

Local Environmental Study

Former Speers Point Quarry

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Executive Summary

This Local Environmental Study (LES) has been prepared on behalf of Lake Macquarie City Council for a Planning Proposal to rezone land at Speers Point.

The subject land consists of Lot 21 DP790637, Lot 1 DP557315, Lot 1 DP321254, Lot 1 DP210440 Lot 1 DP105845 and Lot 2 DP105845, and is known as the Speers Point Quarry site. The site includes much of the Munibung Hill and the northern, southern and eastern parts of the subject site are heavily constrained.

The LES contains assessment reports on the following:

- Bushfire Threat Assessment
- Cultural Heritage Survey & Assessment
- Ecological Constraints and Opportunity Assessment
- Servicing Report
- Social & Economic Impact Assessment
- Visual Amenity and Visual Impact Assessment
- Flooding & Drainage Assessment
- Traffic Impact Assessment
- Limited Geotechnical Investigation

The LES also considers the relevant planning instruments, section 117 Directions and those issues raised by state government agencies in the section 62 consultation.

Based on consideration of these issues, the LES recommends that approximately 11 hectares of the site will be available for residential development, with the bulk of the site, approximately 69 hectares, zoned environmental conservation.

There are a number of options for the future ownership/management of the conservation areas including Munibung Hill within the LES.

Overall it is considered that the proposed zones offer a balance between the economic, social and environmental issues identified from the specialist studies and provide an appropriate planning outcome.

Terms & Abbreviations

Abbreviation	Meaning
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
ASS	Acid Sulfate Soils
DA	Development Application
DECC	Department of Environment and Climate Change
DECCW	Department of Environment, Climate Change and Water
DCP	Development Control Plan
DII	Department of Industry and Investment
DoP	Department of Planning
DPI	Department of Primary Industries
DWE	Department of Water and Energy
EP&A Act	Environmental Planning and Assessment Act
EP&A Regs	Environmental Planning and Assessment Regulations
EPBC Act	Environmental Protection and Biodiversity Conservation Act
FTE	Full Time Equivalent
ICCG	Interim Community Consultation Guidelines
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LES	Local Environmental Study
LGA	Local Government Area
LHRS	Lower Hunter Regional Strategy
LMCC	Lake Macquarie City Council
LoS	Level of Service
MSB	Mine Subsidence Board
NOW	NSW Office of Water
NPW Act	National Parks and Wildlife Act
NPWS	National Parks and Wildlife Service
PBP	Planning for Bushfire Protection
RTA	Roads and Traffic Authority
REP	Regional Environmental Plan
SEE	Statement of Environmental Effects

Abbreviation	Meaning
SEPP	State Environmental Planning Policy
SIA	Social Impact Assessment
S117	Section 117 Direction issued under Clause 117 of the EP&A Act
SQUID	Stormwater Quality Improvement Device
TSC Act	Threatened Species Conservation Act
VIA	Visual Impact Assessment
vph	Vehicles per Hour
WSUD	Water Sensitive Urban Design
WWTP	Waste Water Treatment Plant
WWPS	Waste Water Pump Station

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I Introduction

This Local Environmental Study (LES) has been prepared on behalf of Lake Macquarie City Council for a Planning Proposal to rezone land at Speers Point.

The subject land consists of Lot 21 DP790637, Lot 1 DP557315, Lot 1 DP321254, Lot 1 DP210440 Lot 1 DP105845, Lot 2 DP105845, and is known as the Speers Point Quarry site, located on Munibung Hill.

Under Lake Macquarie Local Environmental Plan 2004, the land is currently zoned part 4(1) Industrial (Core), part 7(2) Conservation (Secondary) and part 1(1) Rural (Production).

1.1 Background

It is understood that the area now known as Munibung Hill had spiritual and ceremonial significance for the local Awabakal people. Following European settlement the study area appears to have been used for farming, grazing and coal mining. Due to its topography it remained relatively undeveloped while more suitable surrounding land underwent development for residential and industrial purposes.

Quarrying operations began on the site around the end of the 1800s and continued on the site by various entities until 2007. The current owners have owned the site for the past 70 years. In addition to quarrying operations, cattle grazing had also been carried out on the site.

A number of preliminary planning studies commissioned by Council have been completed for the subject land. These include the “Munibung Hill” Development Control Study and the subsequent “Munibung Hill” Draft Development Control Plan (DCP).

A development application (DA) for a motel and restaurant development was submitted to Council and refused. An appeal was lodged with the Land and Environment Court but was subsequently withdrawn.

Consent was granted by Council on 4 February 1998 to Boral Resources to facilitate the expanded and intensified extraction of material from the site. Boral agreed to rehabilitate the site to Council's satisfaction both during and at the completion of the quarrying works. Council have reported that some minor rehabilitation works have been undertaken to the north of the main extraction area, however no substantial rehabilitation works have been undertaken within the highly eroded Pit B.

In September 2005, a Draft Land Use Strategy was prepared for the subject land by Dixon Rothschild and URS on behalf of Council. The aim of the study was to provide direction for future statutory action to secure enhanced employment, housing, and recreation opportunities that would support the economic, environmental and liveability objectives of Council's Lifestyle 2020 Strategy.

A concept plan was submitted to Council's Rezoning Assessment Panel (RAP) at its meeting on 19 March 2008. The concept plan indicated that Pit B and surrounds, and Pit A could support low and medium density residential development.

On 13 October 2008, Council resolved to prepare a draft amendment to the Lake Macquarie LEP for land at the former Speers Point Quarry, hence the preparation of this LES to inform the progress of the draft amendment.

1.2 Scope and Purpose of this Study

This LES has been prepared to inform the community, Council, state government agencies and other stakeholders with an understanding of the opportunities and constraints of the site to enable consideration of future land uses. To achieve this, the following investigations have been undertaken:

- Bushfire Threat Assessment
- Cultural Heritage Survey & Assessment
- Ecological Constraints & Opportunity Assessment
- Servicing Report
- Social & Economic Impact Assessment
- Visual Amenity and Visual Impact Assessment
- Flooding & Drainage Assessment
- Traffic Impact Assessment
- Limited Geotechnical Investigation

The investigations and the overall LES provides a balanced evaluation of the possible development and conservation options, and forms a sound basis for decision making over the site.

Section 3 of this report details the state and regional planning considerations for the site, while the local planning considerations are addressed in Section 4. Section 5 presents the comments of government organisations and statutory bodies as part of the consultation process in preparing the draft local environmental plan for the site.

The environmental investigations undertaken for the study area are summarised in Section 6. Transport and infrastructure is individually addressed in Section 7, while the social and economic implications are discussed in Section 8.

Section 9 of the LES identifies the opportunities and constraints for development of the land based on the investigations undertaken. Section 10 expands on the opportunities and constraints to offer land use options. The preferred land use strategy is provided in Section 11 and Section 12 illustrates how the preferred land use strategy addresses the relevant planning and statutory planning considerations detailed earlier in the LES. Finally, Section 13 provides a suggested recommendation for the site.

The Appendices provide copies of the investigations and the specialist reports supporting the LES.

1.3 Legislative Considerations

On 1 July 2009 a number of changes were made to the Environmental Planning and Assessment Act (EP&A Act) in relation to rezonings and amendments to local environmental plans (LEPs).

Prior to 1 July 2009 rezonings in NSW fell under Part 3 Division 4 of the EP&A Act. This represented Clauses 53 to 70 of the Act. From the 1 July 2009 rezonings still fall under Part 3 Division 4 but this Division is now defined by Clauses 53-60.

Although the legislation may have changed as at 1 July 2009, savings and transitional provisions were gazetted that enabled LEPs currently in preparation to still proceed under the provisions of the EP&A Act prior to 1 July 2009. This situation applies to the subject site.

In practice, this means that whenever the EP&A Act is referred to in this LES it represents the EP&A Act and its relevant clauses prior to 1 July 2009. The legislation changes do not reduce the issues that need to be considered in rezoning a site, or the standards of an LES, but just reflect a new process for rezoning sites.

WARNING
No part of this plan should be used
for critical design dimensions.
Confirmation of critical positions
should be obtained from RPS Newcastle.

Legend

 Site Boundary



TITLE: FIGURE 1-1 SITE LOCATION MAP LOCATION: SPEERS POINT

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

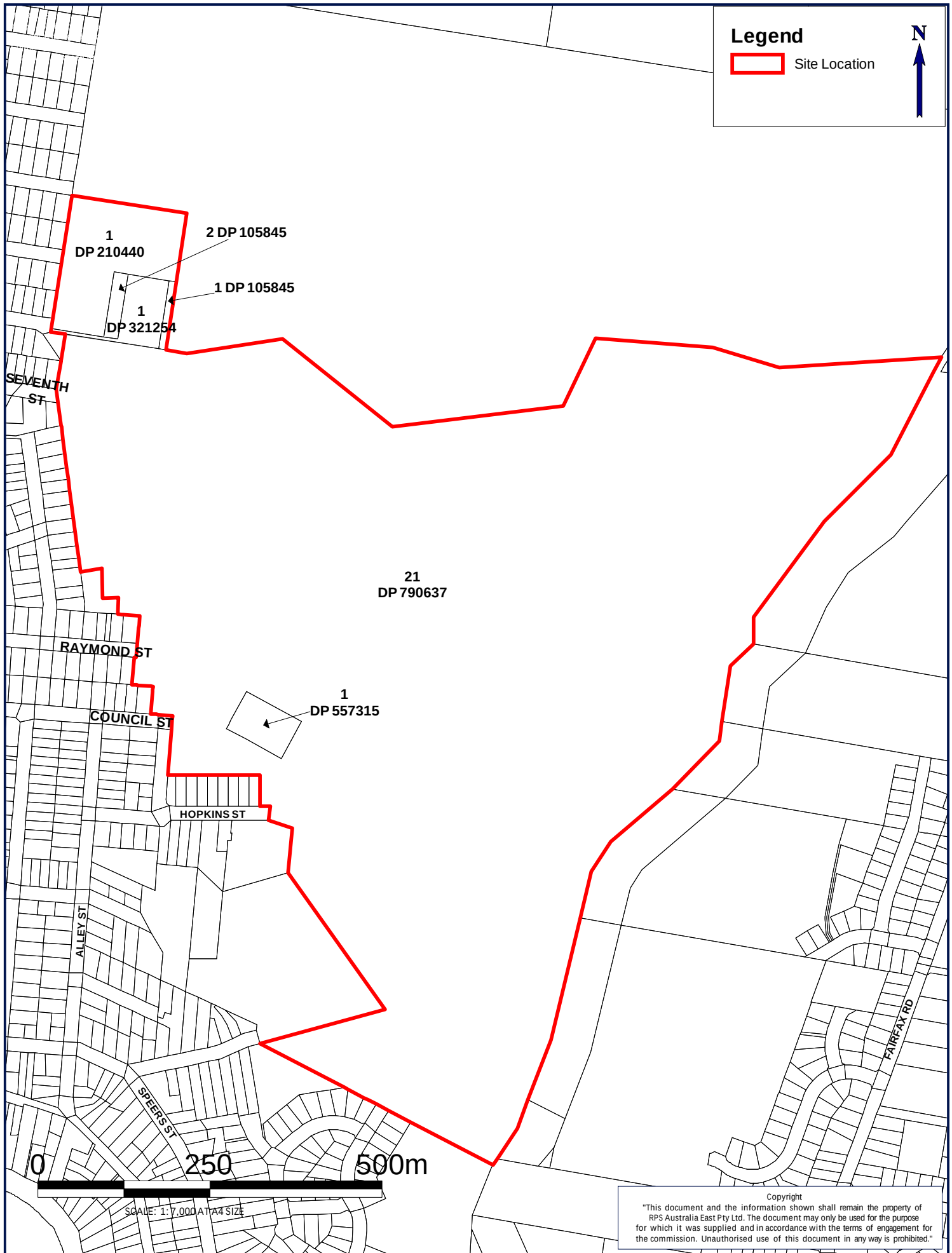
DATE: 15/11/2011
PURPOSE: REPORT FIGURE

LAYOUT REF: J:\OBS\26K\26292 - Speers Point
110 - Drafting Mapinfo\Report
Location Map B-A4
VERSION (PLAN BY): B-A4 (SC/SC/NW)

CLIENT: LAKE MACQUARIE CITY COUNCIL
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TITLE: FIGURE 1-2
PROPERTY DESCRIPTIONS

LOCATION: SPEERS POINT

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

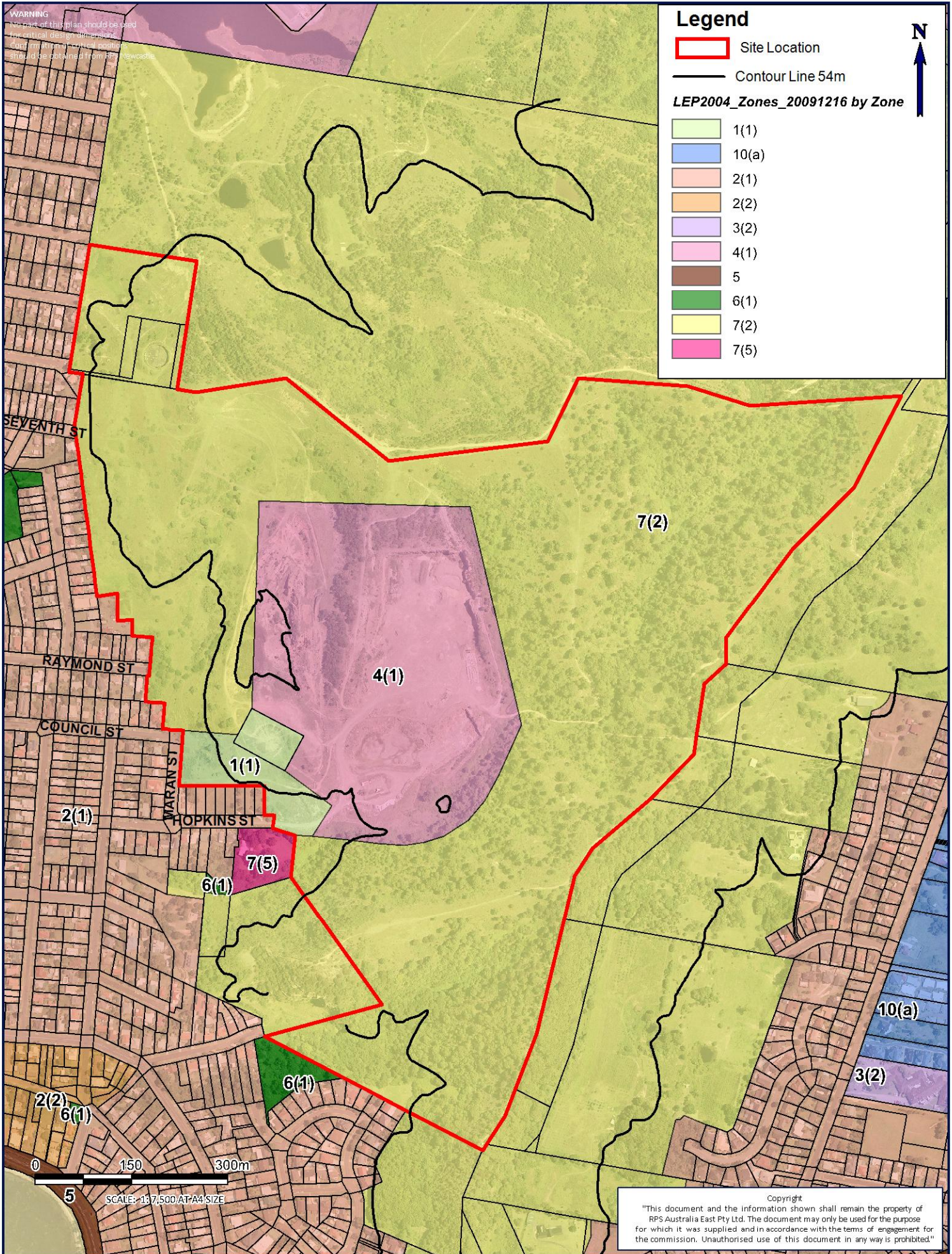
DATE: 15/11/2011
PURPOSE: PLANNING

LAYOUT REF: J:\JOBS\26K\26292 - Speers Point
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TITLE: FIGURE 1-3
EXISTING ZONINGS

LOCATION: SPEERS POINT

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 15/11/2011
PURPOSE: PLANNING

LAYOUT REF: J:\JOBS\26K26292-Speers Point
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2 Study Area

2.1 Site Location

Speers Point is located in the northern part of the Lake Macquarie local government area (LGA), 17 kilometres from the central business district (CBD) of Newcastle and 8.5 kilometres from Charlestown town centre.

The site is located on the south western slopes of Munibung Hill, a significant ridge line in Lake Macquarie, and approximately 800m east of Lake Macquarie. The location of the land proposed to be rezoned is shown in Figures 1-1 and 1-2.

2.2 Site Description

The northern, southern and eastern part of the site is currently zoned part 7(2) Conservation (Secondary) under Lake Macquarie local environmental plan (LEP) 2004 as identified in Figure 1-3. The central part of the site is zoned 4(1) Industrial Core with a small portion of 1(1) Rural (Production) located on along the western edge and central to the site.

The subject site includes:

- Lot 21 DP 790637;
- Lot 1 DP557315;
- Lot 1 DP321254;
- Lot 1 DP210440; and
- Lots 1 and 2 DP105845.

The site is approximately 80 hectares in size and is bounded by undeveloped land associated with the Pasminco Smelter to the north, undeveloped and farm land to the east and residential to the west.

Munibung Hill comprises three spurs running generally in a north-south and east-west direction. The slope of the land outside of the quarry areas varies anywhere between 1 and 45 degrees. Generally the steeper slopes are between 11 degrees (approximately 19 percent) and 18 degrees (approximately 32 percent).

Past quarrying activity has been conducted within the land zoned 4(1) Industrial Core, generally within two adjacent pits, Pit A and Pit B. Pit A is the larger of the two pits, located on the eastern side of Pit B and is approximately 5.75 hectares in area with wall heights varying from approximately 0 to 25m. Pit B is approximately 2.14 hectares in area with wall heights between approximately 0 and 15m. The base of the Pit A is relatively flat whilst the base of Pit B slopes down from the north to the south at an average slope of 3 degrees. The southern portion of Pit B has been filled with mixed soils, vegetation and

building waste including asbestos. Pit A quarry walls are failing in multiple locations and historical movement of the quarry walls has also been identified.

The foundations of a water tower demolished in 1995 remain on a portion of the site owned by the Hunter Water Corporation described as lot 1 DP 557315. This is located approximately 110m north of the Hopkins Street entrance, adjacent to Pit B.

The site is accessed from Hopkins Street via a local neighbourhood road network to the west. This road network also includes numerous streets which terminate at the western boundary which could potentially provide vehicle access to the site. A network of bushwalking tracks is located along ridge crests on the site. A Council car park off Quarry Road provides an entry point to the site whilst pedestrian access is also available via the streets on the western edge of the site.

3 State and Regional Planning Considerations

3.1 Lower Hunter Regional Strategy 2006

The Lower Hunter Regional Strategy (LHRS) has been prepared by the NSW Department of Planning to guide future population growth in the Lower Hunter region. The Lower Hunter region includes the local government areas of Newcastle, Lake Macquarie, Port Stephens, Maitland and Cessnock.

The LHRS was prepared to accommodate an increase of 160,000 persons in the Lower Hunter region up until 2031, and lists a hierarchy of urban centres to provide for the forecast housing demand of up to 115,000 new dwellings. The LHRS also estimates that an additional 66,000 new jobs will be required based on the projected population growth. The LHRS identifies a number of principles and policy directions to guide development in the Lower Hunter Region until 2031. This includes:

Population and Housing

- Provide sufficient land and development opportunities to provide housing for the future growth of the population
- Achieve higher residential densities in-and-around major centres to maximise proximity to employment and services and the use of existing infrastructure, while maintaining amenity
- Providing housing choice and affordability in the right locations reflecting changes in population and associated reduction in household occupancy rates
- Ensure quality urban design and amenity that is sensitive to and complements the character and lifestyle of the Region's towns and new urban areas
- Refocus the housing industry in the Region to increase the amount of total housing provided in the existing urban areas so that a more sustainable balance between the need for new Greenfield land releases and the ability of existing urban areas to meet housing demands is created
- Provide a framework for planning and delivering new and upgraded regional infrastructure and facilities for the growing population and ageing demographic

Economic

- Maximise the economic opportunities associated with the Region's competitive advantages, in particular its economic infrastructure and specialised centres
- Ensure sufficient employment lands are available in appropriate locations, including within centres and as traditional industrial land, to provide sufficient capacity to accommodate growth in existing and emerging industries and businesses
- Maintain or improve the employment self sufficiency of the Region
- Ensure activity within the Lower Hunter complements rather than competes with the economies and communities of adjoining regions

Environment

- Protecting and managing the biodiversity and conservation values of the key green corridors of the Region
- Maintaining or improving the biodiversity value of the Region
- Protecting the rural character and viable agricultural lands of the Region
- Protecting the mineral and coal resources of the Region

The subject site is not identified in the Lower Hunter Regional Strategy as a 'Future Urban Area'. However, the size of the site at 80 hectares would not warrant its inclusion in the LHRS which is a regionally based strategy. Glendale/Cardiff, located approximately 6 kilometres to the north, and Charlestown, located approximately 7 kilometres to the east, are identified as major regional centres with combined projections of 10,600 jobs and 7,200 dwellings. Nonetheless, the proposed development would need to take into account the neighbourhood planning principles identified in the LHRS. This LES will also need to consider these principles in preparing the preferred land use options for the site. The neighbourhood planning principles include:

- A range of land uses to provide the right mix of houses, jobs, open space and green space.
- Easy access to major town centres with a full range of shops, recreational facilities and services along with smaller village centres and neighbourhood shops.
- Jobs available locally and regionally, and hence reducing the demand for transport services.
- Streets and suburbs planned so that residents can walk to shops for their daily needs.
- A wide range of housing choices to provide for different needs and incomes. Traditional houses on individual blocks will be available along with smaller, lower maintenance homes, units and terraces for older people and young singles or couples.
- Conservation lands in-and-around the development sites, to help protect biodiversity and provide open space for recreation.
- Public transport networks that link frequent buses into the rail system.

3.2 Lower Hunter Regional Conservation Plan

The Lower Hunter Regional Conservation Plan (2009) aims to guide local level planning in order to maintain and improve the biodiversity conservation values of the region.

The site is identified as being within the Wyong subregion which incorporates the coast and hinterland south of the Hunter River including Lake Macquarie, the Watagan Ranges and coastal forests and heath. The plan states that the subregion is relatively intact with less than 30% of its area cleared. Almost 12% of the subregion is within reserves. The vegetation of the Wyong subregion is under major threat from land clearing for new developments, degradation from fragmentation and isolation, and competition from weeds.

The principles of biodiversity planning adopted in the draft Plan are:

- to maintain and improve ecological processes and the dynamics of terrestrial ecosystems in their landscape context
- to maintain and improve viable examples of terrestrial ecosystems throughout their natural ranges
- to maintain and improve viable populations of the various biological organisms throughout their natural ranges
- to maintain and improve the genetic diversity of the living components of terrestrial ecosystems.

The key priorities for biodiversity planning in relation to improving or maintaining biodiversity values are:

- the first priority is – to avoid losses to biodiversity and promote protection of biodiversity values in situ
- the second priority, where first priority is unachievable is – to mitigate adverse impacts to biodiversity
- the last resort is – to compensate for unavoidable losses to biodiversity.” Appendix 1 of the draft Plan contains offsetting principles for this purpose.

3.3 State Environmental Planning Policies (SEPPs)

There are a number of State Environmental Planning Policies (SEPPs) that will apply to the subject site. These include:

3.3.1 State Environmental Planning Policy No.19 – Bushland in Urban Areas

Based on the Ecology Assessment, the land contains vegetation which falls under the definition of ‘bushland’ in State Environmental Planning Policy No. 19 (SEPP 19) – Bushland in Urban Areas. The definition is:

“bushland means land on which there is vegetation which is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation.”

Clause 10 of SEPP 19 lists matters for consideration when making a draft local environmental plan. The following states each matter in the clause.

When preparing draft local environmental plans for any land to which this Policy applies, other than rural land, the council shall:

- Have regard to the general and specific aims of the Policy, and
- Give priority to retaining bushland, unless it is satisfied that significant environmental, economic or social benefits will arise which outweigh the value of bushland.”

As referred above, clause 10(a) requires consideration of the planning proposal against clause 2 of SEPP 19. The following states the aims and objectives of the clause.

2 Aims, objectives etc

The general aim of this Policy is to protect and preserve bushland within the urban areas referred to in Schedule 1 because of:

- its value to the community as part of the natural heritage,
- its aesthetic value, and
- its value as a recreational, educational and scientific resource.

The specific aims of this policy are:

- to protect the remnants of plant communities which were once characteristic of land now within an urban area,
- to retain bushland in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term,
- to protect rare and endangered flora and fauna species,
- to protect habitats for native flora and fauna,
- to protect wildlife corridors and vegetation links with other nearby bushland,
- to protect bushland as a natural stabiliser of the soil surface,
- to protect bushland for its scenic values, and to retain the unique visual identity of the landscape,
- to protect significant geological features,
- to protect existing landforms, such as natural drainage lines, watercourses and foreshores,
- protect archaeological relics,
- to protect the recreational potential of bushland,
- to protect the educational potential of bushland,
- to maintain bushland in locations which are readily accessible to the community, and
- to promote the management of bushland in a manner which protects and enhances the quality of the bushland and facilitates public enjoyment of the bushland compatible with its conservation."

3.3.2 State Environmental Planning Policy No.32 – Urban Consolidation

Under State Environmental Planning Policy No. 32 – Urban Consolidation (Redevelopment of Urban Land) (SEPP 32), an industrial zone constitutes an urban zone thereby triggering the SEPP in the assessment of the LEP amendment.

Clause 7(1) requires the implementation of the aims and objectives of the SEPP when considering a LEP amendment. These aims and objectives are listed in clause 2. The following states the aims of the SEPP and provides comment:

2 Aims and objectives

This Policy aims:

- To promote the orderly and economic use and development of land by enabling urban land which is no longer required for the purpose for which it is currently zoned or used to be redeveloped for multi-unit housing and related development, and
- To implement a policy of urban consolidation which will promote the social and economic welfare of the State and a better environment by enabling:
 - » The location of housing in areas where there are existing public infra-structure, transport and community facilities, and
 - » Increased opportunities for people to live in a locality which is close to employment, leisure and other opportunities, and
 - » The reduction in the rate at which land is released for development on the fringe of existing urban areas.

The objectives of this Policy are:

- To ensure that urban land suitable for multi-unit housing and related development is made available for that development in a timely manner, and
- To ensure that any redevelopment of urban land for multi-unit housing and related development will result in:
 - » An increase in the availability of housing within a particular locality, or
 - » A greater diversity of housing types within a particular locality to meet the demand generated by changing demographic and household needs, and
- to specify:
 - » the criteria which will be applied by the Minister to determine whether the redevelopment of particular urban land sites is of significance for environmental planning for a particular region, and
 - » the special considerations to be applied to the determination of development applications for multi-unit housing and related development on sites of such significance.”

3.3.3 State Environmental Planning Policy No.44 – Koala Habitat

Based on the Ecology Assessment the land does not contain potential koala habitat.

3.3.4 State Environmental Planning Policy No.55 – Remediation of Land

Based on the site's proximity to the former Pasmico operation, its current zoning as part industrial and its proposed rezoning to residential, State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) is required to be considered in the assessment of the LEP amendment.

A contamination assessment was undertaken which found five test pits exceeded the lead threshold limit for residential development. Two of the five samples were taken from the southern portion of Zone 3. No samples exceeded the lead threshold for parks, recreation open space and playing fields. Asbestos was identified in the southern portion of Pit B and Zone 3.

No other contaminants exceeded threshold limits for residential development. The majority of the laboratory test results obtained from the recovered soil samples recorded either undetectable or just over undetectable results.

It is recommended that a Detailed Contaminated Site Investigation be undertaken on the site. Based on the findings of this investigation, a Remedial Action Plan will in all likelihood need to be undertaken.

Based on these results, it is considered that rezoning of part of the land to residential can proceed.

3.3.5 State Environmental Planning Policy No.71 – Coastal Protection

The land is located within the mapped coastal zone which triggers the need to assess the LEP amendment against State Environmental Planning Policy No. 71 – Coastal Protection (SEPP 71).

Clause 8 of the SEPP lists the matters for consideration when making a draft local environmental plan. The following states each matter in the clause.

- the aims of this Policy set out in clause 2,
- existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,
- opportunities to provide new public access to and along the coastal foreshore for pedestrians or persons with a disability,
- the suitability of development given its type, location and design and its relationship with the surround area,
- any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,
- the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,
- measures to conserve animals (within the meaning of the Threatened Species Conservation Act 1995) and plants (within the meaning of that Act), and their habitats,
- measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994) and marine vegetation (within the meaning of that Part), and their habitats
- existing wildlife corridors and the impact of development on these corridors,

- the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,
- measures to reduce the potential for conflict between land-based and water-based coastal activities,
- measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,
- likely impacts of development on the water quality of coastal waterbodies,
- the conservation and preservation of items of heritage, archaeological or historic significance,
- only in cases in which a council prepares a draft environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,
- only in cases in which a development application in relation to proposed development is determined:
 - » the cumulative impacts of the proposed development on the environment, and
 - » measures to ensure that water and energy usage by the proposed development is efficient.

As referred above, clause 8(a) requires consideration of the planning proposal against clause 2 of SEPP 71. The following states the aims of the clause and provides comment.

This Policy aims:

- to protect and manage the natural, cultural, recreational and economic attributes of the New South Wales coast, and
- to protect and improve existing public access to and along coastal foreshores to the extent that this is compatible with the natural attributes of the coastal foreshore, and
- to ensure that new opportunities for public access to and along coastal foreshores are identified and realised to the extent that this is compatible with the natural attributes of the coastal foreshore, and
- to protect and preserve Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge, and
- to ensure that the visual amenity of the coast is protected, and
- to protect and preserve beach environments and beach amenity, and
- to protect and preserve native coastal vegetation, and
- to protect and preserve the marine environment of New South Wales, and
- to protect and preserve rock platforms, and
- to manage the coastal zone in accordance with the principles of ecologically sustainable development (within the meaning of section 6(2) of the Protection of the Environment Administration Act 1991), and

- to ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area, and
- to encourage a strategic approach to coastal management.

This Policy:

- Identifies State significant development in the coastal zone, and
- Requires certain development application to carry out development in sensitive coastal location to be referred to the Director-General for comment, and
- Identifies master plan requirements for certain development in the coastal zone.

This policy aims to further the implementation of the Government's coastal policy.

3.4 Section 117 Directions

Relevant plan making authorities such as Lake Macquarie City Council are directed under Section 117 (S117) of the EP&A Act to consider specific issues applying to draft local environmental plans received by the Director-General of the Department of Planning from a Council (under section 54 of the EP&A Act) before 1 July 2009. Therefore the S117 Directions that apply to the subject site include:

- 1.2 Rural Zones
- 1.3 Mining, Petroleum Production and Extractive Industries
- 1.5 Rural Lands
- 2.1 Environmental Protection Zones
- 2.2 Coastal Protection
- 2.3 Heritage Conservation
- 3.1 Residential Zones
- 3.4 Integrating Land Use and Transport
- 4.1 Acid Sulfate Soils
- 4.2 Mine Subsidence and Unstable Land
- 4.3 Flood Prone Land
- 4.4 Planning for Bushfire Protection
- 5.1 Implementation of Regional Strategies
- 6.1 Approval and Referral Requirements

3.4.1 Direction 1.2 – Rural Zones

The objective of this direction is to protect the agricultural production value of rural land. This direction applies when a relevant planning authority prepares a draft LEP that will affect land within an existing or proposed rural zone (including the alteration of any existing rural zone boundary).

A very minor portion of the land is zoned for rural purposes. The rezoning of this land will consider the social, economic and environmental issues apparent over the site and provide a justification for the rezoning of any rural land.

3.4.2 Direction 1.3 – Mining, Petroleum and Extractive Industries

The objective of this Direction is to ensure that the future extraction of State or regionally significant reserves of coal, other minerals, petroleum and extractive materials are not compromised by inappropriate development.

This Direction applies when a Council prepares a Draft LEP that would have the effect of:

- prohibiting the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or
- restricting the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.

The NSW Department of Primary Industries (DPI) were consulted prior to the commencement of this LES under Section 62 of the EP&A Act to ensure development is consistent with the objectives of this Direction. The DPI note that there is a coal mining lease and petroleum exploration licence across the area. Consideration is given to these matters in developing the preferred land use strategy, later in the LES.

3.4.3 Direction 1.5 – Rural Lands

The objectives of this direction are to protect the agricultural production value of rural land and facilitate the orderly and economic development of rural lands for rural and related purposes.

A draft LEP affecting a rural or environmental protection zone must be consistent with the Rural Planning Principles listed in State Environmental Planning Policy (Rural Lands) 2008, unless the provisions of the draft LEP that are inconsistent are:

- justified by a strategy which:
- gives consideration to the objectives of this direction,
- identifies the land which is the subject of the draft LEP (if the draft LEP relates to a particular site or sites, and
- is approved by the Director-General of the Department of Planning and is in force, or
- is of minor significance.

3.4.4 Direction 2.1 – Environmental Protection Zones

The objective of this direction is to protect and conserve environmentally sensitive areas. A council must ensure:

- A draft LEP shall include provisions that facilitate the protection and conservation of environmentally sensitive areas.
- A draft LEP that applies to land within an existing environmental protection zone or land otherwise identified for environmental protection purposes in a LEP shall not reduce the environmental protection standards that apply to the land (including by modifying any development standards or subdivision controls that apply to the land). This requirement does not apply to a change to a development standard for minimum lot size for a dwelling in accordance with clause (5) of Direction 1.5 “Rural Lands”.

The results of the flora and fauna assessment of the LES will be taken into consideration along with other environmental and planning documents, to identify areas appropriate for conservation purposes in line with the site's role in the broader urban context.

3.4.5 Direction 2.2 – Coastal Protection

The objective of this direction is to implement the principles in the NSW Coastal Policy. This direction applies when a council prepares a draft LEP that applies to land in the coastal zone. A council must ensure a draft LEP shall include provisions that give effect to and are consistent with:

- the NSW Coastal Policy: A Sustainable Future for the New South Wales Coast 1997, and
- the Coastal Design Guidelines 2003, and
- the manual relating to the management of the coastline for the purposes of section 733 of the Local Government Act 1993 (the NSW Coastline Management Manual 1990).

The subject site is within the NSW Coastal zone and as such the preferred land use strategy developed for the site will consider the provisions of the above policy documents.

3.4.6 Direction 2.3 – Heritage Conservation

The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance. A council must ensure a draft LEP shall contain provisions that facilitate the conservation of:

- items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area,
- Aboriginal objects or Aboriginal places that are protected under the National Parks and Wildlife Act 1974, and
- Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council,

Aboriginal body or public authority and provided to the council, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people.

The results of the cultural heritage assessment of the LES will be considered in developing appropriate zoning and planning controls across the subject site.

3.4.7 Direction 3.1 – Residential Zones

The objectives of this direction are to encourage diversity in housing types, to make efficient use of existing infrastructure and services and to minimise the impact of residential development on the environment and resource lands. Given that the proposed rezoning will include provision for residential zoned land, this direction is a relevant consideration.

Further chapters of the LES will investigate the appropriate mix of housing on the site and the capacity of existing services.

3.4.8 Direction 3.4 – Integrating Land Use and Transport

It is considered the rezoning is consistent with the intent of *Integrating Land Use & Transport* in terms of:

- provides future residents with the option of utilising the existing public transport system;
- provides the opportunity, through the environmental zone to create a co-ordinated pedestrian and cycling network;
- provides the opportunity to reduce travel distances for private vehicles to employment lands at Cardiff, and the sub-regional centre at Glendale;
- provides the opportunity to reduce private vehicle use given the site's proximity to the Boolaroo district business centre.
- Consideration will be given to the objectives of this Direction and the Department of Planning's policy documents in preparing the recommendations of this LES.

3.4.9 Direction 4.1 – Acid Sulfate Soils

The objective of this direction is to avoid significant adverse environmental impacts from the use of land that has a probability of containing acid sulfate soils. This direction applies when a council prepares a draft LEP that will apply to land having a probability of containing acid sulfate soils as shown on the Acid Sulfate Soils Planning Maps. If this direction applies a council must ensure:

Consideration will be given to the objectives of this Direction and the Department of Planning's policy documents in preparing the recommendations of this LES.

3.4.10 Direction 4.2 – Mine Subsidence and Unstable Land

The objectives of this Direction are to prevent damage to life, property and the environment on land identified as unstable or potentially subject to mine subsidence. The subject site is identified as being within the Lake Macquarie Mine Subsidence District. Appropriate consultation with the Mine Subsidence Board will be required for all development applications. The Mine Subsidence Board was consulted as part of Section 62 consultations prior to the commencement of the LES. The Mine Subsidence Board does not have any objections to the rezoning. Consideration will be given to the objectives of the MSB advice in preparing the recommendations of this LES.

3.4.11 Direction 4.3 – Flood Prone Land

The objectives of this direction are to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005, and to ensure that the provisions of an LEP on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land.

This direction applies when a council prepares a draft LEP that creates, removes or alters a zone or a provision that affects flood prone land. It states that a draft LEP shall not rezone land within the flood planning areas from Special Use, Special Purpose, Recreation, Rural or Environmental Protection Zones to a Residential, Business, Industrial, Special Use or Special Purpose Zone.

3.4.12 Direction 4.4 – Planning for Bushfire Protection

The objectives of this direction are:

- to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and
- to encourage sound management of bush fire prone areas.

This direction applies to all councils that are required to prepare a bush fire prone land map under section 146 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act), or, until such a map has been certified by the Commissioner of the NSW Rural Fire Service, a map referred to in Schedule 6 of that Act. A council must ensure:

- In the preparation of a draft LEP a Council shall consult with the Commissioner of the NSW Rural Fire Service under section 62 of the EP&A Act, and take into account any comments so made,
- A draft LEP shall:
 - » have regard to Planning for Bushfire Protection 2006,
 - » introduce controls that avoid placing inappropriate developments in hazardous areas, and
 - » ensure that bushfire hazard reduction is not prohibited within the APZ.

A draft LEP shall, where development is proposed, comply with the following provisions, as appropriate:

- provide an Asset Protection Zone (APZ) incorporating at a minimum:
 - » an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and
 - » an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road,
- for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the draft LEP permit Special Fire Protection Purposes (as defined under section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with,
- contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,
- contain provisions for adequate water supply for firefighting purposes,
- minimise the perimeter of the area of land interfacing the hazard which may be developed,
- introduce controls on the placement of combustible materials in the Inner Protection Area.

Consideration will be given to the objectives of this Direction in preparing the recommendations of this LES.

3.4.13 Direction 5.1 – Implementation of Regional Strategies

The objective of this direction is to give legal effect to the provisions contained in regional strategies. Draft LEPs are required to be consistent with the vision, land use strategy, policies, outcomes and actions contained in regional strategies. The Lower Hunter Regional Strategy (LHRS) is listed in this Direction, and the LHRS applies to the subject site. The provision, principles and objectives of the Lower Hunter Regional Strategy will need to be considered in preparing the recommendations of this LES.

3.4.14 Direction 6.1 – Approval and Referral Requirements

The objective of this Direction is to ensure that LEP provisions encourage the efficient and appropriate assessment of development. A draft LEP shall:

- minimise the inclusion of provisions that require the concurrence, consultation or referral of development applications to a Minister or public authority, and
- not contain provisions requiring concurrence, consultation or referral of a Minister or public authority unless the council has obtained the approval of:
 - the appropriate Minister or public authority, and
 - the Director-General of the Department of Planning (or delegate)

-
- prior to a certificate under Section 65 of the Act being issued, and not identify development as designated development unless the Council:
 - can satisfy the Director-General of the Department of Planning (or delegate) that the class of development is not likely to have a significant impact on the environment, and
 - has obtained the approval of the Director-General of the Department of Planning (or delegate) prior to a certificate being issued under Section 65 of the Environmental Planning and Assessment Act 1979.

Consideration will be given to the objectives of this Direction in preparing the recommendations of this LES.

4 Local Planning Considerations

4.1 Lifestyle 2020 Strategy

The Lifestyle 2020 Strategy is a local policy which deals with the management of Lake Macquarie's expected population and employment growth until 2020. Core values identified in the Strategy include the need for sustainability, equity, efficiency and liveability.

Lifestyle 2020 underpins the Lake Macquarie LEP 2004 and development controls plans. The strategy aims to:

- Provide the community with a realistic expectation about the future development patterns of the City, while retaining flexibility for land use decision making in the longer term
- Reinforce and strengthen Centres so that a wide range of commercial and community services may be provided in a timely and accessible manner
- Provide local employment opportunities for residents and to promote economic development consistent with the City's natural, locational and community resources
- Guide the development of urban communities which are compact, distinct and diverse with a range of housing types and activities
- Achieve a strong sense of positive community identity, through the development of local communities which are safe and liveable and offer a diversity of use, economic opportunity and ready access to services
- Develop an attractive urban setting for the City which reflects its physical and natural environment, and visual character
- Manage the City's natural environment so that its ecological functions and biological diversity are conserved and enhanced, and contribute to the City's overall well being
- Manage the City's heritage and economic resources, in a way that protects the value of these resources and enhances the City's character.
- Integrate land use with the efficient provision of public and private movement systems.

The strategy identifies Speers Point as "neighbourhood" which are classified as Local Centres. Typically, Local Centres serve a local business and residential community; provide retail and business services and may also include social services or community facilities; and provide opportunities for employment.

The strategy identifies Speers Point as a “neighbourhood”. Neighbourhoods, combined with villages and transport nodes, help to make Local Centres. Typically, Local Centres are nodes that:

- serve a local business and residential community;
- provide retail and business services and may also include social services or community facilities;
- provide opportunities for employment;
- are located on public transport routes between Sub-Regional and Town
- Centres or may benefit from their proximity to the Rail Network; and
- express the character of the local area.

4.2 Lake Macquarie Local Environmental Plan (LEP) 2004

As previously mentioned the subject site is zoned part 4(1) industrial (core), part 7(2) conservation (secondary) and partly 1(1) rural. The largest portion of the site is zoned 7(2) while the smallest part is zoned 1(1).

4.2.1 Existing zonings

The objectives of the existing zonings are as follows:

Zone 1 (1) Rural (Production) Zone

1 Objectives of zone

The objectives of this zone are to:

- a) provide for economic and employment-generating agricultural activities, and
- b) provide for a range of compatible land uses that maintain and enhance the rural environment of the locality, and
- c) ensure development is carried out in a manner that improves the quality of the environment, including quality of design, and is within the servicing capacity of the locality, and
- d) encourage development and management practices that are sustainable, and
- e) encourage the development of good quality agricultural land for agriculture (other than intensive agriculture) to the greatest extent possible, and
- f) encourage the development of low quality agricultural land for intensive agriculture, and
- g) provide for sustainable forestry practices, and
- h) avoid land use conflict by restricting or prohibiting development that has the potential to negatively affect the sustainability of existing agriculture, and
- i) provide for sustainable water cycle management.

2 Without development consent

Exempt development as provided in Schedule 1.

Development for the purpose of agriculture (other than intensive agriculture).

3 Only with development consent

Development for the purpose of:

- airline terminals
- airports
- animal establishments
- aquaculture
- bed and breakfast accommodation
- bulk stores
- cemeteries and crematoriums
- drainage
- dual occupancies—attached
- dwelling houses
- earthworks
- eco-tourism facilities
- educational establishments
- emergency services facilities
- energy generation works
- environmental facilities
- extractive industries
- farm stay accommodation
- forestry
- helipads
- heliports
- home businesses
- home industries
- intensive agriculture
- mines
- retail plant nurseries
- roads
- roadside stalls
- rural industries
- sawmills

- signs
- stormwater management facilities
- sustainable generating works
- telecommunications facilities
- transport terminals
- utility installations
- veterinary hospitals
- wholesale plant nurseries

4 Prohibited

Development not listed in item 2 or 3.

Zone 4 (1) Industrial (Core) Zone

1 Objectives of zone

The objectives of this zone are to:

- a) provide land for a wide range of employment-generating industries, including manufacturing, processing, assembly, storage and distribution uses, and
- b) provide land for a range of industrial uses that, because of their nature, require large areas of land or separation from more intensive forms of employment generating industries, and
- c) ensure that industries are designed and located so as not to cause unacceptable environmental harm or adversely affect the amenity of the environment, including residential neighbourhoods, and
- d) provide for sustainable water cycle management.

2 Without development consent

Exempt development as provided in Schedule 1.

3 Only with development consent

Development for the purpose of:

- aquaculture
- brothels
- bulk stores
- bus stations
- car parking facilities
- car repair stations
- child care centres
- depots
- drainage

- earthworks
- emergency services facilities
- energy generation works
- environmental facilities
- extractive industries
- general stores
- hazardous industries
- hazardous storage establishments
- helipads
- high technology industries
- industries
- junk yards
- light industries
- liquid fuel depots
- mines
- offensive industries
- offensive storage establishments
- rail lines
- roads
- service stations
- signs
- storage facilities
- stormwater management facilities
- sustainable generating works
- telecommunications facilities
- transport terminals
- utility installations
- warehouses
- waste management and/or recycling facilities

4 Prohibited

Development not listed in item 2 or 3.

Zone 7 (2) Conservation (Secondary) Zone

1 Objectives of zone

The objectives of this zone are to:

- a) protect, conserve and enhance land that is environmentally important, and
- b) protect, manage and enhance corridors to facilitate species movement, dispersal and interchange of genetic material, and
- c) enable development where it can be demonstrated that the development will not compromise the ecological, hydrological, scenic or scientific attributes of the land or adjacent land in Zone 7 (1), and
- d) ensure that development proposals result in rehabilitation and conservation of environmentally important land, and
- e) provide for sustainable water cycle management.

2 Without development consent

Exempt development as provided in Schedule 1.

3 Only with development consent

Development for the purpose of:

- bed and breakfast accommodation
- community facilities
- drainage
- dual occupancies—attached
- dwelling houses
- earthworks
- eco-tourism facilities
- emergency services facilities
- environmental facilities
- home businesses
- home industries
- roads
- roadside stalls
- signs
- stormwater management facilities
- telecommunications facilities
- utility installations

4 Prohibited

Development not listed in item 2 or 3.

4.2.2 Potential zonings

Zonings that could potentially apply to the subject site include 2(1) residential and 7(2) conservation. The objectives of the 2(1) Residential zone are as follows:

Zone 2 (1) Residential Zone

1 Objectives of zone

The objectives of this zone are to:

- a) permit development of neighbourhoods of low-density housing, and
- b) provide for general stores, community service activities or development that includes home businesses whilst maintaining and enhancing the residential amenity of the surrounding area, and
- c) ensure that housing development respects the character of surrounding development and is of good quality design, and
- d) provide for sustainable water cycle management.

2 Without development consent

Exempt development as provided in Schedule 1.

3 Only with development consent

Development for the purpose of:

- bed and breakfast accommodation
- boarding houses
- child care centres
- community facilities
- drainage
- dual occupancies—attached
- dual occupancies—detached
- dwelling houses
- dwelling houses—exhibition
- earthworks
- educational establishments
- emergency services facilities
- environmental facilities
- general stores

- group homes
- home businesses
- home industries
- places of public worship
- professional consulting rooms
- roads
- seniors housing
- signs
- small lot housing
- sporting facilities
- stormwater management facilities
- telecommunications facilities
- utility installations

4 Prohibited

Development not listed in item 2 or 3.

In preparing the preferred land use strategy for the subject site the aims and objectives of each of these zones will be considered along with other relevant zones. An assessment of preferred land uses and zones for the subject site is identified in section 11.

4.3 Draft Lake Macquarie LEP 2011

In 2006 the NSW Government gazetted a standard instrument for preparing new local environmental plans (LEPs), also known as the LEP template. New LEPs across NSW must now use the same terminology and a consistent format.

The Draft Lake Macquarie Local Environmental Plan 2011 (LMLEP 2011) has been prepared to conform with the State Government's Standard Instrument. As far as possible, LMLEP 2011 is a conversion of the current LMLEP 2004 to fit within the standard instrument requirements. This means that for most properties in the city, although the name of the land use zone may change, there will be little difference to the nature of development that can be carried out on the land. In July 2011, the Department of Planning and Infrastructure issued a certificate to allow Draft LMLEP 2011 to be placed on public exhibition. However, the certificate required certain changes which Council disagrees with and is further negotiating with the Department and it is anticipated that LMLEP 2011 will go on public exhibition in the first half of 2012 and be finalised (published) in 2013.

Draft LMLEP 2011 has zoned the subject site in following matter:

- The existing quarry area to IN1 General Industrial;
- An area around Hopkins Street on the south western side of the quarry area to RU2 Rural Landscape; and
- The remainder of the site to Zone E2 Environmental Conservation.

Zonings that could potentially apply to the subject site under Draft LMLEP 2011 include Zone R2 Low Density Residential and Zone E2 Environmental Conservation. The objectives of these zones are as follows:

Zone R2 – Low Density Residential

1 Objectives of zone

- a) To provide for the housing needs of the community within a low density residential environment.
- b) To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- c) To maintain and enhance the residential amenity and character of the surrounding area.

2 Permitted without consent

Exempt development as provided in Schedule 2, Home occupations.

3 Permitted with consent

- Advertisement
- bed and breakfast accommodation
- boarding houses
- building identification signs
- business identification signs
- child care centres
- community facility
- drainage
- dual occupancies
- dwelling houses
- earthworks
- educational establishments
- emergency services facilities
- environmental facilities
- environmental protection works
- exhibition homes

- exhibition villages
- filming
- flood mitigation works
- group homes (except group homes (transitional))
- home-based child care
- home businesses
- home industries
- hostels
- neighbourhood shops
- places for public worship
- public utility undertakings
- recreation areas
- roads
- secondary dwellings
- semi-detached dwellings
- seniors housing
- sewage reticulation systems
- telecommunications facilities
- telecommunications networks
- water reticulation systems
- waterbodies (artificial) or artificial waterbodies
- waterbodies (natural) or natural waterbodies
- watercourses
- waterways
- wetlands.

Zone E2 – Environmental Conservation

1 Objectives of zone

- a) To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.
- b) To prevent development that could destroy, damage or otherwise have an adverse effect on those values.
- c) To preserve and enhance areas of significant vegetation and habitat to promote the regeneration of ecosystems and eradication of invasive species that compete with native flora and fauna.
- d) To conserve, enhance and manage corridors to facilitate species movement, dispersal and interchange of genetic material.

- e) To encourage activities that meet conservation objectives.
- f) To enhance and manage areas affected by coastal processes.

2 Permitted without consent

Exempt development as provided in Schedule 2, Home occupations.

3 Permitted with consent

- Advertisement
- bed and breakfast accommodation
- building identification signs
- business identification signs
- car parks, community facility
- drainage
- dual occupancies (attached only)
- dwelling houses
- earthworks
- emergency services facilities
- environmental facilities
- environmental protection works
- filming
- flood mitigation works
- home-based child care
- home businesses
- home industries
- information and education facilities
- public utility undertakings
- recreation areas
- roads
- secondary dwellings (attached only)
- sewage reticulation systems
- telecommunications networks
- water reticulation systems
- waterbodies (natural) or natural waterbodies
- watercourses
- waterways
- wetlands.

4.4 Lake Macquarie Development Control Plan (DCP) No.1

DCP 1 provides guidance to the development of land under Lake Macquarie LEP 2004 and is intended to act as an integrated planning document in conjunction with LEP 2004. The primary objective of DCP 1 is to implement the Lifestyle 2020 Strategy by facilitating Ecologically Sustainable Development. DCP 1 adopts a performance approach to managing development and is represented in the following 3 key components:

- Intent Statements - outlining the underlying purpose of the Council requirements.
- Performance Criteria - detailing what outcomes need to be met to achieve the intent.
- Acceptable Solutions - the means, recommended by Council, of satisfying the performance criteria.

DCP 1 is an extensive document, parts of which will be relevant to any future residential development of the site. DCP 1 provides detailed planning guidelines, which development proposals should comply with.

In addition, DCP 1 includes Area Plans that provide detailed, place-specific requirements with statements of Desired Future Character and specific design advice. At present the subject sites are not within an Area Plan presented in DCP No. 1.

4.5 Lake Macquarie City Council Scenic Quality Guidelines

The Lake Macquarie City Council Scenic Quality Guidelines 2004 ("Scenic Guidelines" or SQG) are intended to assist in the preparation of a Visual Impact Assessment ("VIA") as required in Section 2.1.3 of DCP No. 1. Section 3 of the Scenic Guidelines states that a VIA is required for all proposals in Scenic Management Zones A and B. The subject site is identified as a B zone. As such, a visual impact assessment has been prepared for the site and is presented further within this LES.

4.6 Pasminco Master Plan and Munibung Hill Landuse Strategy

Pasminco Masterplan

The Pasminco Smelter closed in 2000 and since then a strategy for the redevelopment of the site has been prepared, adopted and is now being implemented. The Pasminco Smelter site is immediately to the north of the subject site. The agreed master plan provides an appropriate framework for the development of the site. Site remediation is now underway with the key elements of the master plan as follows:

- Approximately 800 additional dwellings based on an overall density of 15 dwellings per hectare
- Approximately 2,750 additional residents
- Potential for 1,600 jobs in a variety of industries
- Additional passive regional open space on Munibung Hill
- Integration of the existing urban fabric of the locality

Munibung Hill Landuse strategy

In 2005 Council prepared a draft Munibung Hill Landuse strategy.

The key elements of the strategy which relate to this proposal include the following:

- Significant parts of the hill have slopes greater than 15% or steeper which are significant constraints to any development
- Many steeper valleys contain drainage lines and intermittent watercourses which may require additional protection or re-establishment of riparian corridors and ecological values
- The hill is a regionally significant locality and the assessment of visual impact is important
- The site has extensive views over Lake Macquarie, the Sugarloaf Mountains and even to the Pacific Ocean.
- There are a number of potential areas for passive and active recreation or open space.
- There is potential for the creation of a network of pedestrian paths and mountain bike trails linking east to west across the hill and pedestrian paths linking north to south along the ridgelines linking lookouts and other significant locations.
- There is opportunity to revegetate some parts of the hill.
- There is potential for an appropriate tourism development near the summit of Munibung Hill which is located to the northeast of the subject site. This could include a café, restaurant, toilets and low-impact boutique resort with conference facilities.

In relation to the subject site the relevant issues stemming from the review of the strategy may be summarised as follows:

- Any redevelopment of the quarry site will need substantial revegetation and tree planting along the ridgeline to the west of the quarry and down to the edge of Speers Point
- Geotechnical stability will need to be address.
- Drainage is critical particularly around the base of the quarry walls. Any future development will need to be setback from any watercourse.
- The main vehicle access to the site is likely to be off Hopkins Street.
- The provision of an internal road around the development between the development and the quarry walls will provide an asset protection zone and a buffer to adjacent vegetated /watercourse areas.
- Residential uses would only be appropriate where development is structured under community title that would enable strict rules for siting and design of buildings.
- There is potential for a pedestrian/cycle track along the northern edge of the quarry site. There is also potential for a walking trail from Hopkins Street onto the ridgeline onto the summit of the hill.

The consideration of the site for rezoning, as investigated in this LES, is in accordance with both the Parminco masterplan and the Munibung Hill Landuse strategy.

5 Agency Consultations

Lake Macquarie City Council has already undertaken consultations with relevant government agencies and service providers pursuant to Section 62 of the EP&A Act. Several agencies submitted correspondence on a range of issues including identification of specific requirements to be addressed in the LES investigations. Issues raised by the authorities are summarised in Table 5-1. Appendix 1 provides copies of the responses from the agencies,

Table 5-1: Summary of Issues Raised by Agencies During Consultation

AGENCY	ISSUE
Department Of Environment & Climate Change (Now Department of Environment Climate Change & Water)	A detailed ecological assessment is to be undertaken which is sufficiently comprehensive to document the site's biodiversity values and to adequately assess the impacts of proposed development and the suitability of the mitigation measures. This should include specific targeted surveys and be undertaken for threatened flora and fauna species known or predicted to occur in the area.
	Assessment of cumulative impacts on biodiversity values resulting from the proposed rezoning, any approved / proposed development(s) on the site or any other activities proposed or likely to occur in the area
	The proposal be evaluated against the NSW Government policy for the 'improvement or maintenance of biodiversity values including the identification of appropriate offsets and mechanisms for management in perpetuity. This can be achieved through either: ▪ Consideration of the site through the NSW Government's Biodiversity banking and Offset Scheme (BioBanking); or ▪ Consideration of the principles for the use of biodiversity offsets in NSW.
	A comprehensive assessment be undertaken to determine the extent of impacts on Aboriginal Cultural Heritage (ACH) values. Assessments should be undertaken in accordance with the DECC guidelines: ▪ Aboriginal Cultural Heritage - Standards and Guidelines Kit (1997); and ▪ Interim Community Consultation Requirements for Applicants (2004) (Note: Although these documents were written for assessment and consultation at the DA stage, the methodologies are still applicable at the strategic stage).
	Potential land use conflicts associated with air, noise and odour impacts are to be adequately addressed, particularly in relation to premises scheduled under the Protection of the Environment Operations Act 1997
	Any areas of contamination on the site are to be identified and managed in accordance with the Contaminated Land Management Act 1997;
	Environmental impacts of the proposal on watercourses, soils, and flooding. Stormwater emanating from the area must be managed in a sustainable manner to prevent any impacts on the adjacent rivers, wetlands or estuaries is to be assessed.
	Likely impacts of human induced climate change are to be considered. This includes, but is not limited to: the potential for increased localised flooding resulting from higher intensity rainfall events; and the loss of species through increased environmental stochasticity and habitat fragmentation.

AGENCY	ISSUE
Department of Water & Energy (Now Department Of Environment Climate Change & Water)	Commonwealth legislation, the Environment Protection and Biodiversity Conservation Act 1999. If the proposed LEP affects any species requiring consideration under this legislation then consultation may be required with the Australian Government, Department of the Environment, Water, Heritage and the Arts (formerly the Department of the Environment and Water Resources).
	Objectives and regulatory requirements of Water Act 1912 and Water Management Act 2000
	If site is within a gazetted WSP area, proposal is to demonstrate consistency with the rules of the WSP
	Assessment required to take into consideration relevant NSW policies in relation to Groundwater, Wetlands, Rivers/Estuaries, Weirs etc (refer response for full list)
	Assessment required to take into account DWE Guideline for controlled activities – Riparian Corridors (& associated Vegetation Management Plans). In particular, must provide Core riparian zones plus vegetated buffers.
	Assessment required to identify key groundwater issues & potential degradation to the groundwater source (refer response for list of specific requirements)
	Where potential impacts identified, assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent ground water environment or water users (refer response for specific requirements)
	Any proposed groundwater works, including bores for the purposes of investigation extraction, testing or monitoring, must be identified and an approval obtained from DWE prior to their installation
	Any assessment is required to identify any impacts of Groundwater Dependant Ecosystems
	Any assessment is required to consider the impact of the proposal on the watercourses and associated riparian vegetation within the site, by providing: ▪ Identification of the sources of surface water ▪ Details of stream order using the Strahler system ▪ Details of any proposed surface water extraction, including purpose, location of existing and proposed pumps, dams, diversions, cuttings and levees. ▪ Detailed description of any proposed methods of excavation, construction and material placement ▪ A detailed description of all potential environmental impacts of any proposed development in terms of riparian vegetation, sediment movement, water quality and hydraulic regime. ▪ a description of the design features and measures to be incorporated into any proposed development to guard against long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime and sediment movement patterns and the identification of riparian buffers

AGENCY	ISSUE
	DWE recommends the following core riparian zones (CRZ) (in their Guidelines for Controlled Activities – Riparian Corridors): ▪ CRZ of 10m for any first order watercourse where there is a defined channel where water flows intermittently or permanently ▪ CRZ of 20m for any permanently flowing first order watercourse, or ▪ ▪ Any second order watercourse where there is a defined channel where water flows intermittently or permanently ▪ CRZ of 20-40m where there is a define channel where water flows intermittently or permanently. Includes estuaries, wetlands and any parts of rivers influenced by tidal waters (merits assessment based) ▪ An additional 10m vegetated buffer from the outer edge of the CRZ. Assessment must address provision of a sustainable water supply for any proposed development, with minimal reliance on accessing valuable surface and groundwater resources. Through the implementation of BASIX, Integrated Water Cycle Management and Water Sensitive Urban Design, proposed development must also be able to exhibit high water use efficiency. The assessment is required to provide information on the location, size and use of existing or proposed water management structures/dams including the need for licensing under the WMA
Department of Primary Industries (Now Industry And Investment)	Any development proposed for the subject area must be referred to the Mine Subsidence Board and the Department of Primary Industries. Stormwater concerns and management issues such as drainage and treatment using best practice techniques should be addressed at any development application stage Underground mining is to be permissible with consent in the subject area
	An Aboriginal and European heritage assessment, should be prepared and include an assessment of Aboriginal archaeology, artefacts, relics and sites and a preliminary archaeological assessment in regard to the European and industrial uses that have occupied the site to determine the likelihood of such relics and deposits. Regard is to be given to the existence of any heritage assets identified in the LES in proposing the rezoning of the site under the draft LEP and any rezoning needs to permit uses that are compatible with any heritage significant items and that the rezoning will allow for the continued use and conservation of the heritage item in an appropriate manner.
Heritage Council	Identified significant views, vistas, cultural landscapes and settings should also be maintained and conserved when planning for new development areas. Issues such as whether subdivision is desirable, viability of property sizes, minimum lot sizes, retention of productive agricultural land, rural and residential uses, and development in the vicinity of heritage items of areas should also be considered Possible land use conflicts, including conflicts with the retention of identified heritage significance, should be clearly identified and mitigation strategies and appropriate zoning and other controls formulated, including Environmental (Scenic or Cultural Landscape) Protection of similar zones.

AGENCY	ISSUE
NSW Health	Areas scheduled for rezoning as residential land is to have all contaminated soil removed and the final remediation be validated as safe by a Site Auditor.
	Reticulated water supply must be of sufficient quantity and quality for the population size. An increase in population reinforces the need for the water supply to meet water quality standards in the Australian Drinking Water Guidelines.
	Ensure minimal impact on the water quality of surrounding natural waterways, particularly from stormwater runoff
	Address the issue of environmental noise as exposure levels to the community may be high compared to existing levels
	Incorporation of best practice design principles in future developments include energy, water saving strategies and grey water reuse with appropriate approval and monitoring process in place to prevent risks to public health and environment contamination
NSW Health	A mosquito risk assessment should be included in the flora and fauna assessment or in the assessment of the terrain features to ensure any potential mosquito breeding sites are identified. A mosquito management plan should also be developed if constructed wetlands are proposed in the urban development with consideration of best practice design.
	Transport assessment to determine availability (including frequency) and access to rail and bus networks that connect Wyee residents to other services and employment. This should be conducted with specific reference to the nearby neighbourhood centres of Boolaroo, Speers Point and the sub regional centre of Glendale / Cardiff.
	Planning and designing the residential development should have consideration of - provision of safe and convenient footpath and cycleways for residents to access nearby facilities neighbourhood and sub regional centres, and water precincts. - consideration be given to accessibility and quality of green and other public space
	The proponent is to ensure there are continued opportunities for participation in the planning process, by considering the views of neighbouring community members and incorporating their views into the planning process. This includes equity considerations, such as consultation with Aboriginal and Torres Strait Islander communities.
Hunter Water	Some local upgrades to the water system may still be required to cater for the early stages of the development and this will need to be determined as part of the developer funded servicing strategy for the site.
	It is suggested that a developer funded servicing strategy, including the points listed below, be prepared with a view to addressing the best possible connection options to nominated wastewater catchment/so
	Developer funded water supply and servicing waste water strategies to be prepared, which presents all of the items listed in Hunter Waters response. These strategies are to be prepared to Hunter Water's design requirements.
RFS	Redevelopment of the site for residential purposes will be subject to the requirements of Planning for Bush Fire Protection 2006.
RTA	Traffic study to be prepared in accordance with RTA Guide to Traffic Generating Developments (refer their response for details to be included)

AGENCY	ISSUE
	Continued consultation on these matters would be appreciated to ensure that both the RTA and Council's interests are included, particularly in relation to provision of traffic and transport infrastructure upgrades. required as a consequence of the traffic generated by the future development proposed in the area.
MSB	MSB have no objection to the proposed rezoning. The applicant should seek the Board's approval for any proposed subdivision or the erection of improvements at the appropriate time. The draft plan should consider increasing density of population and employment close walking distance to the centres and transport corridors and include staging to facilitate this outcome.
Ministry of Transport	As a key transport outcome for this planning exercise, the Ministry is keen to realise the consistency of the draft LEP with Section 117 Direction No. 3.4 – Integrating Land Use and Transport (ILUT), particularly in regard to the main objectives of ILUT(refer response for full list). The Ministry requests that the local environmental study include the assessment and planning for the inclusion of a cycling network on the subject site. In addition to accessibility, the provision of public transport should also be included for assessment in the study. It is anticipated that the Integrated Network Plan for this region will commence in 2009.
Department Of Planning	Council may now continue with the preparation of the draft LEP. Council is commended in its decision to look at the site holistically including consideration of the findings from the "Pasminco" draft LEP. The Department supports the Councils investigation and looks forward to a draft LEP that promotes strong conservation and development outcomes. The Environmental Study (ES) is to include; ▪ Description of the site ▪ Consideration of the regional planning context ▪ Flora and fauna assessment ▪ Bushfire risk management ▪ Hydrology, drainage, stormwater and water quality management ▪ Assessment of slope, soils and geotechnical characteristics ▪ Scenic visual impact assessment ▪ Aboriginal and European heritage ▪ Traffic and infrastructure ▪ Give regard to Pasminco masterplan ▪ The ES will also consider issues that Council wishes to be addressed in the study plus those raised by government agencies during consultation.

6 Environmental Investigations

6.1 Ecological Constraints & Opportunity Assessment

An Ecological Constraints and Opportunities Assessment for the subject site has been carried out by RPS and is presented in Appendix 2.

Four vegetation communities were identified across the site, including Ecologically Endangered Community (EEC). The four communities are Coastal Foothills Spotted Gum – Ironbark Forest (the dominant forest type on the site), Coastal Narrabeen Moist Forest, Coastal Wet Gully Forest (an EEC covering approximately 3.97 ha) and Disturbed Lands. No threatened flora species were identified during field surveys. Potentially suitable habitat was identified for three other threatened flora species, namely *Cynanchum elegans* (White-flowered Wax Plant), *Diuris praecox* (Newcastle Doubletail) and *Syzygium paniculatum* (Magenta Lilly Pilly).

Three threatened fauna species (listed under the *Threatened Species Conservation Act 1995* (TSC) or *Environment Protection & Biodiversity Conservation Act 1999* (EPBC)) were identified during field surveys, namely the Grey-headed Flying-fox, Little Bentwing-bat and Common Bentwing-bat. A single migratory species (listed on the EPBC Act), the White-bellied Sea Eagle, was identified during field surveys. Potentially suitable habitat was identified for a further 20 threatened species listed on the TSC Act and a further 13 threatened and/or migratory species listed on the EPBC Act. While not recorded during field surveys, potential habitat exists for the threatened Squirrel Glider and combined with the presence of known populations on neighbouring properties, the Squirrel Glider is considered highly likely to occur on the site.

Potential development opportunities are restricted to that area of the site which previously accommodated the quarry operation, and to an area which has been largely disturbed and does not hold any real environmental qualities.

Potential opportunities for conservation across the site include the retention of Coastal Wet Gully Forest (EEC) and Coastal Narrabeen Moist Forest areas along drainage lines, and areas of Coastal Foothills Spotted Gum – Ironbark Forest along the steeper slopes. The conservation of such areas would provide habitat areas for local species (including the threatened Squirrel Glider), stop-over habitat for highly mobile species with the landscape and habitat areas for less mobile species within the landscape.

It is noted that Pit B which is to the west of Pit A has been excavated to create a non draining void of in-determinate depth creating a small artificial wetland. Review of correspondence from landowner consultants (Coastplan) suggests that an operational consent exists for the modification/removal of the aquatic habitat within the quarry floor. Nevertheless there is opportunity for additional stormwater detention on site which could include provision of an artificial wetland area to compensate for the removal of this small artificial wetland if required.

Since completion of the Ecological Constraints and Opportunities Assessment further advice from RPS ecologists identifies suitable options that would provide firstly an offset to the wetland removal and secondly an improvement in the ecological character of the site. These options are:

- An on or offline detention system could be established within the creekline situated in the southern part of the site as part of any Water Sensitive Urban Design (WSUD) measures. This would have the co-benefits of stormwater management and habitat creation adjacent to the retained vegetated areas of the site. A sensitive approach to the engineering design of the detention system including shallows containing macrophyte zones, deep water zones and depending on size island(s) should be key design considerations, as such providing foraging, roosting and refuge habitat for faunal groups likely to utilise such habitat (eg microchiropteran bats, common water bird species). Importantly the detention basin should always contain water, however ensure a post development flow similar to that of the pre development for the creekline especially if the structure is part of an online system. Notably this would be subject to negotiation with the NSW Office of Water, however online detention structures, if engineered appropriately, have been accepted on first order watercourses previously within the Lake Macquarie LGA.
- Restoration of the creekline situated on site including weed and rubbish removal would represent a beneficial indirect offset. This should also involve the improvement of connectivity throughout the creek system on site post quarry activities. The stormwater management system for the site, if developed according to industry best practice could discharge into the creek and feed a series of pools and riffles which would improve the diversity of habitats on site and be appropriately located adjacent to retained vegetation on site.
- Alternatively if Council is of the opinion that equal rehabilitation efforts to that required within the current wetland should be applied across the site given the proposed wetland removal, then a well considered strategic approach should be developed that prioritises sensitive ecological environs and identifies what level of rehabilitation could be afforded to such environs as defined by the agreed total effort that would have been applied to the wetland.
- Indirect offset initiatives outside of the site could also be considered such as funding for ongoing investigation into *Tetratheca juncea*, Squirrel Glider management plans and/or LGA vegetation mapping. This would be mutually beneficial to LMCC and the development community in providing ongoing opportunities throughout the LGA which could be pursued in a sustainable manner.

It is considered that the implementation of one of the above options would be appropriate to offset the wetland removal. This is based upon the premise that the water body does not qualify as an EEC under the TSC Act or TEC under the EPBC Act and is approved for removal under a current DA approval.

6.2 Visual Amenity and Visual Impact Assessment

A Visual Amenity and Visual Impact Assessment for the subject site has been carried out by RPS and is presented in Appendix 3.

The Visual Assessment identified five distinct visual and landscape character units within the site as follows:

- Bush/open space – May be characterised as steeply sloping and generally well vegetated native and regrowth bush on the ridges and slopes of Munibung Hill. The eastern and southern parts of the subject site are vegetated with native vegetation trees and bush while the western and north western parts of the site are characterised as mainly grasslands with isolated low trees and bushes.

Generally the westerly limit of the subject site on the western side may be described as being just above the existing building line of Boolaroo while the easterly limit of the subject site on the eastern side may be described as a line along the hill tops and ridges overlooking Warners Bay and Lakelands.

The highest point of Munibung Hill is approximately RL 164 AHD located at the north east corner of the subject site. The lowest contour on the western side of the subject site is approximately RL 50 AHD while the lowest contour on the eastern side is approximately RL 100 AHD.

- Parkland/open space – The area may be characterised as highly maintained and managed parkland landscapes with a mixture of mature native , non-native and amenity vegetation. Whilst only limited parts of Munibung Hill are designated as public open space there are a number of well defined walking tracks running east to west across the hill as well as other tracks along the north to south ridgelines. In the vicinity of the hill are a number of well used public open spaces including Speers Point Park approximately 1km west of the site and the popular Lake Macquarie foreshore park and cycleway approximately 500m to the west and south of the subject site. The public open space areas offers good viewing opportunities of the subject site.
- Suburban residential – May be characterised as closely spaced residential lots with a mixture of housing styles and ages, some mature trees within highly maintained and managed lawns and gardens. The suburbs of Boolaroo and Speers Point, to the west of the subject site, are older than the suburbs of Warners Bay and Lakelands located to the east and south of the subject site. Boolaroo and Speers Point grew up around the Pasminco refinery which closed in 2000 after 100 years of operations. The housing may be described as generally brick/ light weight, pre WW2, construction. Lakelands was developed approximately 30 years ago as a well planned, landscaped, residential estate with the housing described as modern brick and tile dwellings. The small residential suburb of Macquarie Hills is located to the north east of the subject site and may be described as a modern residential area dating from the 1970s but with some new dwellings still under construction in a small estate off Lawson Street to the immediate east of the subject site.

- Industrial – May be described as low rise warehousing, offices and light industrial; sheds within a managed streetscape and native vegetation corridors. The old Pasminco refinery located to the northwest of the subject site is in the process of being redeveloped into a residential estate. The Cardiff Industrial Estate is located approximately 1km north of the subject site and may be described as the largest industrial estate in Lake Macquarie if not the Lower Hunter.
- Disused quarry – May be described as a severely modified landscape characterised by sparse vegetation within an exposed gravel surface made up of three distinct precincts:

Pit A is on the eastern side of Pit B while the pit approaches connect the two pits to the only road access to the site which is via Hopkins Street in Speers Point. Pit A is approximately 5.75 hectares in area with quarry wall heights varying from approximately 0 to 25m in height. Pit B is approximately 2.14 hectares with quarry wall heights varying from approximately 0 to 15m in height. The pit approaches may be described as quarry work and storage areas linking the pit areas to the only access point being Hopkins Street.

Given the site's prominent elevated location the assessment classifies the potential visual impact of its redevelopment as 'high', and makes the following recommendations:

- Existing vegetation on steeply sloping areas within the site to be retained;
- Height of development to be kept below tops of ridges on northern and eastern site boundaries;
- Artificial lighting designed to prevent light spill and glare in the wider landscape;
- Limit development to areas least seen from external viewpoints;
- Install buffer planting screen to the west and south of Pit A and Pit B;
- Early planting of the vegetation buffer screen to allow it to develop to conceal construction stages and the final development outcome; and,
- Development to be in keeping with adjacent land uses and styles of buildings in Boolaroo and Speers Point.

Due to the high visibility of the site from many viewing locations and the high visual sensitivity of the site, the overall potential visual impact of the development of the quarry site is assessed as high. The proposed development will need to include measures to mitigate the anticipated visual impacts.

It is noted that the visual assessment identified 3 areas for potential development including a large development footprint on the eastern side of Munibung Hill in an area with native vegetation. Given there must be a road connection to the development site from Hopkins Street, it is reasonable to offset this eastern area for land between the end of Hopkins St and the existing pit areas for development, which is identified in this LES as the site approaches. Further, it is notable that a significant part of the land, identified as the site approaches, at the eastern end of Hopkins Street is below the 54m contour. In

response to concerns about the visual impact of the potential development the footprint of same has been reduced to reduce the overall visual impact.

6.3 Cultural Heritage Survey & Assessment

A Cultural Heritage Survey and Assessment for the subject site has been carried out by RPS and is presented in Appendix 4. The report was carried out under the DECCW guidelines current at the time.

In relation to Aboriginal cultural heritage the report should be considered as work carried out using the Due Diligence Code of Practice for the protection of Aboriginal objects in NSW (October, 2010). If development is to occur, a more detailed investigation of cultural heritage is required.

In 2009, Lake Macquarie City Council undertook research and identified Munibung Hill as being a place of ceremonial and spiritual significance to the local Awabakal people. As part of the future planning proposal, further investigation into potential Aboriginal and European heritage is required.

The assessment is a desktop review and pedestrian survey of the site in accordance with the requirements of the *National Parks & Wildlife Act 1974*, the National Parks & Wildlife Service's *Survey & Assessment Writing Guidelines*, and the Heritage Office's *NSW Heritage Manual*.

The survey recorded a total of 7 Aboriginal cultural heritage sites. Of these, 5 are isolated stone artefacts or small stone scatters and 1 is a grinding groove. Recent investigations resulted in the recording of a rock shelter on the eastern part of the subject site. None of the stone artefacts or stone scatters satisfy the listed criteria of significance. The grinding groove and rock shelter are considered to have high significance on the following grounds:

- Rarity – while axe grinding grooves are common in the area, this type of groove or grinding depression is uncommon. The rock shelter is considered rare.
- Integrity – while a small footbridge is located above it the boulder remains in context.
- Connectedness – the grinding groove at northern end of the lake builds a more comprehensive view of Aboriginal occupation.
- Contribution to Knowledge – advances the understanding of Aboriginal processing of food or related resources in the area.

The Cultural Heritage Assessment included a detailed assessment of the European history of the site and noted that two graves and the Lochend mine were historically recorded within the study area. The density of vegetation covering the majority of the study area raises the possibility that some potential heritage items may be present but undetected. It is unlikely that, other than the two headstones and the Lochend mine (both undetected), that these items would have heritage significance. Accordingly the Assessment states that no items of European cultural historical significance were

recorded but recommends that any potential ground works in the western section of the study area should be mindful of the potential for remnants of the mine and/or headstones.

Recommendations of the Cultural Heritage Assessment include:

- Any proposed development of the Speers Point Quarry study area should be informed by a full and comprehensive investigation of the area's Aboriginal and European cultural heritage values.
- Investigation and consultation should occur into the gazettal of the ridgelines (Fig 8.1. page 44 of Appendix 4) as an Aboriginal Place under section 84 of the *National Parks & Wildlife Act 1974*. If the ridgelines are not declared an Aboriginal Place any ground works, including remedial environmental work should be preceded by a targeted archaeological investigation.
- The valleys (Fig 8.1 page 44 of Appendix 4) should be designated as archaeologically sensitive in terms of Aboriginal cultural heritage. Any ground works to be carried out in these areas, including vegetation clearance should be preceded by a targeted archaeological investigation.
- The central valley and western slope (Fig 8.1. page 44 of Appendix 4) is not considered archaeologically sensitive and it is considered there is no impediment on Aboriginal or European cultural heritage grounds to works occurring.
- If suspected Aboriginal or European cultural material is encountered during construction, work should cease. In the case of potential Aboriginal heritage, contact shall be made with and DECCW, ADTOAC, and the NSW Aboriginal Land Council (acting for Koompahtoo). In the case of potential European heritage, an archaeologist is to undertake a study of the subject area in accordance with the requirements of the NSW Heritage Branch significance criteria.
- Any works should be mindful of the possible presence of 2 graves of European heritage and the Lochend mine (Fig 4.1 page 25 of Appendix 4).

All of the identified Aboriginal cultural heritage sites are located in areas that are not considered to be at risk by redevelopment. The grinding groove, which is considered to be of high significance, is located in the southern corner of the site and some distance from areas proposed for development while the rock shelter is located on the eastern side of the site.

The recent identification of the rock shelter indicates that the valley areas within the subject site comprise potential archaeologically sensitive areas. Nevertheless none of the identified sites are located within likely developable areas. Accordingly, cultural heritage issues are not significant enough to prevent consideration of a change of zone.

It is noted that the Awabakal Local Aboriginal Land Council (Awabakal LALC) is looking after Aboriginal cultural heritage matters in the local area, a situation that post dates the preparation of the Cultural Heritage Assessment. However RPS has forwarded a copy of the Cultural Heritage Assessment and other relevant components of the LES to Awabakal LALC. In line with the recommendations of the Cultural Heritage Assessment, future

investigations, e.g investigations associated with the preparation of subdivision applications, should include consultation and involvement of the Awabakal LALC.

6.4 Flooding & Drainage Assessment

A Stormwater and Water Quality Assessment for the subject site has been prepared by sub-consultant Northrop and is presented in Appendix 5.

The objective of the assessment was to determine the suitability of the proposed rezoning from a water management perspective. The assessment examines the potential impact of flooding, as well as the effect of any future development on water quality and quantity both within the site and downstream.

Findings from the assessment indicates that flooding from the streams is largely contained within the proposed riparian zones, except for Stream A (refer to Fig. 2 page 8 of Appendix 3). It is expected that these riparian zones will be maintained in accordance with best practice to preserve water quality and hydraulic characteristics.

Due to high velocities and depths, flow on the subject site is considered to be in the high hazard category. This will need to be taken into account when preparing a lot layout and determining land use in the vicinity of the watercourses for any future development.

Should the site be developed it is envisaged that localised downstream flooding will increase. The impact, however, can be mitigated by effective use of on-site detention to reduce post development flows to pre-development rates.

In respect to Council's *Lake Macquarie Sea Level Rise Preparedness Adaptation Policy*, the water level in the lake is predicted to rise from its current level of 1.38m AHD to 2.47m AHD in 2100. On this basis, it is not envisaged that the rise will impact on the development of the site.

Council has advised that a detention basin exists on the subject site near the end of Hopkins Street and that an easement in favour of Council exists over the detention basin.

There is opportunity for some additional stormwater detention (including artificial wetland if required) on, or off, the creek line which drains to the west south west from the subject site, just south of Hopkins Street, as shown in Figure 9-1 constraints map.

Based on the findings of the assessment, flooding and drainage issues are not significant enough to prevent a change of zone and subsequent redevelopment of the site.

6.5 Bushfire Threat Assessment

A Bushfire Threat Assessment (BTA) for the subject site has been carried out by RPS and is presented in Appendix 6. The BTA was prepared on the basis of a future urban development footprint being located west of and including Pit A.

The objective of the assessment is to consider bushfire hazard and potential threats relevant to the proposed rezoning and to outline minimum mitigation measures which would be required under the *Environmental Planning & Assessment Amendment (Planning for Bush Fire Protection) Regulation 2007* and the *Rural Fires Amendment Regulation 2007 (RF Amendment Regulation 2007)*.

The assessment has been undertaken in accordance with the regulations and addresses the following Bush Fire Protection Measures (BFPMs) in a development assessment context:

- the provision of clear separation of buildings and bush fire hazards – Asset Protection Zones (APZs);
- construction standards and design;
- access/egress requirements for residents, fire-fighters, emergency works in times of an event; and,
- water supply and pressure.

The BTA makes the following recommendations:

- APZs to be created and maintained in areas adjacent to retained vegetation that constitute a bushfire risk. APZs of between 20m and 35m to be provided between future dwellings and retained Open Forest.
- APZ of 10m be created and maintained between future industrial/commercial building and retained Open Forest. This APZ is to be comprised entirely of an Inner Protection Area.
- Future dwellings to comply with Bush Fire Attack Levels required by Australian Standard (AS3959-1999).
- Internal roads to be constructed to a width and standard (all weather access) to provide access to fire fighting vehicles in accordance with *Planning for Bushfire Protection* (RFS 2006).
- Connection to mains water supply with hydrants spacing, sizing and pressure to comply with Australian Standard (AS2419.1-2005).

Based on the findings of the assessment, bushfire issues are not a significant enough to prevent a change of zone of the site.

6.6 Limited Geotechnical Investigation

A Limited Geotechnical Investigation for the subject site has been prepared by sub-consultant Barker Harle and is presented in Appendix 7.

The Limited Geotechnical investigation comprised a review of previous geotechnical investigations, a review of available geotechnical data, a preliminary Contaminated Site Investigation and General Geotechnical Investigation including a slope stability investigation. Fieldwork involved 38 test pits and 25 penetrometer probes.

Slope Stability

The slope stability investigation identified a number of historical instability events across the site and determined that the existing quarry area (Zone 3 shown site plan 90845 in the Geotechnical report) as being the only suitable location for residential development subject to completion of the following:

- Further contamination testing, the completion of a Remedial Action Plan as well as remedial works detailed in the Remedial Action Plan;
- Remedial works associated with the stabilisation of the existing quarry walls in Pit A;
- Either site filling or potential earthworks associated with the existing Pit B area;
- Remedial works associated with the stabilisation of the northern portion of Zone 5.

Zone 3 comprises Pit A – eastern portion of Zone 3, Pit B – western portion of Zone 3, and remainder of southern portion of Zone 3.

Footing recommendations

The preliminary site classification indicates that Zone 3 may be suitable for residential development consisting of single and double storey buildings. Some potential may exist for multistorey buildings in the area identified as Pit A.

Footing recommendations would be dependent on remedial methods employed across Zone 3 development area.

Preliminary Road Pavement Thickness Design

Based on the subsurface soil profiles encountered during the investigation, the majority of Zone 3 is considered suitable for the construction of either flexible or rigid pavements.

Other constraints within Zone 3

Remedial works to allow for urban development within Zone 3 could present a feasibility issue in the redevelopment of the site. The assessment recommends the following remedial works:

- Stabilisation of the quarry walls for Pit A. The method employed may require a buffer distance equal to the height of the quarry wall (up to 25 metres).
- Either conventional filling of Pit B or pushing the walls of Pit B into the pit.
- Stabilisation of hillside walls of Zone 5.

It is recommended that a 20-40 metre buffer distance be applied to the southern boundary of Zone 3 to provide a suitable distance from potential future instability events within Zone 5.

Contamination

Five soil samples exceeded the lead threshold limit for residential development. Two of the five samples were taken from the southern portion of Zone 3. No samples exceeded the lead threshold for parks, recreation open space and playing fields. Asbestos was identified in the southern portion of Pit B and Zone 3.

No other contaminants exceeded threshold limits for residential development. The majority of the laboratory test results obtained from the recovered soil samples recorded either undetectable or just over undetectable results.

It is recommended that a detailed contaminated site investigation be undertaken on the site to determine the following:

- The aerial extent and depth of lead, cadmium and zinc contamination within areas that are proposed to be rezoned as residential development areas;
- The aerial extent and depth of various contaminants and asbestos in fill material identified in the southern portion of Pit B;
- The aerial extent and depth of various contaminants and asbestos in fill material identified in the southern portion of Zone 3.

Following completion of a Detailed Contamination Site Investigation, it is envisaged that a Remedial Action Plan will be prepared for the site.

Whilst five of the soil samples exceeded lead guidelines levels for residential development these samples did not exceed lead threshold limits for parks, open space and playing fields. Asbestos was identified in two separate areas of fill material.

The slope stability investigations identified a number of historical instability events across the site and determined that the existing quarry area – both Pit A, (to the east) and Pit B, (to the west) as the only areas suitable for residential development subject to the following recommendations including:

- further contamination testing;
- completion of a Remedial Action Plan;
- stabilisation of quarry walls;
- additional remedial works.

Further comment

It is noted that development on parts of the site will require a Phase 2 Detailed Investigation Report in accordance with the requirements of DCP No 1 Principals of Development clause 2.1.13. Contaminated lands on those areas proposed to be zoned, if any, for open space/recreation, will require a Phase 2 Detailed Investigation Report prior to finalisation of a rezoning (LEP) footprint. Other areas may be further investigated and remediated after rezoning but Council will require the preparation and submission of a remedial action plan and site validation prior to the issue of a Development Application and Construction Certificate for structures.

The Slope Stability investigation identified a number of historical events across the site and determined that the existing quarry area (zone 3) is the only area suitable for residential development. The investigation refers to an area off Davis Street as Zone 1 and the investigation considers there to be a high risk of instability failures to occur in this vicinity. For this reason the investigation concludes that Zone 1 is not suitable for residential development.

7 Transport and Infrastructure

7.1 Traffic Impact Assessment

A Traffic Impact Assessment for the subject site has been prepared by sub-consultant Mark Waugh Better Transport Futures and is presented in Appendix 8.

The objective of the Traffic Impact Assessment is to determine if the existing road network has sufficient capacity to accommodate increased volumes should the land be rezoned and redeveloped. The assessment considers traffic volumes, public transport, pedestrian and cycling facilities. The assessment is based on a maximum development yield of 200 residential lots. Access to the development would be via Hopkins Street.

The assessment made the following findings:

- Existing traffic flows on the road network in the immediate vicinity of the subject site are relatively low and well within acceptable limits.
- The operation of local roads has been observed during peak periods with existing traffic experiencing acceptable delays.
- The intersection of The Esplanade and Main Street has been assessed on-site and against RTA sourced accident data. The layout of the intersection is considered acceptable with a comparatively low number of records accidents.
- Based on redevelopment of the site to a maximum yield of 200 lots, 170 vehicle movements during peak periods and 1800 vehicles per day could be generated.
- Redevelopment of the site and the associated traffic will not exceed the environmental limits specified by the RTA.
- The existing pedestrian and cycling facilities in the vicinity of the site provides an acceptable level of service.

Peak hour surveys were carried out at the intersections of the Esplanade and Albert Streets, the Esplanade and Ally Street, Thompson Road and Speers Street and Thompson Road and Fairfax Road.

From the analysis of the surrounding local intersections of the Esplanade and Albert Street, The Esplanade and Ally Street and other intersections noted above, it is clear there is adequate spare capacity to accommodate the proposed traffic generated by the development.

It is noted that the intersection of Maran Street and Hopkins Street has been re-configured so that traffic driving west from the subject site will be directed onto Maran and Council Streets whilst still having the option of continuing west on Hopkins Street if desired.

There are a number of possible locations for an emergency access to be utilised as an alternative to Hopkins Street if necessary. The preferable location for an emergency access is at the corner of Council Street and Maran Street. The emergency access would need to negotiate an embankment off the end of Council Street and then follow the contours southeast towards to the developable area just to the north of the recently constructed houses on the north side of Hopkins Street.

An alternative location could be off the end of Seventh Street and following the contours to the south but this will require a much longer access road. Both options will be subject to detailed geotechnical investigations.

The Munibung Hill Landuse Strategy allows for some potential bicycle and walking trails east west over the hill, through the subject site, linking the Pasminco site, Boolaroo and Macquarie Hills.

Based on the findings of the assessment, the existing transport network (road, public transport, pedestrian and cycling) has sufficient capacity to accommodate a change of zone and subsequent redevelopment of the site. Suitable access for emergency services will need to be nominated for future development. Possible locations for these have been considered and are detailed in Section 9 of this LES.

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Legend

- Site Location
- Main Access
- ⊕ Possible Emergency Access

N



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TITLE: FIGURE 7-1:
ROAD NETWORK

LOCATION: SPEERS POINT

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 16/03/2012
PURPOSE: PLANNING

LAYOUT REF: J:\JOBS\26K\26292 - Speers Point
110 - Drafting\Mapinfo
VERSION (PLAN BY) B A4 (NW - TP)

CLIENT: LAKE MCQUARIE CITY COUNCIL
JOB REF: 26292

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7.2 Servicing Assessment

A Servicing Assessment for the subject site has been carried out by RPS and is presented in Appendix 9.

The objective of this assessment is to establish what infrastructure currently services the site (water, sewer, electricity, telecommunications, gas), the scope to connect if unserved, and the ability of the existing network to accommodate increased demand based on a rezoning of the land.

Hunter Water has advised that the developer will be required to prepare servicing strategies for both water and sewer once rezoning has been approved.

More recent discussions with Hunter Water (November 2011) indicate there is capacity available in the water and sewer systems but confirmation of this will be required once lot layouts and timing of the development is determined.

With respect to reticulated water, the site is currently not serviced by Hunter Water. Scope exists to connect the site to the system in the adjoining residential area. Sufficient capacity exists in the system to accommodate the increased demand generated by any development of the site.

Any development of the site will require the preparation of a water servicing strategy which would address the following issues:

- Lot layout
- Staging
- Investigation of alternative options for integration of high level systems
- Identification of least community cost option
- Security of supply
- Minimum pressure requirement
- Fire fighting flow requirement

With respect to reticulated sewer, the site is currently not serviced by Hunter Water. Scope exists to connect the site to the system in the adjoining residential area. Sufficient capacity exists in the system to accommodate the increased demand generated by any development of the site.

Any development of the site will require the preparation of a water sewer servicing strategy which would address the following issues:

- Lot layout
- Accurate loading information
- Pump station detail (existing or proposed)
- Connection options to existing or proposed waste water pump station catchment
- Timing of connection
- Emergency storage
- Surrounding potential future developments

Regarding electricity, the site is currently not serviced by Energy Australia. Scope exists to connect the site to the grid in the adjoining residential area. Sufficient capacity exists in the grid to accommodate the increased demand generated by any development of the site. In this respect the servicing report provides the following comment:

“There is an existing connection point to the existing 33kv main in Fifth Street and an 11kv connection point in very close proximity to the subject site in Farm Street.”

The site is currently not serviced by a telecommunications provider. Scope exists to connect to the network.

The site is currently not serviced by gas. The local provider has indicated that scope may exist to provide gas in the vicinity based on the economic viability of developing the network.

It should be noted that water and sewer infrastructure required for this development will be the responsibility of the developer. It is not the responsibility of Hunter Water to provide the necessary infrastructure.

Based on the findings of the servicing assessment, the site can be adequately serviced by connecting to existing infrastructure which has the capacity to accommodate any demand generated by a change of zone and subsequent redevelopment.

8 Social and Economic Environment

8.1 Social and Economic Impact Assessment

A Social and Economic Impact Assessment for the subject site has been carried out by RPS and is presented in Appendix 10.

The objective of the assessment is to consider the potential effects of the rezoning on population characteristics, crime, health, community services and facilities, recreation, sport, park and open space, Aboriginal and European heritage, housing, employment and accessibility.

Based on current demographics and a potential redevelopment of the site of up to 200 dwellings, the assessment projects a population increase of 506 people. The projects suggest that an additional 29 0-4 year olds, 70 5-14 year olds and 64 15-24 year olds will be added to the local population.

Child care centres in the local catchment currently have little capacity to accommodate the projected increase in demand for places. The assessment recommends consideration of incorporating a child care centre in the redevelopment of the site.

Sufficient capacity exists at Boolaroo Public School, Speers Point Public School and Lake Macquarie High School to accommodate the projected increase in student numbers generated by redeveloping the site.

The additional population would result in increased demand on GPs in the area. Council has identified the shortage of GPs in its Social Plan and measures to be taken to address this issue. The assessment suggests contributions to community health facilities could be incorporated in the redevelopment of the site.

Council is currently reviewing the adequacy and supply of existing sporting facilities for future needs. At this point in time, proximity of the site to parks, open space and recreational activities is adequate. This could be enhanced further should those areas proposed to be zoned Environmental are enhanced and transferred into public ownership.

Redevelopment of the site would provide housing and in view of the projected increase in population this would be a significant positive impact. There is currently a lack of diversity in the local housing stock which redevelopment of the site could address, including affordable housing needs.

Temporary employment opportunities would be generated during the construction phase of the redevelopment. Additional spending by new residents at local businesses also offers potential positive impacts.

Any redevelopment of the site would also trigger the levying of section 94 Contributions towards the provision of public services and facilities.

Based on the findings of the social and economic impact assessment, a change of zone and subsequent redevelopment of the site would not have a detrimental social or economic impact on the local community. Sufficient capacity exists in most of the local social infrastructure (schools, parks, open space); however concerns are raised with the shortage of general practitioners available – it is understood that LMCC is exploring opportunities to improve this situation. Potential economic benefits could be gained by the local business community with increase in population. The building industry would also benefit during the construction phase of the project. Dependent on the mix, benefits may also be realised with greater diversity in the local housing stock.

Recent discussions with Councils Economic Manager indicate that while Council has investigated future land use options for the subject site as indicated in the Munibung Hill Land use Strategy there has been little discussion in the broader community about the possibility of tourist accommodation or restaurant facilities on Munibung Hill.

8.2 Future uses and management of conservation lands

Given that a large percentage of the site has the potential to be zoned conservation it is important to consider future land uses and management / ownership options of the conservation lands.

As outlined in section 4.6 of this LES the site is included in the Munibung Hill Landuse Strategy which includes the following;

- The hill is a regionally significant locality and the assessment of visual impact is important
- The site has extensive views over Lake Macquarie, the Sugarloaf Mountains and even to the Pacific Ocean.
- There are a number of potential areas for passive and active recreation or open space.
- There is potential for the creation of a network of pedestrian paths and mountain bike trails linking east to west across the hill and pedestrian paths linking north to south along the ridgelines linking lookouts and other significant locations.
- There is potential for an appropriate tourism development near the summit of Munibung Hill which is located to the northeast of the subject site. This could include a café, restaurant, toilets and low-impact boutique resort with conference facilities.

The management/ownership options include:

- Council ownership and management as part of the on-going management of the extensive network of parks and reserves which Council already does on the behalf of the community.
- Council ownership but with management by a private operator of an appropriate tourism development near the summit of the hill.
- Ownership by the residential development within the subject site as Community Title with management by an appropriately constituted Community Association.
- Ownership and ongoing management and maintenance of the conservation land undertaken by a Trust arrangement. The Trust arrangement could be managed in accordance with a Development Control Plan and comprehensive management plan. There are two overriding issues with this concept. Firstly, a certainty that Council will not be left with the management and maintenance responsibilities in the event the Trust is abandoned or fails and, secondly, that sufficient funds are available for any necessary up front or ongoing works. A Planning Agreement is likely to be a key legal mechanism to give effect to the concept.

8.3 Opportunity for environmental living development

It is noted that the current LEP has zoned a small area of land below the 54m contour and located on the south side of Hopkins Street as 7(5) environmental living.

There is an opportunity for a limited part of the subject site to be zoned environmental living creating larger residential lots between ends of Seventh Street and Raymond Street. This area is located below the 54 m contour and could be accessed off the end of Seventh Street which could incorporate an alternative emergency access if desired.

This land is generally grassland which could be regenerated as part of a limited environmental living development to provide an improved backdrop to Boolaroo and help screen the proposed residential development in the quarry pits A and B.

Any development of this land will require further geotechnical investigations as the limited geotechnical investigations undertaken to date indicate that the only areas available for development are the two pits A and B and the pit approaches off Hopkins Street.

9 Opportunities and Constraints

The planning, infrastructure and environmental assessments prepared for this LES have provided the basis for determining the opportunities and constraints for development across the subject site. The specialist reports presented in this submission indicate that the following are the primary opportunities and constraints associated with undertaking development as proposed.

9.1 Constraints

The environmental and planning reports prepared by the specialist consultants have identified some constraints on the subject site. The identified constraints include:

Ecological – The site may be described as being well treed on the eastern and southern portions of the site with two large excavated pits and cleared grassland on the western and northern parts of the site. No threatened flora species were identified during field ecological surveys.

Potential development opportunities are restricted to that area of the site which previously accommodated the quarry operation, and to an area which has been largely disturbed. Through the use of water sensitive urban design principles and associated techniques opportunities exist to recreate aquatic habitats within the likely development footprint to offset the removal of the existing wetland improve the ecological character of the site.

Visual amenity – Given the site's prominent elevated location the following matters require consideration.

- Existing vegetation on steeply sloping areas within the site to be retained;
- Height of development to be kept below tops of ridges on northern and eastern site boundaries;
- Limit development to areas least seen from external viewpoints;
- Install buffer planting screen to the west and south of Pit A and Pit B;
- Early planting of the vegetation buffer screen to allow it to develop in order to conceal construction stages and the final development outcome.

Cultural heritage – Investigations recorded 6 Aboriginal cultural heritage sites. Of these, 5 are isolated stone artefacts or small stone scatters and 1 is a grinding groove. None of the stone artefacts or stone scatters satisfy the listed criteria of significance. The grinding groove is considered to have high significance on the following grounds:

- Rarity – while axe grinding grooves are common in the area, this type of groove or grinding depression is uncommon.
- Integrity – while a small footbridge is located above it the boulder remains in context.
- Connectedness – the grinding groove at northern end of the lake builds a more comprehensive view of Aboriginal occupation.

- **Contribution to Knowledge** – advances the understanding of Aboriginal processing of food or related resources in the area.

The Cultural Heritage Assessment included a detailed assessment of the European history of the site and noted that two graves and the Lochend mine were historically recorded within the study area. The density of vegetation covering the majority of the study area raises the possibility that some potential heritage items may be present but undetected. It is unlikely that, other than the two headstones and the Lochend mine (both undetected), that these items would have heritage significance. In relation to European heritage no items of European cultural historical significance were recorded but it is recommended that any potential ground works in the western section of the study area should be mindful of the potential for remnants of the Lochend mine and/or headstones.

It is noted that the Awabakal Local Aboriginal Land Council (Awabakal LALC) is looking after Aboriginal cultural heritage matters in the local area, a situation that post dates the preparation of the Cultural Heritage Assessment. In line with the recommendations of the Cultural Heritage Assessment, future investigations, e.g investigations associated with the preparation of subdivision applications, should include consultation and involvement of the Awabakal LALC.

Flooding and Drainage – Flooding from the streams is largely contained within riparian zones that are likely to be outside any development footprint. Such riparian zones will need to be maintained in accordance with best practice. A water sensitive design approach sensitive to the engineering design of detention systems within the likely development footprint is required.

Bushfire – Whilst the site is exposed to bushfire threat the matters relating to bushfires are not significant enough to preclude development from parts of the site.

Slope stability and contamination – The slope stability investigation identified a number of historical instability events across the site and determined that the existing quarry area as being the only suitable location for residential development subject to completion of additional contamination investigations and remedial works.

Traffic – The existing transport network (road, public transport, pedestrian and cycling) has sufficient capacity to accommodate a change of zone and subsequent redevelopment of the site. Suitable and alternate access enter points to the site for emergency services have been identified.

Servicing – The site is not currently serviced by Hunter Water however scope exists to connect the site to the reticulated water and sewerage disposal systems in the adjoining residential area. Similarly the site is not currently connected to the local electricity, gas or telecommunications networks however local connections are feasible as required. It should be noted that it is the responsibility of the developer to provide water, sewer and other infrastructure.

Social and economic – Sufficient capacity exists in most of the local social infrastructure (schools, parks, open space); however concerns are raised with the shortage of general practitioners available – it is understood that LMCC is exploring opportunities to improve this situation. Potential economic benefits could be gained by the local business community with increase in population. The building industry would also benefit during the construction phase of the project. Dependent on the mix, benefits may also be realised with greater diversity in the local housing stock.

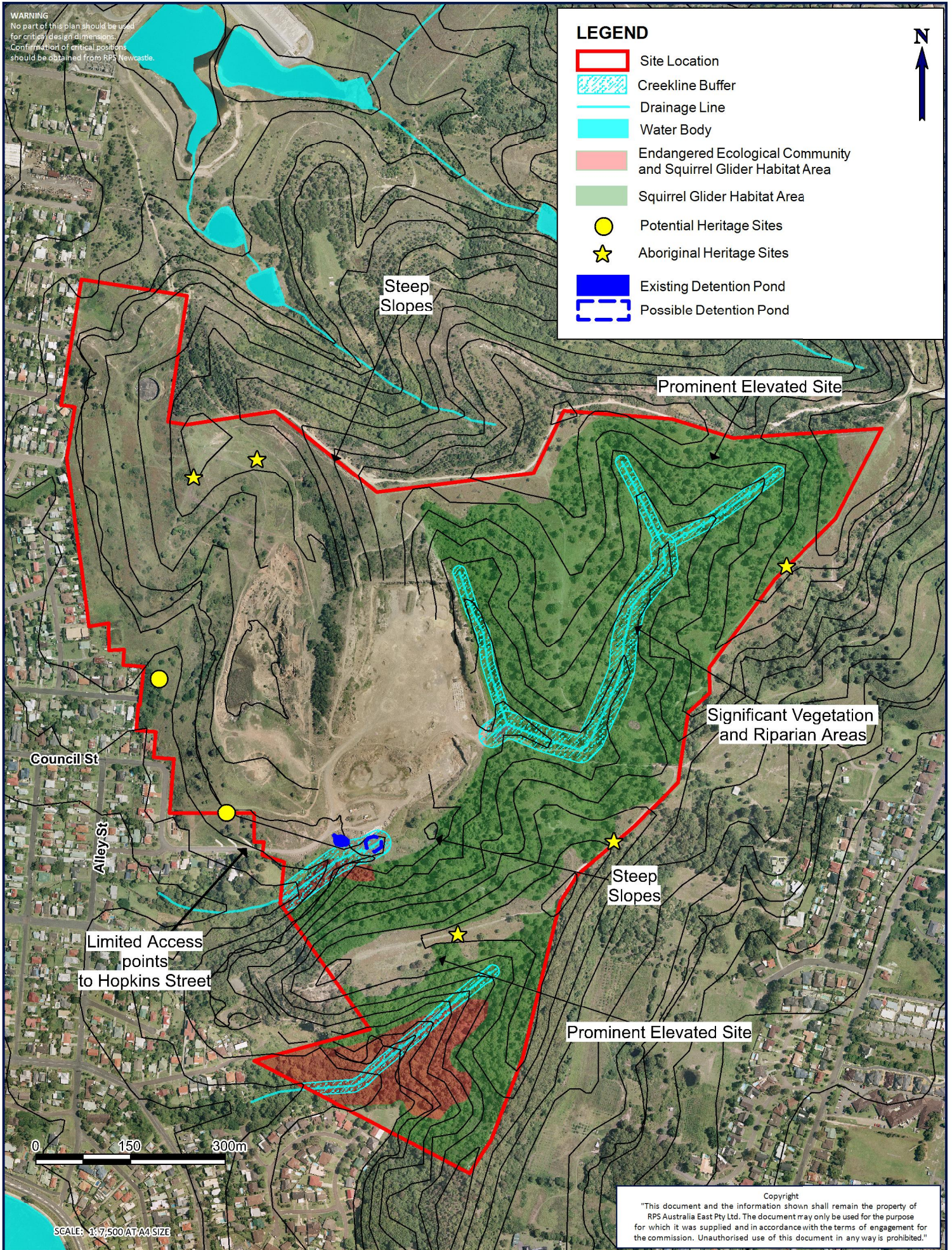
Micro climate – Being elevated the site has a micro climate different from the surrounding area. The most likely developable areas are south and west facing, however with the future development setback from the quarry walls at a minimum distance at least equal to the height of the walls, solar orientation of the living areas is unlikely to be a major concern. As per current requirements future dwellings will be energy and water efficient and will be designed with wind loadings appropriate to the location.

The identified constraints that apply to the site are presented in Figure 9-1.

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Confirmation of critical positions
should be obtained from RPS Newcastle.

LEGEND

- Site Location
- Creekline Buffer
- Drainage Line
- Water Body
- Endangered Ecological Community
and Squirrel Glider Habitat Area
- Squirrel Glider Habitat Area
- Potential Heritage Sites
- ★ Aboriginal Heritage Sites
- Existing Detention Pond
- Possible Detention Pond



TITLE: FIGURE 9-1
CONSTRAINTS MAP

LOCATION: SPEERS POINT

DATUM: N/A
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 16/12/2011
PURPOSE: PLANNING

J:\JOBS\26K\26292 - Speers Point
LAYOUT REF: 110-Draft-MapInfoReport Fig.1
26292 Figure 4-1 Constraints Map
VERSION (PLAN BY): A4 (SC-NW)

CLIENT: LAKE MCQUARIE CITY COUNCIL
JOB REF: 26292

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9.2 Opportunities

The rezoning of the site provides a number of opportunities including:

- Proximity to the existing residential area of Speers Point including local shops, hotel and club;
- Proximity to existing social and community infrastructure within the suburb including lake foreshore cycleway and Speers Point Park;
- Potential for the linking of conservation lands creating a lookouts pedestrian/cycle access and potential tourism opportunities, at or near, the summit of Munibung Hill.
- The site has the potential to include northerly aspects for dwellings potentially enhancing solar opportunities and less energy use;
- Flood free areas suitable for development;
- Possible stormwater detention opportunity on, or off, the existing creek line draining to the south west near Hopkins Street, including an artificial wetland if required. Through the use of water sensitive urban design principles and associated techniques opportunities exist to recreate aquatic habitats within the likely development footprint to offset the removal of the existing wetland improve the ecological character of the site.
- Potential for a limited number of environmental living lots between the ends of Seventh St and Raymond St with all dwellings below the 54m contour line which could include the establishment of suitable vegetation screening.
- Residential buildings within the proposed developable areas could be up to two storeys in height given that the quarry walls are up to 20m, or more, high.
- The site will afford significant views to the south and west for the future dwellings.
- Possible emergency access off the intersection of Council and Maran Streets or off Seventh Street.
- Development can be incorporated into the existing road network without major upgrades;
- Site is close to the local public bus route No 363 providing access to Belmont, Warners Bay, Glendale, Newcastle and Cardiff and Cockle Creek railway stations.
- The ability to access available services with some upgrades to the existing water reticulation and sewer system.
- Potential in-fill residential development in accordance with the objectives of the Lower Hunter Regional Strategy.

The development of the land would present a range of opportunities including:

Locational benefits – the subject site is adjacent to the existing suburb of Speers Point. This area is well positioned in respect of shops – Speers Point (700m to west), Boolaroo (1.5kms to north-west), Warners Bay (3kms to south) and Glendale (4.5kms to north) with a school, hotel, club, park and lake side cycleway within 1km of the site.

Economic opportunities – The rezoning will provide additional population which would increase the viability of the small neighbour centre at Speers Point as well as the local school, hotel and club.

Social opportunities – Rezoning of the subject site will have minimal impact except to provide additional housing opportunities including aged housing and/or medium density housing within the existing urban area close. The site will be easily accessible to the employment opportunities afforded by being approximately 4kms from the Cardiff Industrial Estate. The site is close to significant open spaces areas including Speers Point park located 1km to the west of the site and the lake foreshore cycleway located 600m to the south west of the site.

Further, the site is within walking distance of the proposed Munibung Hill walking trail network anticipated in the Munibung Hill Landuse Strategy.

Servicing – The proposed rezoning can access existing and proposed servicing infrastructure in the immediate vicinity with upgrades as required.

Road infrastructure – The subject site will make use of the existing road infrastructure providing connectivity to the existing road network. The site is well serviced by public transport with local bus route being with walking distance which links the site to Cardiff Railway Station and town centres at Belmont, Warners Bay and Glendale.

The identified opportunities that apply to the site are presented in Figure 9-2.



TITLE: FIGURE 9-2:
OPPORTUNITIES MAP

LOCATION: SPEERS POINT

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 20/03/2012
PURPOSE: PLANNING

LAYOUT REF: J:\JOBS\26k\26292 -Speers Point\10- Drafting\Mapinfo\Planning Reports
VERSION (PLAN BY): CA3 (NW-TP-AB)

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10 Land Use Options

The findings of the LES indicate that:

- The existing road network has capacity to handle traffic associated with any development up to 200 lots.
- All servicing infrastructure (water, sewer, electricity, telecommunications) can be provided to the subject site however some upgrades may be required.
- The slope stability investigations identified a number of historical instability events across the site and determined that the existing quarry area – both Pit A, (to the east) and Pit B, (to the west) and approach areas are the only areas suitable for residential development subject to the following recommendations including:
 - further contamination testing;
 - completion of a Remedial Action Plan;
 - stabilisation of quarry walls;
 - additional remedial works.
- Bushfire issues are not a significant enough to prevent a change of zone of the site.
- Flooding and drainage issues are not significant enough to prevent a change of zone and subsequent redevelopment of the site.
- Cultural heritage issues are not significant enough to prevent a change of zone.
- The proposed development will need to include measures to mitigate the anticipated visual impacts.
- No threatened flora species were identified during field surveys however three threatened fauna species were identified during field surveys. Consequently potential development opportunities are restricted to that area of the site which previously accommodated the quarry operation, and to an area which has been largely disturbed and does not hold any real environmental qualities.
- A change of zone and subsequent redevelopment of the site would not have a detrimental social or economic impact on the local community. Further, potential economic benefits could be gained by the local business community with an increase in population.

The subject site is not identified in the Lower Hunter Regional Strategy, mainly due to its small size.

The environmental, social, and economic impacts of the development have been assessed. With the availability of existing servicing infrastructure and the existing road capacity it is considered that the existing quarry pits and approach areas are suitable for rezoning.

Land use options

In identifying the most appropriate zoning for the subject site a number of options have been explored as identified in Table 10-1 below.

Given the topography of the site, visual prominence, the presence of significant environmental habitat in the eastern and southern parts of the site and the slope stability of certain parts of the site it is considered that development be restricted to the excavated quarry pits A and B and the approach areas between the pits and Hoskins Street.

The excavated pits and quarry approaches are considered suitable for a range of residential uses including standard residential development, small lot housing, aged care, and retirement living.

It is noted that the Draft LMLEP 2011 has zoned a precinct greater than the quarry pit areas as IN1 General Industrial with the quarry approaches as RU2 Rural Landscape. This LES recommends that the proposed residential development be limited to the two pit areas A and B and the quarry approaches. The potential development area identified in this LES is smaller in area than the combined IN1 and RU2 areas as proposed in the Draft LMLEP 2011.

The bulk of the site, excluding the excavated area and approaches to Hoskins Street, will be zoned for environmental purposes and will not be developed for urban uses.

Table 10-1: Land use options assessed for the site

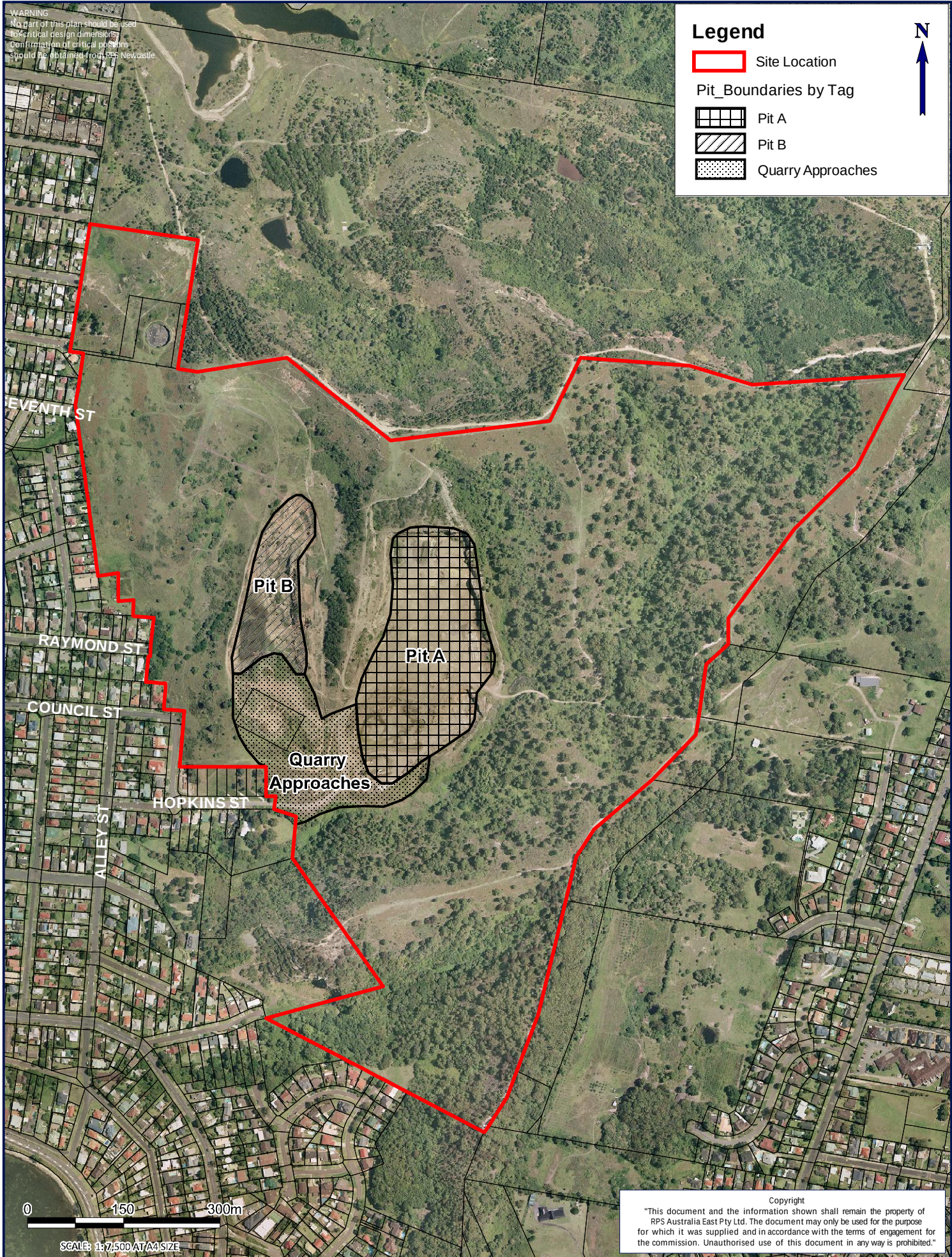
Option	Precinct Zonings	Advantages	Disadvantages
1	Pit A – 2(1) residential (R2 under Draft LMLEP 2011) Pit B – 2(1) residential (R2 under Draft LMLEP 2011) Quarry approaches from Hoskins Street to pits – 2(1) (R2 under Draft LMLEP 2011) excluding Small Lot Housing Remainder – 7(2) environmental (E2 under Draft LMLEP 2011)	Good balance of development versus environmental protection to manage impacts while creating satisfactory lot yield	May not be maximising development potential. Lower lot yield than option 2
2	Pits A + B – 2(1) residential (R2 under Draft LMLEP 2011) Pit approaches – 2(1) (R2 under Draft LMLEP 2011), including Small Lot Housing Remainder – 7(2) environmental (E2 under Draft LMLEP 2011)	Preferred development option. Higher lot yield with acceptable balance of development versus environmental protection to manage impacts	May have additional visual impacts
3	Pits A + B – 2(1) residential (R2 under Draft LMLEP 2011) Pit approaches – 2(1) (R2 under Draft LMLEP 2011) Including Small Lot housing Majority of remainder – 7(2) environmental (E2 under Draft LMLEP 2011) with some 7(5) environmental living (E4 under Draft LMLEP 2011) to west of Pit B	Maximum lot yield with less satisfactory balance of development versus environmental protection to manage impacts	Will have significant visual impacts plus potential slope stability issues for environmental living lots

The LES recommends Option 2 as the preferred zoning approach for the following reasons:

- The 7(2) environmental (E2 under Draft LMLEP 2011) zoning over the bulk of the site is in accordance with the existing zoning of that part of the site outside the current quarry area zoned 4(1) Industrial.
- The excavated pits A (to east) and B (to west), as well as the quarry approaches linking the pits to Hoskins Street, are the only areas suitable for residential development as recommended by the Geotechnical assessment.
- The larger excavated Pit A is suitable for residential development (including small lot housing and aged care) while the smaller excavated Pit B is suitable for residential development.
- The quarry approach areas linking the pits to Hoskins Street are suitable for residential development.
- The proposed developable area including the two pits and quarry approaches is smaller in area than the proposed zoning of the site in the Draft LMLEP 2011 of IN1 and RU2.

All residential development within the subject site will need to be subject to a detailed Development Control Plan or Area Plan including strict building design criteria addressing the visual impact issues in particular.

It should be noted that the environmental, social and economic benefits of the rezoning have been considered throughout this LES process. Nevertheless should development be proposed on the subject site, additional contamination testing, stabilisation of the quarry walls and the preparation of a Remedial Action Plan will be required.



TITLE: FIGURE 10-1
POTENTIAL DEVELOPABLE PRECINCTS

LOCATION: SPEERS POINT

DATUM: N/A
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 16/12/2011
PURPOSE: PLANNING

LAYOUT REF: J:\JOBS\26K\26292 - Speers Point
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VERSION (PLAN BY): A-A4 (NW - TP)

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JOB REF: 26292

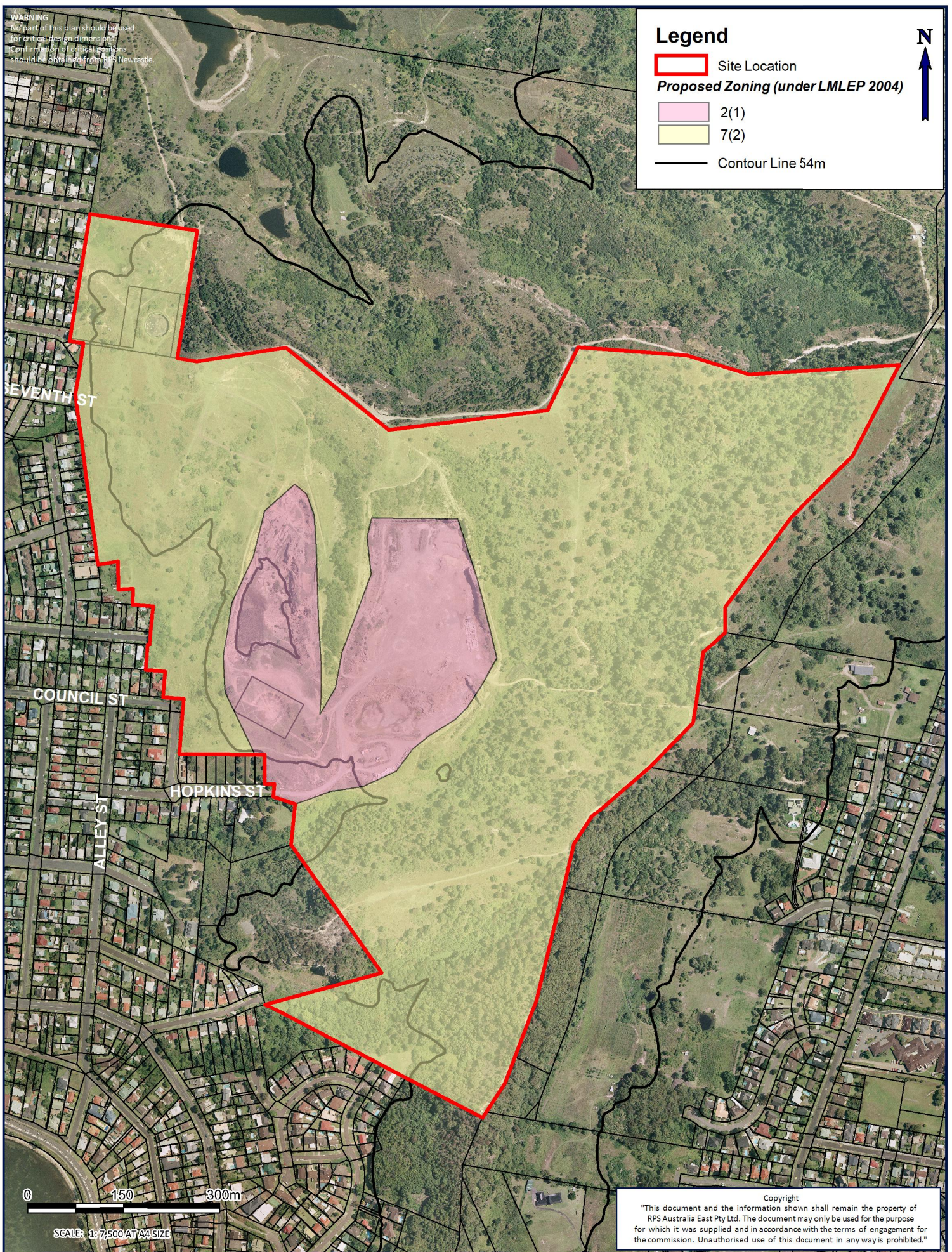
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Legend

- Site Location
- Proposed Zoning (under LMLEP 2004)**
- 2(1)
- 7(2)
- Contour Line 54m



TITLE: FIGURE 10-2
PROPOSED ZONINGS

LOCATION: SPEERS POINT

DATUM: N/A
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 21/12/2011
PURPOSE: PLANNING

LAYOUT REF: J:\OBS\26K\26292 - Speers Point
VERSION (PLAN BY): A A4 (NW - TP)

CLIENT: LAKE MCQUARIE CITY COUNCIL
JOB REF: 26292

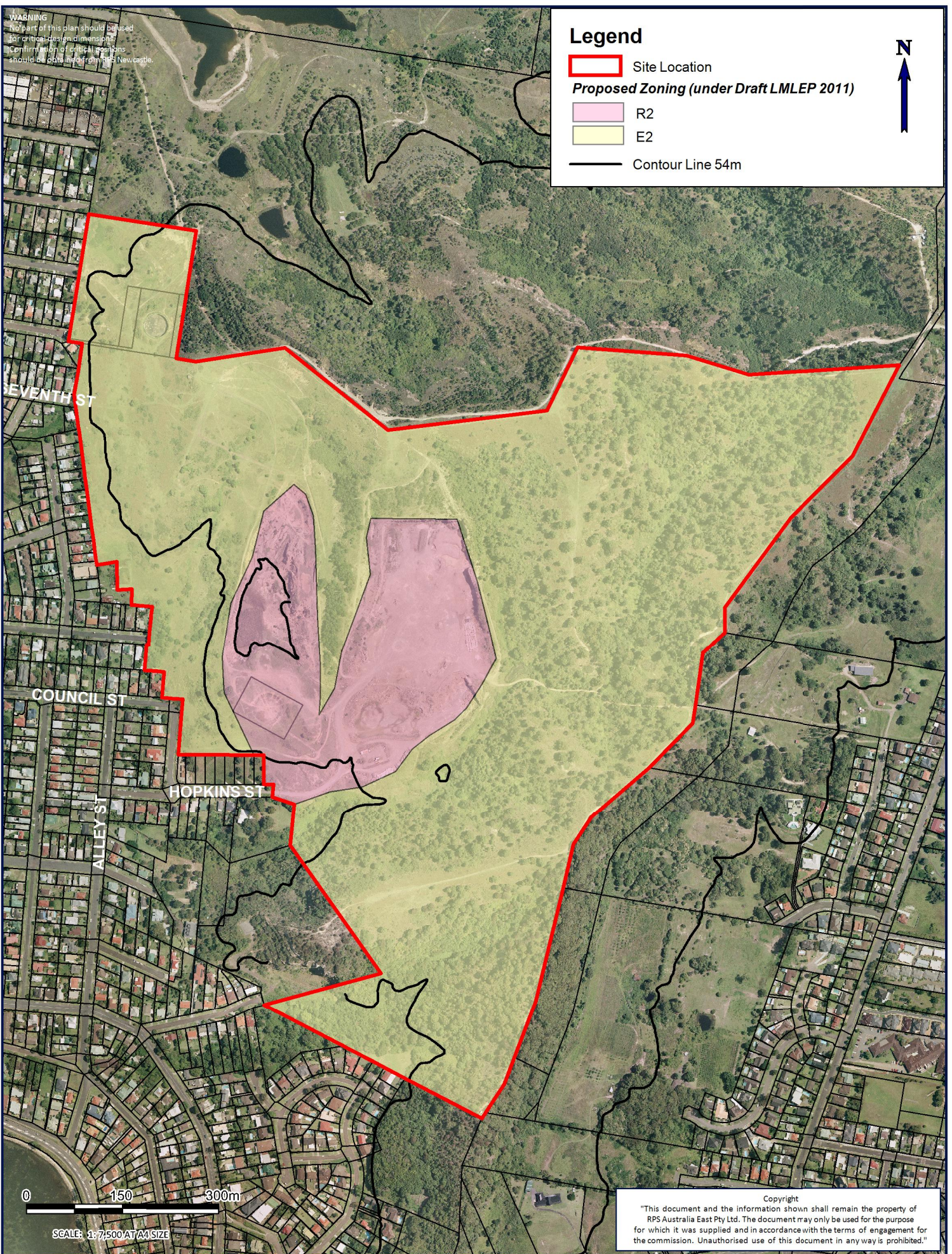
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Legend

- Site Location
- Proposed Zoning (under Draft LMLEP 2011)**
- R2
- E2
- Contour Line 54m



TITLE: FIGURE 10-3
PROPOSED ZONINGS
DRAFT LEP 2011

LOCATION: SPEERS POINT

DATUM: N/A
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 21/12/2011
PURPOSE: PLANNING

LAYOUT REF: J:\JOBS\26K\26292 - Speers Point
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RPS

II Preferred Land Use Strategy

The assessment of the environmental, social and economic issues along with the consideration of relevant planning legislation and the principles of ESD has contributed to the identification of a preferred zoning as shown in Figures 10-2 and 10-3.

It is proposed to zone the site to part 2(1) residential (R2 Low Density Residential under Draft LMLEP 2011), with the bulk of the site zoned 7(2) secondary conservation (E2 – Environmental Conservation Draft LMLEP 2011).

The objectives of the 2(1) residential zone are to;

- permit development of neighbourhoods of low-density housing, and
- provide for general stores, community service activities or development that includes home businesses whilst maintaining and enhancing the residential amenity of the surrounding area, and
- ensure that housing development respects the character of surrounding development and is of good quality design, and
- provide for sustainable water cycle management.

The objectives of the R2 Low Density Residential zone are to:

- provide for the housing needs of the community within a low density residential environment.
- enable other land uses that provide facilities or services to meet the day to day needs of residents.
- maintain and enhance the residential amenity and character of the surrounding area.

The objectives of the 7(2) conservation secondary zone are to;

- protect, conserve and enhance land that is environmentally important, and
- protect, manage and enhance corridors to facilitate species movement, dispersal and interchange of genetic material, and
- enable development where it can be demonstrated that the development will not compromise the ecological, hydrological, scenic or scientific attributes of the land or adjacent land in Zone 7 (1), and
- ensure that development proposals result in rehabilitation and conservation of environmentally important land, and
- provide for sustainable water cycle management.

The objectives of the E2 Environmental Conservation zone are to;

- To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.
- To prevent development that could destroy, damage or otherwise have an adverse effect on those values.

- To preserve and enhance areas of significant vegetation and habitat to promote the regeneration of ecosystems and eradication of invasive species that compete with native flora and fauna.
- To conserve, enhance and manage corridors to facilitate species movement, dispersal and interchange of genetic material.
- To encourage activities that meet conservation objectives.
- To enhance and manage areas affected by coastal processes.

Key aspects of the preferred land use strategy are:

- Approximately 11 hectares of land on the site will be available for residential development which could include small lot housing.
- Approximately 69 hectares of the site will be zoned environmental conservation.
- Appropriate landscaping and strict built form requirements will be necessary to ensure future development responds appropriately to the site within its environmental context.
- A zoning plan which responds to the provision of infrastructure including roads.
- A plan which is not inconsistent with the principles of the Lower Hunter Regional Strategy and Lifestyle 2020.
- The on-going management of the conservation areas to ensure maximum public access while limiting financial costs to the Council and the wider community.
- Given the elevation of the subject site there are micro climate considerations for the design of the future dwellings but these are no more significant than for other locations within the LGA and can be managed as required.

Details of the key aspects are provided below.

Ecological impacts

Wetlands identified in this report should be integrated into the development design and retained if possible. Where retention of these wetland environments is not possible, offsetting measures could include:

- Incorporation of aquatic habitat into the development design;
- Re-creation of aquatic habitats totalling the same size as those impacted;
- Rehabilitation of retained aquatic environments on the site; and / or
- Use of other habitats as offsets such as the forested areas and / or EEC areas.

Visual impacts

Assessing the preferred land use strategy against the Lake Macquarie Scenic Quality Guidelines the following comments are made:

- The objective of development on hillsides, such as the subject site, is to protect the natural character of the hillsides and ridgelines by ensuring the visual impact of development is minimised. The visual impact of development is restricted to retain areas in their existing condition and the very high scenic quality applicable to these areas is maintained.

- The strategies for development in such locations include:
 - » Building does not extend above the tree-line
 - » Tree clearing is limited
 - » Applications to remove trees complies with Councils requirements
 - » Development complies with Councils requirements for density, vegetation removal, earthworks, slope restrictions, scale and form.
 - » Development to be screened by vegetation within five years.

In response to these above strategies the following comments are provided:

- The proposed development footprint is generally within the existing quarry pits and approaches to the pit areas.
- Few, if any trees, will be removed. The western side of Munibung Hill is not treed, so there is no obvious canopy limit. However it has been previously agreed that development is generally restricted to below the 54m contour.
- Development has opportunity for the creation of additional vegetation screening if desired.
- Proposed development will see the vast majority of the site zoned conservation with residential development limited to the two pit areas and the quarry approaches.

Cultural Impacts

Any proposed development of the Speers Point Quarry study area, at the development application stage for subdivision, should be informed by a full and comprehensive investigation of the area's Aboriginal and European cultural heritage values. Specifically:

- Investigation and consultation should occur into the gazettal of the ridgelines (Fig 8.1. page 44) as an Aboriginal Place under section 84 of the *National Parks & Wildlife Act 1974*. If the ridgelines are not declared an Aboriginal Place any ground works, including remedial environmental work should be preceded by a targeted archaeological investigation.
- The valleys (Fig 8.1 page 44) should be designated as archaeologically sensitive in terms of Aboriginal cultural heritage. Any ground works to be carried out in these areas, including vegetation clearance should be preceded by a targeted archaeological investigation.
- The central valley and western slope (Fig 8.1. page 44) is not considered archaeologically sensitive and it is considered there is no impediment on Aboriginal or European cultural heritage grounds to works occurring.
- If suspected Aboriginal or European cultural material is encountered during construction, work should cease. In the case of potential Aboriginal heritage, contact shall be made with and DECCW, ADTOAC, and the NSW Aboriginal Land Council (acting for Koompahtoo). In the case of potential European heritage, an archaeologist is to undertake a study of the subject area in accordance with the requirements of the NSW Heritage Branch significance criteria.

- Any works should be mindful of the possible presence of 2 graves of European heritage and the Lochend mine.

Flooding and Drainage Impacts

There is opportunity for some additional stormwater detention (including artificial wetland if required) on, or off, the creek line which drains to the west south west from the subject site, just south of Hopkins Street, as shown in Figure 9-1 constraints map.

Potential Contamination

Contaminated lands on those areas proposed to be zoned, if any, for open space/recreation, or dedication to Council, will require a Phase 2 Detailed Investigation Report prior to finalisation of a rezoning (LEP) footprint. Other areas may be further investigated and remediated after rezoning but Council will require the preparation and submission of a remedial action plan and site validation prior to the issue of a Development Application and Construction Certificate for structures in these areas.

11.1 Site micro climate

Being elevated and relatively exposed the subject site has a micro climate which is different from the surrounding area.

Pit A has an area of 5.7 ha and is relatively flat sloping from north to south at or less than 1 degree slope with excavated quarry walls on 3 sides between 0 and 25m high. Pit A has a southerly aspect but being relatively elevated, ranging in height from RL 64 to PL 84 and above, the pit will still benefit from the prevailing breezes being primarily southeast and north east.

Pit B to the west of Pit A is smaller with an area of 2.1ha and has been excavated to create a non draining pit void of in-determinate depth creating a small artificial wetland. It is understood that the existing consent for the site allows for the draining of this pond.

The geotechnical report recommends that the pit B void be filled with controlled fill material created by pushing in the western and southern walls of the void. This will result in the controlled filling of the artificial wetland to create a useful developable area facing west and south partly surrounded by quarry walls of between 0 and 15m high. With an approximate floor level of between RL 55 and 60 AHD this area will benefit from the prevailing breezes.

The loss of the artificial wetland will be compensated by the rehabilitation of the existing creek lines outside pits A and B and the possible construction of future stormwater detention works elsewhere on the site.

The geotechnical report recommends that following slope stability measures a suitable buffer distance equal to the height of the adjoining quarry walls be identified between the base of the quarry walls and the future development boundary. Given that the future

development will be well setback from the quarry walls solar access is not considered a significant issue.

Given that the quarry walls are up to 25m high in places, the proposed residential development could be up to two stories in height if desired.

The proposed dwellings will be required to comply with BASIX so dwellings will be energy efficient. Whilst the developable areas are south facing the desired north facing solar orientation of the living areas can still be achieved given that the development footprint will be setback from the quarry walls by at least the height of the walls.

Given the relatively high elevation of the site, it is exposed to severe weather events particularly strong southerly and westerly winds. However this site is not unique in this respect. There are existing residential areas within the LGA which are exposed to extreme weather events including coastal locations such as Catherine Hill Bay and Swansea Heads and in more exposed parts of the lake foreshore such as the south side of the Wangi peninsular. Building design is always based on the local site characteristics and wind loadings for developments on land subject to extreme events, is an important consideration. The Building Code of Australia will ensure that appropriate building standards are applied.

11.2 Land management/ownership options

Given that approximately 69 hectares of the total site of nearly 80 ha will be zoned conservation it is important to consider future land management / ownership options of the conservation lands.

The management/ownership options of the land to be zoned conservation include:

- Council ownership and management as part of the on-going management of the extensive network of parks and reserves which Council already does on the behalf of the community.
- Council ownership but with management by a private operator of an appropriate tourism development near the summit of the hill.
- Ownership by the residential development within the subject site as Community Title with management by an appropriately constituted Community Association.
- Ownership and ongoing management and maintenance of the conservation land undertaken by a Trust arrangement. The Trust arrangement could be managed in accordance with a Development Control Plan and comprehensive management plan. There are two overriding issues with this concept. Firstly, a certainty that Council will not be left with the management and maintenance responsibilities in the event the Trust is abandoned or fails and, secondly, that sufficient funds are available for any necessary up front or ongoing works. A Planning Agreement is likely to be a key legal mechanism to give effect to the concept.

Deliberations on these options can continue as the Planning Proposal progresses through the gateway determination and public exhibition process. Council should only submit the LEP to the Minister to be made when the environmental management mechanism is in place.

12 Consideration of Planning and Environmental Issues

12.1 Planning and Environmental Considerations

This LES has been prepared taking into account current strategic planning documents and policies and statutory obligations. The study also considered and assessed environmental and infrastructure issues. These considerations are identified in the table below.

Strategic and Statutory Considerations	Comments
Introduction, background and purpose of the study.	Section 1
Description of the study site and surrounds including real property description, land area, ownership, existing uses, surrounding land uses and proximity to the town and facilities.	Section 1 and 2
Consideration of the regional planning context including state and regional policies, Section 117 Directions, SEPPs, REPs, Regional Strategies.	Section 3
Consideration of the local planning context including LEPs, DCPs, Local Strategies, and other relevant Council policies.	Section 4
Infrastructure Considerations	Comments
Infrastructure Assessment identifying availability of services such as water, sewer, gas, electricity, communications, liaison with service providers and staging in accordance with infrastructure capacity.	Section 7.2 and Appendix 9
Traffic and Access	Comments
Traffic and transport analysis including examination of existing road network and its capabilities for increased demands, a traffic management strategy, interconnection with existing development, access to public transport and reduced reliance on car orientated transport.	Section 7.1 and Appendix 8
Environmental Considerations	Comments
Bushfire risk management, including level of hazard, the guidelines contained in "Planning for Bushfire Protection", asset protection zones and levels of construction as well as demands on existing fire fighting services.	Section 6.5 and Appendix 6
Assessment of slope, soils and geotechnical characteristics, including salinity, potential acid sulphate soils, instability; soil erosion potential, land contamination and mine subsidence as applicable.	Section 6.6 and Appendix 7

Environmental Considerations	Comments
Flora and fauna assessment, including management of impacts on habitat (including potential Koala habitat), high conservation value vegetation communities, habitat linkages and fauna movement corridors, Threatened Species (under Threatened Species Conservation Act and Environmental Protection and Biodiversity Conservation Act).	Section 6.1 and Appendix 2
Hydrology, drainage, stormwater, and water quality management including local and catchment drainage characteristics, areas subject to tidal or flood inundation, terrain features (such as intermittent or perennial watercourses and other water bodies).	Section 6.4 and Appendix 5
Assessment of consistency of the proposal with state government objectives to end broad scale land clearing in NSW and ensure maintenance or improvement of environmental values.	Section 6.1 and 2.
Visual Assessment including topography, landforms, natural terrain, visual prominence, views from adjoining land uses.	Section 6.2 and Appendix 3
Aboriginal and European heritage assessment including review of Register of National Estate and State Heritage Inventory, statutory heritage items or conservation areas, special landscape or historical values, Aboriginal archaeology, artefacts, relics and sites, cultural or spiritual values to Aboriginal people and consultation with local Aboriginal organisations.	Section 6.3 and Appendix 4
General	Comments
Overall strong justification for the proposed development when all of the above environmental, social and economic issues are considered in combination.	Section 9, 10, 11 and 12

12.2 State Environmental Planning Policies (SEPPs)

This section identifies the relevance of the preferred zoning plan to the SEPPs that apply to the subject site.

12.2.1 State Environmental Planning Policy No.19 – Bushland in Urban Areas

Based on the Ecological Constraints and Opportunities Assessment, the land contains vegetation which falls under the definition of 'bushland' in State Environmental Planning Policy No. 19 (SEPP 19) – Bushland in Urban Areas.

Comment: A significant area of the site will be retained as an environmental zone. Retention of existing vegetated areas and revegetation of disturbed areas having regard to species selection, bushfire and visual impact would be a preferred outcome. This will achieve a continued link with the natural heritage of the area. Consideration of the visual sensitivity of the site has been carefully considered to ensure any redevelopment has minimal impact. Retention of existing vegetated areas and revegetation of disturbed areas having regard to species selection, bushfire and visual impact are the preferred outcomes. Scope may exist to incorporate pedestrian and cycle paths through the site, however, this is dependent upon negotiations between the landowner and Council.

The Ecological Constraints and Opportunities Assessment identifies the site consisting of Coastal Foothills Spotted Gum – Ironbark Forest (the dominant forest type on the site), Coastal Narrabeen Moist Forest and Coastal Wet Gully Forest (an EEC covering approximately 3.97ha). The areas of the site which contain these communities will be retained under an environmental zoning. It is considered that the area identified for an environmental zoning allows sufficient area for existing plants and animals to survive and ideally increase in numbers.

Redevelopment of the site will be predominantly in the disturbed areas previously used for quarrying. Bushland in those areas which have been identified as being a sensitive geotechnical location will retain an environmental zoning.

The Visual Amenity & Visual Impact Assessment classifies the potential visual impact of redevelopment of the site as 'high'. However, with the retention of existing vegetation, inclusion of screen planting, appropriate siting of buildings with appropriate height limits this impact will be reduced to an acceptable level.

The site has two drainage lines, one of which is in close proximity to the proposed residential zone. Approximate setbacks of urban development from the drainage line together with appropriate on-site stormwater management employed for stormwater discharge will mitigate any adverse affects.

Development opportunities through the rezoning are predominantly restricted to that area of the site previously disturbed by the quarry operation. Therefore, the geological features of the remainder of the site are retained and protected.

The LES identified six Aboriginal cultural heritage sites. Of these, five are isolated stone artefacts or small stone scattered and one is a grinning grove. None of the stone artefacts or stone scatters satisfy the listed criteria of significance. The grinning grove is considered to have high significance. All of the identified sites are located in areas where the proposed zone would be environmental and are therefore not considered to be a risk of being disturbed by redevelopment.

The LES also recommended that the site's eastern and western valleys should be designated as being archaeologically sensitive and that any works carried out in these areas should be preceded by a targeted archaeological investigation. The proposed zone boundaries reflect this recommendation.

Therefore it is considered that the preferred zoning plan is consistent with the requirements of SEPP 19.

12.2.2 State Environmental Planning Policy No.32 – Urban Consolidation

Under State Environmental Planning Policy No. 32 – Urban Consolidation (Redevelopment of Urban Land) (SEPP 32), the proposed zoning plan constitutes an urban zone thereby triggering the SEPP in the assessment of the LEP amendment.

It is considered rezoning the land to residential satisfies the aims and objectives of the SEPP in terms of:

- The previous use (quarry) has exhausted its resource and is no longer economically viable thus allowing consideration of other highest and best uses of the site.
- Rezoning of the site represents an opportunity for infill residential development to occur in accordance with urban consolidation land use principles.
- Rezoning of the site to residential provides opportunities for a greater choice of housing mix in the locality.
- The site's proximity to an existing neighbourhood centre serviced by public transport and infrastructure – including social infrastructure supports its reuse as a residential zone.
- Redevelopment of the site under its current zoning may be inappropriate - visual impact given its sensitive location (bulky industrial buildings), and future uses on adjoining residential areas (increase levels of noise and traffic).

12.2.3 State Environmental Planning Policy No.44 – Koala Habitat

Based on the Ecological Constraints and Opportunities Assessment the land does not contain potential koala habitat.

12.2.4 State Environmental Planning Policy No.55 – Remediation of Land

Based on the site's proximity to the former Pasmico operation, its current zoning as part industrial and its proposed rezoning to residential, State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) is required to be considered in the assessment of the LEP amendment.

A contamination assessment was undertaken which found five test pits exceeded the lead threshold limit for residential development. Two of the five samples were taken from the southern portion of Zone 3. No samples exceeded the lead threshold for parks, recreation open space and playing fields. Asbestos was identified in the southern portion of Pit B and Zone 3.

No other contaminants exceeded threshold limits for residential development. The majority of the laboratory test results obtained from the recovered soil samples recorded either undetectable or just over undetectable results.

It is recommended that a Detailed Contaminated Site Investigation be undertaken on the site. Based on the findings of this investigation, a Remedial Action Plan will in all likelihood need to be undertaken. Additionally contaminated lands on those areas proposed to be zoned, if any, for open space/recreation, or dedicated to Council, will require a Phase 2 Detailed Investigation Report prior to finalisation of a rezoning (LEP) footprint.

Based on these results, it is considered that rezoning of part of the land to residential can proceed in line with the objectives of the SEPP 55.

12.2.5 State Environmental Planning Policy No.71 – Coastal Protection

The land is located within the mapped coastal zone which triggers the need to assess the LEP amendment against State Environmental Planning Policy No. 71 – Coastal Protection (SEPP 71).

Clause 8 of the SEPP lists the matters for consideration when making a draft local environmental plan. The following states each matter in the clause, and provides comment:

- a) the aims of this Policy set out in clause 2,

Comment: The aims of the Policy are contained in clause 2 of SEPP 71 which are addressed separately below.

- b) existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,

Comment: The site is not located on a coastal foreshore. Any redevelopment will therefore not compromise public access.

- c) opportunities to provide new public access to and along the coastal foreshore for pedestrians or persons with a disability,

Comment: The site is not located on a coastal foreshore. Any redevelopment will therefore not offer opportunities to gain new public access points.

- d) the suitability of development given its type, location and design and its relationship with the surround area,

Comment: It is considered that scope exists to achieve a built outcome on the site which relates well with its surrounds. Given its prominent location within its setting, any redevelopment will need to have careful regard to building design in terms of height, mass, bulk, scale, materials and colour. To achieve this, a site specific Development Control Plan (DCP) may be required. Landscaping is also an

important element which will enhance the appearance of the site and reduce any impact of the builtform.

- e) any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,

Comment: Redevelopment of the site will not have any adverse impact on the foreshore nor result in any loss of views.

- f) the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,

Comment: The Visual Amenity & Visual Impact Assessment classifies the potential visual impact of redevelopment of the site as 'high'. However, with the retention of existing vegetation, inclusion of screen planting, appropriate siting of buildings with appropriate height limits this impact will be reduced to an acceptable level.

- g) measures to conserve animals (within the meaning of the Threatened Species Conservation Act 1995) and plants (within the meaning of that Act), and their habitats,

Comment: A majority of the site will be retained as an environmental zone. Wildlife corridors and sensitive ecological areas will also be located within the environmental zone. Revegetation of these areas is recommended.

- h) measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994) and marine vegetation (within the meaning of that Part), and their habitats

Comment: Rezoning of the site will not compromise fish habitat or marine vegetation.

- i) existing wildlife corridors and the impact of development on these corridors,

Comment: Wildlife corridors are located within the environmental zone. Revegetation of targeted areas of the site will enhance the role of these corridors.

- j) the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,

Comment: Given the site's distance from the foreshore, it is unlikely to be affected by coastal hazards or processes. It is not envisaged that any redevelopment of the site will have an impact on coastal hazards or processes..

- k) measures to reduce the potential for conflict between land-based and water-based coastal activities,

Comment: Rezoning and redevelopment of the site to part environmental and part residential will not create conflict between land and water based activities.

- l) measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,

Comment: Munibung Hill is identified as being a place of ceremonial and spiritual significance to the local Awabakal people. The proposed zone boundary away from the highest point of the hill recognizes this importance and is considered an appropriate response. The Cultural Heritage Survey & Assessment Report recommends further investigation and consultation into gazettal of the ridgelines as an Aboriginal Place under section 84 of the *National Parks & Wildlife Act 1974*.

- m) likely impacts of development on the water quality of coastal waterbodies,

Comment: The Flooding & Drainage Assessment Report recommends the use of rainwater tanks, grass lined/vegetated swales, constructed wetlands and proprietary devices (gross pollutant traps, pit inserts or filtration technology) to manage stormwater on and from the site to achieve compliance with LMCC policy and to reduce impacts on Lake Macquarie.

- n) the conservation and preservation of items of heritage, archaeological or historic significance,

Comment: The study identified six Aboriginal cultural heritage sites. Of these, five are isolated stone artefacts or small stone scattered and one is a grinding groove. None of the stone artefacts or stone scatters satisfy the listed criteria of significance. The grinding groove is considered to have high significance. All of the identified sites are located in areas where the proposed zone would be environmental and are therefore not considered to be a risk of being disturbed by redevelopment.

The study also recommended that the site's eastern and western valleys should be designated as being archaeologically sensitive and that any works carried out in these areas should be preceded by a targeted archaeological investigation. The proposed zone boundaries reflect this recommendation.

- o) only in cases in which a council prepares a draft environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,

Comment: The site represents an opportunity for infill development to occur thus reducing demand for residential land on the urban fringe. The site satisfies the principles of urban consolidation in terms of its proximity to surrounding urban zoned

land to create a compact city and its potential to utilise existing infrastructure which has the capacity to accommodate the site's reuse.

- p) only in cases in which a development application in relation to proposed development is determined:
 - (i) *the cumulative impacts of the proposed development on the environment, and*
 - (ii) *measures to ensure that water and energy usage by the proposed development is efficient.*

Comment: Not applicable to assessment of a LEP amendment.

As referred above, clause 8(a) requires consideration of the planning proposal against clause 2 of SEPP 71. The following states the aims of the clause and provides comment.

This Policy aims:

- a) to protect and manage the natural, cultural, recreational and economic attributes of the New South Wales coast, and

Comment: Rezoning of the land and any subsequent redevelopment will not compromise the natural, recreational or economic attributes of the coast.

- b) to protect and improve existing public access to and along coastal foreshores to the extent that this is compatible with the natural attributes of the coastal foreshore, and

Comment: The site is not located on a coastal foreshore. Any redevelopment will therefore not compromise public access.

- c) to ensure that new opportunities for public access to and along coastal foreshores are identified and realised to the extent that this is compatible with the natural attributes of the coastal foreshore, and

Comment: The site is not located on a coastal foreshore. Any redevelopment will therefore not offer opportunities to gain new public access points.

- d) to protect and preserve Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge, and

Comment: Munibung Hill is identified as being a place of ceremonial and spiritual significance to the local Awabakal people. The proposed zone boundary away from the highest point of the hill recognizes this importance and is considered an appropriate response. The Cultural Heritage Survey & Assessment Report recommends further investigation and consultation into gazettal of the ridgelines as an Aboriginal Place under section 84 of the *National Parks & Wildlife Act 1974*.

- e) to ensure that the visual amenity of the coast is protected, and

Comment: The Visual Amenity & Visual Impact Assessment classifies the potential visual impact of redevelopment of the site as 'high'. However, with the retention of existing vegetation, inclusion of screen planting, appropriate siting of buildings with appropriate height limits this impact will be reduced to an acceptable level.

- f) to protect and preserve beach environments and beach amenity, and

Comment: The proposed rezoning will not have an adverse affect on any beach.

- g) to protect and preserve native coastal vegetation, and

Comment: Large areas of the site will retain an environmental zoning thus protecting and potentially enhancing their qualities through retention and revegetation.

- h) to protect and preserve the marine environment of New South Wales, and

Comment: Rezoning of the site will not adversely affect fish habitat or marine vegetation.

- i) to protect and preserve rock platforms, and

Comment: The proposed rezoning will not affect any rock platforms.

- j) to manage the coastal zone in accordance with the principles of ecologically sustainable development (within the meaning of section 6(2) of the Protection of the Environment Administration Act 1991), and

Comment: The proposed rezoning will be consistent with this aim.

- k) to ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area, and

Comment: Given its prominent location, any redevelopment will need to have careful regard to building design in terms of height, bulk, mass, scale, materials and colour. To achieve this, a site specific Development Control Plan (DCP) may be required. Landscaping is also an important element which will enhance the appearance of the site and reduce any impact of the builtform. These matters will be resolved as part of subsequent phases in the planning process (e.g. preparation of a master plan and/or DCP and assessment of development applications).

- l) to encourage a strategic approach to coastal management.

Comment: It is considered that rezoning of this land does not compromise appropriate strategic coastal management outcomes in terms of its environmental, economic or social impacts.

This Policy:

- a) Identifies State significant development in the coastal zone, and
- b) Requires certain development application to carry out development in sensitive coastal location to be referred to the Director-General for comment, and
- c) Identifies master plan requirements for certain development in the coastal zone.

Comment: Not applicable to assessment of a LEP amendment.

This policy aims to further the implementation of the Government's coastal policy.

Comment: It is considered the LEP amendment is consistent with the NSW Coastal Policy in terms of:

- Protecting, rehabilitating and improving the natural environment of the coastal zone;
- Protecting and enhancing the aesthetic qualities of the coastal zone;
- Protecting and conserving the cultural values of the coastal zone;
- Providing for ecological sustainable human settlement in the coastal zone;
- Potentially providing for appropriate public access and use.

It is considered that the proposed zoning plan is consistent with the requirements of SEPP 71.

12.2.6 State Environmental Planning Policy – Infrastructure

This SEPP may apply depending on the final development outcome, and consultations with the RTA will be required at the DA stage. Nonetheless, a traffic study has been prepared for the subject site in accordance with RTA requirements, which identifies that the existing road network could handle up to 250 lots. Some upgrades of unsealed roads in the area may be required to be sealed. The RTA will have further opportunity to examine the traffic assessment and therefore, the upgrades identified in the assessment.

12.2.7 State Environmental Planning Policy – Mining, Petroleum and Extractive Industries

DPI have noted that the subject site is within an existing coal mining lease area, however, it is considered unlikely that any extraction of this resource is likely to occur on, or under, the subject site that would warrant the area to be excluded from any development potential.

12.2.8 State Environmental Planning Policy – BASIX

Any DAs for residential development on the subject site will need to comply with the BASIX requirements for energy and water consumption.

12.3 Regional Plans & Policies

Lower Hunter Regional Strategy

It is considered that rezoning of the land to a mixture of residential and environmental satisfies the principles of the Strategy in terms of:

- Providing potentially affordable housing opportunities and choice in close proximity to an existing centre serviced by public transport and infrastructure – including social infrastructure;
- Redevelopment of the site under its current part industrial zoning may be inappropriate in terms of visual impact given its sensitive location, and on adjoining residential areas due to potential increase levels of noise and traffic.

Retention of most of the site as an environmental zone allows potential opportunities for rehabilitation of bushland, open space, sensitive habitat and the creation of pedestrian and cycle paths

Lower Hunter Regional Conservation Plan

A majority of the site will be retained as an environmental zone. Wildlife corridors and sensitive ecological areas will also be located within the environmental zone. Revegetation of these areas is recommended.

The Ecological Constraints and Opportunities Assessment identified one EEC (Coastal Wet Gully Forest) located in a south-east pocket of the site. This area will retain an environmental zoning which will minimise any potential development occurring in this location.

Three threatened fauna species (listed under the *Threatened Species Conservation Act 1995 (TSC)* or *Environment Protection & Biodiversity Conservation Act 1999 (EPBC)*), were identified, namely the Grey-headed Flying-fox, Little Bentwing-bat and Common Bentwing-bat. A single migratory species (listed on the EPBC Act), the White-bellied Sea Eagle, was identified. Potentially suitable habitat was identified during field surveys for a further 20 threatened species listed on the TBC Act and a further 13 threatened and/or migratory species listed on the EPBC Act. While not recorded during field surveys, potential habitat exists for the threatened Squirrel Glider and combined with the presence of known populations on neighbouring properties, the Squirrel Glider is considered highly likely to occur on the site. Potential development opportunities are restricted to that area of the site which previously accommodated the quarry operation and to an area which is largely disturbed.

12.4 Section 117 Directions

This section identifies the relevance of the preferred zoning plan to the Section 117 Directions that apply to the subject site.

S117 Direction	Comments
1.2 Rural Zones	A very minor portion of the land is zoned for rural purposes. The rezoning of this land has considered the social, economic and environmental issues over the site and provides a justification for the rezoning of the rural land.
1.3 Mining, Petroleum Production and Extractive Industries	The subject site is within an area covered by a Coal mining lease. Consultations with DPI and Mine Subsidence Board have indicated that the proposed rezoning would not be inconsistent with this Direction. There are no plans for mining in this area at the time of writing. However, any development on the site will be limited to two storey brick veneer dwellings to ensure any issues associated with past or future mining are addressed.
1.5 Rural Lands	A very minor portion of the land is zoned for rural purposes. The rezoning of this land will consider the social, economic and environmental issues apparent over the site and provide a justification for the rezoning of any rural land.
2.1 Environmental Protection Zones	An ecological assessment has been prepared for the subject site which identified flora and fauna issues and recommendations for conservation and corridors. The preferred land use strategy identifies a significant area for environmental protection, which contains endangered ecological communities. From a planning perspective the preferred land use strategy is not inconsistent with this Direction, although further discussions with DECCW will need to occur regarding vegetation removal.
2.2 Coastal Protection	It is considered that the preferred land use strategy is consistent with this direction. This LES has been prepared following consideration of the NSW Coastal Policy and Coastal Design Guidelines. Any future development on the site should consider the design guidelines.
2.3 Heritage Conservation	The proposal is consistent with the objectives of this Direction. The subject site has been assessed by Archaeological and heritage consultants. Two potential archaeological deposits (PAD) were found on the site. The large PAD located along the foreshore is not proposed for development. Further work may be required in relation to the other isolated artefacts found on the site, should development be proposed in this area. The isolated find is considered of low significance

S117 Direction	Comments
	but will need to be dealt with under the <i>National Parks and Wildlife Act</i> . These issues should not impede a rezoning but will need to be considered in preparing the DA.
3.1 Residential Zones	It is considered that the preferred land use strategy is not inconsistent with the objectives of this Direction. The site is in close proximity to the existing township and can easily access available services.
3.4 Integrating Land Use and Transport	It is considered that the preferred land use strategy is consistent with this direction. The site is adjacent to the existing Speers Point township. Appropriate bus stops can be provided at the DA stage to facility private bus operators. A number of cycleways/walkways can be provided which provide linkages to the existing township.
4.1 Acid Sulfate Soils	Acid sulphate soils (ASS) are present on northern part of the site. Under this Direction, Council need to consider the Acid Sulfate Soils Planning Guidelines issued by the Department of Planning when assessing the proposal. Should any development be proposed in areas potentially containing acid sulphate soils an acid sulphate soil management plan will be required.
4.2 Mine Subsidence and Unstable Land	The Mine Subsidence Board was consulted as part of Section 62 consultations. The Mine Subsidence Board does not object to the rezoning however any residential development will be limited to two storey brick veneer residences.
4.3 Flood Prone Land	This Direction states that Council should consider the NSW Government Flood Prone Land Policy and Floodplain Development Manual in assessing the proposal. The preferred land use / zoning strategy has not identified any developable lands within the 1 in 100 year flood zone, which is consistent with state government guidelines.
4.4 Planning for Bushfire Protection	Council have consulted with the NSW Rural Fire Service who has raised no objections to the rezoning. A Bushfire threat assessment was prepared for the subject site which considered <i>Planning for Bushfire Protection</i> , however, further bushfire threat assessment may need to be prepared to support future DA's for residential subdivision.
5.1 Implementation of Regional Strategies	The subject site is not identified in the Lower Hunter Regional Strategy. However, the preferred land use strategy has been developed based on the principles identified in the Strategy.
6.1 Approval and Referral Requirements	This LES has been prepared in accordance with the EP&A Act. Appropriate assessment

S117 Direction	Comments
	has been undertaken in accordance with relevant plans, policies and guidelines.

12.5 Local Plans & Policies

The preferred land use strategy is not inconsistent with local plans and policies. Although the site is not identified in Lifestyle 2020, the proposed development will address a key redevelopment issue for Lake Macquarie and will reinforce the existing suburbs of Speers Point and Boolaroo, while managing the city's environment and protecting the City's heritage and economic resources. The development identified in the preferred land use strategy does not affect the hierarchy of urban centres in Lake Macquarie. Speers Point is likely to benefit from the proposed development economically and socially.

It is considered that the preferred land use strategy provides a balanced approach to development on the site after considering the principles of ecologically sustainable development.

12.6 Responses to Agency Consultations

The following provides a summary of the LES response to key state agency issues.

12.6.1 Department of Planning

- An Ecological Assessment has been prepared for the site – refer to part 6.1 and Appendix 2 of this LES.
- A bushfire assessment has been prepared – refer to part 6.5 and Appendix 6.
- A drainage and stormwater assessment has been prepared – refer to part 6.4 and Appendix 5.
- A limited geotechnical assessment has been prepared – refer to part 6.6 and Appendix 7.
- A visual impact assessment has been prepared – refer to part 6.2 and Appendix 3.
- A cultural heritage assessment has been prepared – refer to part 6.3 and Appendix 4.
- A traffic assessment has been prepared – refer to part 7 and Appendix 8.
- The proposal has been assessed in light of the Pasminco masterplan -- refer to part 4.6.

12.6.2 Rural Fire Service (RFS)

- A bushfire assessment has been prepared in accordance with the RFS requirements refer to part 6.5 and Appendix 6.

12.6.3 Roads & Traffic Authority (RTA)

- A traffic assessment has been prepared in accordance with the RTA requirements, refer to part 7 and Appendix 8.

12.6.4 Ministry of Transport (MoT)

- The draft LES has considered increasing population density and employment within close walking distance to centres and transport corridors. Refer to parts 7 and 9 of this LES.

12.6.5 Department of Environment & Climate Change (DECCW)

- An Ecological Assessment has been prepared for the site – refer to part 6.1 and Appendix 2 of this LES.
- The ecological assessment has considered the cumulative impacts on biodiversity values as well as the policy for the improvement and maintenance of biodiversity values.
- A comprehensive cultural heritage assessment has been prepared – refer to part 6.3 and Appendix 4.
- It is anticipated that the resulting development will not result in significant land uses conflicts associated with air, noise or odour.
- A limited geotechnical assessment has been prepared – refer to part 6.6 and Appendix 7.
- Areas of contamination have been identified and recommendations prepared for the management of same.
- The environmental impact of the proposal on the watercourses has been assessed. As the drainage lines are generally located within the forested areas they will be preserved in a proposed appropriate conservation area.
- In respect to Council's *Lake Macquarie Sea Level Rise Preparedness Adaptation Policy*, the water level in the lake is predicted to rise from its current level of 1.38m AHD to 2.47m AHD in 2100. On this basis, it is not envisaged that the rise will impact on the development of the site.

12.6.6 Hunter New England Health

- Areas of contamination have been identified and recommendations prepared for the management of same.
- A drainage and stormwater assessment has been prepared – refer to part 6.4 and Appendix 5.
- The site is not currently serviced by a reticulated water supply or connected to the sewerage network however capacity exists to do so.

12.6.7 Department of Primary Industries (DPI)

- Any development proposal for the site will be referred to the Mine Subsidence Board
- Underground mining will be permissible with consent
- Best practice stormwater and drainage management be applied. A drainage and stormwater assessment has been prepared – refer to part 6.4 and Appendix 5.

12.6.8 Mine Subsidence Board (MSB)

- Any development proposal for the site will be referred to the Mine Subsidence Board
- Underground mining will be permissible with consent.

12.6.9 Department of Water & Energy

- Riparian corridors have been identified and will be included in the proposed conservation areas – refer to part 6.1 and Appendix 2.
- Best practice stormwater and drainage management be applied. A drainage and stormwater assessment has been prepared – refer to part 6.4 and Appendix 5.

12.6.10 Department of Planning – Heritage

- No known heritage items will be impacted by the proposed development.
- A cultural heritage assessment has been prepared – refer to part 6.3 and Appendix 4.

12.6.11 Hunter Water Corporation (HWC)

- Any development of the site, or part of the site, will be connected to the local reticulated water supply system and the sewerage network.
- A Serving Assessment report has been prepared – refer to part 7.2 and Appendix 9 of this LES.

13 Conclusion

This local environmental study (LES) has been prepared to assess the potential for rezoning the former Speers Point quarry – in particular the pits A and B and associated quarry approaches. The LES concludes that based on a comprehensive environmental assessment the subject site is suitable for rezoning to part residential and part environmental conservation.

The northern, southern and eastern parts of the subject site are heavily constrained and should be rezoned for environmental conservation.

The preferred land use strategy for the subject site, recommended by this LES is not inconsistent with local plans and policies. Although the site is not identified in Lifestyle 2020, the proposed development will address a key redevelopment issue for Lake Macquarie and will reinforce the existing suburbs of Speers Point and Boolaroo, while managing the city's environment and protecting the City's heritage and economic resources. The development identified in the preferred land use strategy does not affect the hierarchy of urban centres in Lake Macquarie. Speers Point is likely to benefit from the proposed development economically and socially.

Munibung Hill and the former Speers Point quarry pits A and B, together constitute a unique redevelopment opportunity for Lake Macquarie. Issues including visual impact, stormwater drainage, traffic, conservation of riparian and forested areas, conservation of areas of aboriginal cultural heritage, and management of proposed environmental conservation lands, can all be addressed in a balanced way to achieve good environmental outcomes while creating significant social and economic benefits for both the Speers Point and Boolaroo communities and the wider lake Macquarie community.

Key aspects of rezoning and proposed re-development include:

- Approximately 11 hectares of land on the site will be available for residential development.
- Approximately 69 hectares of the site will be zoned for environmental conservation.
- Appropriate landscaping and strict built form requirements will be necessary to ensure future development responds appropriately to the site within its environmental context.
- Opportunity to create an expanded Munibung Hill park including a network of pedestrian trails over the greater Munibung Hill area accessible from the east, west and south which has not been possible previously.
- Future development will require geotechnical, drainage, cultural heritage, and visual investigations to ensure all future impacts are identified and managed.
- The on-going management of the conservation areas will require investigation and the identification of options going forward.
- Given the elevation of the subject site there are micro climate considerations for the design of the future dwellings but these are no more significant than for other locations

within the LGA and can be managed as required.

Overall it is considered that the proposed zones offer a balance between the economic, social and environmental issues identified from the specialist studies and provide an appropriate planning outcome.

Appendix I

Agency Consultations

Appendix 2

Ecological Constraints and Opportunities Assessment

Appendix 3

Visual Impact Assessment

Appendix 4

Cultural Heritage Assessment

Appendix 5

Stormwater & Water Quality Assessment

Appendix 6

Bushfire Threat Assessment

Appendix 7

Geotechnical Assessment

Appendix 8

Traffic Impact Assessment

Appendix 9

Servicing Assessment

Appendix 10

Social and Economic Assessment