

Environmental Assessment



Warner Industrial Park Concept Plan and Project Application

Precinct 14 WEZ
Sparks Rd and Hue Hue Rd
Warnervale
June 2008



TERRACE
TOWER
GROUP

Warner Business Park Pty Ltd
Part of the Terrace Tower Group



EXECUTIVE SUMMARY

Project Description

Warner Industrial Park is located in Precinct 14 of the Wyong Employment Zone (WEZ) and comprises a total area of approximately 104.2 hectares. The net development area of employment lands including roads is approximately 80 hectares, and excluding roads is approximately 69 hectares.

Concept Plan approval is being sought for the:

- Development of Warner Industrial Park initially consisting of 90 lots, for a broad range of industrial and associated land uses as outlined in Section 6.2.1;
- Retention of land for environmental purposes to protect, manage and conserve biodiversity and downstream receiving waters; and
- Adoption of a Development Control Plan to manage future development and subdivision.

The proposal makes provision for future lot amalgamation or subdivision to meet market demands.

Project approval is also being sought for:

- Subdivision of approximately 80 hectares NDA (including roads) of employment lands initially into 90 lots for industrial and ancillary uses;
- Works including vegetation clearing, bulk earthworks, roads and services, water quality ponds and drainage detention basins, landscape works including entry statements, street tree planting and rehabilitation of riparian zones and drainage corridors;
- Dedication of approximately 24 hectares of environmental lands, incorporating riparian zones and drainage corridors to be managed to conserve biodiversity and to provide compensatory flood storage and stormwater treatment areas for the development;
- New intersections at Sparks Road and Hue Hue Road;
- External linking sewerage connections; and
- Construction of a pipeline to carry recycled surplus stormwater from Warner Industrial Park along Hue Hue and Alison Roads to discharge into Wyong River.

Project Justification

The supporting documentation provided with this Environmental Assessment demonstrates that, with appropriate controls to regulate future land uses and to meet environmental and infrastructure requirements, the project can proceed.

Subject to necessary approvals, the project can commence at an early date. This will assist the State Government and Wyong Shire Council in meeting regional employment objectives in a timely manner. It will also provide a catalyst for the development of other areas within the WEZ. The proposal is consistent with the objectives of the Central Coast Regional Strategy and the exhibited Draft SEPP (Major Projects) 2005 (Amendment No 21).



Biodiversity

Flora and Fauna, and Protection of Environmental Habitats

The Concept Plan provides for the rehabilitation and dedication of environmental areas including Buttonderry Creek and an environmental buffer along the F3 Freeway. The proposal is in accordance with the exhibited SEPP for the WEZ and supporting documentation, which includes a proposed Biodiversity Strategy. A minor variation to the conservation zone under the SEPP is supported by additional site investigations. The proposal will have an acceptable level of improvement under the “maintain or improve” criteria. The WSUD scheme for Warner Industrial Park will minimise impacts on Porters Creek Wetland in accordance with Council’s Integrated Water Cycle Management Strategy. The assessment concluded referral under the EPBC criteria is not required.

Heritage

Studies carried out as part of the WEZ in conjunction with the Darkinjung Local Aboriginal Land Council concluded that there are no constraints to the rezoning of the site. There are no known items of European heritage significance.

Urban Design

Draft DCP Warner Industrial Park

The Concept Plan incorporates a site specific Draft Development Control Plan (DCP), which amongst other things provides guidelines and controls to ensure appropriate development within the public and private domain. The Draft DCP includes a Visual and Landscape Management Strategy. The proposed Landscape Masterplan and Vegetation Management Plan provide details with respect to treatment and management of the public domain, environmental areas and setbacks within individual lots.

Contamination and Geotechnical Investigations

The Proponent commissioned additional field investigations, geotechnical and contamination assessment beyond the initial work commissioned by Council for the WEZ. The investigations conclude that the site is suitable for industrial use. Some additional minor areas of possible contamination require further investigation prior to or during the development process.

Utilities and Infrastructure

A range of services will need to be augmented and/or extended to the site. Water and sewer extensions are being implemented by Wyong Council and are not expected to cause delay to the project should Project Approval be granted. The capacity of other utility services (for example, power) can be upgraded as part of the development.

The proposal incorporates a range of water saving and water reuse initiatives as part of the WSUD strategy. DECC and DWE advise that their approval is not required for the proposed stormwater pipeline. Approval is sought as part of this project application. Approval is also sought from Wyong Council to construct the pipeline in the road reserve and transfer to the Water Supply Authority.



Bushfire Risk Assessment

A Bushfire Risk Assessment has been carried out and the setback and building requirements have been incorporated into the Draft DCP – Warner Industrial Park.

Ecological Sustainability

Water Management and Stormwater Water Reuse

The proposed development is consistent with the objectives of Wyong Council's Integrated Water Cycle Management strategy. Key elements include:

- Onsite capture and reuse of stormwater for individual developments within Precinct 14; and
- Capture, treatment and diversion of surplus stormwater flows which will reduce impacts on Porters Creek Wetland, potentially enable increased water take off from Wyong River into the municipal water supply by offsetting environmental flows.

Climate Change

Precinct 14 is not affected by sea level change based on recent mapping of the NSW Central and Hunter Coasts by the NSW Department of Planning (2007). Apart from sea level rise, climate change is predicted to increase storm intensities in different locations. The proposed finished site levels are above the 1 in 100 year flood event, and the proposed development requires building floor levels to be set at 300 mm above the 1 in 100 year event.

Greenhouse Gas and Carbon Emissions

Warner Industrial Park will create between 2,000 and 3,200 direct jobs. This will assist in meeting projected employment needs for planned population growth under the Central Coast Regional Strategy. The reduction in trip kilometres from the proposed development, combined with additional jobs from the balance of the WEZ, will have a positive impact by reducing commuting outside the region. The Draft DCP also encourages energy efficient design.

Sustainable Regional Economy

Apart from the 2,000 to 3,200 direct jobs to be created, a further 5,000 to 8,000 jobs throughout the broader economy will be generated. Creation of local employment in the Central Coast is a major objective of the State Plan, Central Coast Regional Strategy, and the WEZ.

Cumulative Impacts

Mitigation of cumulative impacts will be assisted by the initiatives described above including:

- Reducing the cumulative impacts on Porters Creek Wetland; and
- The proposal is intended to supplement the municipal potable water supply. This will assist in reducing cumulative impacts from continued urbanisation within the region.



Traffic and Transport

Roads

Council's proposal for roadworks under the WEZ have been addressed. The project proposes the construction of new intersections on Sparks Road and Hue Hue Road. Additional traffic investigations have been undertaken to supplement studies commissioned by Council for the WEZ. Preliminary consultation with the RTA concludes that the proposed Sparks Road intersection will not limit the performance of the Freeway ramps at Sparks Road interchange.

Public Transport Pedestrian access and Cycleways

The internal road network has been designed to accommodate a public bus route connecting the estate to surrounding areas. Provision has been made for a pedestrian pathway system and cycleway. The internal cycleway will connect to the existing on-road cycleway in Sparks Road.

Water Quality, Drainage and Stormwater Management

Council's Integrated Water Cycle Management Strategy (IWCMS) for the WEZ proposes to treat the surplus volume and divert it from Porters Creek Wetland, and discharge it to the Wyong River. This will minimise impacts on the wetland. Council proposes that the surplus stormwater flows will offset environmental flows in the river, and enable an increase in the off-take of water for the Gosford Wyong Water Supply Scheme. At the time of preparing this Environmental Assessment, Council was still refining its IWCMS with respect to the location of the storm water reuse pipeline and role of the proposed Bailey's Wetland. Further, Council is still investigating whether the surplus water should discharge above or below the weir in Wyong River, although it is understood that the preference may now be to discharge below the weir.

An alternative strategy has been developed for meeting Council's IWCMS objectives by diverting surplus stormwater from Warner Industrial Park to Wyong River via a pipeline along Hue Hue Rd. The proposed alternative pipeline can discharge above the weir, or discharge below the weir. In the event that Council has finalised its IWCMS, and is able to ensure that it will not delay development of Warner Industrial Park if Project Approval is granted, the Proponent is able to redirect surplus stormwater flows into Council's scheme.

One of the management principles adopted in the IWCMS designates a landscaped area of up to 25% of the allotment for irrigation. This potential requirement for landscape irrigation would have a significant impact on development feasibility. The proposal allocates over 25% of the site (24 hectares) for environmental lands. On this basis, an exemption is sought in the Draft DCP from the 25% landscape area requirement in individual allotments.

Flooding

The proposal involves filling of part of the land to enable development above the 1% AEP flood. A number of flooding investigations have been undertaken for the site. Initially, by Wyong Council as part of its overall investigations for the WEZ, and subsequently by the Proponent to assess more detailed designs for Warner Industrial Park. These studies also took into account the WSUD for the site. The studies consider the 2005 Floodplain Development Manual and identify filling and drainage requirements, and compensatory flood storage for the development.



Development Contributions, Planning Agreements and Statement of Commitments

Draft heads of consideration for a Planning Agreement between the landowners and Wyong Shire Council, addressing contributions and works in kind, are included in the Environmental Assessment.

Subject to agreement with Wyong Shire Council with respect to the heads of consideration in the proposed Planning agreement, the landowners are prepared to undertake the works identified in the Environmental Assessment and meet its obligations towards a State Infrastructure Contribution. A Draft Statement of Commitments is included in the Environmental Assessment.

Consultation

Extensive consultation has taken place between Wyong Council, the Proponent, and various agencies during the formulation of Council's State Significant Site Study and the preparation of this Environmental Assessment.

Environmental Assessment - Warner Industrial Park

Precinct 14 Wyong Employment Zone



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STATEMENT OF VALIDITY

Submission of Environmental Assessment for Warner Industrial Park:
Prepared under Part 3A of the Environmental Planning and Assessment Act 1979.
Environmental Assessment prepared by:

Names:	Vanessa Colclough Director / Urban Planner	Peter Andrews Director / Nominated Architect
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We certify that we have prepared the contents of this Environmental Assessment with specialist consultants and to the best of our knowledge, the information contained in this report is neither false nor misleading.

Signature:



Name: Vanessa Colclough
Date: 26 June 2008

Signature:



Name: Peter Andrews
Date: 26 June 2008



1.0 INTRODUCTION

Warner Industrial Park will provide much needed employment opportunities on the Central Coast which is a major objective of State, regional and local planning. This objective is echoed in the major initiatives in the State Plan and the Central Coast Regional Strategy.

Warner Industrial Park located in Precinct 14 of the Wyong Employment Zone (Figure 1) comprises a total site area of approximately 104.2 hectares. The net development area of employment lands including roads is approximately 80 hectares and excluding roads is approximately 69 hectares. Concept Plan approval is being sought for:

- The development of Warner Industrial Park consisting of 90 lots for a broad range of industrial and associated land uses as outlined in Section 6.2.1;
- Retention of land for environmental purposes to protect, manage and conserve biodiversity; and
- Adoption of a Development Control Plan to regulate future development on the site, including future subdivision to meet market demand.

Project approval is also being sought for:

- Subdivision of approximately 80 hectares NDA (including roads) of employment lands into 90 lots for industrial and ancillary uses as outlined in Section 6.2.1 into a variety of lot sizes to meet anticipated demand;
- Creation of a residual lot(s) of environmental lands (approximately 24 hectares) incorporating riparian zones and drainage corridors to be managed to conserve biodiversity and to provide compensatory flood storage and stormwater treatment areas for the development;
- Vegetation clearing;
- Bulk earthworks;
- Roads and Services;
- Water quality ponds and drainage detention basins;
- Landscape works including entry statements, street tree planting and rehabilitation of riparian zones and drainage corridors;
- External intersection roadworks for the Precinct 14 entry with Sparks Road and Hue Hue Road;
- External water and sewerage connections;
- Construction of a pipeline to carry recycled stormwater from the Industrial Park along Hue Hue Road to Wyong River; and
- Creation of a management regime for the ongoing maintenance of the public domain and residual environmental lands.



Figure 1 - Central Coast Regional Context
 Concept Plan and Project Approval
 Warner Industrial Park
 June 2008



2.0 BACKGROUND

In May 2007, Warner Business Park Pty Ltd lodged a Preliminary Environmental Assessment for Warner Business and Industrial Park, which forms part of the proposed Warnervale Employment Zone (WEZ). On 20 September 2007, the Minister for Planning advised that the development proposal was of State or regional environmental planning significance and that Part 3A of the Environmental Planning and Assessment Act 1979 applies. The Minister also authorised the submission of a Concept Plan for the proposal.

The Concept Plan, involving the development and subdivision of land to create an industrial park, was lodged with the Department of Planning. The Director General's Requirements for the Concept Plan and Project Approval were issued on 13 December 2007. These are outlined further in Section 3.0 and attached in Appendix 1.

The proposed rezoning and subsequent development of the WEZ has been ongoing since 2004 when on 24 November, Wyong Shire Council, in considering a report on the WEZ, resolved to prepare a Draft Local Environmental Plan ("DLEP") to commence rezoning the WEZ. The proposed rezoning would create an additional 300 hectares of developable employment land within the broader WEZ area, which is over 600 hectares in size. The remaining parts of the WEZ are flood prone or contain environmentally significant vegetation, which is to be protected. Over the past two and half years, Council has undertaken extensive studies over the entire WEZ area. In 2006, Wyong Shire Council exhibited its DLEP for the WEZ.

Council's proposal for the WEZ, which included a draft Development Control Plan was exhibited during February/March 2008 and is now under consideration by the Minister for Planning as a State Significant Site. Whilst it is understood that the overall planning for the WEZ has been generally resolved, there are still some outstanding issues with respect to development contributions and its potential impact on project feasibility.

The Warner Industrial Park can be developed independently of the remaining areas within the WEZ. In particular, investigations undertaken by Warner Business Park Pty Ltd indicate that external servicing arrangements and management and reuse of stormwater can occur independent of Council's strategies.

3.0 DIRECTOR GENERAL'S REQUIREMENTS

This Environmental Assessment addresses the issues outlined in the Director General's Requirements and a summary is presented in Table 1.

Table 1 – Environmental Assessment Requirements

Item to be addressed	Requirement	Chapter of Environmental Assessment
General Requirements	Executive Summary	(pages i-v of Environmental Assessment)
	Description of the proposal including: <ul style="list-style-type: none"> strategic justification and considered alternatives, description of the existing environment and suitability of the site Various components and stages 	Section 10 Sections 4.0 and 5.0 Section 5.0
	Consideration and justified variation of applicable SEPPs, planning instruments, and other relevant legislation and policies	Section 6.0
	Assessment of environmental impacts with a focus on key issues	Sections 5.0 and 8.0
	Draft Statement of Commitments	Section 9.1
	Conclusion justifying the project	Section 11.0
	Certification by the author	(page 3 of Environmental Assessment)
	Identification of the capital investment value	Section 5.2
Key Assessment Requirements		
Biodiversity	Address the impact on flora and fauna and their habitats	Section 8.2 and Appendix 8
	Identification of offset measures to avoid/or mitigate impacts and consider the connective importance of biodiversity	Section 8.2 and Appendix 8
	Address the impacts and identify measures to protect, manage and conserve Buttonderry Creek and Porters Creek wetlands	Section 8.2 and Appendix 8
	Demonstrate consistency with the Proposed Biodiversity Offset Strategy for the WEZ	Section 8.2 and Appendix 8
	Identify future tenure and management responsibility of proposed conservation lands	Section 8.2 and Appendix 8
Heritage	Address the impact of the development on both Aboriginal and non-Aboriginal heritage	Section 8.3
Urban Design	Demonstrate the provision for a variety of industries	Sections 6.2 and 8.4
	Provide industrial lot sizes and development staging	Section 8.4
	Preparation of a Visual Management Strategy and Landscape Management Plan	Included as an appendice of the DDCP which is Appendix 3.
Contamination and Geotechnical	Identify and address contamination and geotechnical issues including all relevant	Section 8.5 and Appendices 9 and 10

Item to be addressed	Requirement	Chapter of Environmental Assessment
	legislation	
	Include details on the classification of soil type and demonstrate how the proposal complies with all relevant standards.	Section 8.5 and Appendices 9 and 10
Utilities and Infrastructure	Preparation of a utility and infrastructure report addressing existing capacity, constraints and future requirements	Section 8.6
	Consider technologies to reduce demand and need for servicing	Section 8.6
Bushfire Risk Assessment	Demonstrate compliance with the 2006 Planning for Bush Fire Protection	Section 8.7 and Appendix 12
	Identify the ongoing management and arrangements for any proposed APZ	Section 8.7 and Appendix 12
Ecologically Sustainable Development	Demonstrate how the development will commit to ESD principles in design, construction and ongoing operation phases	Section 8.8 and Appendix 3
Traffic and Transport	Prepare a detailed traffic study	Section 8.9 and Appendix 14
	Identify and address proposed public transport requirements of the development and any alternatives	Section 8.9 and Appendix 14
Water Quality, Drainage and Stormwater Management	Prepare a Water Management Plan detailing how a sustainable and efficient water supply can be sourced and drainage and stormwater management objectives	Section 8.10 and Appendix 15
	Address the integration of development staging with Council's proposed IWCMS	Section 8.10 and Appendix 15
Flooding	Address the potential for flooding including the estimation of the extent of flood prone areas, high hazard areas and floodways and the implications of the full range of floods on wetlands and riparian zones.	Section 8.11 and Appendices 16, 17 and 18
	Identify compensatory flood storage areas and detail viable strategies to manage and adverse impacts on the development on flood behaviour	Section 8.11 and Appendix 16
	Demonstrate consistency with the 2005 Floodplain Development Manual and other relevant policies	Section 8.11
Developer Contributions and/or Planning Agreements	Address and provide details of the likely scope of state and local contributions and/or planning agreements	Section 9.2
Consultation Requirements	Consult with relevant agencies/community groups. Document all community consultation	Section 7.0 and Appendices 5, 7, and 11
Landowners Information	Provision of consent of all landowners	Attached to the application form

4.0 SITE DESCRIPTION

4.1 Ownership and Legal Description

The land that is the subject of this application forms part of Precinct 14 of the WEZ and this area is referred to as the Warner Industrial Park throughout this report (Figure 2). The total area of the site is 104.2 hectares. It is bounded by the Sydney Newcastle Freeway, Sparks Road, Hue Hue Road and Kiar Ridge Road. The land is held in two ownerships as shown in Table 2 and Figure 3.

Table 2 – Existing Land Ownership

Owner	Lot	Area
Warner Business Park Pty Ltd	Lots 4 and 6 - 8 in D.P. 239704 Lots 15 – 19 and Lots 25-26 in D.P. 259530	86.5ha
Delcare Constructions Pty Ltd	Lot 5 in D.P. 259531	7.54ha
LG Delahunty	Lot 9 in D.P. 239704	10.12ha
TOTAL AREA		104.2ha

4.2 Zoning

The majority of the site is currently zoned 10a Investigation and a small portion is zoned 7g Wetlands under the Wyong LEP 1991 (Figure 4).

4.3 Regional Context

Strategically located abutting the Sydney-Newcastle Freeway, the site forms part of the Warnervale growth corridor including the WEZ and the Warnervale Town Centre. The area has been earmarked for significant population and employment growth for over 30 years. The WEZ has been identified as a key element in the Central Coast Regional Strategy.

4.4 Existing Land Uses

The land is primarily used for rural residential purposes. A former helicopter maintenance workshop is located in the south eastern corner at the intersection of Sparks Road and the F3 Freeway.

4.5 Immediate Surrounding Land Uses

Surrounding existing land uses of the subject site include small hobby farms, rural residential, land subject to mining leases by Kores, open space and land zoned conservation, and the Buttonderry Waste Management site. Industrial land uses occur to the east of the Freeway.

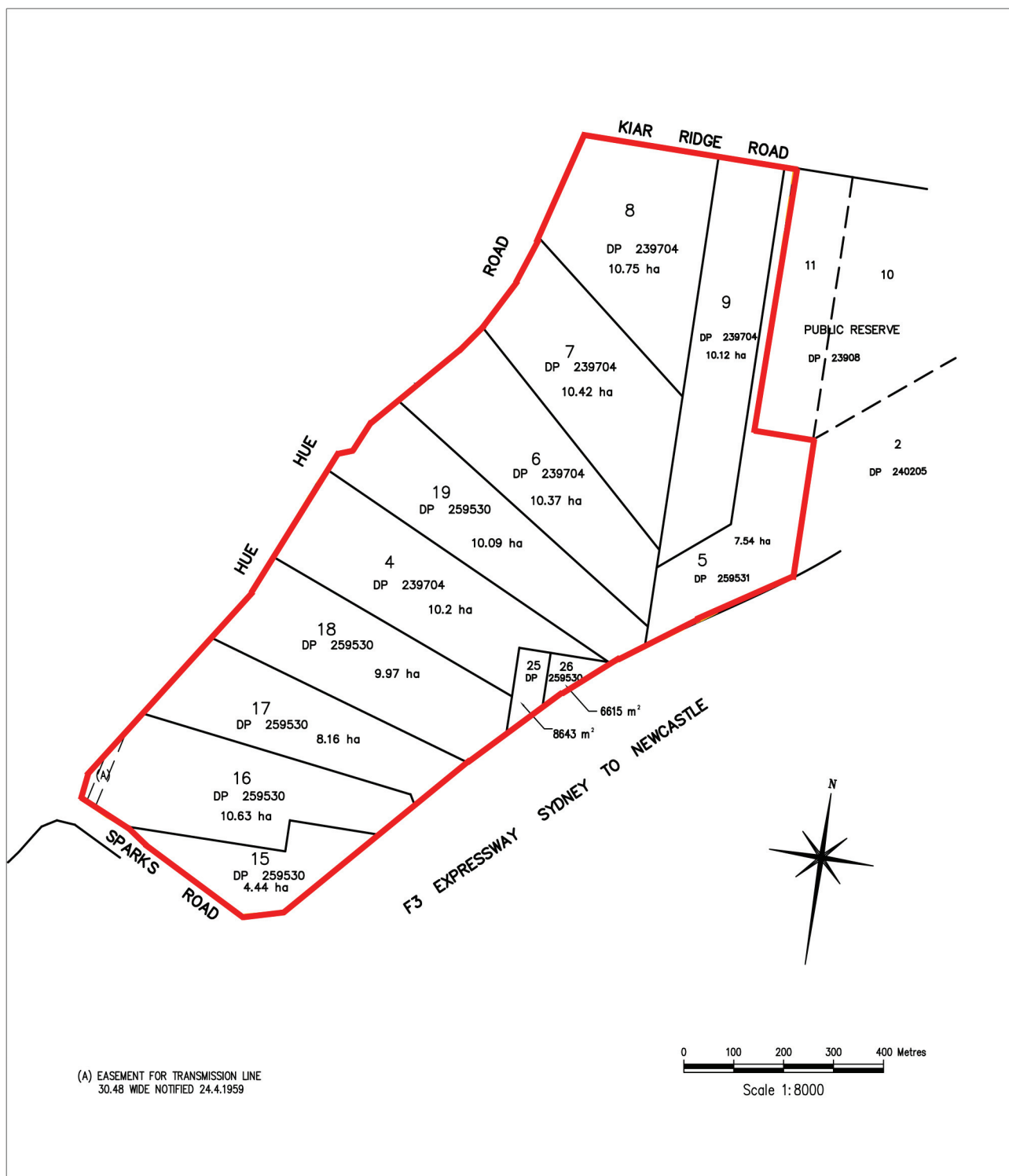


4.6 Topography

The majority of the site is relatively flat with the north eastern corner sloping towards Kiar Ridge Road. The construction of the F3 Freeway has modified historic drainage patterns, and contributed to the extent of land which becomes inundated. These low lying areas that are subject to flooding will require remedial works to provide suitable building platforms.

4.7 Hydrology

Buttonderry Creek enters the site at the western boundary via culverts under Hue Hue Road as a well defined waterway draining a 615ha catchment. The Creek drains through Precinct 14 in a south easterly direction discharging under the F3 Freeway via box culverts.



Source: Trehy Ingold Neate 2007

Figure 2 - Existing Lots
Concept Plan and Project Approval
Warner Industrial Park
June 2008

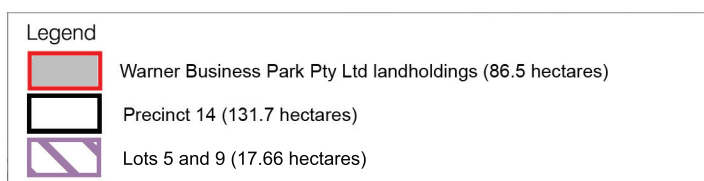
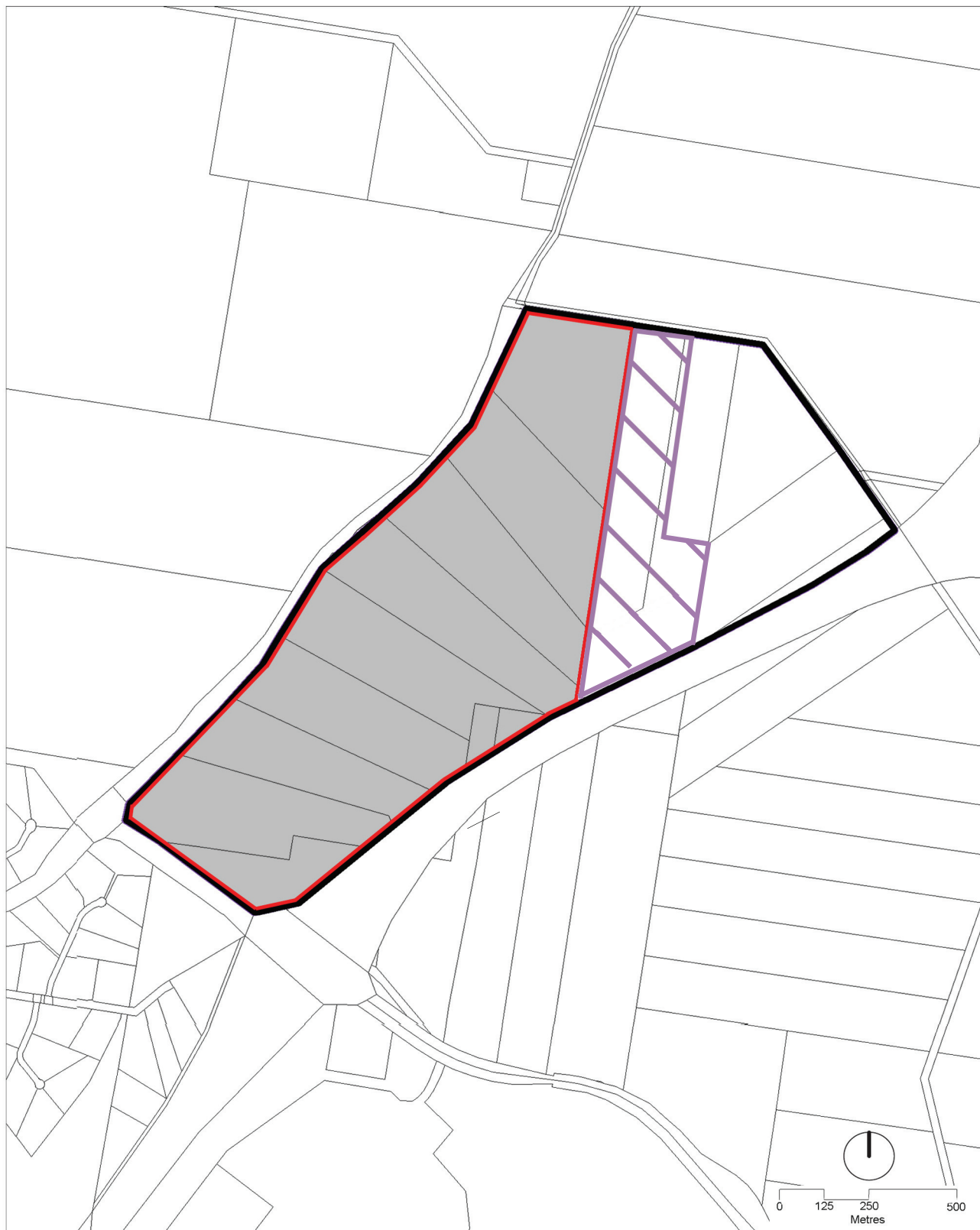
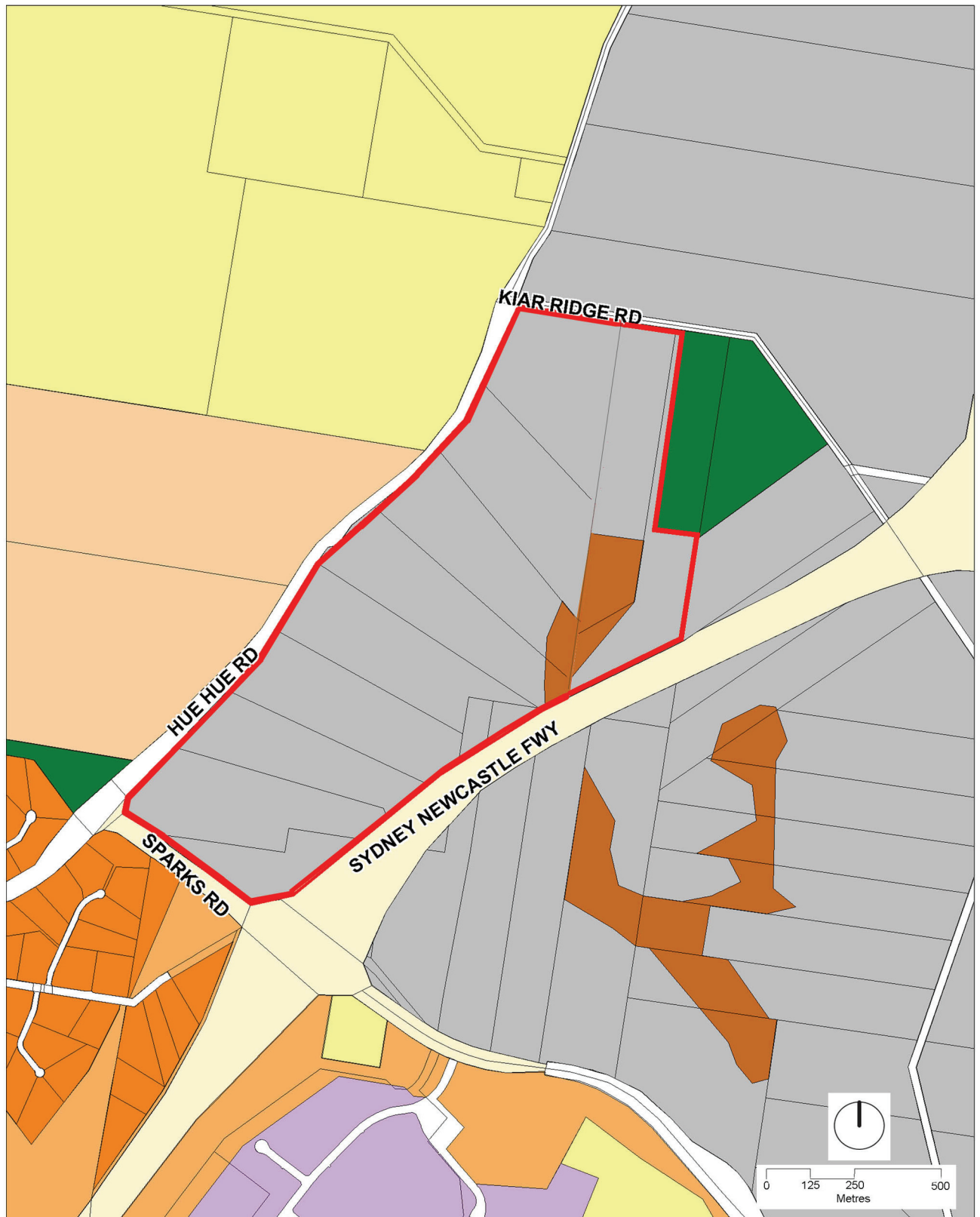


Figure 3 - Land Ownership

Concept Plan and Project Approval
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Source: Wyong Shire Council, 2005

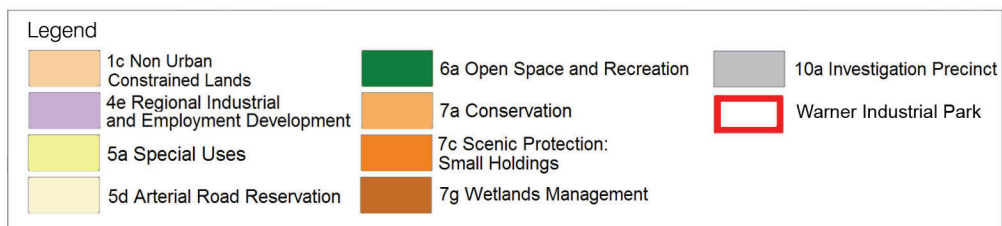


Figure 4 - Existing Zoning
Concept Plan and Project Approval
Warner Industrial Park
June 2008



5.0 PROJECT DESCRIPTION

5.1 The Proposed Works

Warner Industrial Park is ideally located to provide industrial land and employment opportunities on the Central Coast. It is located close to the F3 Freeway and the existing and future population. The development of the site will also significantly enhance environmental corridors, which will then be dedicated as public lands.

The major elements of the proposed works include:

- **Industrial Lands**

Subdivision of approximately 80 hectares NDA (including roads) of employment lands into 90 lots for industrial and ancillary uses (Figure 5). The subdivision layout has been designed to allow consolidation of lots or further subdivision to assist with meeting future demands. The Concept Plan and engineering drawings including cross sections showing finished levels are attached in Appendix 2.

- **Development of the Warner Industrial Park**

A Draft Development Control Plan for Warner Industrial Park has been prepared and is attached in Appendix 3. It outlines the controls for the private domain, public domain and exempt and complying development. The purpose of the Draft DCP is to allow development to occur with minimal delays through the exempt and complying provisions whilst ensuring that the attributes of the site are conserved and enhanced. Expediting development in the Warner Industrial Park will assist in meeting targets of employment opportunities earlier.

- **Roads, Traffic and Transport**

Two new intersections will be constructed at the entry to Precinct 14, at Sparks Road and Hue Hue Road. These intersections have been located to disperse traffic accessing the external road network.

Roads within the subdivision have been designed to accommodate B-double vehicles. A B-double uncoupling area, approximately 100m in length, is located in the centre of the site. A bridge is proposed across Buttonderry Creek to provide access between the southern and northern areas.

Road No 1, which provides access to and from Sparks Road and Hue Hue Road, has also been designed as a bus route. Two bus stops have also been provided along this main route being one south and one north of the Buttonderry Creek Corridor. The bus stops have been positioned to optimise pedestrian access within the industrial park.

- **Bulk Earthworks**

Site levels will be reshaped to obtain suitable grades for industrial buildings and to raise flood affected land on the site above the 1% flood level, using a combination of fill material won from scraping the sloping areas and spoil from excavating the low lying areas of the site. Excavation is required to create additional flood storage volume on-site to minimise displacement flooding following development. Detailed flood modelling has been carried out to support this and detailed in Section 8.11.

Approximately 200,000m² of imported fill will be required. The Site Disturbance and Earthworks Plan and proposed earthworks sections of the site are shown on the Engineering drawings in Appendix 2.

Clearing of the site will be undertaken in accordance with the Vegetation Management Plan prepared by Conacher Environmental Group attached in Appendix 4.

• **Stormwater Management and Reuse**

Best practice, environmentally sustainable stormwater management and WSUD proposals include:

- Onsite capture, treatment and reuse of stormwater;
- Retention of Buttenderry Creek Corridor with rehabilitation through supplementary landscaping works;
- Creation of a drainage corridor to contain sheet flows within the northern catchment; and
- Construction of the water quality ponds, artificial wetlands and detention basins, and storage of surplus stormwater for transfer to Wyong River.

Overall objectives are to:

- Improve flood management;
- Maintain/ Improve water quality to protect the downstream receiving environment and achieve water quality standards proposed under Council's Integrated Water Cycle Management Strategy including capture, treatment and redirection of surplus stormwater for potential reuse;
- Improve recreational and visual amenity;
- Provide a sustainable aquatic environment that preserves the potential for creating habitat for locally indigenous flora and fauna; and
- Establish an appropriate management regime to minimise ongoing maintenance requirements.

Council has developed an Integrated Water Cycle Management Scheme (IWCMS) for the WEZ, which amongst other things proposes capturing and piping surplus stormwater to Wyong River. It is intended that this surplus stormwater will enable increased water to be drawn from Wyong River to supplement the local water supply. At the time of preparing this Environmental Assessment, Council was still undertaking investigations into the feasibility of this proposal.

As a consequence, an alternative proposal has been developed for Precinct 14 which involves capture, treatment and storage of surplus stormwater flows and the construction of a pipeline along Hue Hue Road to transfer treated surplus flows to Wyong River.

Consistent with the objectives of Council's proposed IWCMS, the additional volume of freshwater provided by this alternative scheme will still benefit the residents of Gosford and Wyong that are connected to the potable water supply.

- **Conservation Areas and Rehabilitation Works**

Part of the site is proposed to be retained (approximately 24 hectares) for environmental purposes to conserve and enhance the natural habitat, protect Buttonderry Creek and create a buffer area between the site and the Sydney Newcastle Freeway. This land will also be used for WSUD requirements for the site and passive recreation. Water quality ponds have been located outside the creekline. Preservation of peak flows along Buttonderry Creek is to be achieved by providing retardation storage as part of the stormwater design. The Concept Plan is consistent with Council's overall Environmental Strategy for the WEZ, with the following exception:

- As noted previously, the Concept Plan proposes that surplus stormwater be transferred to Wyong River via a pipeline to be constructed along Hue Hue Road;
- The Concept Plan proposes a minor variation to the conservation lands proposed under the exhibited State Environmental Planning Policy (Major Projects) 2005 (Amendment No 1). This amendment is based on further site investigations that reveal the north east part of the site has been significantly modified with fill material from the freeway construction. The Concept Plan still proposes the retention of a 50m buffer in accordance with the principles of the Biodiversity Strategy. This is further discussed in Section 6.2.1.

- **Management of Public Domain**

An ongoing management and funding structure will be established to ensure lands within the public domain are managed. This will include environmental lands, water quality ponds and drainage corridors, and maintenance of landscape within roadside verges including estate entries.

- **Landscape Works**

Landscape treatment for the site has been designed to minimise visual impacts from the surrounding area and to enhance the site. A Visual and Landscape Management Strategy has been prepared as an appendix to the Draft Development Control Plan. The DDCP is attached in Appendix 3. The Landscape Masterplan (Figure 6) proposed works include:

- Rehabilitation and enhancement of Buttonderry Creek.
- Landscape works associated with water quality and detention basins.
- Street tree and median planting.
- Estate entries to Sparks Road and Hue Hue Road.
- Screen planting along the buffer zone to the F3 Freeway drainage corridor.
- Landscape treatment within setbacks of individual allotments.

- **External Infrastructure**

Works will include:

- External water and sewer connections to Council's mains.
- Intersections and associated roadworks at Hue Hue Road and Sparks Road.
- Provision for pipeline link to Wyong River to divert surplus stormwater flows.

5.2 Project Costs

A detailed cost estimate of the project has been prepared. A summary of the costs is shown in Table 3.

Table 3 – Estimated Development Costs

Estimated development cost	
SUBDIVISION WORKS	
Civil construction (1)	\$28,143,918.00
External infrastructure costs (2)	\$6,380,000.00
Landscape treatment Works (3)	\$3,768,494.00
MISCELLANEOUS	
Fees, DSPs, contributions, Consultancies (4)	\$12,964,981.00
TOTAL SUBDIVISION COST	\$51,257,393.00

Notes -

1. Civil and construction costs prepared by MM Consultant Engineers and include clearance, earthworks, stabilisation, roadworks, drainage, sewerage, water, power and water quality.
2. External infrastructure works include the road works at Sparks Road and Hue Hue Road with Precinct 14, the rising main and the stormwater pipeline.
3. Landscape treatment includes landscaping, retaining walls and the entry statements for the overall site.
4. Estimate only.

The total estimated cost of the completed buildings within the Industrial Park is \$276,640,000.00, based on Wyong Council's calculation method outlined in its *State Significant Site Study for Wyong Employment Zone* (Jan 2008), being 50% of the area multiplied by \$800/sqm which is based on industry rates. The above calculation takes 50% of the NDA (excluding roads) which is 69.16ha multiplied by \$800/sqm.

The estimated cost for the total development is \$327,897,393 being \$51,257,393 for the subdivision costs including fees and \$276,640,000 for building costs.



Source : Trehly Ingold Neate (amendment 2008)

Figure 5 - Concept Plan
 Concept Plan and Project Approval
 Warner Industrial Park
 June 2008



LEGEND






-  5m SETBACK
-  10m SETBACK
-  15m SETBACK
-  STORMWATER BASINS
-  WETLANDS

Figure 6 - Landscape Masterplan
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6.0 PLANNING CONSIDERATIONS

6.1 Regional Strategies

6.1.1 Central Coast Regional Strategy

The Central Coast Regional Strategy identifies creation of job opportunities as a major objective. The Strategy proposes the creation of over 45,000 new jobs over the next 25 years to ensure a robust and adaptable economy. Warner Industrial Park will assist in meeting this challenge by providing 80 hectares of NDA (including roads) of employment lands, and also contribute to the environment by rehabilitating environmental corridors and then dedicating approximately 24 hectares of open space.

The Central Coast Regional Strategy Map (Figure 7) identifies the Wyong Employment Zone as new employment lands which will generate up to 6,000 jobs. The Warner Industrial Park will provide approximately 2,000 to 3,200 long term employment jobs, based on 25 persons per hectare to 40 persons per hectare. This will also contribute to approximately 5,000 to 8,000 jobs in the broader economy, based on a multiplier of 2.5 jobs resulting from each job created.

6.1.2 WEZ State Significant Site Study

The proposal is generally consistent with the *WEZ State Significant Site Study* (January 2008). The technical studies for the WEZ have been used to assist in the design of the Warner Industrial Park. Further technical studies that form the basis of this Environmental Assessment also used data from these initial technical studies.

6.2 State Environmental Planning Policies

6.2.1 Draft SEPP (Major Projects) 2005 (Amendment No 21)

The Department of Planning exhibited the Draft State Environmental Planning Policy (Major Projects) 2005 (Amendment No 21) (Draft SEPP Amendment No 21), which applies to the WEZ. The aims of the Policy are to provide employment lands for a wide range of employment-generating industrial, manufacturing, warehousing, storage or research purposes as well as the conservation of environmental corridors. The development of the Warner Industrial Park will be able to meet these needs as approximately 80 hectares of NDA is proposed for employment lands and approximately 24 hectares is proposed for conservation / environmental purposes.

The proposal for Warner Industrial Park is generally in accordance with the Draft SEPP Amendment No 21, however some amendments are proposed in accordance with our submission dated 27 March 2008 to the Department of Planning in relation to the public exhibition of the WEZ documents. These include:

- **Zone Boundary**

The southern extent of employment lands on Lots 5 and 9 in Precinct 14 has been modified in comparison to the boundaries shown on the exhibited zone plan. Figure 8 shows the proposed zone boundaries under the Draft SEPP Amendment No 21 with the proposed zone modification request. This modification request is based on more detailed field survey carried out on behalf of the owner of Lots 5 and 9, which reveal that parts of the land identified in the zoning plan as proposed conservation areas are in fact filled land which is devoid of any vegetation and therefore will have minimal impact. Notwithstanding this, the Concept Plan retains a 50m environmental corridor along the F3 Freeway boundary. Further information in relation to the Biodiversity Strategy is outlined in Section 8.2.

- **Site Specific Draft Development Control Plan**

A site specific Draft Development Control Plan has been prepared for the Warner Industrial Park to ensure high quality sustainable development to meet the objectives of the Draft SEPP Amendment No 21. The SEPP will need to refer to the Draft Warner Industrial Park Development Control Plan.

- **Permissible Land Uses**

It is proposed to modify the schedule of permissible uses in Zone IN1 General Industrial and Zone E2 Environmental Conservation under the SEPP to permit a wider range of uses including Industry. Because of the size and location of Precinct 14, it is proposed to incorporate ancillary support uses to reduce the need for workers to travel outside of the site for day to day convenience uses and services. These uses include high tech, research and development industries requiring larger building footprints and potentially requiring associated laboratory space. A larger range of land uses will also assist in maximising the potential for employment opportunities on the Central Coast which will assist in meeting the objectives of the Central Coast Regional Strategy. The uses proposed will not conflict with Government's Centres Hierarchy Policies or compete with uses that are located in centres such as Warnervale Town Centre, Wyong or Tuggerah.

Proposed permissible land uses within Zone IN1 General Industrial should include:

- Boat Repair Facility
- Brothels
- Conference facilities
- Depots
- Freight and Transport Facility
- Hardware and building supplies
- High Tech and Research and Development Industries
- Industries
- Industries Retail Outlet
- Landscape and garden supplies
- Light Industries
- Manufacturing
- Recreation facilities (indoor)

- Roads
- Self storage units
- Transport depots
- Truck depots
- Warehousing and Distribution Centres
- Ancillary support uses, such as child care centres, food and drink premises, kiosks, neighbourhood shops, general store and recreation facilities such as a gymnasium.

Proposed permissible land uses in Zone E2 Environmental Conservation are to include:

- Artificial waterbodies
- Environmental facilities
- Environmental protection works
- Flood mitigation works
- Roads

6.2.2 SEPP (Infrastructure) 2007

The SEPP (Infrastructure) 2007 requires that traffic generating development be referred to the RTA. Preliminary consultation has occurred with the RTA addressing the relationship between the proposed entry on Sparks Road and the F3 Freeway ramps. RTA requested additional traffic counts be undertaken. This data has been provided to the RTA and preliminary advice from the RTA confirms that the proposed intersection at Sparks Road is acceptable. This is further addressed in Sections 7.0 and 8.9.

6.2.3 SEPP 14 – Coastal Wetlands

The aim of SEPP 14 is to ensure that certain mapped coastal wetlands are preserved and protected in the environmental and economic interests of the State. The site is located within the Porters Creek catchment. Porters Creek wetland is a SEPP 14 wetland. Development is not proposed within any areas nominated on the SEPP 14 maps. Warner Industrial Park will incorporate water quality treatment systems to treat stormwater runoff before being piped to Wyong Creek.

6.2.4 SEPP 44 – Koala Habitat Protection

Flora and fauna investigations have concluded there is no evidence of core habitat for Koalas on the site. Refer Section 8.2.

6.2.5 SEPP 55 – Remediation of Land

A Preliminary Contaminated Land Assessment was prepared for the WEZ by Coffey Geosciences Pty Ltd in May 2006, which identified that there were possibly two areas of environmental concern on Precinct 14. A Targeted Phase 2 Contamination Assessment has been completed by Douglas Partners in May 2008 for the Warner Industrial Park. It has identified that the site is suitable for industrial purposes. Further details in relation to this are provided in Section 9.5.

6.2.6 Draft SEPP 66 – Integrating Land Use and Transport

The draft SEPP 66 encourages developments to provide more effective integration of planning for transport with planning for future development of urban land.

The site can be serviced by a range of transport options. The Warnervale Railway Station is located approximately 4km from the site. Public bus transport is also available to the site. This bus service provides access to many areas within the Wyong LGA. Currently the number of bus services are limited as the area is mainly rural residential, however once development occurs bus services are likely to increase due to the increased demand. This is further discussed in Section 8.9.

The proposed cycleway system within the Warner Industrial Park will link to the existing on-road cycleway on the northern side of Sparks Road. The RTA also advises it has a strategic plan for an off-road cycleway on Sparks Road. The timing of the implementation of this work has not been determined.

6.3 Section 117(2) Directions

6.3.1 Direction 1.1 Business and Industrial Zones

The current zoning of the site is 10(a) Investigation Precinct and it is proposed to rezone the site to IN1 General Industrial and E2 Environmental Conservation under Draft SEPP Amendment No 21. This will increase the amount of industrial lands by 80 hectares within the Wyong Local Government Area providing a number of future employment opportunities. It is located in a suitable location and is part of the Wyong Employment Zone, which is identified in the Central Coast Regional Strategy.

6.3.2 Direction 2.1 Environmental and Protection Zones

The Buttonderry Creek Corridor on the site is to be zoned E2 Environmental Conservation. The proposal will also restabilise Buttonderry Creek and these lands will be dedicated to Wyong Shire Council to enable them to be in public ownership.

An amendment to the zone boundary is proposed as previously discussed, however this is only in areas where the land has already been disturbed. This is further discussed in Section 8.2. The proposal is generally consistent with the exhibited Biodiversity Strategy for the WEZ.

6.3.3 Direction 3.4 Integrating Land Use and Transport

The objectives of this Direction are to ensure that access is improved by various forms of transport, increasing choice of transport, reducing travel demand, supporting public transport and providing for the efficient movement of freight.

Warner Industrial Park is ideally located adjacent to the F3 Freeway and access to and from the north and south is provided by the Sparks Road on and off ramps to the Freeway. This assists in the efficient movement of freight and reduces impact on local roads by using the existing arterial road infrastructure. As previously discussed in Section 6.2.5, a number of transport options are available to the site.



6.3.4 Direction 3.5 Development Near Licensed Aerodromes

The site is approximately 2 kms from the Warnervale Aerodrome. Development within Warner Industrial Park will still be covered by the requirement of the Obstacle Limitation Surfaces Plan, which is 52.6m.

6.3.5 Direction 4.1 Acid Sulfate Soils

The Geotechnical Assessment prepared for the site by Douglas Partners identifies that Wyong Acid Sulfate Soil Risk map indicates that there is no known occurrence of acid sulfate soils at the site.

6.3.6 Direction 4.2 Mine Subsidence and Unstable Land

It is understood the Mine Subsidence Board has no objection to the use of the land for industrial purposes.

6.3.7 Direction 4.3 Flood Prone Land

Flood studies have been prepared for the site and outline the amount of compensatory flood storage for the development. The Concept Plan locates all development areas above the 1:100 year flood.

6.3.8 Direction 4.4 Planning for Bushfire Protection

The site is mapped as mostly Category 1 vegetation with some areas of Buffer located in areas of generally cleared land. A Bushfire Assessment Report has been prepared and the recommendations have been incorporated into the design of the development and the DDCP. This is further discussed in Section 8.7.

6.3.9 Direction 5.7 Central Coast

The proposal is generally consistent with the Gosford-Wyong Structure Plan from the perspective of providing employment lands. The development is consistent with the Central Coast Regional Strategy.

6.4 Development Control Plans

A site specific development control plan for the Warner Industrial Park has been prepared and is attached in Appendix 3. The Warner Industrial Park Development Control Plan references the relevant Wyong Shire Council's Development Control Plans including signage, engineering, parking and exempt and complying development. However, the complying development provisions have been extended in the Warner Industrial Park Development Control Plan to permit a wider range of complying development.



Controls within the Warner Industrial Park Development Control Plan include:

- Minimum lot frontage 30m with a maximum width depth ratio of 1:3;
- FSR of 0.8:1;
- Site Coverage of 50% for buildings only;
- Height of buildings in accordance with the Obstacle Limitation Surfaces for the Warnervale Aerodrome;
- Building setbacks generally:
 - 15m setback Sparks Road and Hue Hue Road;
 - 10m front setback on internal roads;
 - 10m along the Environmental Corridors where an APZ is required; and
 - 5m side and rear boundary setback.; and
- Complying Development includes construction of new buildings, alterations and additions, change of use, fences and retaining walls and advertising structures that meet the requirements of the DDCP.

Subsequent to the lodgement of the original application for Warner Industrial Park, Council has exhibited and/or adopted the following Development Control Plans. The Concept Plan has been updated to include the relevant requirements as follows:

- *DCP Chapter 66 Subdivision* was adopted by Council 23 January 2008

The Concept Plan has been modified taking into account the DCP in respect to road widths and requirements for buses and B-doubles.

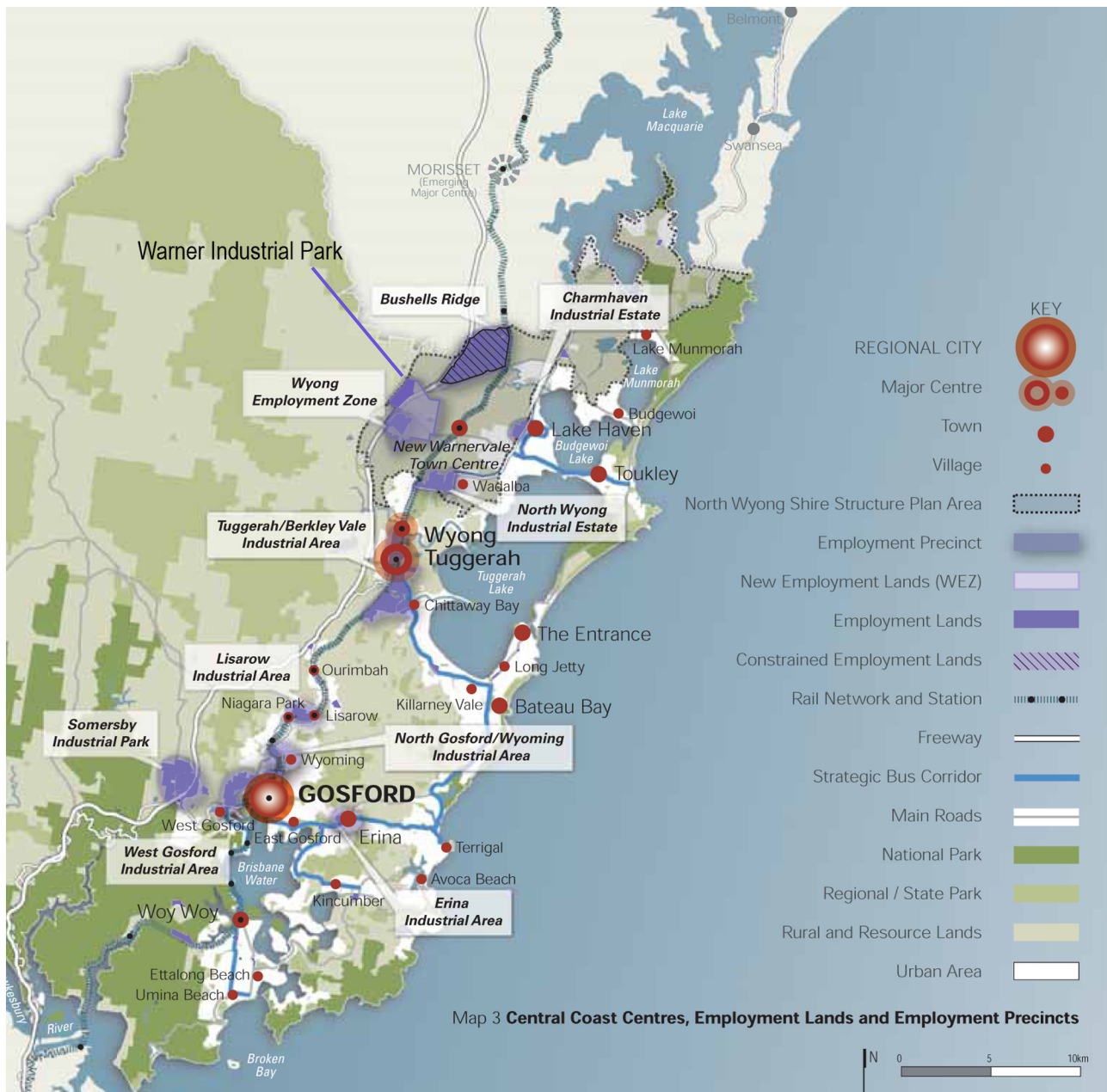
- *Draft DCP 88 Wyong Employment Zone Development Control Plan* has been exhibited as part of the Wyong Employment Zone documentation

This draft DCP, amongst other things, proposes the dedication of a 20 metre setback along Sparks Road and Hue Hue Road. The Warner Industrial Park Development Control Plan outlines that lots adjoining Sparks Road and Hue Road are to provide a 15m setback, be designed as a Category 3 Landscape matter and the land is to be retained by the landowner.

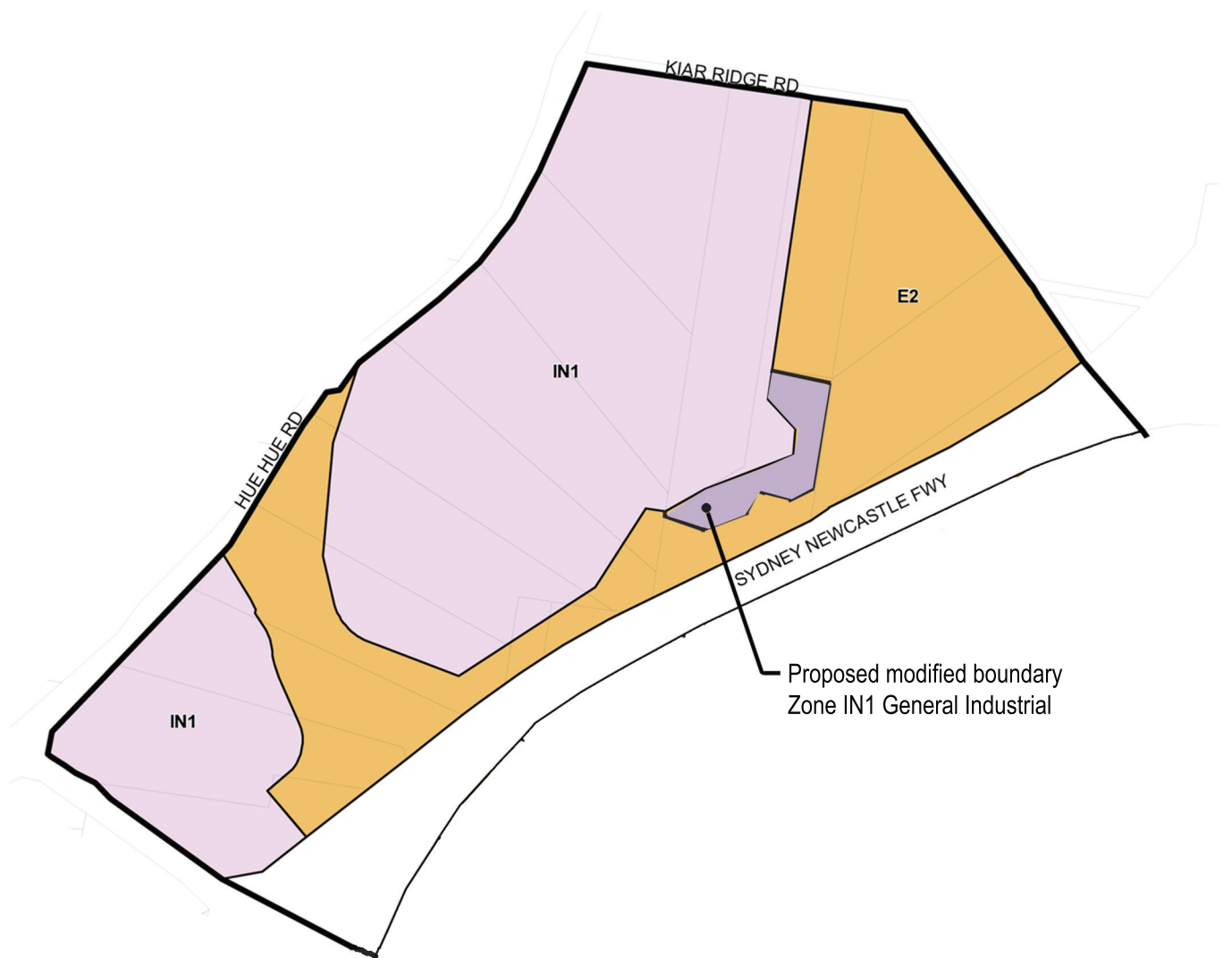
The WEZ draft DCP also proposes 5,000m² lots with minimum 50m frontages for the Warner Industrial Park. The Warner Industrial Park Development Control Plan proposes a minimum 30 m frontage with a maximum width to depth ratio of 1:3 and a minimum lot size of 2,000m² to assist in providing a range of lots to meet future demand.

- *Draft DCP Chapter 97 Wong Water Sensitive Urban Design* which is currently on public exhibition until 20 June

This exhibited draft DCP refers to the WEZ IWCMS. The proposal for Warner Industrial Park meets the water quality objectives of the IWCMS.



Employment Lands Precinct - Extract from
Central Coast Regional Strategy
Source NSW Department of Planning 2008



Extract from the exhibited Draft SEPP (Major Projects) 2005 (Amendment No 21)
Source NSW Department of Planning 2008

Figure 8 - Proposed Zone Boundary Amendment to Draft SEPP Amendment No 21

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7.0 CONSULTATION

Consultation with Government agencies has been undertaken by Wyong Council under Section 34A and Section 62, when Council prepared its Draft LEP for the WEZ. The project has been the subject of extensive public reports to Council. This included discussion and detailed examination of the constraints and development potential of Precinct 14.

Wyong Council consulted the following authorities and organisations in the preparation of the DLEP for the WEZ:

- Catchment Management Authority
- Central Coast Aero Club Limited
- Civil Aviation Safety Authority
- Energy Australia – Newcastle
- Department of Energy, Utilities and Sustainability
- Department of Environment and Conservation (DEC)
- Gosford City Council
- Hunter Regional Development Committee
- Blake Dawson Waldron Lawyers on behalf of Kores Australia
- Lake Macquarie City Council
- Mines Subsidence Board / DARZL
- Department of Natural Resources (DNR)
- Department of Primary Industries
- Roads and Traffic Authority (RTA)
- NSW Rural Fire Service
- Department of State and Regional Development
- The Department of Planning

The Proponent has been in consultation with Wyong Council and some State agencies throughout the previous exhibition process and subsequent consideration of submissions. Council worked in conjunction with the Premiers Department to resolve matters between departments. These included:

- Mine Subsidence Board and Director-General of the Department of Primary Industries - in relation to the impact of rezoning on future coal mining and exploration licenses. It is understood that these agencies have withdrawn any objection to the proposed development of Precinct 14.
- RTA - in relation to traffic studies for WEZ, including intersections on Sparks Road and Hue Hue Road, which provide access to Warner Industrial Park.
- DEC - regarding the environmental strategy for WEZ including Warner Industrial Park.
- DNR - it is also understood that Council has had discussions with DNR regarding the Buttonderry Creek Riparian Corridor to reach agreement to the zone boundaries in Council's Draft LEP.

Further consultation has been undertaken after the receipt of the Director General's requirements including:

- Wyong Shire Council

Several meetings have been held with Wyong Shire Council to discuss the project and its implications in relation to the proposed works for the remaining precincts within the WEZ, particularly with respect to:

- DCP 66 Subdivision;
- The exhibited Biodiversity Strategy;
- The exhibited IWCMS for the WEZ; and
- The exhibited draft section 94 contributions plan.

As noted elsewhere, amendments have been made to the original Concept Plan taking into account DCP 66. Minor modifications have been made to the conservation zone proposed under the exhibited Biodiversity Strategy. These amendments were based on more detailed site investigations and retain the proposed 50m environmental corridor along the Freeway boundary.

The proposal meets the water quality objectives of the IWCMS. However, Council is still assessing its proposal with respect to the alignment for the water reuse pipeline and the need for Baileys Wetland. Several discussions have been held regarding the alternative pipeline on Hue Hue Road. Council is now also considering the Hue Hue Road alignment as one of its options for the IWCMS.

Discussions have taken place with Council that the landowners will undertake significant on site works, external infrastructure and dedication of conservation lands to meet the demands generated by the development. It is proposed that a voluntary planning agreement be entered into by the parties as an alternative to Council's exhibited draft Section 94 Plan. Further details are provided in Section 9.2.

A file note in relation to the above meetings is attached in Appendix 5.

- Roads and Traffic Authority (RTA) – several meetings were held with representatives from the Regional office at Woy Woy. These meetings were also attended by engineering staff from Wyong Shire Council. Minutes of meeting are attached in Appendix 6. Consultation was in respect to:
 - RTA requested additional traffic data on the Sparks Road interchange to assess the impacts of the proposed intersection at Sparks Road with Precinct 14 and an analysis of traffic distribution within Precinct 14 on the proposed new intersections. This data was provided to the RTA. Preliminary advice is that the Sparks Road intersection in an acceptable location and will not compromise the function of the Freeway ramps.
 - Sewer rising main crossing the freeway corridor – preliminary advice is that the rising main is to be 3 to 4 m below the pavement of the freeway and will need to be constructed for the entire width of the Freeway reserve and will be constructed in a sealed conduit. Formal approval will be required through the Asset Management Branch.

- Proposed pipeline to carry surplus stormwater to Wyong River – one of the routes under consideration crosses the Freeway on the Alison Road overbridge. Preliminary advice from RTA is that there is likely to be sufficient capacity in the deck to carry the proposed 250 ID PVC pipeline. Separate approval will be required by the Asset Management Branch and the property section. Refer to correspondence from RTA and MM Consultants also attached in Appendix 6.
 - The RTA was also provided with flood studies, which confirm that the 1:100 year flood is contained within Precinct 14.
- Department of Water and Energy (DWE) – The Concept Plan Report was sent to the Gosford and Newcastle offices of DWE to ascertain any requirements. DWE advised of its guidelines by written correspondence attached in Appendix 7. It is considered that the development will be able to meet these guidelines. Further discussions were also held with DWE in relation to the discharge of treated stormwater. DWE advised that this comes under the Protection of the Environment Operations Act 1997 administered by the Department of Environment and Climate Change or the consent authority.
- Department of Environment and Climate Change (DECC) – discussions were held with DECC in relation to the discharge of treated stormwater and the Biodiversity Conservation Strategy. DECC advised that it is highly unlikely that it would issue a licence for the discharge of treated stormwater for this development as it is a non scheduled activity. This type of activity is approved by the regulating authority for the development.

DECC advised that it did not want to discuss the Biodiversity Strategy as the development should be in accordance with that document. A variation is being requested to the boundary of the land within the Biodiversity Strategy and this is further discussed in Section 8.2.

- Commonwealth Department of Environment, Water, Heritage and the Arts - An assessment of the species under the Commonwealth Environment Protection and Biodiversity Conservation Act was undertaken by Conacher Environmental Group on behalf of the proponent and concluded that referral to the Commonwealth Department was not necessary. This is further addressed in Section 8.2.



8.0 KEY ASSESSMENT REQUIREMENTS

8.1 Technical Studies

Warner Business Park Pty Ltd assisted in funding studies commissioned by Wyong Shire Council as part of the overall WEZ investigations. These studies together with additional studies commissioned by Warner Business Park Pty Ltd form the technical basis for the Concept Plan and Project Approval. Studies commissioned by Council include:

- Wyong Employment Zone Additional Flooding Assessment Final Report prepared by DHI Water & Environment (November 2006).
- Buttonderry Creek Flood Study Precincts, 11, 13 and 14 by Matrix + Consulting Pty Limited (November 2005).
- Integrated Water Cycle Management Strategy Wyong Employment Zone (WEZ) prepared by Ecological Engineering (November 2006).
- Ecological Assessment undertaken for the WEZ prepared by Forest Fauna Surveys Pty Ltd and East Coast Flora Survey (May 2006).
- Sparks Road Intersection Analysis prepared by Arup (November 2005).
- Wyong Employment Zone Sparks Road Traffic Study prepared by Wyong Shire Council (November 2005).
- The Archaeological Investigations for sites of Indigenous cultural sensitivity in Precincts 11, 13 and 14, and Industrial Land, Sparks Road Wyong Employment Zone by Archaeological Surveys & Reports Pty Ltd (April 2005).
- Wyong Employment Zone Precincts 11, 13 and 14, and Airport Supplier Park Halloran Updated Preliminary Contaminated Land Assessment and Acid Sulfate Soil Assessment prepared by Coffey Geosciences Pty Ltd (15 May 2006).

Additional studies have been commissioned separately by Warner Business Park Pty Ltd to assist with the design of the subdivision and associated works and to address the Director General's requirements, and these are outlined in the following sections.

8.2 Biodiversity

An Ecological Assessment was undertaken for the WEZ by Forest Fauna Surveys Pty Ltd and East Coast Flora Survey (May 2006), which was submitted as part of the WEZ documentation. Specific surveys including threatened flora and fauna were undertaken within Warner Industrial Park.

Further investigations have been carried out by Conacher Environmental Group (attached in Appendix 8).

The Concept Plan provides for the rehabilitation and dedication of environmental areas including Buttonderry Creek and an environmental buffer along the F3 Freeway. The proposal is in accordance with the exhibited SEPP for the WEZ and supporting documentation, which include a proposed Biodiversity Strategy.

A minor variation to the conservation zone under the SEPP in the north east corner of the site is proposed where the land has been severely disturbed as a result of filling associated with the Freeway construction. The variation is supported by additional site investigations and an assessment of flora and fauna impacts (refer to Appendix 8). The proposal will have an acceptable level of improvement under the "maintain or improve" criteria.

The Flora and Fauna assessment also concluded referral under the EPBC criteria is not required since there is not likely to be an impact on a significant population of nationally listed threatened species, any nationally listed endangered ecological community or any nationally listed migratory or marine species.

The WSUD scheme for Warner Industrial Park will minimise impacts on Porters Creek Wetland in accordance with Council's Integrated Water Cycle Management strategy. The flora and fauna assessment also considered the route of the proposed recycled stormwater pipeline along Hue Hue Road and Alison Road, and concluded that there are no significant environmental impacts.

8.3 Heritage

Archaeological investigations were undertaken of the WEZ including Precinct 14 by Archaeological Surveys & Reports Pty Ltd (2005) in conjunction with the Darkinjung Local Aboriginal Land Council (2005) for Wyong Shire Council. These reports concluded that there are no constraints to the rezoning of the site. These reports were submitted to the Department of Planning as part of the documentation for the WEZ. The site contains no heritage listed buildings or sites, and there is no evidence of European occupation that would give rise to special cultural significance.

8.4 Urban Design

The Concept Plan proposes approximately 90 lots for industrial and ancillary uses. Lot sizes range from 0.43ha to 2ha. It should be noted that the subdivision has been designed to allow for future amalgamation or more intensive subdivision depending on market needs.

The subdivision design reflects the topography of the site and incorporates Buttonderry Creek riparian zone and an environmental corridor along the F3 boundary, which will include drainage and WSUD elements.

Principles have been incorporated into the development controls to address the different attributes of the site in relation to the proposed land uses, particularly with respect to presentation to the F3 Freeway, Sparks Road, Hue Hue Road, the estate entries, and areas of high amenity within the site.

Larger lots are proposed along Sparks Road and Hue Hue Road frontages to enable increased landscape buffers. An environmental/drainage corridor is proposed along the F3 Freeway boundary, which will provide a landscape buffer to the Freeway.

The location and design of ancillary support facilities or services is also important as per the following:

- Preferably adjacent to industrial park entries and in visually prominent locations such as corners or prominent intersections;
- Safe and convenient access for pedestrian and vehicles;
- High quality presentation of built form and landscape; and
- Consideration should also be given to locating these uses near areas of high amenity, e.g. Buttonderry Creek Corridor.

A Visual and Landscape Management Strategy has been incorporated into the Draft Warner Industrial Park Development Control Plan and is attached in Appendix 3.

The development costs are significant, particularly in achieving environmental objectives in relation to Porters Creek catchment, traffic improvements to the external road network, and in creating a quality development. Funding of these objectives relies on creating an attractive location for investment, and in this respect an appropriate balance of uses, and environmental and design controls is essential to the success of Warner Industrial Park and the adjoining employment lands.

It is proposed that the development will be undertaken in one stage. Site clearing and vegetation management requirements are incorporated in the Vegetation Management Plan attached in Appendix 4.

8.5 Contamination and Geotechnical Investigations

A preliminary Geotechnical Investigation was undertaken by Douglas Partners in April 2008 and is attached in Appendix 9. The investigations were of a preliminary nature, and state that further ongoing investigation should be undertaken as the proposed design progresses.

Similar conditions comprising loose to medium dense soil profiles were found across the site during testing, with some weaknesses in the soil profile found in the eastern area of the site. This area included clay soils of varying firmness and some loose sands. Due to the presence of weak soils in this area, the site would be likely classified as Class P - Problem Site. However, reclassification of the site may be possible following controlled placement of fill and subsequent geotechnical inspection and testing.

Extremely low strength bedrock was found during testing for the proposed bridge over Buttonderry Creek. Groundwater was also observed in this location, but this can vary over time as it is affected by recent climatic conditions and soil permeability. The report proposed the use of continuous flight auger piles or driven treated timber or pre-cast piles rather than bored piles, due to the loose waterlogged nature of the foundation material in this location.

Proposed road intersections were assessed, being the roundabout at Sparks Road and new Road 1, and the Type C intersection at Hue Hue Road and Road 5 and the report provides detailed pavement recommendations.

Douglas Partners has provided general guides to suitable footings based on the site conditions. Spread footings are proposed for the construction of one or two storey buildings, where the foundation material is hard clay or bedrock. Further guidelines are provided for where the fill has been engineered and piled foundations may be required for buildings of three to four storeys or industrial buildings,

A Targeted Phase 2 Contamination Assessment was undertaken by Douglas Partners in May 2008 and is attached in Appendix 10. The purpose of the report was to assess Areas of Environmental Concern (AEC), as identified in the previous assessment by Coffey Geosciences Pty Ltd (May 2006) which was prepared for the WEZ, as well as the site's general suitability for its proposed industrial use. The AEC at the site are the former "Heli Aust" helicopter operation and the potential run-on of contaminated materials from Buttonderry Landfill and its approaches. The report also looked at areas in which further assessment or remedial works may be required.

The Contamination Report noted a lack of data in some areas will require further investigation, but also noted that these issues are fairly commonly found in rural sites that are being redeveloped, and can be addressed prior to or during the development process. The report concluded that the site would be suitable for the proposed industrial land use.

8.6 Utilities and Infrastructure

MM Consultants Pt Ltd and Peter Andrews + Associates Pty Ltd carried out investigations on behalf of the landowners in liaison with service providers to ascertain existing and future capacity of the Warner Industrial Park. Findings of these investigations are outlined in the following table and correspondence from the Service Providers are attached in Appendix 11.

Table 4 – Existing and Future Servicing Capacity

Utility	Comments	Service Provider
Water Supply	<p>An existing 375mm pipeline from Burnet Road is to be extended along Sparks Road up to Hue Hue Road and then 200mm pipeline along Hue Hue Road past Kiar Ridge Road to service the development. This work is programmed for completion by mid 2009.</p> <p>Water reticulation will be connected to Council's system either on Sparks Road or Hue Hue Road.</p>	Wyong Shire Council
Sewerage	A series of gravity mains will service the development, collecting at the pump station, which is located at the low point (Refer Concept Plan). The pump station is to be sized for 255ETs. A rising main is to be extended under the F3 Freeway by underground thrust bore from the pump station to a collection manhole which is at the start of a 300mm gravity sewer main in Precinct 13. The pump station proposed to serve Precinct 13 with 42 ETs and the associated rising main is also proposed to be connected to the same collection manhole. The proposed works to serve Precinct 13 are being designed by Wyong Shire Council with completion of construction expected in mid 2009.	Wyong Shire Council
Power Supply	A new 132kV/11kV zone substation will be required due to the distance from the existing zone substations and probable electrical loads. Adequate road frontage is required to accommodate numerous underground cables. A number of kiosk type substations will also be required within the development site. Underground cables will be used throughout the site.	Energy Australia
Telecommunications	Existing network is sufficient to meet the likely demand of the development.	Telstra
Gas Supply	Natural gas mains are located in Sparks Road at Warnervale and could be extended to the development.	Alinta
Waste Disposal	<p>Waste during construction of the subdivision will be recycled where possible and in accordance with the Plan of Management.</p> <p>Waste controls are also included in the DDCP.</p>	Waste removal is through a commercial contractor.

Utility	Comments	Service Provider
Stormwater and Recycled Water	<p>At the time of preparing this Environmental Assessment, Council is still finalising the concept design for the IWCMS. Discussions have been held with Council regarding the proposed stormwater reuse pipeline along Hue Hue Road. This is further discussed in Section 8.10.</p> <p>Other aspects of water recycling in Precinct 14 can meet the water quality objectives of the IWCMS.</p>	Service to be provided by the proponent and transferred to the Gosford / Wyong Water Supply Authority.

8.7 Bushfire Risk Assessment

A Bushfire Assessment has been carried out by Conacher Environmental Group and is attached in Appendix 12. The Bushfire assessment states that the main bushfire threat is from retained vegetation within the existing and proposed environmental corridors. A 10m setback is proposed along these boundaries where vegetation is present. These setbacks have been incorporated into the Draft DCP for Warner Industrial Park.

8.8 Ecologically Sustainable Development

8.8.1 Protection of Environmental Habitats

The Concept Plan provides for the rehabilitation and dedication of environmental areas including Buttonderry Creek and an environmental buffer along the F3 Freeway. This is in accordance with the exhibited SEPP for the WEZ and supporting documentation, which include a proposed Biodiversity Strategy. In addition, a principle objective of the WSUD scheme for Warner Industrial Park is the maintenance of the pre development hydroperiod for Porters Creek Wetland in accordance with Council's Integrated Water Cycle Management strategy.

The proposed Landscape Masterplan incorporated in the Draft Warner Industrial Park Development Control Plan and Vegetation Management Plan provide details with respect to treatment and management of the environmental areas.

8.8.2 Water Management and Stormwater Reuse

The proposed development incorporates current best practice with regard to WSUD including:

- Onsite capture and reuse for individual developments within Precinct 14; and
- Capture, treatment and diversion of surplus stormwater flows to discharge directly into Wyong River, which potentially enable increased water take off from the River into the municipal water supply by offsetting environmental flows.

8.8.3 Climate Change

The NSW Department of Planning in conjunction with Local Government has recently prepared the High Resolution Terrain Mapping of the NSW Central and Hunter Coasts for Assessments of Potential Climate Change Impacts. This report maps low lying areas and assesses the impact of climate change. Precinct 14 is not mapped as a low lying area and therefore will not be affected by sea level change.

Flood studies and modelling have been undertaken as outlined in Section 8.11, which addressed a range of storm event durations. Apart from sea level rise, DECC Climate Change Guidelines (October 2007) consider a range of storm intensities for different locations. The finished site levels are above the 1 in 100 year flood event, and proposed development requires building floor levels to be set at 300 mm above the 1 in 100 year event. Additional modelling will be required as part of the detailed design and Construction Certificate documentation. The potential to provide a higher level of protection against increased storm intensities can be afforded by raising the minimum site level if this is deemed necessary, given that there is an additional 300mm freeboard above the 1 in 100 year flood. This will not impact the land take required in the Concept Plan and Project Application for the proposed stormwater drainage. Refer to correspondence from Trehay Ingold Neate attached in Appendix 13.

8.8.4 Greenhouse Gas and Carbon Emissions

Warner Industrial Park will create between 2,000, and 3,200 direct jobs, with 5,000 to 8,000 jobs throughout the broader economy, adopting a 2.5 multiplier. This will assist in reducing the need for commuting, and provide local employment opportunities to meet existing demands, and projected employment needs for planned population growth under the Central Coast Regional Strategy. Whilst the potential reduction in greenhouse emissions has not been quantified, the reduction in trip kilometres from the proposed development, combined with additional jobs from the balance of the WEZ, is likely to have a significant positive impact compared to reliance on those additional jobs having to be met through commuting beyond the region.

8.8.5 Sustainable Regional Economy

Creation of local employment in the Central Coast is a major objective of the State Plan, Central Coast Regional Strategy, and the WEZ. A more sustainable local economy will contribute to the overall environmental sustainability of the Central Coast, and assist in mitigating the social and economic impacts of future population growth within the region.

8.8.6 Cumulative Impacts

Mitigation of cumulative impacts will be assisted by the initiatives described above including:

- The proposed WSUD and diversion of surplus stormwater are intended to mitigate long term cumulative impacts on the downstream receiving waters of Porters Creek Wetland.
- The proposal is intended to enable the potential take off of additional water from Wyong River to supplement the municipal potable water supply. This will assist in reducing cumulative impacts from continued urbanisation within the region.
- Creation of local jobs will reduce the need for commuting, which is a significant issue for the region. This will potentially reduce the environmental footprint of urban development in the Central Coast by reducing carbon emissions generated as a result of planned population growth.
- Apart from reducing the environmental footprint of urban development in the region, the creation of a stronger, self contained employment base will assist the region in developing a more sustainable economy.

8.9 Traffic and Transport

Public transport is provided to the site by “Coastal Liner” buses, which run a service along Sparks Road and Hue Hue Road. This bus service currently operates on weekdays and its route includes stops such as the Lake Haven Shops, Warnervale Station, Wyong Station and Tuggerah Westfield which all provide access to transport to further destinations. The proponent will engage in further discussions with the bus company with a view to expanding the frequency of service as the Industrial Park is developed. In addition, the Sparks Road Corridor will eventually become a major bus route feeding the new Warnervale Town Centre and associated transport interchange with extended services throughout the remaining part of the WEZ as it develops. This will ensure that the land subject to this Application achieves Government objectives in relation to increased public transport use and reduction in greenhouse emissions.

The Concept Plan provides for pedestrian and cycleway pathways in the Industrial Park. The cycleway will link with the existing onroad cycleway in Sparks Road. The RTA has developed a strategic plan for an offroad cycleway on the southern side of Sparks Road. However, the timing and implementation of this plan has not been determined.

Access to the site will be provided by new intersections constructed on Sparks Road and Hue Hue Road. The Traffic Report undertaken by ARUP for the WEZ identified that the two intersections were considered appropriate for the development. Further traffic analysis was undertaken as requested by the RTA and Wyong Shire Council, which supports the findings of the first traffic report that only two intersections are required to cater for the traffic from the Warner Industrial Park. Refer Appendix 14 for the further Traffic Assessment undertaken by TAR Technologies.

Traffic counts on the north off and on ramps to the F3 Freeway were also conducted as requested by the RTA and forwarded to the RTA.

8.10 Water Quality, Drainage and Stormwater Management

An Integrated Water Cycle Management Strategy (IWCMS) for the WEZ was prepared by Ecological Engineering in November 2006 and was exhibited as part of the WEZ application. The Ecological Engineering investigation concentrated on an integrated catchment management approach to managing the stormwater discharges from the WEZ, and the Warnervale Town Centre, such that the existing hydroperiod for Porters Creek Wetland would be maintained. This investigation determined that the runoff volume created from full development of the catchment was substantially more than the existing situation and that these changes to the hydrologic indices for the catchment would change the hydroperiod for Porters Creek Wetland and detrimentally impact on the ecosystems.

The existing hydroperiod for Porters Creek Wetland should be managed by removing the surplus stormwater volume from its catchment. Rather than waste the surplus stormwater, the IWCMS strategy proposed to treat the surplus volume before discharging it to the Wyong River where it could augment the off-take for the Gosford Wyong Water Supply Scheme.

J. Wyndham Prince Pty Ltd has reviewed Council's IWCMS strategy and assisted in developing the WSUD for Warner Industrial Park, including the proposal for an alternative pipeline along Hue Hue Road to convey surplus stormwater for the development to Wyong River. Refer advice from J. Wyndham Prince dated June 2008 and its Addendum Report, which are attached in Appendix 15.

A summary of the key issues with respect to water quality and stormwater is provided below.

8.10.1 IWCMS Specific to the WEZ

The following initiatives have been identified as necessary components of the IWCMS for the WEZ (Ecological Engineering, 2006):

- Demand management – Water efficient appliances within each building;
- Rainwater tanks – Non-potable uses, sized at 65% of the non-potable demand;
- Structural Separation – Disconnection of work areas from the stormwater system;
- Allotment Landscape Irrigation – 25% of allotment designated for tank water irrigation;
- Vegetated swales – For stormwater conveyance from hardstand areas to water treatment systems (e.g. constructed wetlands).
- Constructed Wetlands – Water quality treatment of stormwater runoff will be mostly achieved through constructed wetland systems sized at 4% of the catchment area;
- Stormwater storage – Following treatment, stormwater will be temporarily stored (20 mm / catchment ha) within each Precinct of the WEZ to achieve the hydrologic objectives;
- 'Brickpits' Wetland & Storage – Provide a central collection point for pumped flows from the temporary Precinct storages before delivery to the Link Road Pipeline;
- Link Road Pipeline – Provides the mechanism by which stormwater, in excess of that required to preserve the hydrologic characteristics of Porters Creek Wetland, is delivered directly to the Wyong River where it will supplement the Gosford-Wyong potable water supply by 5 – 7 GL/year on average.

- Stream Disturbance Management – Retardation of the 3-mth and 1.5-yr ARI flows into Buttonderry Creek.

8.10.2 Alternative IWCMS for Precinct 14 of the WEZ

Implementation of the IWCMS as proposed by Wyong Shire Council is dependent on the acquisition of the Brickpits Storage and construction of the Link Road pipeline. Both of which are not envisaged in the near future. In the meantime, development of Precinct 14 may be delayed until this infrastructure can be constructed.

To expedite the construction of the industrial development proposed for Precinct 14 of the WEZ, an alternative scheme was investigated. This alternative scheme aims to achieve the same objectives as those identified for the regional IWCMS but utilises the on-site stormwater storages in place of the Brickpits Storages and delivers the surplus stormwater to the Wyong River via an alternative pipeline along Hue Hue Rd in lieu of Link Road. The key elements of this alternative IWCMS include:

- Demand management – Water efficient appliances within each building;
- Rainwater tanks – Non-potable uses, sized at 65% of the non-potable demand;
- Structural Separation – Disconnection of work areas from the stormwater system;
- Allotment Landscape Irrigation and / or irrigation to public areas within the Warner Industrial Park;
- Vegetated swales – For stormwater conveyance from hardstand areas to water treatment systems (e.g. constructed wetlands);
- Constructed Wetlands – Water quality treatment of stormwater runoff will be mostly achieved through constructed wetland systems sized at 4% of their sub-catchment areas;
- Stormwater storage – Following treatment, stormwater will be temporarily stored (20 mm / catchment ha) within Precinct 14 before delivery to the Hue Hue Road alternative pipeline to achieve the hydrologic objectives;
- Hue Hue Road Pipeline – Provides the mechanism by which excess stormwater from Precinct 14, is delivered directly to the Wyong River.
- Stream Disturbance Management – Retardation of the 3-mth and 1.5-yr ARI flows into Buttonderry Creek.

The differences between Council's IWCM Strategy and the WSUD strategy proposed for Precinct 14 is in the:

- Reliance on the Brickpits Storage by the regional IWCMS, and the reliance of the Precinct 14 IWCMS on the Precinct Storage for the temporary detention of surplus stormwater;
- Construction of a pipeline from the Brickpits Storage along Link Road to deliver surplus stormwater runoff to the Wyong River, and the construction of a pipeline from the Precinct Storage along Hue Hue Road to the Wyong River; and
- It is also noted that management principles adopted in the IWCMS designate a landscaped area of up to 25% of the allotment for irrigation. This potential requirement for landscape irrigation would have a significant impact on development feasibility. In the case of Warner Industrial Park, over 25% of the site (24 hectares) has been given over to environmental lands. On this basis, an exemption is sought in the Draft DCP from the 25% landscape area requirement in individual allotments, provided that detailed water balance modelling can demonstrate that the principles and objectives of the IWCMS can be met.

Wyong Shire Council has undertaken an Environmental Risk Analysis into the efficacy of discharging the surplus upstream or downstream of the Wyong Weir. At the time of writing, no decision had been made on the preferred option. The RTA has indicated that it may be possible to accommodate the proposed 250 mm diameter Hue Hue Road stormwater pipeline within the existing conduits at the Alison Road and F3 overbridge. This provides the ability for the Hue Hue Road pipeline alternative to discharge either upstream or downstream of the Wyong Weir.

Wyong Shire Council has also required that the *"50% percentile wet weather flows nutrient concentrations entering wetland ecosystems should not exceed:*

- 0.09 mg/L for Total Phosphorus
 - 1.3 mg/L for Total Nitrogen"
- (IWCMS WEZ Nov 2006, p. 58)

The alternative strategy for Precinct 14, incorporating the Hue Hue Road pipeline, will discharge the environmental flows, treated to meet the IWCMS objectives (pollutant loads and peak flow rates), into Buttonderry Creek, and treated surplus stormwater flows into Wyong River. There will be no direct discharges to natural wetland ecosystems.

A review of potential impacts of the pipeline was undertaken and, apart from short term temporary impacts during the construction process, it is not envisaged that there will be any significant impacts from the proposed pipeline. The pipeline is proposed to be constructed within the public road network, and there is no significant flora and fauna along the proposed alignment (refer to Appendix 8).

It is understood Council is still in the process of determining the appropriate stormwater discharge criteria for the Wyong River, but it is likely to use the above wetland discharge criteria. Consultants J Wyndham Prince Pty Ltd has advised that MUSIC modelling of the proposed wetland treatment system, which has surface areas representing the 4% of the Precinct 14 catchment, in combination with the proposed at "source treatment measures", is likely to confirm compliance with the above mean discharge concentrations (refer Appendix 15).

8.11 Flooding

A number of flooding investigations have been undertaken for the site. Initially, by Wyong Council as part of its overall investigations for the WEZ, and subsequently by the Proponent to assess more detailed designs for Warner Industrial Park.

The studies and modelling were used to determine the areas for development, and to identify appropriate site levels and flood compensatory storage to be incorporated in the Concept Plan. The WSUD proposals described elsewhere in this report were also considered as part of the overall drainage strategy.

A summary of the studies is as follows:

Matrix Consulting Pty Ltd (2005) study was undertaken for the WEZ and was included in the WEZ public exhibition documentation.

With respect to precinct 14, the study considered fill options to create potential development areas, and noted that the F3 Freeway traverses the catchment significantly modifying both the existing and post development flood behaviour. The Freeway is raised above the 1% AEP flood level and creates a flood storage upstream, with downstream flood flows restricted to the capacity of the five (5) sets of culverts under the freeway.

Assessment of Impacts for Precinct 14 concluded:

- There is no change in flood levels upstream of Precinct 14;
- The maximum increase in flood level within Precinct 14 is 0.81m, however, this increase is confined to a localised area where the proposed fill extends into an active flow area. Changes in its flood profile are not considered to significantly affect overall flooding of the Precinct. The general increase in flood levels within Precinct 14 is limited to 0.09m.
- Sparks Road was not flooded under either existing or developed conditions and increases in flood levels are limited to 0.1m.
- Any increase in flood levels are localised to the development area and the proposed development works do not cause any general increase in flood levels within the Buttonderry Creek floodplain outside the study area.
- Development of Precinct 14 has limited impact on flood flows or velocities downstream of the Freeway due to the flood attenuation effects of the culverts under the Freeway.
- There is no significant change in flood flows or velocities within the main Buttonderry Creek channel.
- The freeway acts as a hydraulic control with the culverts restricting any increase in downstream flood flows that would have occurred due to the increase in flood flows following development of Precinct 14.
- Compensatory flood storage is required within Precinct 14 to permit additional development in flood affected areas. Compensatory flood storage is not required for the entire fill volume placed within the floodplain, as the majority of the area proposed to be filled is located within the flood fringe. Based on the hydraulic model results approximately 20,000m³ of flood storage is required to replace the active flood storage lost due to fill.

Modelling of the PMF flood event was not undertaken, however the previous study undertaken by Paterson in 1997 estimated that the peak flows in a PMF event would be 3 to 4 times higher than 1% AEP flows while the flood level would increase by up to 0.8m. Most areas that are proposed for development are adjacent to areas of higher ground that are well above these levels. The flood levels predicted by Paterson (1997) are not excessive and because of the relatively small size of the Buttonderry Catchment (13km²), the period of inundation is expected to be short, of the order of 2 to 6 hours.

The NSW Floodplain Development Manual defines a low hazard flood event as one in which trucks can evacuate people if necessary and able bodied adults can walk to safety. Low hazard events have velocities less than 1m/s and depths less than 0.8m. Based on the velocities reported in this study and the increase in PMF flood levels reported in Paterson (1997), it is expected that a PMF flood event would be “low hazard” in Precinct 14 that are proposed for development.

Buzz Engineering & Environmental Solutions undertook a floodplain development strategy for Precinct 14 and this is attached as Appendix 16. This strategy aims to achieve developed conditions that minimise changes to predicted post developed flood levels, flood velocities, complement proposed constructed wetland systems, meet setback requirements and mitigate adverse flooding impacts on Hue Hue Road, Sparks Road and the Freeway.

The proposed creek crossing that will join the southern and northern industrial precincts has been located to minimise encroachment into the riparian zone. This will in turn minimise changes in the hydrology and hydraulics (i.e. water levels and flow velocities), and reduce impacts on the function of the riparian corridor.

The study examined the previous flood model by Matrix and further modelling undertaken by DHI. It concludes that:

- Revised hydraulic modelling demonstrated that 1% AEP flood levels are lower than first predicted which also resulted in a slight reduction in the predicted 1% AEP flood velocities;
- The preferred bridge option over Buttonderry Creek, which uses a single 30m span to cross Buttonderry Creek, does not create any adverse impacts on flood behaviour;
- Revised hydraulic modelling to date indicates that the changes to the 1% AEP flood behaviour are unlikely to adversely impact on the built environment (i.e. Sparks Road, Hue Hue Road and the F3 Freeway);
- The integration of floodplain storage and water quality facilities is likely to minimise impacts on the natural environment (i.e. endangered ecological communities) while minimising changes to the 1% AEP flood behaviour and providing sufficient area for water quality treatment; and
- Compensatory storages would be approximately 19,000m³.

DHI Water & Environment Pty Ltd undertook two additional floodplain models and these are attached in Appendix 17 and 18.

Scenarios were run for a range of design storm event durations: 2, 4, 6 and 9 hours for the 1% AEP event for a number of layout options. The hydraulic model was extended upstream of Hue Hue Road to enable informal flood storage detention expected behind the road to be correctly represented.

The model results show that the inclusion of the flow detention reduces peak flows and flood levels downstream of Hue Hue Road in a large section of Precinct 14. The model was also updated to match the surveyed level data of the culverts under the F3 Freeway and it was found to lower peak flood levels upstream of the freeway.



Model results for option 3 (which is similar to the current subdivision layout for Warner Industrial Park) indicate:

- The proposed bridge over the floodplain is not expected to adversely impact on the 1% AEP flood behaviour. Computer water levels upstream and downstream of the bridge are predicted to be lower than the peak levels for the existing floodplain.
- Development of the “B2” flow path with a piped section for low flows combined with a formalised overland flow path down a proposed roadway is expected to increase flood levels locally upstream of the proposed pipeline headwall. A formalised overland flow path proposed to convey flows which overtop the headwall will need to be carefully designed to effectively capture these excess flows and convey them safely across the developed site.
- Higher flood levels are reported for the “F2” flowpath for both Options 1 and 2. However, the additional flood storage included in Option 3 ensures that flows remain in-bank with the design Manning’s “n”: roughness coefficients applied in the engineered channel. Nevertheless water levels remain approximately 0.2m below the road crest level in the upstream part of the proposed channel and in the lower part of the “F2 branch between chainages 800-900m the road is close to being overtopped in the design case.
- The approach to accommodating flooding within Precinct 14 is generally sound. The proposed roughness coefficients for the engineered channel “F2” will rely on a maintenance regime to ensure vegetation does not obstruct flows.
- Some redistribution of flood volume immediately upstream of the F3 Freeway embankment will occur under the proposed development scenario. While peak levels at the Buttonderry Creek channel culverts will remain similar to the existing flood case, levels will change by up to 0.3 m in the flooded area to the east of the main channel. The peak flood 1% AEP flood levels remain more than 0.5m below the top of the Freeway embankment.



Figure 9- Proposed Alternative Stormwater Pipeline
Concept Plan and Project Approval
Warner Industrial Park
June 2008

9.0 DRAFT COMMITMENTS AND CONTRIBUTIONS

9.1 Draft Statement of Commitments

The project will be carried out generally in accordance with the plans and information submitted as part of this Environmental Assessment including:

- Provision of internal water, sewer, electrical, gas and telecommunication services for the proposed development.
- Construction of the subdivision including the internal road infrastructure, onsite stormwater and water quality ponds, drainage swales, and landscape treatment.
- Design and construction of the water pipeline along Hue Hue Road for Warner Industrial Park and transfer upon completion to Wyong Shire Council/Gosford Wyong Joint Water Authority. In the event that Council has finalised its IWCMS, and is able to ensure that it will not delay development of Warner Industrial Park, the Proponent is able to join Council's scheme subject to costs.
- Construction of storage basins and wetlands within Warner Industrial Park.
- Establishment of an ongoing management and funding structure within the Warner Industrial Park to ensure public lands and infrastructure are maintained.
- Dedication of the Buttonderry Creek and environmental corridor to Wyong Shire Council on completion of the agreed works.
- Maintenance of the Buttonderry Creek and environmental corridor for a period of 3 years upon completion of the agreed works.
- Transfer of the internal roads in Warner Industrial Park to Wyong Shire Council at such time that is reasonable.
- Construction of intersection works being at the entry to Precinct 14 on Sparks Road and Hue Hue Road to be designed in accordance with Wyong Shire Council's and RTA requirements.
- Contribution towards State and Local infrastructure.

The above items are also subject to agreement with Wyong Shire Council and the relevant State Agencies.

9.2 Development Contributions

The Proponent acknowledges that the proposal will be required to assist in funding infrastructure. Council has prepared a Draft Section 94 Contributions Plan for the WEZ. The owners of Warner Industrial Park propose to enter into a Voluntary Planning Agreement with Wyong Shire Council to meet additional demand on services generated by the proposed industrial park.

The proposed schedule of works for the Voluntary Planning Agreement to be entered into between the landowners (the "parties" being Warner Business Park Pty Ltd, Delcare Constructions Pty Ltd and Mr LG Delahunty) with Wyong Shire Council is as follows:

1. The parties will pay a monetary contribution of \$300,000 to be allocated to the traffic management works at the intersection of Hue Hue Road and Sparks Road in accordance with Council's draft section 94 Plan for the Wyong Employment Zone. Payment of this money will occur prior to the occupation of the first building within the Warner Industrial Estate. Wyong Council will complete the intersection works prior to 50% completion of the Warner Industrial Park.

2. The parties will carry out traffic management works including:
 - A roundabout at the proposed entry of Precinct 14 at Sparks Road as indicated on the Concept Plan. Intersection works will be carried out prior to occupation of the first building within Warner Industrial Estate.
 - A seagull intersection at the proposed entry of Precinct 14 at Hue Hue Road as indicated on the Concept Plan. Intersection works will be carried out prior to occupation of the first building within Warner Industrial Estate.
 - The road intersection works will be undertaken to meet Council requirements.
3. The parties will construct a Water Pipeline along Hue Hue Road to Wyong River including:
 - a. Laying of pipeline and associated pumps to carry treated stormwater from Precinct 14, in accordance with the route plan. Wyong Shire Council will provide all approvals for the placement of the pipeline. The pipeline including the associated infrastructure will be transferred to Council/Joint Water Supply Authority upon completion.
 - b. Water Quality basins and local drainage works as shown on the Concept Plan.
 - c. Establishment of an ongoing management and funding structure within the Warner Industrial Park to ensure lands are managed in accordance with the Water Pipeline Scheme.
 - d. Dedication of the drainage channel to Wyong Shire Council/Joint Water Supply Authority upon completion of the works.
 - e. Maintenance of the water quality treatment systems, storage basins and drainage channels for 3 years after completion of the works.
4. Conservation Works including:
 - a. Restabilisation of Buttonderry Creek within Precinct 14 in accordance with the agreed works as shown on the Concept Plan.
 - b. Dedication of the Buttonderry Creek and environmental corridor to Council upon completion of the restabilisation works. The land to be dedicated is shown on the Concept Plan.
 - c. Maintenance of the Buttonderry Creek Corridor for 3 years upon completion of the stabilisation works.
5. Payment of levies under Council's Development Services Plan to be paid upon occupation of the first building.

9.3 State Infrastructure Levies

The Draft State Infrastructure Contribution for the WEZ proposes \$91,000 per NDA (including roads) for the upgrading of Sparks Road to the east of the F3 Freeway. Warner Industrial Park is located to the west of the Freeway and therefore it is considered that it will have minimal impact on Sparks Road compared to development in the WEZ to the east of the Freeway. The proponent is prepared to contribute to the provision of State infrastructure.



10.0 JUSTIFICATION FOR THE PROJECT

The proposal reflects the changing nature of industrial employment, which is also acknowledged by the State Government. The Economy and Employment Strategy for Sydney prepared by the NSW Government as part of the Sydney Metropolitan Strategy notes changes in business operations are impacting on the way employment land is used. Many firms are consolidating operations into single sites combining head office, back office, manufacturing and distribution activities.

The Strategy identifies that the types of premises sort by business are increasingly diverse, and include:

- *Buildings with floorspace of 2,000 – 10,000 square metres for manufacturing and assembly with a small office area;*
- *Distribution centres with at least 10,000 square metres floorspace and high internal clearance (eight metres or more) on sites typically over five hectares, some as large as 40 – 100 hectares;*
- *Combined office/warehouse buildings for high-tech enterprises with 50 per cent or more office space for research and development/laboratory area; and*
- *Factory units and other small low cost premises for small and start-up businesses.*

Creation of new employment opportunities in this part of the Central Coast has been a major objective of State, regional and local planning for a number of years. This objective is echoed in the major initiatives in the State Plan and the Central Coast Regional Strategy. The proposed Warner Industrial Park fully supports this objective and will act as the much needed catalyst for the ongoing development of the remainder of the WEZ. The total cost of the completed development will be approximately \$327,897,393 and will result in the creation of approximately 2,000 to 3,200 full time jobs on the site and 5,000 to 8,000 in the wider economy.

Warner Business Park Pty Ltd is in a position to proceed immediately that planning approvals are obtained. The subject land is relatively free of development constraints in comparison to other parts of the WEZ land and can be viably and sustainably developed as a stand alone undertaking in the short term.

The site and its surrounds have been subject to extensive, independent investigations by Wyong Shire Council with funding by the Proponent and other land owners. Warner Business Park Pty Ltd has carried out additional investigations and detailed design and impact assessment in relation to the proposal. This body of work provides a detailed examination of constraints, impacts and mitigating measures in relation to the proposed development.

The land is zoned 10(a) Investigation and therefore a number of alternatives could be considered for the site. The site was previously used for rural residential purposes. There are 11 lots with access from Kiar Ridge Road, Hue Hue Road and Sparks Road. The land could be further subdivided into small rural residential lots or residential lots. However, the land is adjacent to the F3 freeway and acoustic measures would have to be implemented which would be quite costly. This land use would also increase the residential population but would not increase employment opportunities.

The development of the site for employment opportunities will greatly benefit the Central Coast. The site is also ideally positioned adjacent to the F3 Freeway providing good access to areas to the south and north of the site and also reduces the impact on surrounding local areas.



11.0 CONCLUSION

The supporting documentation provided with the Environmental Assessment indicates that the project can proceed with appropriate controls to regulate future land uses and to meet environmental infrastructure requirements.

The project can proceed at an early date, which will assist the Government in meeting its Regional employment objectives in a timely manner, and provide a catalyst for the development of other areas within the WEZ.



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