



Regional Context Analysis

Hue Hue Road, Buttonderry
and Tooheys Road, Bushells Ridge

May 2009

Client: Wallarah 2 (Kores Australia)
Job Name: Wallarah 2 Coal Project
Job No.: 06230

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1.0 Introduction

AndrewsNeil Pty Ltd has been engaged by the Wyong Area Coal Joint Venture (WACJV) to prepare a Regional Context Analysis for the proposed Wallarah 2 Coal Project in the northern part of Wyong Shire on the Central Coast.

This report assesses the proposed development in the context of current planning strategies that apply to the region at both the local and state levels.

A brief analysis of matters for consideration in relation to regional characteristics is also provided. This broad collation is not exhaustive commentary of the matters influencing the region, but rather a selective list of topical issues that provides a background to the assessment of whether the proposed coal mine and associated works are appropriate for the locations planned in the regional context. The specialist reports that accompany the Environmental Assessment should be referred to for more detailed information in relation to these matters.

2.0 Site Location

Kores Australia Pty Ltd has been a foundation partner and now the majority partner in the WACJV, which currently holds several exploration licences (ELs) in the Wyong Coal Development Area, which it has been exploring since 1995. The licence areas are shown on Figure 1 and identified as:

- A 405
- EL 4911
- EL 4912
- EL 5903

Available natural resources have lead to the establishment of a number of extractive industries in the northern part of Wyong Shire, with coal mining being a major source of local income. There are currently six underground mines operating in the region.

The proposed underground mining area covers an area of approximately 37 km² and is located entirely within a portion of EL 4911. There are no plans to mine area of EL 4911 east of the Sydney to Newcastle (F3) Freeway.

Two surface facilities sites are to be developed as part of the proposal. The Buttonderry site (Site A) on Figure 1 will be developed as the administrative centre for the coal mine and workforce entry point for the mine. It will be located along Hue Hue Road, Buttonderry, just west of the Sparks Road/F3 Freeway interchange. The following lots constitute Site A:

- Lot 1 DP 791157
- Lot 2 DP 791157



Aerial View looking North East

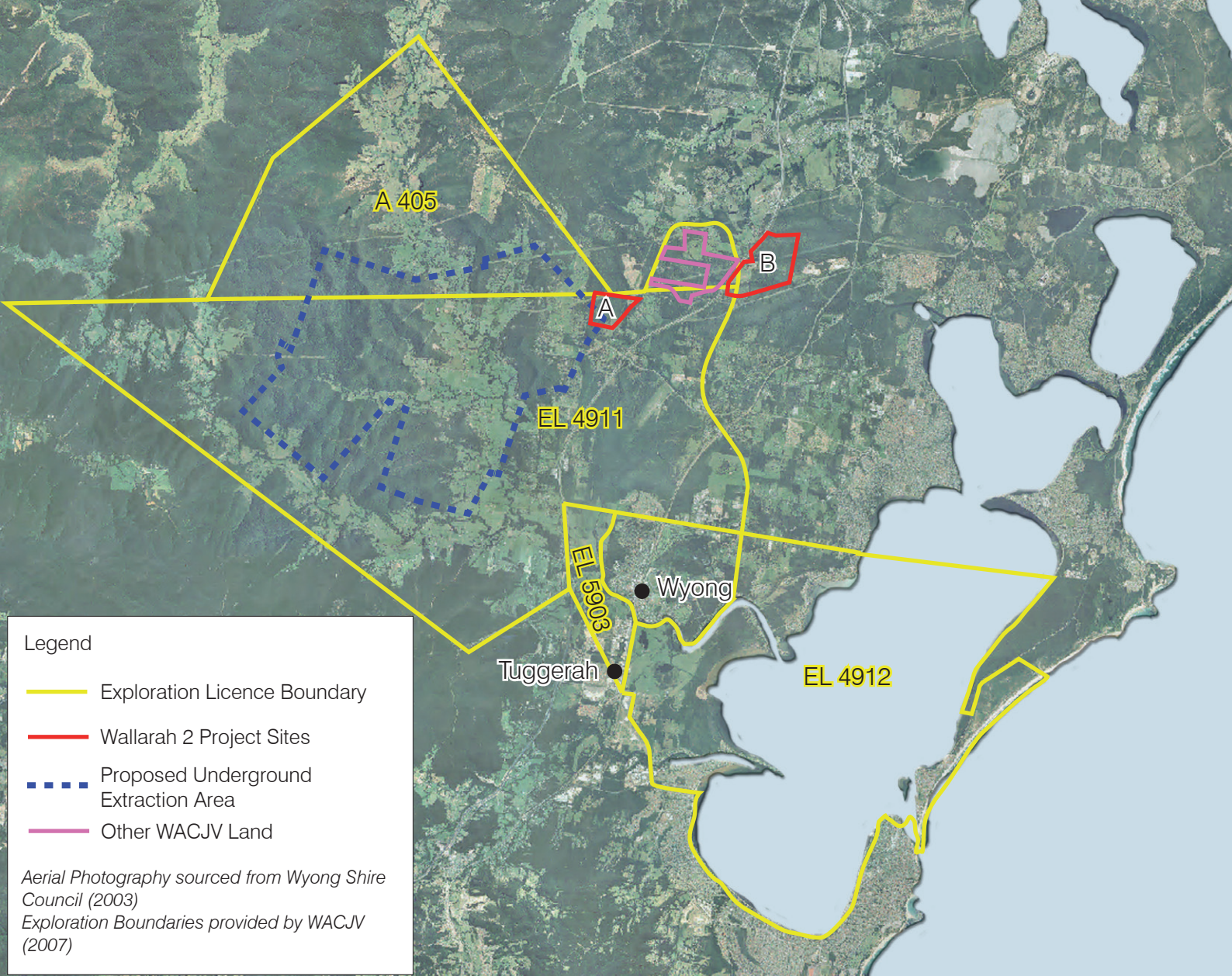


Figure 1 - Site Location

The Tooheys Road site (Site B) will be the surface facility for coal stockpiling and train loading located between the F3 Freeway, the Motorway Link Road and Tooheys Road, Bushells Ridge.

The lots comprising Site B are:

- PT 124 DP 755245
- Lot 126 DP 755245
- Lot 128 DP 755245
- Lot 103 DP 755245
- Lot 102 DP 755245
- Lot 1 DP 260217
- Lot 3 DP 260217

Both sites were selected, and land purchasing strategies developed, following detailed consultation with and advice from Wyong Council.

Site A, referred to as the Buttonderry site, is located opposite the proposed Warner Business Park site, which forms part of the Wyong Employment Zone (WEZ) (See Figure 2). To the north lies the Buttonderry Waste Disposal site. The proposed mining area, being west of the F3 Freeway, is somewhat remote from existing settlement areas. Scattered

rural dwellings follow the river flats and the small localities of Yarramalong and Dooralong are near the head of their respective valleys. State Forests dominate this area known as 'the valleys'. Olney State Forest continues north into the forested Watagan Mountains, which stretch towards Wollombi and the Hunter region. To the west of the valleys past the Wyong State Forest, the steep upland country continues through Dharug and Wollemi National Parks to merge with the Great Dividing Range. Ourimbah State Forest is south of the Yarramalong Valley; this area merges with the more gentle slopes of the Somersby Plateau.

Site B, referred to as the Tooheys Road site, is separated from Blue Haven by the Motorway Link Road, the main Newcastle Railway Line, Council's Sewage Treatment Plant and an operating quarry and associated tile manufacturing plant. It is located within an existing State Significant industrial zone recognised within the recently prepared Central Coast Regional Strategy for employment generation.

The towns of Tuggerah and Wyong lie outside the proposed lease area, east of the Main Northern Railway. Tuggerah includes several large, regional, commercial centres including the Westfield Tuggerah Shoppingtown and the Tuggerah SuperCenta.

The locality is characterised by dominant agricultural activity in the valleys involving intensive grazing, although turf farming occurs in more fertile areas near the Wyong River and Jilliby Jilliby Creek. Over the last 20 years large holdings have been fragmented and converted to hobby farms, rural weekend retreats, nurseries, horse studs and turf farms. As a result the character is rural rather than agricultural. However, the northern part of Wyong Shire has been identified as a major new urban area for the last 30 years (NSW Planning and Environment Commission, 1975) which will see the area transformed into a major urban area of the coast. Indeed, the suburbs of San Remo and Blue Haven which have experienced significant population expansion in recent years are testament to this long term strategic planning. While development in San Remo began a number of years before that in Blue Haven, both suburbs have been attracted people, often from Sydney, seeking affordable housing, a good quality lifestyle, and access to the natural environment of the waterways, beaches and bushland of the Central Coast.

The following regional features are shown on Figure 2:

1. Warnervale Town Centre
2. Wyong Employment Zone (WEZ)
3. Buttonderry Regional Waste Treatment Facility
4. Charmhaven Sewage Treatment Plant
5. Blue Haven
6. Sydney-Newcastle (F3) Freeway
7. Main Northern Rail Line
8. Clay Quarry and Tile Manufacturing Plant
9. Wyee Township
10. Delta Electricity Ash Dam and Munmorah Power Station
11. Additional WACJV land
12. Motorway Link Road
13. Hue Hue Road
14. Sparks Road
15. Lake Haven
16. Olney State Forest

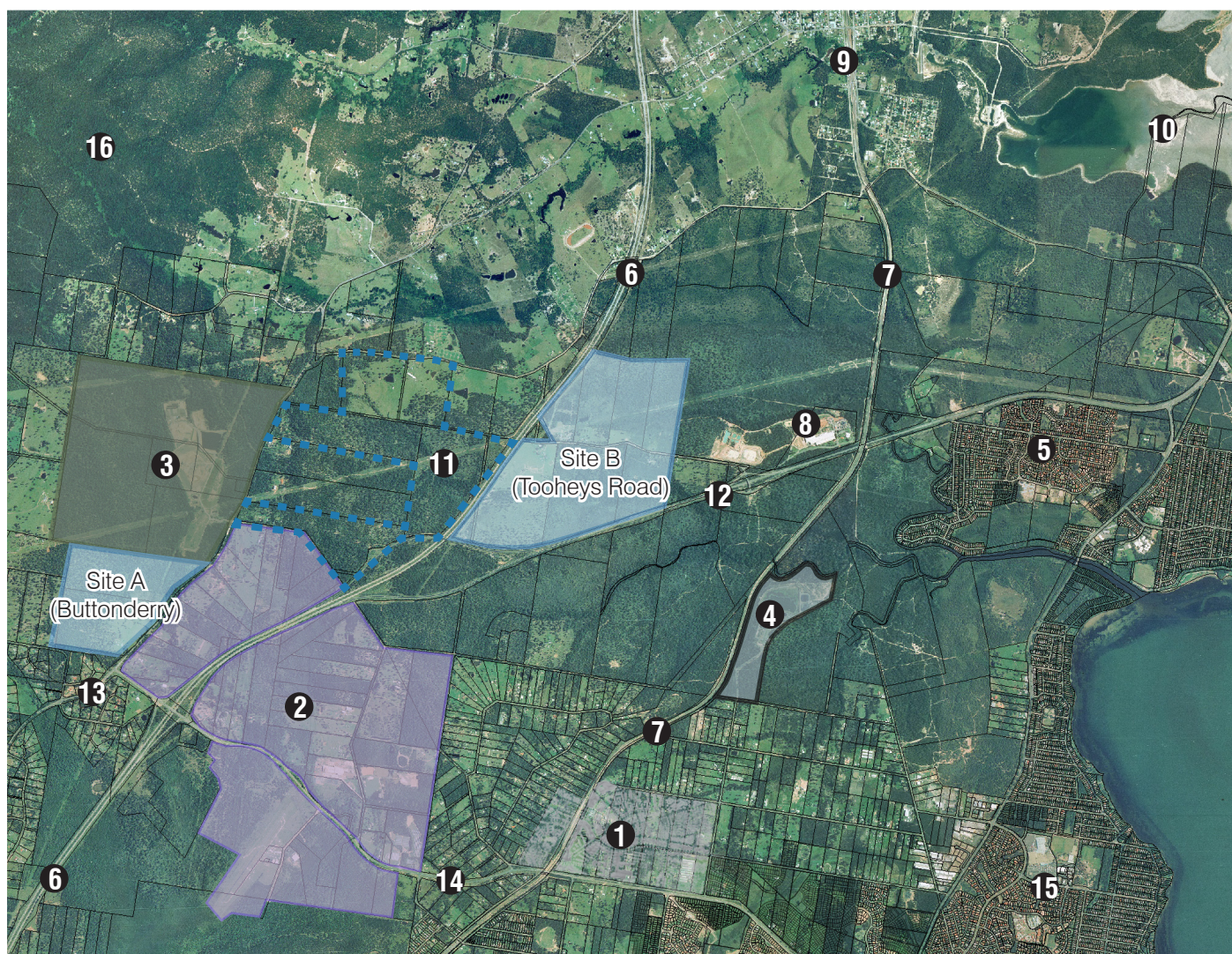


Figure 2 - Regional Features



View looking South West from Hue Hue Road to Site A



View looking South East from Freeway to Site B

3.0 Proposed Development

The project will extract up to 5 million tonnes of export quality thermal coal per year by underground longwall mining methods. The mine will have a life in excess of 40 years.

The proposed development for the Buttonderry site (Site A) is shown in Figure 3A.

Key elements of the proposal for the Buttonderry administration site include:

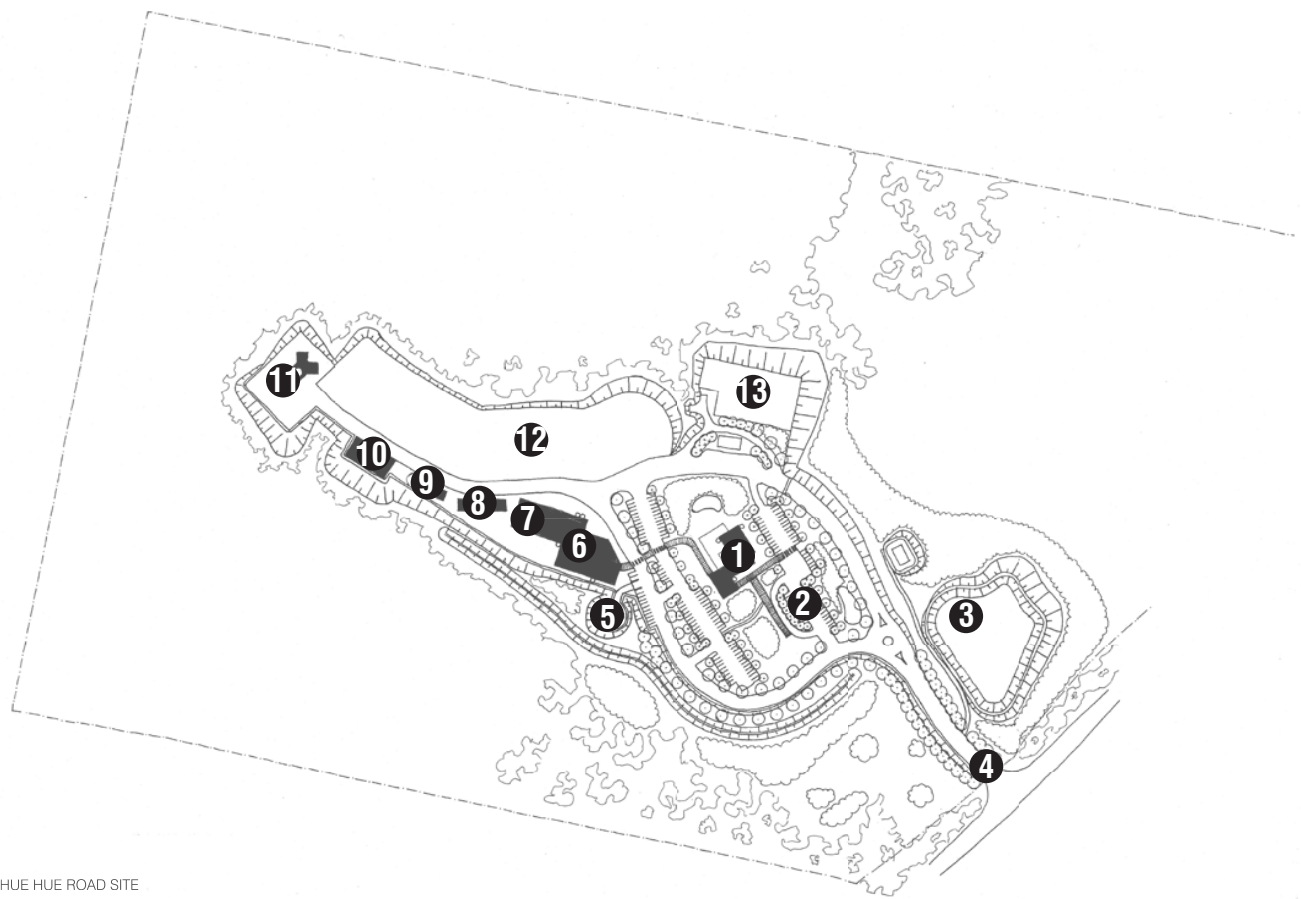
1. Single storey administration building;
2. Car parking;
3. Dam;
4. Landscaped entry;
5. Helipad;
6. Bathhouse/muster area/first aid;
7. Mine access shaft;
8. Workshop/store;
9. Water storage and services;
10. Dangerous goods storage;
11. Ventilation shaft;
12. Open yard equipment storage;
13. Wastewater Treatment Facilities.

There will be no coal handling facilities nor heavy machinery, workshops or any kind of industrial activities on Site A. This site will provide office buildings and landscaped carparking area. It will be the point where underground workforce will commence and complete their shifts. Inside the buildings will be showers and change rooms, offices and training rooms, two fully enclosed shafts which will transport the workers underground, ventilation facilities and a landscaped car park.

The proposal for the Tooheys Road site (Site B) is shown in Figure 3B. Key elements for Site B include:

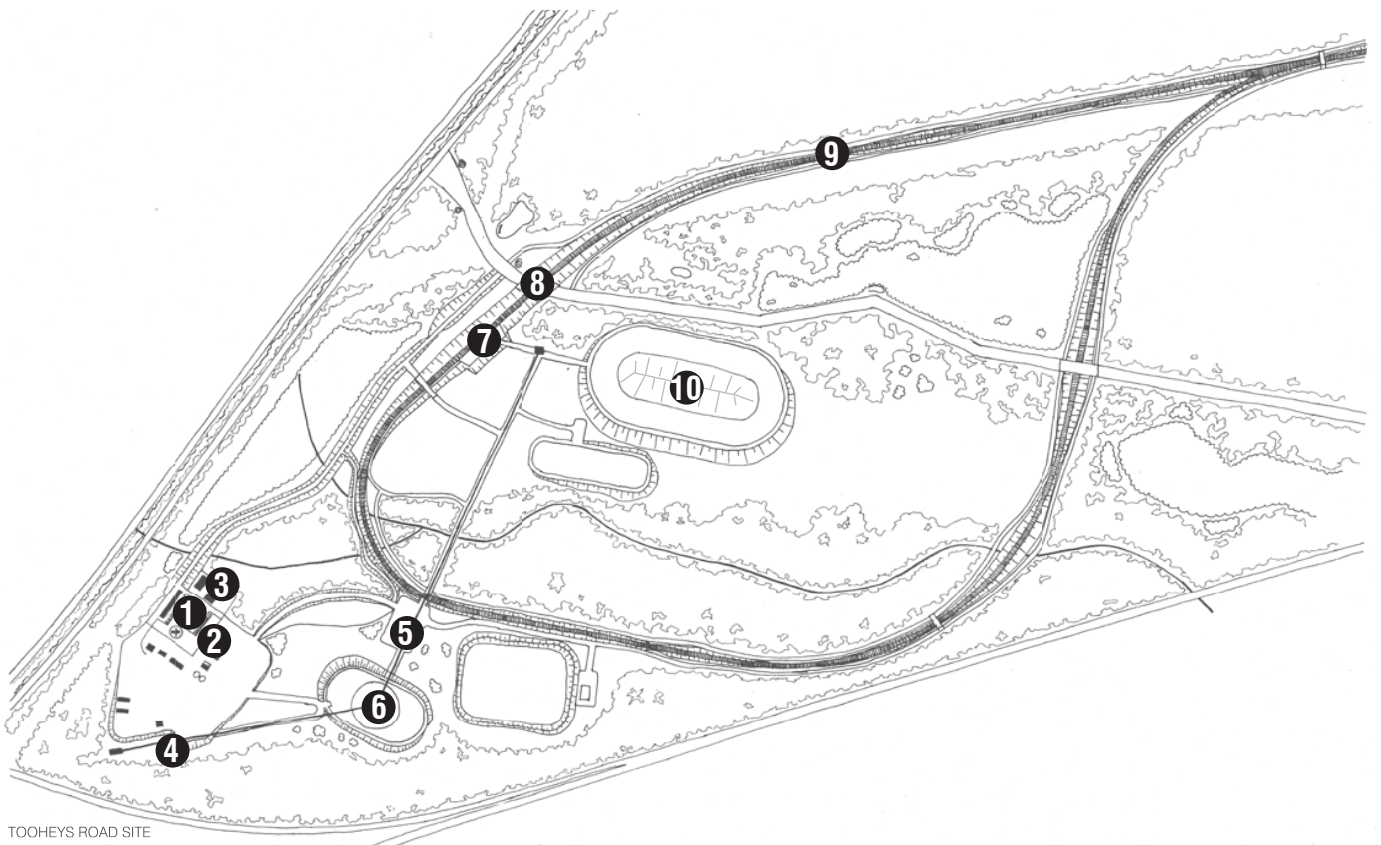
1. Office;
2. Car parking and helipad;
3. Water and wastewater management facilities;
4. An underground drift entry;
5. Coal sizer;
6. Raw coal stockpile and pad;
7. Train loader;
8. Re-aligned Tooheys Road and rail bridge;
9. Rail loop;
10. Product coal stockpile and pad.

The Wallarah 2 Coal Project has been substantially modified from earlier conceptual designs to accommodate both social and environmental issues raised through community consultation. The changes include one of the longest inclined access tunnels (or “drift”) in an Australian coal mine, which has been designed for the Tooheys Road site to enable the Wallarah 2 coal mine to position surface facilities on appropriately zoned land well away from sensitive areas. The mine access tunnel links the Tooheys Rd site to the underground mine area approximately 360 metres beneath the Buttonderry site.



HUE HUE ROAD SITE

Figure 3A - Proposed Development - Buttonderry site (Site A) (Source: AndrewsNeil, 2008)



TOOHEYS ROAD SITE

Figure 3B - Proposed Development - Tooheys Road site (Site B) (Source: AndrewsNeil, 2008)

Other key changes and initiatives include:

- Restriction of mining to the western licence area;
- Revised underground mine layout to accommodate a variety of constraints;
- Reduction of mine production levels;
- Removal of the coal preparation plant and the associated reject disposal issues;
- Gas management initiatives;
- Enhanced strategies for subsidence and environment management, especially for properties;
- Transfer of the majority of the surface infrastructure and all coal handling to east of the F3 Freeway.

No coal preparation plant (washery) is required as further processing is not required to enable viable product coal specifications. As a result, there will be no coal waste materials produced.

Management Plans will be prepared prior to construction commencing. First longwall coal production is anticipated in late 2012.

4.0 History of Planning Strategies

A commentary on the Planning Strategies is provided to establish the context in which the proposed Wallarah 2 Coal Project is to be undertaken. It is evident that the proposal is compatible with the strategic planning for the region which has recognised the importance of the location for resource extraction and employment generating purposes since the 1977 Structure Plan to the 2008 Central Coast Regional Strategy.

4.1 Gosford-Wyong Structure Plan 1977

The Gosford-Wyong Structure Plan was prepared by the then NSW Department of Environment to address medium and long term urban development needs in Wyong Shire associated with the expansion of Sydney. Three structure plan models were proposed. The three structure plan models were the "grid", the "radial corridor" and the "linear". The radial corridor was considered to be the most appropriate (Figure 4), however, all three plans provided for a concentration of future growth in the Warnervale area.

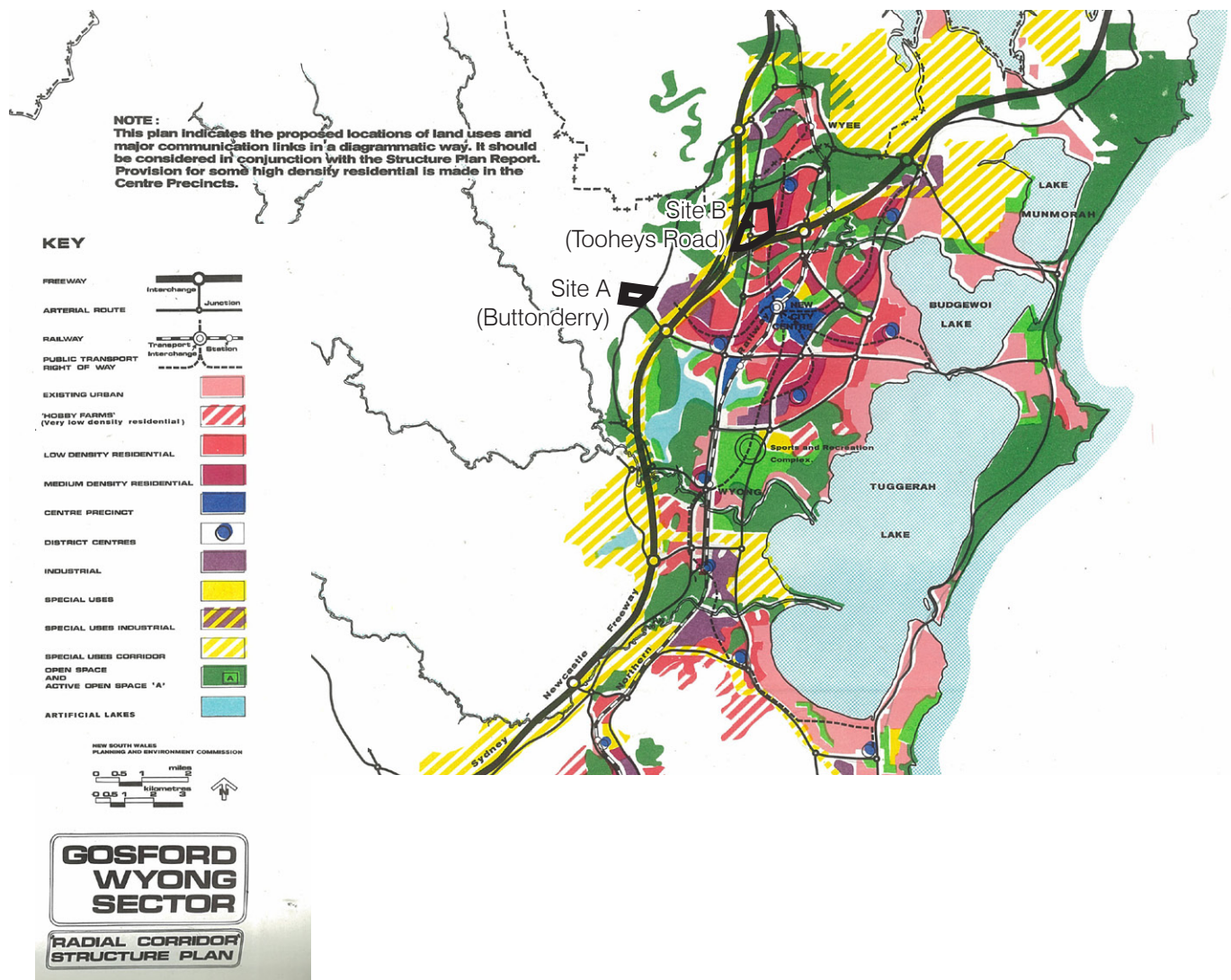


Figure 4 - Gosford-Wyong Structure Plan (NSW Planning and Environment Commission 1975)

The plan also recognised the existence of “significant coal reserves” and the potential for mining resources in the region;

“some significant pockets of natural resources exist within the future urban boundary and to enable future extraction these must be protected from urban development... the aim has been to avoid sterilising these resources”

Objective G and its associated policies of the Structure Plan states;

“The [Gosford-Wyong] sector possesses many natural resources (particularly mineral) which will become increasingly significant as demand for them increases with urbanisation. It is therefore important to ensure that these resources are able to be utilised to their full extent wherever possible.

Policy 1: Ensure that urban proposals avoid mineral deposits and significant natural resource areas.

Policy 2: Where such areas are of necessity included within proposed urban areas, ensure that development is phased to enable the deposit to be won before urban development takes place.”

The document provides protection for large sections of the region that have been previously earmarked for the extraction of natural resources. This is reflected in the current level (i.e. lack) of built form within those areas containing resources. The proposal is consistent with the direction of the Plan in that it provides for the extraction of these resources in the manner previously described.

The structure plan identified the Tooheys Road site for urban development (See Figure 4). This was later refined following the recognition of the potential for mining in the region.

4.2 Draft Sydney Regional Environmental Plan - Wyong Development Areas and Coal Mining

By the mid 1980's concern was raised that future residential development would be in conflict with any future underground coal mining activities. In 1986, the government formed a working party to resolve the conflicts between urban development requirements and the need to manage the coal resource and in 1987 released draft Sydney Regional Environmental Plan – Wyong Development Areas and Coal Mining. It should be noted that the draft REP has since been superseded by more recent strategies. However the precinct numbers and names are still used for general reference by Council, consultants and developers.

The overall purpose of the draft REP was to ensure that the sequencing of underground coal mining did not conflict with the release of land for urban development. The general aims of the draft REP were to identify medium-long term urban development areas and to maximise the potential for the recovery of major coal resources of economic significance to the State.

In 1987, the then Department of Urban Affairs and Planning and Wyong Shire Council, identified a number of potential development precincts for future growth in Wyong Shire as part of the Draft Regional Environmental Plan – Wyong Development Areas and Coal Mining, which provided restrictions to surface development in light of proposed extraction of coal resources.

The REP identified that substantial coal resources may be unable to be mined unless development at the surface within areas yet to be mined could accommodate such mining at some time in the future. To assist in the winning of coal resources, the REP was to amend the Wyong Local Environmental Plan to permit coal mining and related developments in all zones, subject to environmental assessment procedures.

It is interesting to note that the Buttonderry site (Site A) was not identified within any of the precincts under the draft REP although it is located adjacent to precincts 12 and 14 which were identified as subject to “total extraction”. Despite this, no mining occurred in either precinct 12 or 14. More recently, the area was incorporated into the Wyong Employment Zone. This has attracted significant surface planning and design for employment generating development which will occur in the not too distant future. This has prevented the future extraction of resources directly from these precincts. While the WACJV owns a portion of Precinct 12, the area contains significant vegetation and is located between areas of future employment lands. The Buttonderry site is located in the next available and most appropriate land parcel to extract coal from the areas of restricted surface development on the outskirts of employment generating development.

The Tooheys Road site (Site B) was identified in Precinct 15 as having “low coal mining potential”. However, the site provides an integral link between the mine entry at Site A and the Main Northern Rail Line for the transportation of coal to domestic markets and the export port at Newcastle.

4.3 Urban Development Program 1988

The Urban Development Program (UDP) is a State Government program that coordinates the planning and servicing of new residential land in identified urban release areas. The UDP provided a five year development program within the longer term framework of the Metropolitan Strategy for the Greater Sydney Region.

The UDP for 1988 was adopted by Council as the overall staged investigation and release of new areas for residential development in Wyong Shire. Changes in the timing and release of some areas had to be altered due to coal mining activities and service availability.

Infill release areas at Gwandalan, Blue Haven and Kanwal were rezoned in 1989/1990. Greenfield release areas at Warnervale East and Wadalba North-West were subsequently released in 1993. In 2002, the Warnervale East area (precinct 7b) and Wadalba North West (Precinct 8c) remained the main area of future supply of residential lots in the Shire. Overall, more than 8000 residential lots in the UDP areas plus 1300 non-UDP lots have been created since 1988 (See Figure 5 for location of UDP release areas).

The subject sites were excluded from the UDP because of the potential for mining activity.

The exception of the subject sites is still evident in Council's current Residential Development Strategy (see section 4.6).

4.4 Cities for the 21st Century 1995

Cities for the 21st Century reviewed the 1988 Metropolitan Strategy and provided a framework for future planning and management in the Greater Metropolitan Region of Sydney, Newcastle, the Central Coast and Wollongong to create "a dynamic, sustainable and diverse community built on the Region's prominent position in the New South Wales, Australian and Asia Pacific economies and one which enhances its special natural and cultural environments".

While the strategy was aimed at the broader region of Sydney, Newcastle and Wollongong, it identified the Central Coast as

one of the major growth areas of the region. The document recognised that a considerable amount of regional planning had been previously undertaken in the Gosford-Wyong Structure Plan of 1975, and reaffirmed the importance of "acknowledging the region in its own right" in order to provide "the need to stimulate employment growth and to address the existing high unemployment levels" experienced by its residents. Section 117 Ministerial Direction No. 4 – Central Coast provided for the implementation of Cities for the 21st Century in order to apply the principles of more compact cities and sustainable regions.

The proposal is consistent with the document as it provides for a high level of employment growth not only from the coal mine construction and ongoing operation (over 40 years), but also in terms of the flow-on effects to the surrounding centres with the development of industries traditionally associated with coal mining. This will assist in the Central

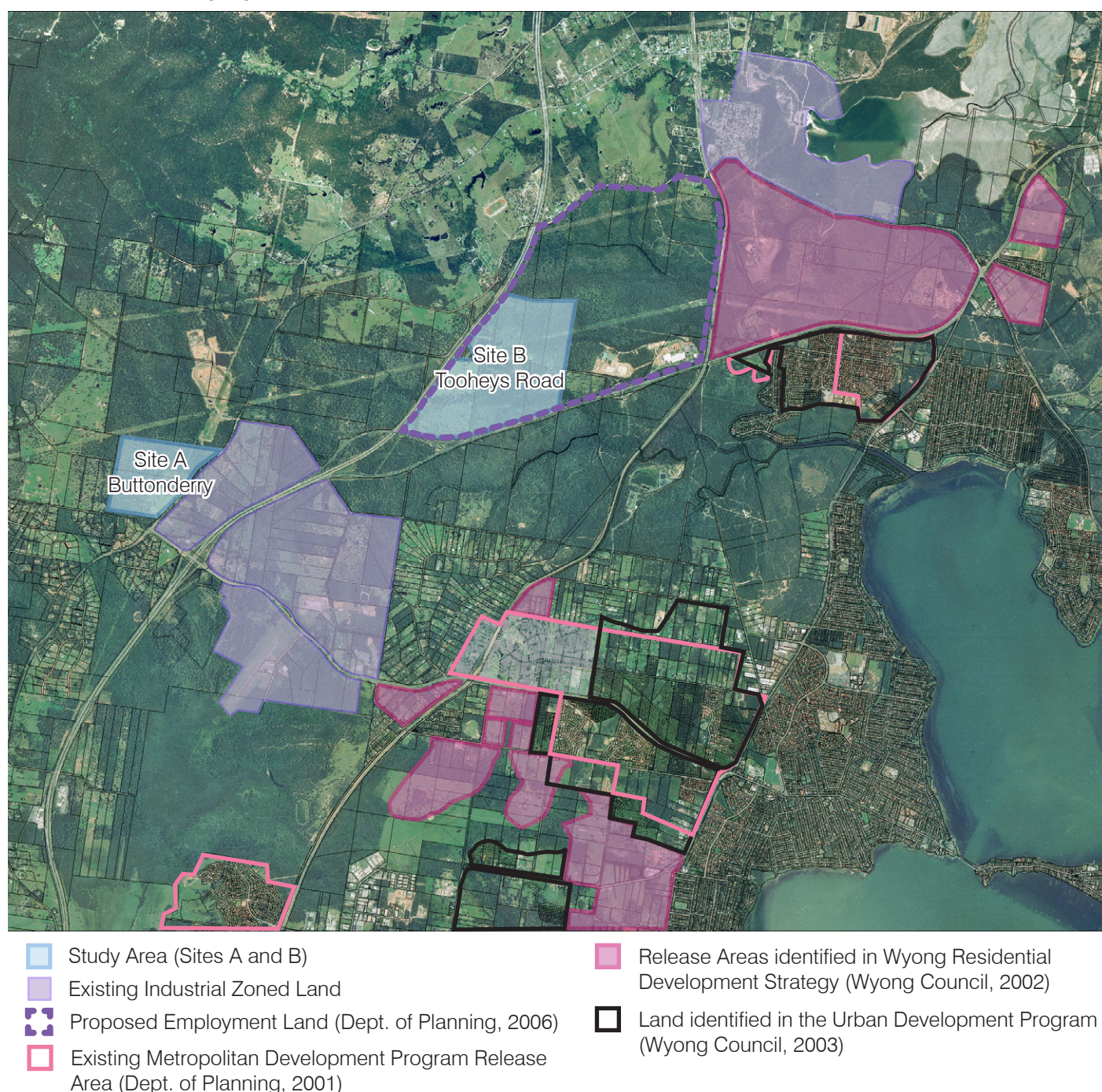


Figure 5 - Urban Development Program and Wyong Residential Development Strategy Release Areas

Coast developing into a 'region in its own right' as the dependence on supply of these activities from other centres, mainly Sydney and Newcastle, will be reduced.

4.5 Shaping the Central Coast 2000

In early 2000, the then Department of Urban Affairs and Planning exhibited Shaping the Central Coast which noted a number of issues experienced in the region arising from rapid population growth as follows:

- A shortage of jobs and vulnerability to economic downturns;
- Lags in the provision of human services and public transport;
- Loss of biodiversity and open space to urban and rural uses;
- Estuarine and lagoon water pollution as a result of urban development and run-off; and
- A sense of being overshadowed by Sydney and a lack of regional autonomy.

Proposed settlement outcomes identified in the strategy include a compact, efficient and ecologically sustainable urban form, increased local employment opportunities with a compatible mix of residential, commercial and other uses and a built environment designed and constructed to a high quality.

Future development opportunities in Wyong Shire were reduced considerably with the Shaping the Central Coast plan indicating a smaller development footprint than was previously provided for in the 1987 draft REP - Wyong Development Areas and Coal Mining.

Key strategies of Shaping the Central Coast included development in new areas to have a higher level of human services, environmental protection, accessibility, employment, amenity, energy efficiency and quality urban design than previously required.

The plan also identified a major new employment corridor from Warnervale airport to the Bushells Ridge Industrial Area. Site A adjoins this area whilst Site B is located in the centre of the proposed employment zone (See Figure 6).

The Wyong/Tuggerah area is identified as to develop into a 'Compact City' and, as a whole, become the capital for Wyong Shire. This would later be reflected in the Wyong/Tuggerah Strategy of 2007 (see Section 4.12).

Shaping the Central Coast was adopted by the NSW State Government in 1998. However, in recognition of the lack of mechanisms for its implementation, neither Gosford nor Wyong Councils have formally adopted the plan until the State Government developed a relevant Action Plan.

A draft Action Plan was subsequently prepared in 2003 by both Gosford and Wyong Councils. One of the key goals to assist in achieving the plan is 'Investing in the Economy'. The outcomes to meet this are:

- Employment choice and income opportunities
- Business opportunities
- Diverse and robust economy

These outcomes are to be met through creation of local jobs, encouraging employment-generating development, encouraging local economic development initiatives, relocating jobs to the region and targeting employment in specific industries. The proposal is consistent with the direction of the Plan and Actions as it provides a high level of local employment and encourages the development of the Central Coast as a region that is able to provide its own major services, reducing the demand on surrounding centres.

Whilst Wyong Council has adopted the draft Action Plan, the State Government has not.

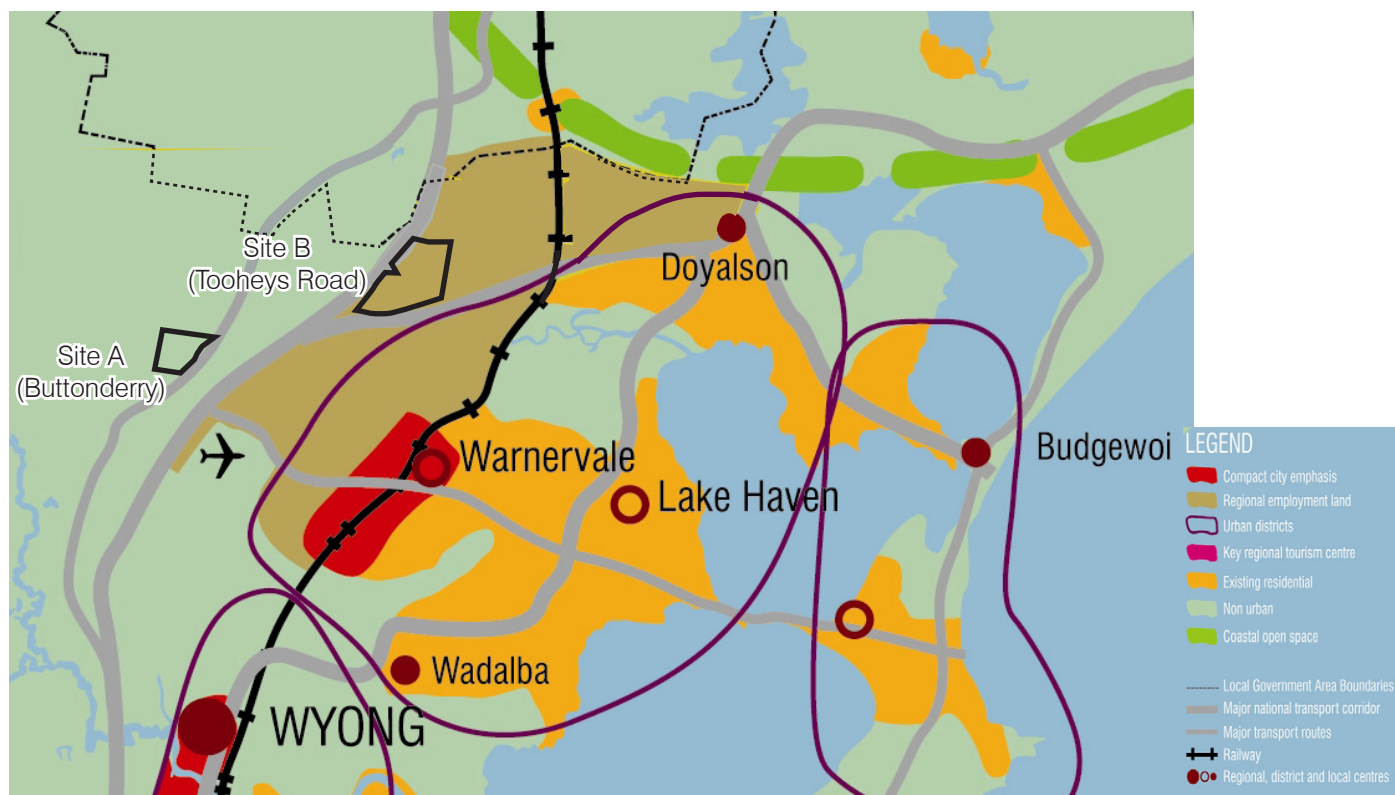


Figure 6 - Shaping the Central Coast Structure Plan (DUAP, 2000)

4.6 Wyong Residential Development Strategy 2002

The overall purpose of the Residential Development Strategy is to ensure that residential development in Wyong Shire can proceed in accordance with expected growth rates and over-arching strategies such as Shaping our Cities, SEPP 53 - Metropolitan Residential Development, Draft SEPP 66 - Integration of Land Use and Transport, the Urban Development Program and Metropolitan Urban Development Program.

Of the areas designated for growth, only 282 of the proposed 15,829 lots are outside areas identified in Shaping the Central Coast as "urban districts". The sites identified for development of the Wallarah 2 Coal mine are not identified for residential development.

The latest Metropolitan Development Program (MDP) figures released by the Department of Planning are from 2002. The five year MDP program estimates lot production for the Sydney region for the 5 years 2003-2008 of 33,145 lots. This includes the Central Coast. Wyong LGA lot production is forecast as 2,310 lots or 6.9% of this MDP total.

Although the northern section of Wyong Shire is designated as the area to receive the greatest growth on the Central Coast, the proposal does not disrupt the program as no residential development is scheduled for either site or within two kilometres of the surface facilities at Site B.

4.7 Wyong Shire Community Plan 2002

Employment is a major focus area of the Wyong Community Plan which recognises that *"the community has a strong and clear expectation that Council should give priority to the development of local employment opportunities"*.

The growth in local employment opportunities on the Central Coast has not kept pace with the region's population growth and this forces many residents to commute to Sydney each day for work. Council's plan recognises the issues associated with commuting on the community as *"disruptive to both family in terms of time spent together, energy levels and the ability to cope with family stress and the social structure of the community in terms of the ability to be able to participate in community and recreation activities"*.

Commuting also affects the economy because of escape spending and vehicle travel has negative environmental impacts. Escape spending refers to spending by persons normally resident on the Central Coast, on a range of goods and services supplied by individuals/organisations from a location outside the Central Coast.

The Community Plan states;

"One of the key challenges on the Central Coast is to broaden the economic base to provide a greater range of jobs opportunities for people who are either unemployed or commuting outside of the region. Wyong Shire cannot sustainably endure increased residential development without accompanying economic infrastructure and local jobs".

The expected growth for the region requires a large job base. The proposal provides a substantial opportunity to address this matter through the provision of employment and flow on effects to the centres by way of support services that traditionally locate in close proximity to mine operations. In this way the proposal will act as a catalyst for community development on a large scale.

4.8 Draft Wyong Conservation Strategy 2003

The draft Wyong Conservation Strategy was prepared by Council in 2003. Council staff are currently reworking the draft Strategy.

The areas earmarked for employment lands and residential release were generally excluded from the Conservation Strategy to be consistent with current policy settings within the region and Wyong Shire as a whole. In this way, the model for the Conservation Strategy was set up to avoid making conservation targets in certain locations identified as being of strategic, social or economic significance to Wyong Shire. Site B is identified as a 'High' social/economic development priority to the region and was excluded from the Conservation Strategy (See Figure 7). Site A was not included in the Conservation Strategy study.

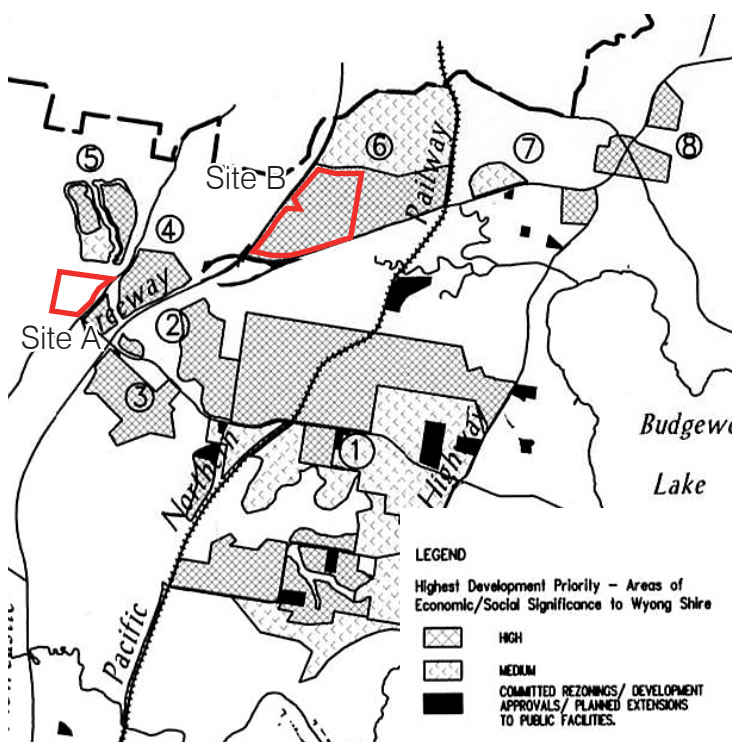


Figure 7 - Draft Wyong Conservation Strategy (WSC, 2003)

4.9 Transport

Following the release by the State Government of Action for Transport 2010, the Minister for Transport, announced the staged upgrading of the northern railway to reduce travelling time between Newcastle and Hornsby by 40 minutes with the first stage between Hornsby and Warnervale to be completed by 2007. This included construction of a new railway station and transport interchange at Warnervale which has subsequently been reflected as a key strategy in Shaping the Central Coast.

Draft State Environmental Planning Policy No. 66 - Integrating Land Use and Transport was exhibited in late 2001 and aims to ensure that urban structure, building forms, land use locations, development designs, subdivision and street layouts help achieve improved transport choice, public transport viability, reduced dependence on cars and improved accessibility to housing, employment and services by walking, cycling and public transport.

This Plan identifies Wyong and Tuggerah as centres that combine to provide a range of higher order services. The Plan also nominates the centres as the preferred location for large-scale suburban office development in Wyong Shire. The proposal is consistent with this direction as it promotes the development of high end services within centres surrounding the coal facilities. This reduces the travel distance and time, meeting the objectives of the draft SEPP.

The State Government in conjunction with the Central Coast local governments (Gosford and Wyong) has recently completed the Central Coast Transport Action Plan. This plan outlines the strategic plan for infrastructure improvements to serve the growing population of the central coast. The majority of the plan focuses on the more densely populated areas of Gosford and Wyong, with the most significant new infrastructure planned in the vicinity of the site being the proposed new railway station and the upgrading of Sparks Road, both to serve the Warnervale town centre. Upgrading requirements for the Pacific Highway north of Gosford were identified in the RTA's 1998 Pacific Highway Study.

Roads in the vicinity of the study area are typical of an identified urban growth centre. The Sydney-Newcastle (F3) Freeway is the National Highway Route between Sydney's northern outskirts and the Pacific Highway (SH10) and the New England Highway (SH9), west of Newcastle. The freeway was constructed and extended since the 1970s, replacing the old Pacific Highway route through Wyong and the central coast region. The freeway runs north south and is located east of Site A and immediately to the west of Site B. The RTA Traffic Volume Data for the Hunter and Northern Regions for 2004 identified annual average daily traffic (AADT) for the freeway to be around 60,000 vehicles.

Hue Hue Road forms the eastern boundary of Site A and is identified as having an AADT count of approximately 4,600 vehicles north of the Yarramalong Road. This road links Tuggerah to Wyee and provides the primary access for the Buttonderry Waste Management site north of the proposed administration facility of Site A.

The Pacific Highway (SH10) is located on the eastern side of the study area. The highway serves an arterial road function within the Central Coast region. It provides an alternative connection to Newcastle, running through Swansea and Belmont to Newcastle's on the eastern side of Lake Macquarie. The road continues through Newcastle to Hexham where it connects with the New England Highway, and then north along the NSW coast to Brisbane. The RTA Traffic Volume Data for the Hunter and Northern Regions for 2004 identified annual average daily traffic (AADT) count for the Pacific Highway south of the Motorway Link Road intersection to be almost 16,000 vehicles.

The Motorway Link Road forms the southern boundary of Site B. This is a connection between the F3 north west of Warnervale and the Pacific Highway at Doyalson. It was used in the past as the main connection between the F3 and the Pacific Highway before the freeway extended north of Warnervale. It has south facing ramps only at the F3, servicing traffic between Sydney and Lake Macquarie.

Existing volumes on the Motorway Link and Pacific Highway north of Motorway Link are considered to have a zero growth as the historical data shows a negative growth rate on Motorway Link.

Alternative transport to and from the site for workers is available by the rail line and bus networks.

The project will primarily generate road traffic movements from the construction and operation of surface mine facilities. It is anticipated that the duration of construction of the mine facilities at each of the sites will be approximately 1.5 to 2 years. All coal produced will be transported to the north by rail either to the Port of Newcastle or Power Stations along the route. No product coal will be transported by road. The detailed traffic assessment prepared as part of the Environmental Assessment submission addresses the impact on the current level of service provided by the surrounding road network by the proposed development.

There is a mixture of passenger services on the Main Northern Line provided by CityRail and CountryLink. The CountryLink services have recently been reduced to service Armidale, Moree and Brisbane, with North Coast line services ceasing early in 2007. These services only stop at Wyong Station. One Countrylink service is provided daily in each direction between Sydney (with stops at Wyong). These services also call at Broadmeadow Station in Newcastle.

CityRail services consist of a combination of all-stops and limited-stops services through the study area. Some of these services run the full distance between Sydney and Newcastle; others service only part of the line.

Bus services are provided in the study area by private operators including Busways Central Coast, Busways Peninsular and The Entrance Red Bus services.

4.10 Warnervale District Strategy

Warnervale has been identified as a major growth area since the release of the Sydney Region Outline Plan in 1968. Warnervale District Centre is currently being planned as part of the Warnervale Area Planning Strategy. It is a joint project between Wyong Council and the State Government. The new district centre will be located in an area west of Hiawatha Road, south of Hakone Road, north of Sparks Road and east of the Bruce Crescent rural residential area.

In accordance with the regional strategy, Council, the Department of Planning and the Department of Transport have completed an Urban Area Strategy for Warnervale (the Warnervale District Planning Strategy) and have commenced an Urban Design Masterplan for the proposed new district centre at Warnervale. The centrepiece of the district centre

is to be a new railway station and interchange with retail and commercial development, district level community and recreation facilities, government agency services and medium and high density residential development in a surrounding mixed use core area. This new transport and activity hub will be the urban development focus for northern Wyong Shire and is to be the centre of the urban district.

On 7 November 2008, the Warnervale Town Centre (WTC) Amendment 24 was gazetted for inclusion in the State Environmental Protection Policy (Major Projects) 2005 as a state significant site. Zoning for this area has now been configured to enable achievement of the objectives and targets of the Warnervale District Strategy.

Development near the new centre will be medium to high density housing, appropriate within close proximity to a major transport node.

The proposal is appropriately located to provide employment to the developing centre.

4.11 Wyong Shire Management Plan

Generation of local jobs is highlighted as one of the key focus areas of the Management Plan for the Shire. The document reveals that more than 24,000 residents are currently employed outside the Shire and that in June 2008 Wyong Shire's unemployment rate is historically 2-5% above that for NSW (7.6% compared with 4.6%).

Year	Unemployment
2002	8.8%
2003	10.35%
2004	9.1%
2005	7.6%
2006	8.3%
2007	7.9%
2008	7.6%
Benchmark	5.0%

* Target provided in Management Plan

The plan aims to reduce the pressure on people to commute outside the area for work and facilitates local economic development by creating an environment in which industry can be competitive through the rezoning of land for employment-generating purposes. The Management Plan aimed to get unemployment down to 7.5% for the 2007/2008 period. Once construction begins, the proposal can assist in achieving this rate which is still well above the NSW benchmark figure of 5.0%.

It is anticipated that the mine will have a life in excess of 40 years. Employment over this time will engage approximately 300 directly in the workforce participating in mine operations and a further estimated 750 jobs indirectly, through businesses benefiting from the mine development.

The timely provision of employment land is a significant Council objective as unemployment is substantially higher than the State average and participation in the labour force

is low. Commuting for up to four hours a day, leaving families isolated without transport and moving away from the social infrastructure of families and friends can add to family stress (Wyong Council, 2002):

"Increased local employment opportunities will result in residents having the time and resources to spend time with their families and participate in their communities."

Studies suggest that paid employment provides an important means of meeting people and developing close relationships with others (social capital)".

Both San Remo and Blue Haven are currently home to a large number of families with young children. Many of those families have at least one member who commutes long distances to work, and some of those families have members who have been unable to find work. As well as economic benefits, local employment contributes to addressing the social problems arising in commuting communities, in communities where people have moved recently and do not have strong local support networks.

The existing services provided in these communities are typically on an outreach basis from other parts of Wyong Shire. However, in recent years Council, government and non-government organisations have recognised the need for additional services and facilities in this area (Wyong Shire Council, 2002). Burnside is one of the major service providers in the District. The Benevolent Society employs a family support worker who is located in the Northlakes Childcare Centre. The Links Youth Service run a range of programs at San Remo, Blue Haven and further away in Chain Valley Bay, Mannering Park and Summerland Point. The service does not operate in the evenings and on weekends due to limited funding and is stretched to capacity. The San Remo Neighbourhood Centre has undertaken a number of community building initiatives including a community garden being established adjacent to the shopping centre.

As part of the proposed coal project, Wallarah 2 proposes that a Community Enhancement Program be implemented (as part of a Voluntary Planning Agreement) following final project approval. Wallarah 2 will organise a Community Trust which would be chaired by a suitably qualified person nominated or approved by the Department of Planning. It is envisaged that members of the Trust will represent the local community, wider community, small and large business within the Central Coast.

Walarah 2 will work with Wyong Council and relevant educational institutions to implement training and education programs for the project as well as to facilitate local employment opportunities within the Wyong Shire. The formation and funding of the Trust has been discussed with the Community Liaison Committee and suitable local projects and environmental enhancement programs have been sought. The program is to be refined closer to project finalisation.

In addition, a substantial annual allowance has been made for activities such as youth employment, health workshops and recreational support facilities. This will benefit the Blue Haven and San Remo areas which have a demographic

profile of significantly higher proportion of families with children, both couple families and one parent families, than the average for Wyong Shire (ABS, 2001). Doyalson is characterised by an older population with significantly higher proportion of lone person households than Wyong Shire as a whole. This trend will no doubt increase as population continues to grow in line with Council's forecast for the San Remo Budgewoi Social Planning District:

Year	Population Forecast
2006	19,724
2011	19,865
2016	19,743
2021	20,147
2026	22,690
2031	24,473

Wyong Shire Population Forecast 2006

4.12 Wyong/Tuggerah Planning Strategy

Wyong Shire supports three main industrial/commercial centres. Enterprise Drive (Tuggerah Business Park) is located adjacent to Ourimbah Creek and links the southern lake areas with Tuggerah. The Tuggerah Straight commercial area is also close to Tuggerah, whilst the North Wyong Industrial Area links Watanobbi to the newly developing Warnervale area. The towns of Tuggerah and Wyong lie west of the Main Northern Railway and east of the Sydney-Newcastle (F3) Freeway. Tuggerah includes several large, regional, commercial centres including the Westfield Tuggerah Shoppingtown and the Tuggerah Supa Centa.

The Wyong/Tuggerah Planning Strategy provides the long term guide for how the Wyong/Tuggerah area may progress. It was adopted by Council in November 2007. The strategy aims to improve linkages between Tuggerah, Wyong and Mardi. It does this through outlining principles and actions for Wyong, Tuggerah Straight, Tuggerah, Bryant Drive/Lake Road and Westfield, the Triangle site and the regional gateway site. Although the Wallarah 2 Coal Project sites are outside the strategy area, the proposal supports the initiatives of the Strategy to develop the major centre through a number of indirect influences including encouragement of development that complements coal mining.

The Wallarah 2 Coal Project supports the following goals of the strategy and Council's approach to providing much needed direction for the future development of the major centre:

- *Encourage development that complements Council's vision for Wyong/Tuggerah and its visual and cultural characteristics.*

The coal mine is close enough to benefit the Wyong/Tuggerah centre without impacting upon the visual and cultural characteristics. Regardless of this, the proposal will be developed to be consistent in character to that of the Tuggerah Business Park and future Wyong Employment Zone. The design of the Wallarah 2 Coal project surface facilities at the Buttonderry site will not have the appearance of

traditional coal mining sites.

- *Enable the area to fulfill its role, over the longer term, as the capital for Wyong Shire.*

The development of coal mining operations inherently supports a host of industries that would be attracted to the Wyong/Tuggerah region by the prospect of viable business opportunities. This growth assists in achieving the desired Wyong Shire capital.

- *Strengthen linkages to other areas within and surrounding the Shire;*

The significance of the coal mine for the Central Coast will no doubt strengthen the existing links with Newcastle and Sydney. The proximity of the site to the Sydney-Newcastle (F3) Freeway and Main Northern Railway Line promote these linkages.

- *Secure the economic viability of each centre and each precinct within that centre.*

The location of the coal mine just north of the Wyong Town Centre will have leading effects into the centre itself in terms of growth and viability. The industries that have been traditionally associated with coal mining, such as Information Technology, design and accommodation will benefit from multiplier effects and these will strengthen the existing economy of the centre.

- *Provide opportunities for development that generates new jobs.*

In addition to the employment generated by the coal mine itself, flow on effects will be beneficial to the Wyong/Tuggerah centre with the introduction of compatible industries that will locate in the town.

Additional land held by the WACJV is located on Bryant Drive, Tuggerah, close to Tuggerah Railway Station, Westfield Tuggerah and the Supa Centa. This area is within the strategy area and has the potential to become a significant development site in the future. No part of the current proposal is to be located on this parcel of land.

4.13 Central Coast Regional Strategy 2006-2031

The Central Coast Regional Strategy was prepared by the Department of Planning consequential to the release of the Sydney Metropolitan Strategy in 2005. The document was finalised in July 2008.

The Strategy provides for Wyong Shire's population to increase and to surpass that of the Gosford local government area (anticipated to occur in 2016) and the greatest challenge is to create local job opportunities to match labour force growth.

Key features of relevance to the proposed coal mine include the development of Tuggerah-Wyong as the major centre for Wyong Shire and diversifying precincts around the centre. The proposal complements this outcome by providing

the basis for local employment near the centre as well as promoting the growth of the centre by those industries that benefit from coal mining development.

The project will create 300 jobs directly of which around 70% which could be recruited locally. It is anticipated that a minimum of 750 additional jobs will also be created indirectly from follow on development in the centres and support businesses elsewhere. The growth of employment on the Central Coast will achieve the desired outcome of self containment as the reliance on Sydney/Newcastle will be reduced.

The provision of on-site services will not significantly require upgrade or expansion of existing infrastructure. Surplus services including water and electricity can potentially be provided to surrounding development.

The proposal represents a major development that will add to the region's existing resource base which, in turn, will drive new employment opportunities. This will increase competition positioning between Sydney and Newcastle for industrial and logistics businesses.

The draft Strategy Plan is provided as Figure 8. Site A is not identified for development in the Strategy, while Site B, located within the North Wyong Shire Structure Plan (yet to be completed), is identified as future employment land (constrained) within the Bushells Ridge area and notes,

the Bushells Ridge area is heavily constrained by threatened species issues. The North Wyong Shire Structure Plan and Regional Conservation Plan will establish a potential employment land yield for this area.

In addition, site-specific ecological investigations have been undertaken as part of the proposed development.

All development within the Central Coast will need to satisfy the Sustainability Criteria contained within the Strategy to proceed. This encourages a regional approach to development and ensures following

4.14 State Environmental Planning Policy (Major Projects) 2005 Amendment 21 - WEZ

The Wyong Employment Zone (WEZ) was gazetted as a State significant site as part of the SEPP (Major Projects) 2005 on 7 November 2008. The WEZ is located adjacent to the Sydney-Newcastle Freeway at the Sparks Road interchange and totals 744 ha in size. It is bounded by Porters Creek Wetland to the south, bisected by Sparks Road and bordered by Hue Hue Road to the west.

Of the 744ha of land, approximately 340 ha are proposed for development, with the remainder identified and zoned for environmental conservation and water management purposes. This will enable treatment of stormwater and maintenance of wetting and drying cycles downstream in Porters Creek Wetland.

The WEZ is of regional importance having been identified in the Central Coast Regional Strategy for employments lands. The introduction of the WEZ will assist in delivering employment targets as set out in the Central Coast Regional Strategy.

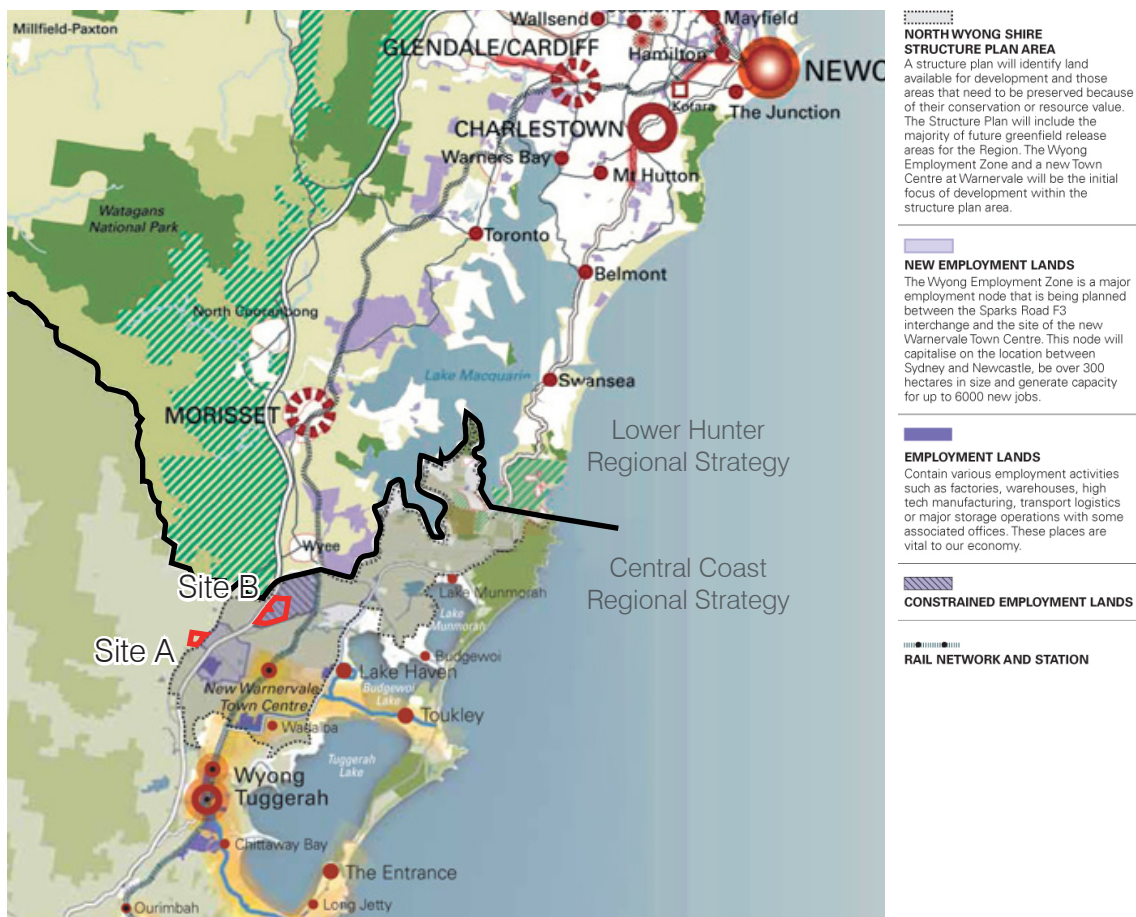


Figure 8 - Central Coast Regional Strategy (Dept. of Planning, 2008)

At present, there are few large areas of contiguous parcels of industrial land within the Central Coast available which can accommodate the needs of large firms and industries. The purpose of the WEZ is to provide such an area which promotes economic development within Wyong Shire. The rezoning of the site enables a wide range of employment generating industrial, manufacturing, warehousing, storage and research purposes.

It is anticipated that the area will facilitate approximately 6,000 local jobs and generate a minimum of \$1.5 billion of investment in the Central Coast economy.

The western extent of this State Significant Site is located adjacent to the Buttonderry Site, on the eastern side of Hue Hue Road. The Wallarah 2 Coal Project proposal will significantly assist in the achievement of the above mentioned employment targets by creating an additional 300 jobs.

4.15 State Environmental Planning Policy (Major Projects) 2005 Amendment 24 - WTC

The Warnervale Town Centre (WTC) was gazetted as a State significant site as part of the SEPP (Major Projects) 2005 on 7 November 2008. The WTC is bounded by Hakone Road to the North, Hiawatha Road to the east, Sparks Road to the south and extends west of the Great Northern Railway Line.

The site consists of approximately 119 ha, of which 79 ha are proposed for development with the remainder to be utilised for public recreation, environmental management and conservation.

The rezoning of the WTC site will assist in delivering the housing and employment targets as set out in the Central Coast Regional Strategy and Metropolitan Development Program by providing housing for up to 5,000 residents and servicing over 40,000 people in the broader Warnervale area.

The Wallarah 2 Coal Project is ideally located to provide employment opportunities for this developing centre without any adverse impact.

4.16 Draft Wyee Strategic Overview Report

Lake Macquarie City Council is currently preparing a Strategic Plan for Wyee to accommodate the 2000 additional dwellings earmarked for the area by 2031. The Strategic Plan will identify where new residential, commercial, rural and bushland areas should be located.

To date the draft Strategic Plan has not been released for public consultation however the draft Wyee Strategic Overview Report ("the report") has. This report incorporates the feedback provided by the community during the workshop undertaken on 30 April 2008 and has been prepared to enable further opportunity to offer input into the future development of Wyee while the strategy is in its preliminary form.

The report identifies four distinct "township precincts" within Wyee and goes into detail with regards to which area would

be most appropriate to accommodate additional residential development.

Growth Options

The potential expansion areas identified within the report in order of likely availability and priority are:

- west of the railway station
- the small holdings west of Wyee Road and north of Hue Hue Road
- in the vicinity of Bethshan

The Draft Growth Strategy aims to build on the strengths of the existing town, including reinforcing the existing activity centre on Wyee Road as a place of more intensive residential, retail, commercial and community uses.

The Wallarah 2 Coal Project and nearby industrially zoned lands are located within reasonable proximity to Wyee in order to provide employment for the future growth of this centre.

4.17 Impacts of Potential Underground Coal Mining in the Wyong Local Government Area - Strategic Review

On 5th February 2007 the NSW Government Minister for Planning announced an independent strategic inquiry into potential coal mine developments in the Wyong Local Government Area, including the Dooralong and Yarramalong Valleys. An Independent Expert Panel was appointed to conduct the inquiry and report on:

1. Whether coal mining under the catchment for the Mardi Dam would compromise, in any significant way, the water supply of the Central Coast;
2. Environmental impacts of any underground coal mining, with a particular emphasis on:
 - surface and groundwater resources, especially on drinking water supply and flooding;
 - hazards and risks of subsidence impacts; and
 - the amenity of the community, including dust and noise impacts;
3. Social and economic significance of any underground coal mining to the local community, the region and State; and
4. Areas where mining should not be permitted, or if permitted the conditions under which it may proceed, having regard to the matters listed above and the NSW Government's strategic planning policies that apply to the area.

There were a number of findings and recommendations for future coal mining activities in the Wyong LGA as a result of the Inquiry and the subsequent Strategic Inquiry Report produced (dated July 2008 and released on 15 December 2008).

In respect of the Wallarah 2 Project proposal:

- a) subject to the recommendations contained within this report, the Wallarah 2 proposal should be assessed under Part 3A of the Environmental Planning and Assessment Act 1979;

Response: The Wallarah 2 Project will be assessed under Part 3A of the Environmental Planning and Assessment Act 1979.

b) consideration should be given to an independent review of the final Wallarah 2 proposal as part of the Department of Planning's assessment process;

Response: WACJV advise that it has no objection to an independent review of the final proposal as part of the Department of Planning's assessment process.

c) given the proximity of the proposed Wallarah 2 surface facility to residential areas, noise and dust emissions from the proposed surface facilities should be minimised as recommended in this report;

Response: WACJV advise that it has been addressed within the Environmental Impact Statement accompanying the application.

d) If these emissions are unable to be satisfactorily minimised, the Wallarah 2 proponent should review the proposed location and size of its coal stockpile, including the potential for it to be moved west of the F3 Freeway;

Response: As above.

e) the Wallarah 2 proposal should apply best practice community consultation, engagement and participation (eg NSWMC and DoP guidelines); and

Response: WACJV advise that it will apply best practice community consultation, engagement and participation as per the recommended guidelines.

f) Wyong Shire Council and the community should be encouraged to allow water monitoring stations to be installed and accessed to allow for better collection of baseline and monitoring data.

Response: WACJV advise that it has no objection in allowing the Wyong Shire Council and other existing licensed water users to install water monitoring stations to enable the better collection of baseline and monitoring data.

5.0 Current Planning Controls

The proposal will be assessed pursuant to Part 3A of *Environmental Planning and Assessment Act 1979*. This section details the local and state planning context in which the sites are located and does not constitute a formal assessment of all relevant issues. The project specific requirements for assessment issued by the Director-General should be referred to for a comprehensive list of the regulatory context.

5.1 Wyong Local Environmental Plan 1991

The proposal is consistent with the overall aims of the Wyong Local Environmental Plan (LEP), in particular;

- *to promote the management, development, conservation and economic use of the resources of the Shire of Wyong and to protect the amenity of its environment; and*
- *to facilitate employment generating development which will contribute to the economic and social growth of the Shire of Wyong.*

The Buttonderry site is currently zoned 1(c) Non Urban Constrained Land under Wyong LEP 1991 (See Figure 9A). The objectives of zone 1(c) are:

- (a) *to limit the development of land that may be affected by flooding, coastal erosion, slope, and other physical constraints (including lack of adequate water supply and sewerage), and*
- (b) *to prohibit development that is likely to prejudice the present and future environmental quality of the land, and*
- (c) *to ensure that development is carried out in a manner that minimises risks from natural hazards and does not detract from the scenic quality.*

Although part of the site is flood prone, the proposal is able to accommodate mitigation measures to ensure adequate safeguards against damage to persons and/or property.

All water, sewer and electricity services will be provided by the development with limited requirements for any expansion of Council infrastructure. There is also the opportunity for the project to contribute services to surrounding development.

The Tooheys Road site is currently zoned 4(e) Regional Industrial and Employment Development Zone (See Figure 9B). The objectives for zone 4(e) are:

- (a) *to provide land to cater primarily for the special requirements of major industrial or employment-generating development which is within convenient distances to support population growth within the urban centres of the local government area of Wyong and has good road and rail access links, and*

- (b) *to facilitate major industrial and employment-*

generating activities by permitting development which:

- (i) generates significant new employment on-site, or*
 - (ii) requires a large site area but has a significant multiplier effect in the regional economy, and*
- (c) to facilitate other industrial and employment-generating activities only where:*
- (i) the development needs to be located with other major industry or activities within the zone, or*
 - (ii) the development requires a location with convenient access to the freeway or railway, and*
- (d) to provide that new industrial development and other development does not present unacceptable risks by limiting development which:*
- (i) exposes residences and the natural environment to unacceptable levels of pollution or hazard risk and does not incorporate adequate safeguards to mitigate any potential threats, or*
 - (ii) involves a process which generates toxic waste products the disposal of which cannot be properly managed either on site or otherwise, or*
 - (iii) limits the potential employment capacity of the zone by sterilising large areas of land through buffer or isolation requirements, and*
- (e) to promote environmentally sustainable development by limiting development that:*
- (i) contributes to the degradation of the Tuggerah Lakes or Lake Macquarie systems, and*
 - (ii) involves the transportation of hazardous or offensive materials through or in proximity to residential or environmentally sensitive areas, and*
- (f) to provide for commercial and retail development:*
- (i) that is ancillary to the main use of land within the zone, and*
 - (ii) that meets the day-to-day needs of occupants and employees of the buildings within the zone.*

- Engineering design services (general and specialised);
- Construction (trades and professionals);
- Operations staff (engineering, mining, business administration);
- Maintenance for both surface and underground plant and equipment;
- Suppliers including fuels and oils, workshop supplies, office and clothing;
- Road and rail construction and maintenance;
- Transport operators and contractors;
- Contract earthmoving;
- Telecommunications;
- Computer supplies and maintenance;
- Environmental designers, contractors and suppliers;
- Environmental services (water management, air, noise, ecology)
- Retail outlets and suppliers (perishable and non-perishable goods);
- Landscapers and nurseries; and
- Local motels and accommodation.

The Wallarah 2 Coal Project will continue the mining tradition of supporting local industries wherever possible and actively assist local industry to gain the necessary skills to become suppliers to the mining industry. This will encourage industrial and commercial operations that will complement each other and offer economies of scale and location for the benefit of the region.

The proposal is consistent with the objectives of the zone as the project will have no direct impact on residential or industrial land in the main Wyong centre. The project will have indirect, and largely beneficial impact on the local economy from increased employment and economic flow on effects.

As with most mining operations, a large number of smaller businesses directly benefit through increased turnover. Local industries that will directly benefit from the project include:

- Manufacturing including light and heavy fabrication;

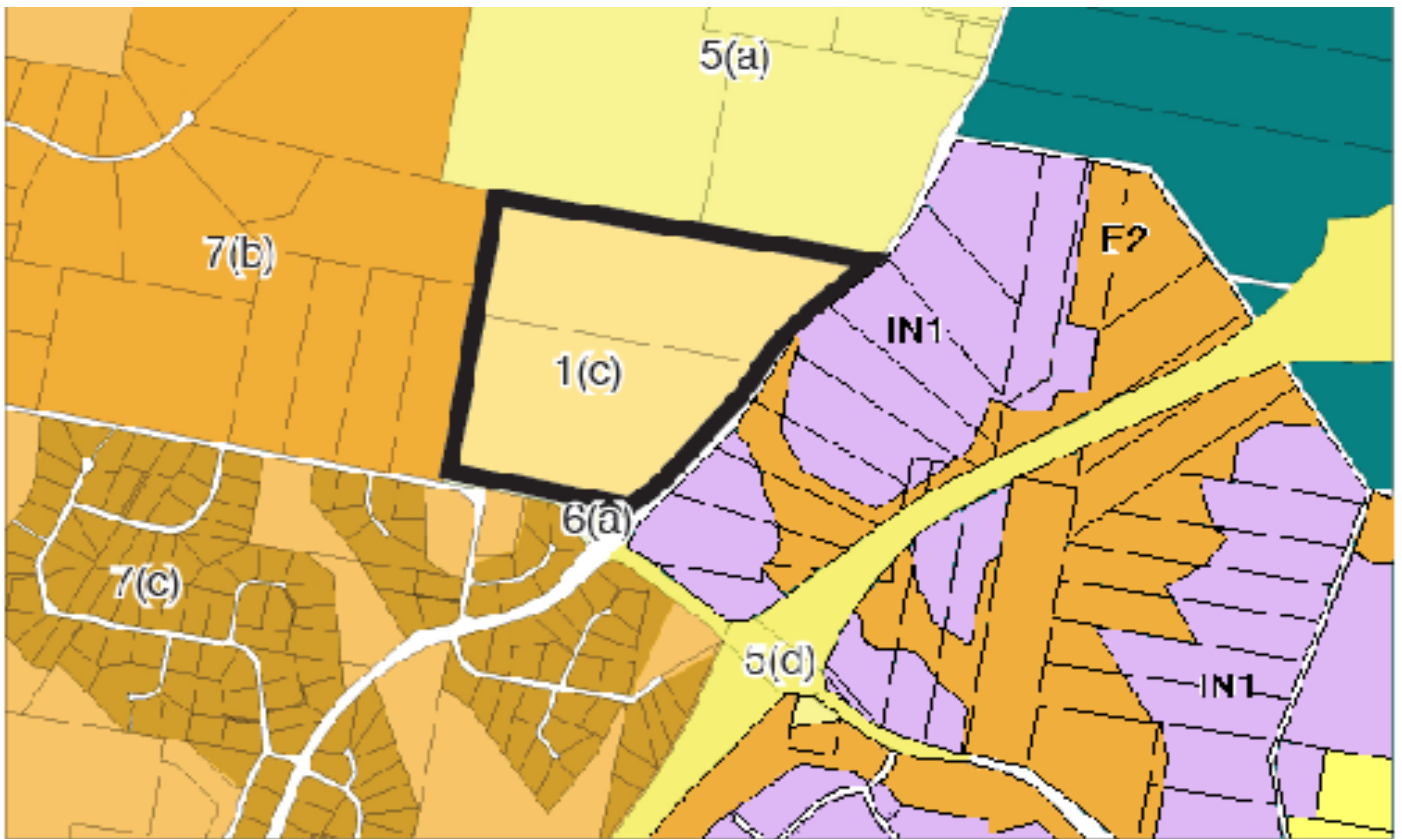


Figure 9A - Buttonderry Site (Site A) Current Zoning (Wyong Local Environmental Plan 1991)

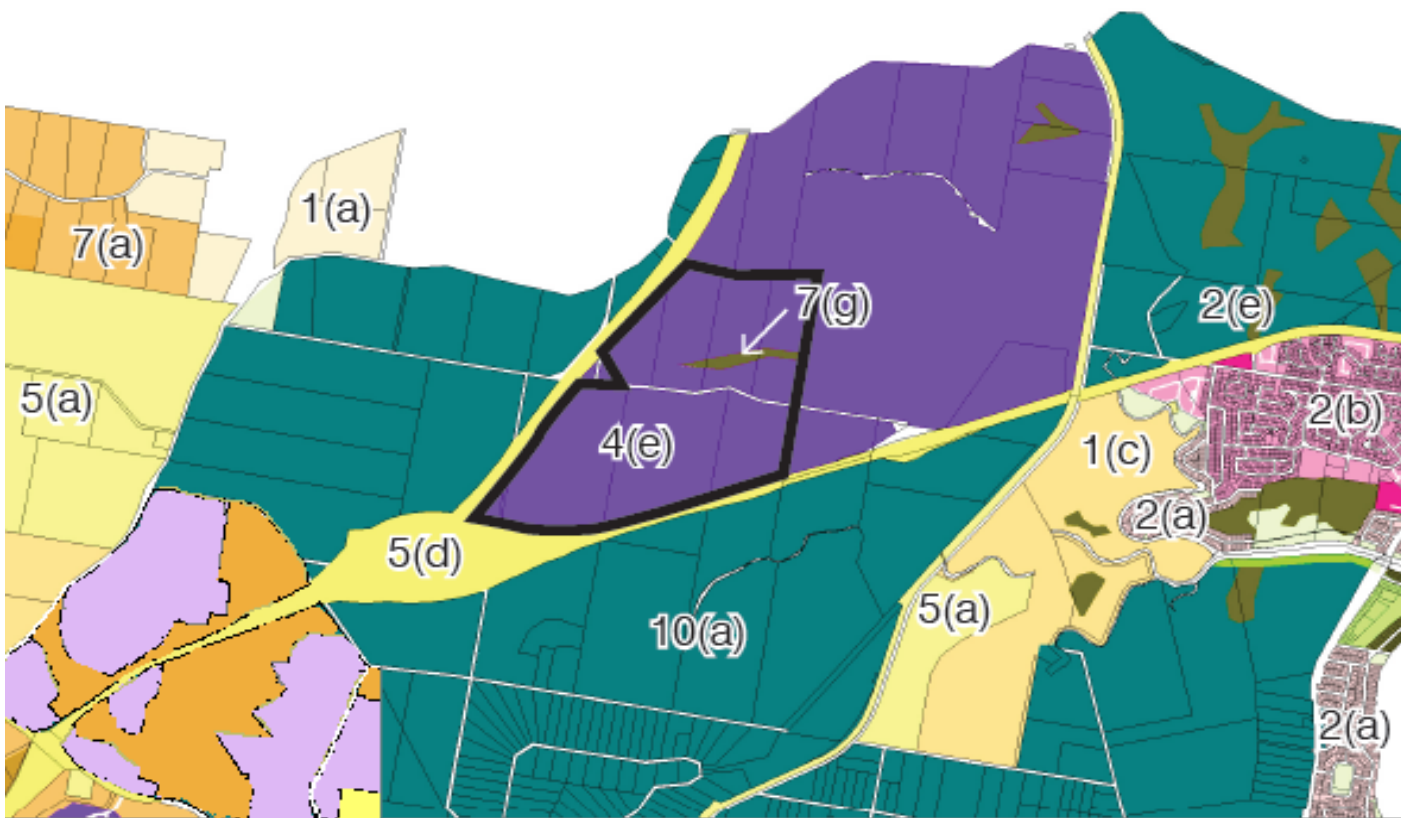


Figure 9B - Tooheys Road Site (Site B) Current Zoning (Wyong Local Environmental Plan 1991)

6.0 Potential Planning Issues

6.1 Visual Impact

Site A development comprises no coal stockpiling, crushing, separating or loading facilities. This site will appear as a business park style single storey building, consistent with the desired theme of the Wyong Employment Zone located across Hue Hue Road.

The area surrounding Site A includes undulating small lot rural residential and farmland to the east that is in the process of rezoning to light industry. A dense vegetated ridge surrounds the western boundary of the property (which tapers off towards the south eastern boundary of the property) shielding residents along Sandra Street to the south west of the property. Vegetation on the north of the property, provides a natural barrier to Wyong Shire Council Buttonderry Waste Disposal Depot.

The existing area surrounding the Site B includes undulating farmland, dense native vegetation to the north (owned by the Darkinjung Local Aboriginal Land Council) and dense native vegetation to the south which is a mix of freehold and Crown Reserve. The F3 (Sydney – Newcastle) Freeway is located at the western boundary of the site and runs north to south. Also, 330 kV transmission towers and powerlines dissect the northern area of the Tooheys Road site (Site B).

The surface facilities site at Tooheys Road will comprise coal handling facilities which are effectively isolated from existing settlement. The recent settlements to the east (Blue Haven, Charmhaven) are located several kilometres away from the main pit top facilities. Existing intervening land uses between these settlements and the coal handling facilities site include:

- Existing quarry and tile manufacturing facility
- Sewage treatment plant
- Main Northern Rail Line
- Motorway Link Road
- High Voltage Transmission Line

This existing visual landscape of the area surrounding both sites has been considered within a Visual Assessment prepared by Andrews.Neil (2007). The assessment concludes that the construction of proposed infrastructure on these two sites will introduce changes to the visual environment. Potential viewing locations have been used to understand the visual impacts of the Project at a conceptual level (See Figure 10).

For Site A, the facility is effectively separated from the Hue Hue residential area by an intervening timbered ridgeline. The closest land to the east of the proposed surface facilities at Site A has recently been designated for future industrial development. This site has a narrow frontage, compared with its depth and the bulk of the proposed development will occur at the rear of the site, where the site's Visual Absorption Capacity is high. The proposed revegetation will increase the Visual Absorption Capacity of the eastern portion of the site.

In the context of the anticipated future character of the surrounding land, it is considered that no more involved mitigation measures are required. The proposed development will have a MINIMAL – LOW impact on the existing landscape character.

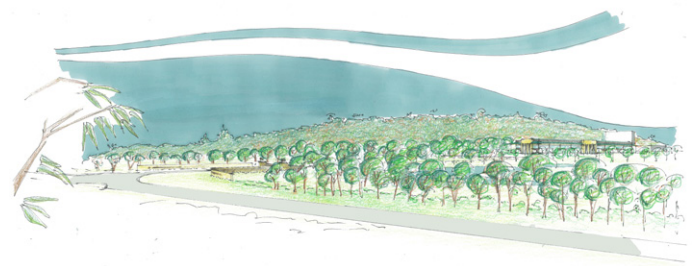
Although the surface facilities on Site B for the project are likely to be visible from some publicly accessible vantage points and isolated residential locations, dense vegetation and topographical features provide adequate visual barriers from most locations when looking directly at the site. A large portion of the intervening densely vegetated land is owned by the Darkinjung Local Aboriginal Land Council and is unlikely to be cleared over time.

The proposed rail spur line will be located just below an elevated ridge but will be partly screened by intervening topography. This location will be partly visible to some nearby residents as well as partly visible to people travelling along the Sydney-Newcastle (F3) Freeway.

However, overall, the proposal is considered to be in context with the employment generating lands in its immediate surroundings. Nearby residential development is located no closer than two kilometres of the nearest surface feature on Site B, although a limited number of rural properties occur closer to Site B in the Bushells Ridge Road area. When combined with existing vegetation and topographical features, the design of the site minimises the effects of visual impact. Screening can be further increased with landscaped treatments. The Visual Assessment acknowledges the level of visual impact cannot be reduced to a NIL level, but given the types of site exposure identified on anticipated LOW IMPACT result is considered satisfactory.



View looking West from carpark towards Administration building (Site A)



View looking South West from an elevated position at Hue Hue Road towards Administration building (Site A)

Figure 10 - Visual Assessment (AndrewsNeil, 2007)

The coal handling surface facilities (Site B) have been located in a neighbourhood that includes an existing quarry, rail corridor, freeway and main road corridor, gas, oil and water services corridors, power line corridor as well as a sewage treatment plant and Council's landfill waste disposal site. The nearest existing residential development is located over two kilometres east in Blue Haven.

The rail loop for coal loading has been designed to ensure that it will bring trains through always slightly pulling uphill. The weight of the load then maintains relatively even loads and reduces noises caused by empty wagons while shunting. With the implementation of standard noise control systems, the surface infrastructure will meet the necessary noise assessment goals at the nearest residences.

6.3 Air Quality Impact

There are several opportunities available for the mitigation of greenhouse gases for the project. Wallarah 2 is working

The main dust sources from the surface facilities are likely to be:

- dust generated from loading and unloading of materials or product;
- truck movements (particularly if over unsealed roads);
- coal stockpiles; and
- transport of coal on conveyors, transfer stations and trains proposed for product transport.

The NSW Environment Protection Authority provides a range of air quality goals which must be met by any new development. These include criteria for finer dust particles, known as PM10 which is a measurement of dust particles less than 10 micron in size. The government criteria incorporate all required health as well as amenity standards. The Wallarah 2 Coal Project team has been studying and assessing potential dust impacts for some years and there is sufficient certainty in the data to confirm that likely impacts on Blue Haven are negligible. Figure 12 shows how far the finer dust might move in a worst-case situation relevant to Blue Haven (westerly winds). In this scenario, the project satisfies the Government goals for air quality.

The underground mine will be developed entirely in declared Mine Subsidence Districts. The NSW Government has established strict guidelines on subsidence that is permitted in these areas. The project has been subject to rigorous



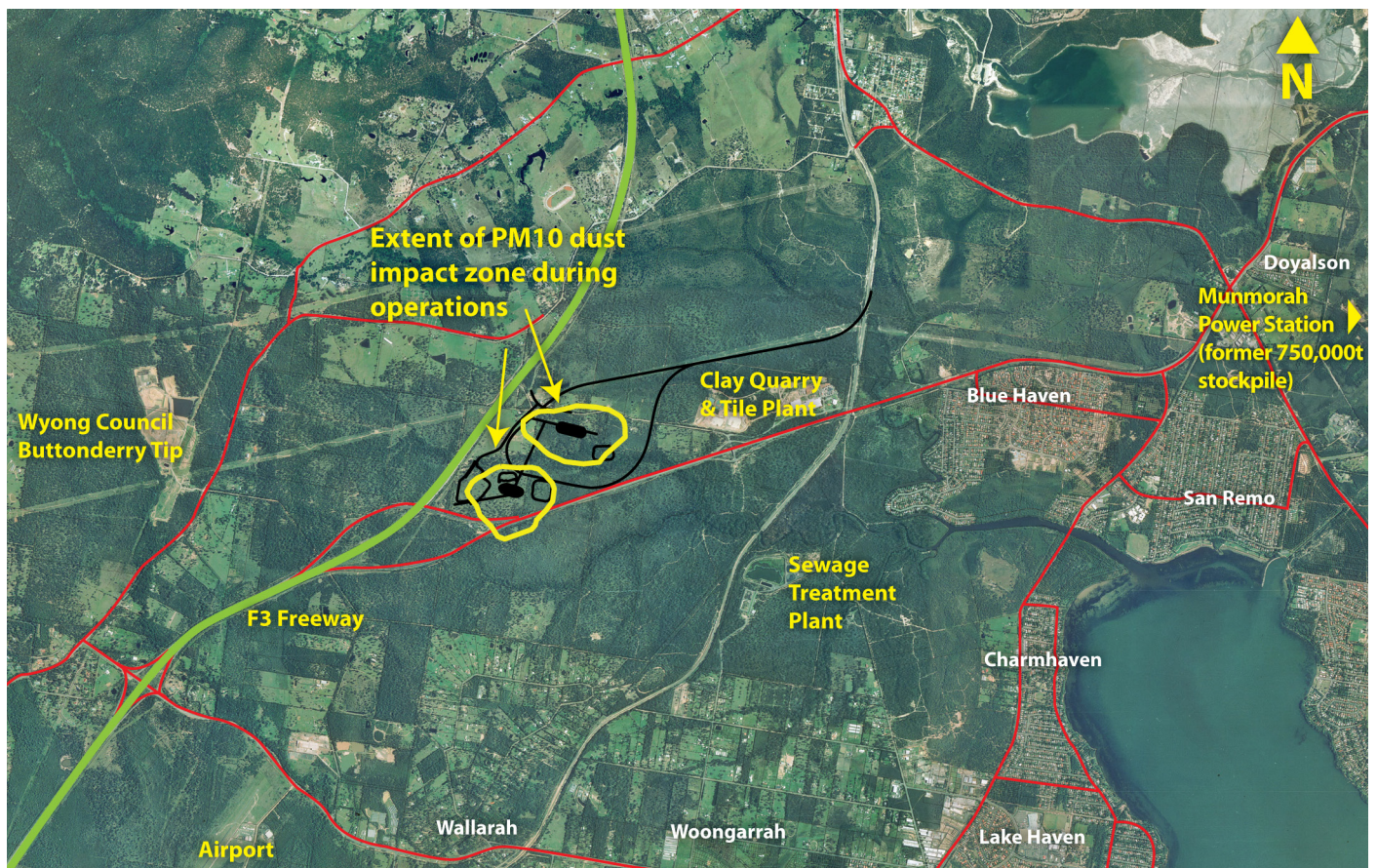


Figure 12 - Tooheys Road Surface Facilities: Predicted Dust Impact Area (Average 24 hour PM10 Compliance Limit). (WACJV, 2007).

analysis to demonstrate to meet these guidelines before mining is approved. Detailed monitoring of subsidence effects will also be continually analysed throughout the life of the mine.

Strata Control Technology Pty Limited and Mine Subsidence Engineering Consultants Pty Limited have undertaken the required subsidence assessments. The detailed data have confirmed that there will be no vertical connectivity created between the surface and the deep extraction zone. There will be a significant separation between the mining zone and the surface. This geological character has allowed mining to routinely occur beneath Lakes on the Central Coast, as has been done for most of last century. The current and previous operating mines have never been flooded by seawater.

The limit on the quantity of coal to be extracted beneath the Hue Hue area has been significantly reduced to ensure that surface movement (referred to as subsidence), will be within the levels stipulated by the declared Mine Subsidence District for effective management of impacts on structures.

Similarly, when crossing deep beneath the Dooralong Valley floodplain, which is necessary to access coal deep beneath the surrounding forested hills, the preferred mine design is one which most effectively manages the subsidence effects. Such subsidence protection zones have been included in both the Yarralong and Dooralong Valleys as well as the Hue Hue rural residential area.

Water resources will not be impacted on, due to the geology, mining depth, strict regulations that control subsidence in sensitive areas and the mine design which has incorporated a number of additional controls to safeguard the surface

and subsurface groundwater systems.

The mine plan does not extend under the Wyong River, or under any existing or future water supply infrastructure such as pipelines or dams.

Strains and tilts in the Hue Hue Mines Subsidence District will be compatible with guidelines of less than 3mm per metre and 4mm per metre respectively. Water loss from the surface streams and alluvial aquifer system will not occur since a minimum of 120m of intact strata will prevent connectivity between the surface water regime and the zones of underground disturbance.

The underground mine crosses in excess of 400m below Jilliby Jilliby Creek in order to reach coal beneath the Wyong State Forest. Where the creek is crossed, the amount of coal to be extracted is reduced to manage subsidence impacts.

The geology of the local area is very different from those where subsidence can cause cracking of river beds. A total of 352 boreholes were drilled in the earlier investigations, and those members of the community who have seen the cores during the Wallarah 2 open days, will have been shown the full sedimentary sequence of rock layers that ensures that cracking cannot result in loss of surface water into the mine.

No significant fresh water aquifers were identified in the proposed mine area during the exploration program. Investigations to date suggest that potential groundwater risks are dominated by localised and temporary effects and can be satisfactorily managed. Groundwater that will be affected by the coal extraction is well below that which is used for farming and domestic water supplies and of an inferior quality.

Water in the mine will be pumped via underground piping in the mine to the pit top at the surface. It is saline and unusable for any purpose without treatment.

All research to date shows that this project will not deplete groundwater. Other detailed investigative reports for the Environmental Assessment Report provide a detailed analysis on groundwater.

6.5 Infrastructure Impact

The proposed mining operations will not impact on the Gosford-Wyong Joint Water Supply Scheme infrastructure. Wallarah 2 is committed to safeguarding the regional water supply and will potentially be a net provider of water to the supply system in the long term.

The present Gosford-Wyong water supply scheme is based on harvesting potable water from four coastal streams; Wyong River, Mangrove Creek, Mooney Mooney Creek and Ourimbah Creek. During times of insufficient flow to meet the demand, for example during a drought, security of supply is provided by the major water storage dam in the upper reach of Mangrove Creek (Mangrove Creek Dam) and two smaller dam storages at Mardi and Mooney Mooney. The proposed mining area which represents just 4.7% of the region's drinking water catchment area.

No longwall mining will take place in or under the Mangrove Creek Dam or Mardi Dam catchments nor under Wyong Creek Weir or any other water supply infrastructure or important wetlands.

Recycled water from the Council's sewage treatment plant is proposed to be used for the construction process of surface facilities and initial mine development. Later mining operations will utilise recycled water from the mine's own water treatment plant that will treat inferior quality water encountered and collected from deep aquifers during mining.

In the early stages of the mine all water pumped out will be used on site. After this initial period there will be surplus water produced by mine operations. In order to improve the quality of this water and make it suitable for other uses, Wallarah 2 will install a water treatment plant. Once treated, water can then be available for other purposes such as industrial water supply or supplying the surface rivers for environmental flows or even directly into the water supply system.

There will not be a coal washery in the mine. Avoiding the need for a washery greatly reduces water demands and avoids the need for major tailings dams.

These water saving initiatives will increase the total usable water for both the community and the environment.

7.0 Conclusion

The proposed Wallarah 2 Coal Project is consistent with the relevant planning strategies applicable to the region. The level of employment generation, potential for export of surplus water and electricity services, community growth and support initiatives and flow on effects to the surrounding centres in terms of business growth, are advantageous to the developing north Wyong area and indeed the Central Coast as a whole.

There is to be no significant negative impact on the closest residential area of Blue Haven in terms of acoustic or air quality. Appropriate design measures have been taken to ensure that the visual impact of the development of both sites is not significant. In particular, the development of Site A - Administration, will appear as a business park style development and not like a mine development at all, in keeping with the expectations of the adjacent Wyong Employment Zone.

Design treatments specifically tailored to this site ensure minimal environmental impact. This includes; the longest coal mine drift in Australia; no coal washery; onsite sewer and water treatment as well as options for methane gas recycling.

These initiatives, together with the geology in the valley areas in particular provide certainty that surface and subsurface water regimes in the region can be protected.

The site benefits from excellent access to regional transport networks, including rail, which will accommodate all coal transportation from the development.

8.0 Reference

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