C**.

## 6.9 Flooding

A Hydrology/Stormwater Management, Water Sensitive Urban Design, Flooding and Climate Change Assessment Report has been prepared by GHD and is included at **Appendix K**.

Flooding at Nords Wharf is primarily on account of Lake Macquarie and overland flow conveyance. Development and land use in flood prone areas should be 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 should either be at or above the Flood Planning Level (500 mm above the 100-year ARI event flood 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 dwellings must be located above the 100-year ARI flood level associated with Lake Macquarie, local overland flow paths and stormwater management facilities across the site. From the nominated 10-year lake water level and applying the LMCC requirement for the floor level of dwellings to be above this level, the nominated flood planning level for the Nords Wharf estate at the foreshore of Lake Macquarie is 1.88m AHD under exiting climate conditions.
- At the Nords Wharf site all lots are located above the 2100 future climate (with freeboard and wave run up flood levels), even under a 100 year ARI flood event. Minor affectation of the foreshore road is expected under the extreme climate change conditions should a PMF prevail. For the extreme PMF flood event undet the future climate change scenario, allowing for wave run up, 1 lot would experience a minor flood impact.

For localised flooding associated with discharges within the development estate, the capacity of both the overland flow paths and underground stormwater system will be designed to provide a level of service that minimises the flood hazard. Flood hazard is a product of both overland flow depth and velocity. In order to limit the hazard both of these need to be controlled. For the underground system, this would be achieved by providing a sufficient number of surface inlet pits. For the overland system, the flood hazard reduction would be achieved through the incorporation of lower grade swales and rock protection of the steeper swale through the riparian corridor.

The most 'at risk' area of the site is located adjacent to Lake Macquarie in the area nominated as conservation. As there are no habitable dwellings in this area an evacuation strategy is not required for the Nords Wharf development site.

In summary, the proposed zoning boundaries reflect the environmental sensitivities of the site and the Concept Plan delivers a development that is suitable for existing and future predicted climate conditions.

## 6.10 Ecologically Sustainable Development

An Ecologically Sustainable Development (ESD) Report has been prepared for Nords Wharf by Ensign (see **Appendix N**). This report addresses the DGEARs related to ESD principles for design, construction and operation.

### 6.10.1 ESD Principles

The report demonstrates that the project can commit to ESD principles in the design, construction and operational phases of the development. 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 10.18ha of Nords Wharf and the proposed dedication of 116.6ha 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 116.6ha of Nords Wharf 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 116.6ha of Coal & Allied land at Nords Wharf 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 92% 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.

### 6.10.2 Energy & Water Savings Action Plans

Energy and Water Savings Action Plans for Nords Wharf, have been prepared by Ensign and are included at **Appendix N** 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. In summary, the proposed 90 lot residential development at Nords Wharf can achieve BASIX energy and water compliance.

## 6.11 Visual

The Concept Plan has been developed with respect to an overall landscape character. The character of the indicative road responds to the landform of the site and the landscape character, bulk, height and character of future development will be controlled by the Urban Design Guidelines included at **Appendix B**. The proposed development footprint sits within a natural amphitheatre, well setback from the foreshore and surrounded by bushland. Accordingly the proposed development will have a character that is dominated by its bushland setting.

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**).

Existing trees will be retained in deep soil zones in rear setbacks of dwelling lots wherever possible as provided in the Urban Design Guidelines. This reinforces the park like character of the development and together with the provision of street trees in all streets will help filter and diffuse long views to and from the water.

The important objectives that have been considered in the development of the Concept Plan are:

- To protect the scenic resources of the waterways; and
- To minimise impact from public foreshores and roads and existing residents.

The key principles that are embodied in the plan are:

- The proposed development area is set back from the water's edge and has a buffer of trees between it and the water. The change in level and extent of existing trees will ensure that there is very limited visibility of the proposed development from the foreshore or the water body.
- A 10m landscape buffer will screen the proposed development from residences on Branter Road. The proposed development estate is set in a south facing amphitheatre, thus minimising its visibility from the Branter Road and other developments.

## 6.12 Bushfire

A Bushfire Threat Assessment has been undertaken by RPS and is included at **Appendix L**. It is clear from this investigation and assessment that the Nords Wharf site, in part constitutes 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 2006 (PBP) as assessed and presented within this report.

Subject to the recommendations contained within the bushfire assessment 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 25 metres will be required between the bushland and urban interface (dwellings). A Perimeter road has been implemented between bushfire hazards and future dwellings, this 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 the existing mains pressure water supply and that suitable hydrants be 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 the RPS Bushfire report.
- Any future dwelling within the Development Estate should have due regard to the specific considerations given in the BCA, which makes specific reference to the Australian Standard (AS3959 – 2009) construction of buildings in bushfire prone areas. Assessment of the Concept Plan in accordance with AS3959-2009 has shown that future dwellings within the Development Estate will be able to comply with this standard.
- It is recommended that a Fuel Management Plan (FMP) be prepared for the development estate. This plan will detail the required strategies to create the required APZ's and management of these APZ's in such a manner as to preserve the natural and cultural features of the development estate, while reducing the risk of bushfire.

All APZs are likely to be located within road reserves or on private land.

## 6.13 Impact on Crown Land

The Munmorah State Conservation Area (MSCA) is located to the south east of Nords Wharf. 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 Nords Wharf on the opposite side of the lake. 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 areas of conservation land that is proposed to be set aside as part of the Nords Wharf development (116.6ha) together with the Coal & Allied owned land at Catherine Hill Bay (526ha) 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 116.6ha of Nords Wharf 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.

## 6.14 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' between Coal & Allied and the DoP prior to final approval of a construction certificate for 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 Nords Wharf are listed in the current Lake Macquarie Section 94 Contributions Plan No. 1 – Citywide (2004) as amended – Belmont Catchment. The contributions identified for Nords Wharf (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>

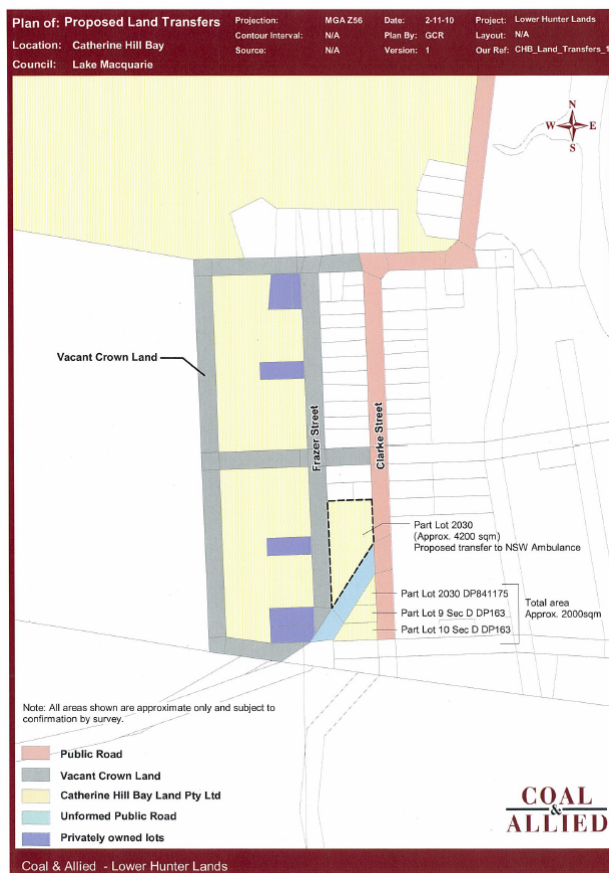
Lake Macquarie City Council has advised that the area for development currently falls with the Lake Macquarie Section 94 Contributions Plan Citywide No.1, 2004 (as amended). This Plan does not specify any local recreational facilities. A deed of agreement will be established with Lake Macquarie City Council to arrange timely payment of Section 94 contributions commensurate with the staging of the development.

***State Infrastructure – Voluntary Planning Agreement***

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

- **Emergency Services Contribution** – The Landowner has offered the NSW Ambulance a site at Catherine Hill Bay. Should the land not suit the NSW Ambulance for its operations the landowner in lieu is to provide a monetary contribution to the Planning Minister, totalling \$11,759.40 (subject to indexation) towards the proposed acquisition of a 3,000 square metre site for location of emergency services, (in Catherine Hill Bay) 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 \$17,639.10 amounting to a contribution of \$195.99 per urban lot on or prior to the issue of the first subdivision certificate that creates the first Urban Lot within the area the subject of the Concept Plan Approval.

Figure 12 – Emergency services contribution (Catherine Hill Bay)



- **Road Contribution** – The Developer is to upgrade the intersection at Awabakal Drive and Pacific Highway, Nords Wharf. The intersection is to be designed and constructed as a seagull intersection with raised kerbs and part signalisation for northbound vehicles. Completion of the intersection upgrade is required on or prior to the issue of the first subdivision certificate that creates the first Urban Lot within the area the subject of the Concept Plan Approval and to the RTA's satisfaction.

#### 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 117 ha of land for environmental conservation under an offset arrangement.
- **Land Remediation And Reserve Establishment Works** – The Landowner must undertake the works including removal of rubbish, weeds and derelict buildings

## 6.15 Subdivision

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

- The proposed development site is currently subject to an easement in favour of Hunter Water. This easement provides legal access to a proposed pumping station site which Hunter Water owns. This easement has not ever been used due to the fact that the pumping station has not been built. It is intended to negotiate with Hunter Water for the relocation of this easement so that its position is sympathetic to the proposed road and lot layout.

- Easements and Covenants for individual lots will be dealt with in future application for subdivision works.
- It is intended for the 90 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.
- It is further proposed that the 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 P**.

## 6.16 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 O**.

Notwithstanding that this plan is a concept only, and that detailed analysis will need to be undertaken prior to commencement of grading works, the plan shows that the extent of cut and fill will be minimised to form the final site levels.

## 6.17 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 VPA.

The conservation land is to be transferred to the NSWG 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 as illustrated in the "Plan of Proposed Subdivision of Lot 6 DP 746077, Lot 5 DP 736170, Lot 12 DP 854197 Nords Wharf", Sheet 1 Rev E by Monteath & Powys Pty Ltd.

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.

No parks or local open space are being dedicated at Nords Wharf, however substantial areas are being dedicated at Catherine Hill Bay. Coal & Allied will enter into a Deed of Agreement with Lake Macquarie City Council as part of the Concept Planning process.

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 Council at no cost to Council.

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.

Easements are to be provided for utility services that encroach onto private land or the offset lands. Land is to be dedicated to relevant authorities where required.

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.

\$400,000 of this is identified for Nords Wharf for the provision for walking paths proposed by the community external to Coal & Allied land between Nords Wharf and Gwandalan, subject to application to DECCW.

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

Cumulative impacts including consideration to Nords Wharf, Catherine Hill Bay (Middle Camp) 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.

### 6.18.1 Infrastructure

With the exception of water infrastructure, the infrastructure proposed for Nords Wharf will service only Coal & Allied's Nords Wharf development and no other developments identified in the LHRS.

The residents of Nords Wharf are serviced with potable mains water by Hunter Water from Cams Wharf water supply zone. Initial water modelling by Hunter Water indicates that the existing lead-in main is constrained in relation to minimum pressure and fire fighting requirements. Augmentation to the water supply network is required to cater for the proposed development.

A Water Servicing Strategy to service the Coal & Allied, Rose Group and Stockland developments has been prepared by ADW Johnson (Water Servicing Strategy – Catherine Hill Bay, Wallarah Peninsula, Middle Camp and Nords Wharf, June 2009, Ref: 211688(52), Rev B). The strategy has been approved by Hunter Water.

The site will be serviced by a 150mm diameter main from the existing Cams Wharf reservoir. The new 150mm diameter main will be cross linked with the existing network to provide benefit to existing residents in the area. The existing Cams Wharf reservoir is intended to be connected to the proposed Wallarah Reservoir as detailed in the approved Water Servicing Strategy.

### 6.18.2 Impact on Crown Land

The proposed Coal & Allied development at Nords Wharf, Catherine Hill Bay (Middle Camp) and Gwandalan will introduce an increased population which has the potential to affect conservation of biodiversity through increased use of Crown land.

Notwithstanding, the proposed dedication of 849ha of Coal & Allied lands at Nords Wharf, Catherine Hill Bay (Middle Camp) and Gwandalan 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 are a key focus of the LHRS and the companion LHRCP.

### 6.18.3 Heritage

The cumulative effect of the proposed rezoning of part of the Coal & Allied Nords Wharf site for environmental protection and dedication of this land for conservation purposes means that a significant portion of the Aboriginal middens located around Crangan Bay from Nords Wharf to Gwandalan will be conserved in perpetuity. Further, the effect of the proposed E1 zone is that it will prevent future development which also contributes to the protection of Aboriginal sites around the coast of Crangan Bay.

### 6.18.4 Traffic

Cumulative impacts are likely to arise from the interaction of the construction and operation of the Coal & Allied site at Nords Wharf with other development proposals planned for the Coal & Allied site at Catherine Hill Bay (Middle Camp).

The combination of these developments would result in impacts on key intersections with the Pacific Highway. The three intersections below would have a significant cumulative impact and would require improvements to operate at a reasonable level of service. They are:

- Pacific Highway/Flowers Drive;
- Pacific Highway/Awabakal Drive; and
- Pacific Highway/Kanangara Drive.

However, it has been assessed that the Pacific Highway/Awabakal Drive intersection upgrading works are triggered by the Coal & Allied development at the Nords Wharf site alone. With RTA's concurrence, a new partial signal is recommended at the Pacific Highway/Awabakal Drive intersection.

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. It has been assessed that regional and local network has some spare capacity to sustain traffic increases and maintain a reasonable level of service. As discussed at Section 6.4, the intersection of Pacific Highway and Awabakal Drive is to be upgraded to a seagull intersection by providing full access to Awabakal Drive and traffic signal control on the Pacific Highway northbound and Awabakal Drive (partial signal).

In summary, no significant adverse cumulative effects are likely to arise from the Nords Wharf project.





## 7 Draft 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' 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.

### 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 Nords Wharf, Catherine Hill Bay (Middle Camp) 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 Nords Wharf the list of initiatives relate to:

- Employment generation.
- Boat Ramp Facilities.
- Parks/Open Space.
- Footpath Extension.
- Sustainability.
- The local Aboriginal Community.
- Walkways external to the development site.

The full description of each particular initiative is included at **Appendix C**. The final list of initiatives to be implemented for the Nords Wharf site are 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 proposal can be sustainably managed, resulting in significant new social, environmental and economic benefits. Notwithstanding this, the environmental, social and economic factors arising from the proposal are addressed below.

### 8.1 Environmental

As discussed, Coal & Allied proposes to dedicate 116.6ha of Nords Wharf to the NSWG as 'conservation land' (92% 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 92% 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 Nords Wharf that is proposed to be dedicated will help complete the linkage of identified regional corridors in key areas.

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 116.6ha 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 Nords Wharf 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;

- Protect sensitive lake foreshore areas by ensuring that the proposed development does not contribute to lake edge erosion and diminished water quality by inappropriate development on the terrestrial/aquatic interface;
- Incorporate the foreshore into the proposed conservation lands, thus protecting natural attributes of the site, visual aesthetics of the site from the lake as well as areas of aboriginal cultural significance along the foreshore that contains middens;
- 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 Nords Wharf. The site is in close proximity to an existing range of services and facilities at Nords Wharf including a pre school, local shop, primary school, community hall, church, several pocket parks and a boat ramp.

A Social Infrastructure Study has been prepared by Urbis for the site and is included at **Appendix M**. This report summarises local social infrastructure, community consultation and assesses the likely consequences of the development. The Social Impact Assessment concludes that there are no significant effects of the additional population from the proposed development on services or social infrastructure, and that there is potential for positive effects in this regard.

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 proposed communities at Nords Wharf, Catherine Hill Bay (Middle Camp) and Gwandalan. The \$5 million fund 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.

## 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 Nords Wharf will result in the following economic impacts:

- Injection of an estimated \$26 million (in 2010 dollars) of 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 110 direct, full time equivalent jobs of which up to 55 will be in the Hunter and will extend over a 8 year period to 2015.
- Support a further 280 jobs (140 local) from the multiplied employment stimulus among construction related industries resulting from the primary expenditure.
- Provide additional flow-on economic effects of around \$36 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 116.6 ha of conservation land to include as a significant part of the vitally important Wallarah Peninsula conservation corridor, which provides a natural buffer between the Central Coast and the Lower Hunter. This is recognised as a once in a generation opportunity that will provide an enduring legacy for the community. This is quite clearly in the public interest.

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

- Provision of public access to and along the foreshore;
- Meeting of regional housing needs;
- Creation of jobs through construction and investment in the order of \$22.62 million;
- Payment of local and regional developer contributions;
- Provision of infrastructure to proposed development;
- Upgrade of Pacific Highway/Awabakal Dr intersection;
- Protection of sensitive lake foreshore areas;
- Protection of aboriginal cultural significance along the foreshore that contains middens; and
- Protection of endangered ecological communities and threatened species in the proposed conservation lands.



## 9 Conclusion

The Nords Wharf proposal will achieve substantial conservation outcomes through the proposed dedication of 116.6ha of conservation land to the NSWG via a Voluntary Planning Agreement.

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 to and along the foreshore;
- Incorporate water sensitive urban design features into the proposed development to ensure that there is no increased export of stormwater, pollutants and sediments;
- Protect sensitive lake foreshore areas by ensuring that the proposed development does not contribute to lake edge erosion and diminished water quality by inappropriate development on the terrestrial/aquatic interface;
- Incorporate the foreshore into the conservation lands, thus protecting natural attributes of the site, visual aesthetics of the site from the lake as well as areas of aboriginal cultural significance along the foreshore that contains middens;
- 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 to 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 proposed dedication of land for conservation 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 Nords Wharf, 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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