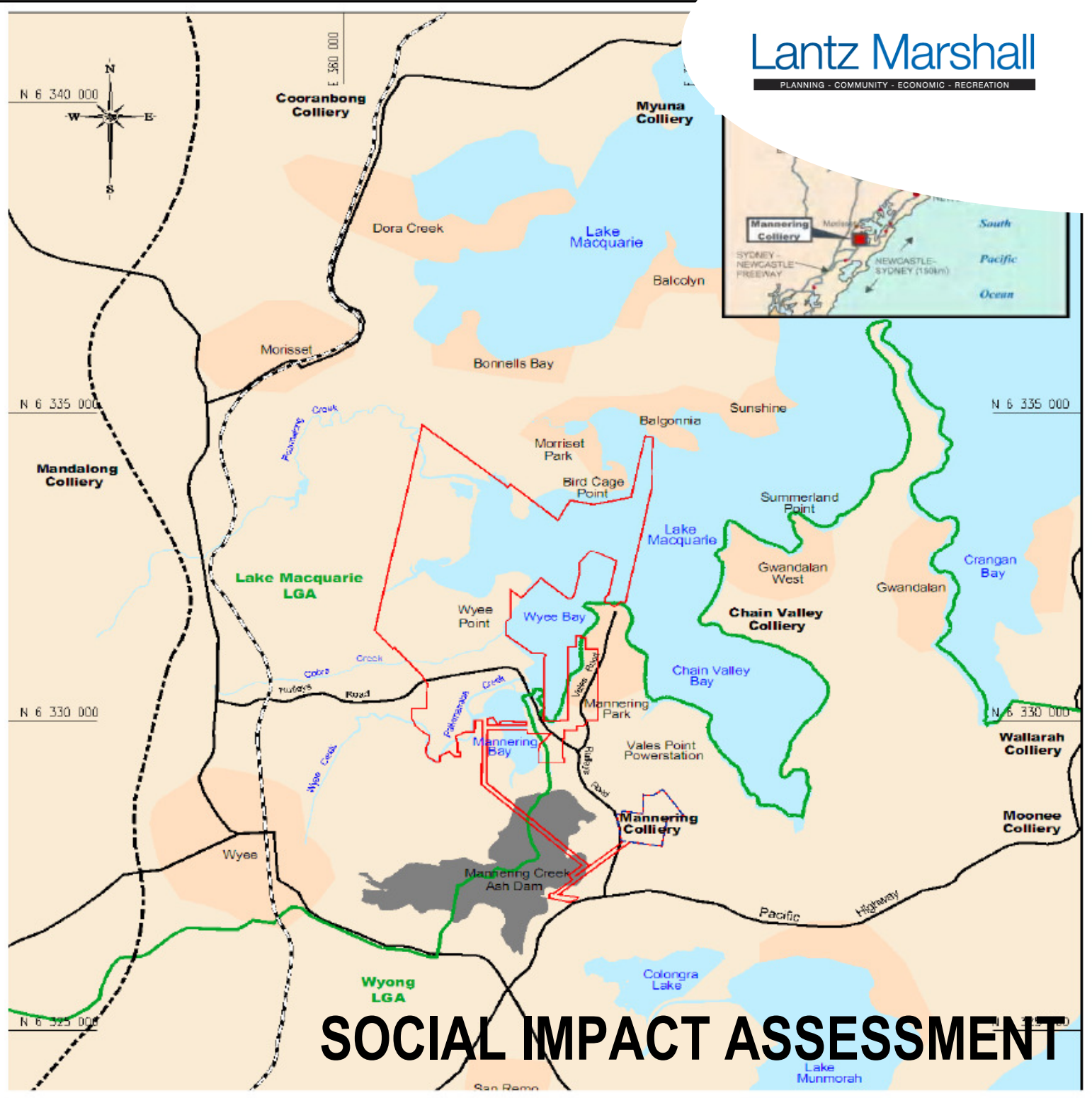




# SOCIAL IMPACT ASSESSMENT

## Mannering Colliery Modification

PREPARED FOR: CENTENNIAL COAL

December 2011

**Social Impact Assessment (Preliminary)  
Mannering Colliery Modification**

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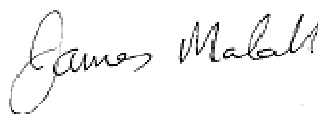
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| Issue | Date    | Description | By       |
|-------|---------|-------------|----------|
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# EXECUTIVE SUMMARY

This Social Impact Assessment (SIA) has been prepared to assist Centennial Coal gain an understanding of the potential impacts that will arise in relation to the proposed amendment to the Mannering Colliery Project Area.

The SIA builds on the previously completed community profile and preliminary risk assessment that was developed as part of the initial scoping exercise. Since the completion of the community profile additional consultations have been completed which has been incorporated into this SIA.

The findings are summarised as follows:

## General Impacts

The project site sits on the western side of Lake Macquarie amongst residential towns and rural areas. The mines and power stations have been a part of the west lakes area for many years and numerous small townships emerged as a settlement for local employees. Visible within the surrounding landscape is associated plant and infrastructure, such as the power station facilities and conveyors used for the transportation of coal.

During the development of the initial community profile a number of informal and unstructured discussions were undertaken with local residents and the following themes were identified:

-  The general day to day operation of the mine and power stations did not generally seem to be of any major concern.
-  People now live in the area for lifestyle reasons, including retirement, access to water frontage, village feel of the local communities. Quality of life is therefore a major factor for residents and also visitors.
-  Any change in the mine (or other associated infrastructure and operations) could be tolerated if there was no real and/or perceived impact / negative consequence to the above factors.

While the mine and neighbouring power stations may have been part of the community for many years there are a number of 'emerging' communities. This is evidenced by:

-  The redevelopment of existing properties in exiting / established residential communities. There are numerous examples of new housing that is being developed, taking advantage of the lifestyle, water access / views and in some instances relatively cheaper land that this area has to offer.
-  There are new residential developments being undertaken that will attract additional residents to the general area. For example, Trinity Point and Murrays Beach are within proximity to the project and changes to the mines operation could provide an opportunity for residents (and developers) to oppose such proposals. Such areas (even though outside of the project boundary) can become 'activated' if they feel there is a risk to the amenity of the area (visual, noise, dust, odor, property values etc).

## Specific Impacts

Consultations as part of this SIA were, in the first instance, undertaken with members of the Mannering Colliery Community Consultative Committee (CCC). Drawn into the consultation process (via CCC members) were the Mannering Park Progress Association and some residents from Chain Valley Bay.

In summary the impacts that were identified included:

-  The general community (of the area) do not appear to be fully aware of Mannering Colliery's full operations. This specifically includes areas mined (current and future), mining methods, and management of subsidence.
-

- Residents from Chain Valley Bay expressed concern about subsidence and the impact on their properties (not necessarily relating to Mannering Colliery). Residents stated that they have attempted to have this matter addressed by the Mine Subsidence Board however without success. A level of cynicism and distrust exists in relation to accountability of mining companies regarding the management of subsidence and compliance with specific regulations (ie maintaining mining activities within approved areas).
- The proposal to mine underneath residential areas of Mannering Park lead to concerns about subsidence; the impact of mining on property values and lack of information regarding past and future activities.

Anecdotal information was presented about residential properties along the western foreshore of Mannering Park being damaged by mine subsidence. It was stated that affected residents contacted the Mine Subsidence Board to be told that damage was potentially a result of tree roots. Wyong Council was subsequently contacted and it was stated that it was a matter for the Mine Subsidence Board. While the SIA has not made further enquiries regarding the claims, the general public will react negatively towards any plan to mine under residential properties; despite how subsidence will be managed. Furthermore, residents consulted with generally had little knowledge of the extent of mining activities in the area.
- Lake Macquarie City Council (LMCC) was concerned regarding the impact of the subsidence on the hydro-dynamics of the Lake and subsequent impact on the Lakes marine ecology. This concern was based on (not necessarily related to Mannering Colliery) strategies to manage subsidence under sea grass beds (and residential areas) was to cause less than 20mm; and subsidence under the general Lake area to result in a predicted level of 600mm. LMCC acknowledged that monitoring will be undertaken however a mitigation strategy is also required in the event that there is a detrimental impact on the lakes ecology.
- The area to be mined under Mannering Park is understood to be an access road (or series of access roads) linking parts of the underground workings. The extent of mining shown on the plan for the project was stated to be more substantial than an access road. It is understood that the bord and pillar mining will provide an access road and also allow for improved ventilation / airflow. Clarity is required regarding terminology used.

**Positive impacts relate to:**

- The proposal will result in longevity of the mine operations, and therefore an overall contribution to the local and state economy.
- There will be a requirement to employ 40 additional staff, resulting in an overall workforce of 170.
- The proposal does not impact generally on existing pit top infrastructure or its operations and therefore does not create additional impacts on the local / surrounding community.
- Subsidence is at a level of 20mm or less.

**Other:**

- There appears to be a level of agitation from Wyong Shire Council towards mining generally in the area. Wyong Council supported a public meeting about the impacts of mining in mid November 2011.
- It is understood that Manning Colliery (and Centennial Coal generally) will be seeking to maximise the resource recovery within their approved project boundaries. This may cause further concerns among the community if and when they are made public.

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# 1. INTRODUCTION

## 1.1 What is a Social Impact Assessment?

A Social Impact Assessment is an analysis of the likely effects that a change will have on the social fabric of a community. This change may be brought about by a development, a program or policy.

The SIA investigates in a systematic way who are affected and how. The aim of the SIA is to assist determine the scale of change, if any, within the community (it must be noted that social impacts can be both positive and negative). For example:-

-  The desirable and undesirable social impacts
-  The intentional and unintentional social impacts
-  The distributional social impacts (impacts experienced by different people and different parts of the community).

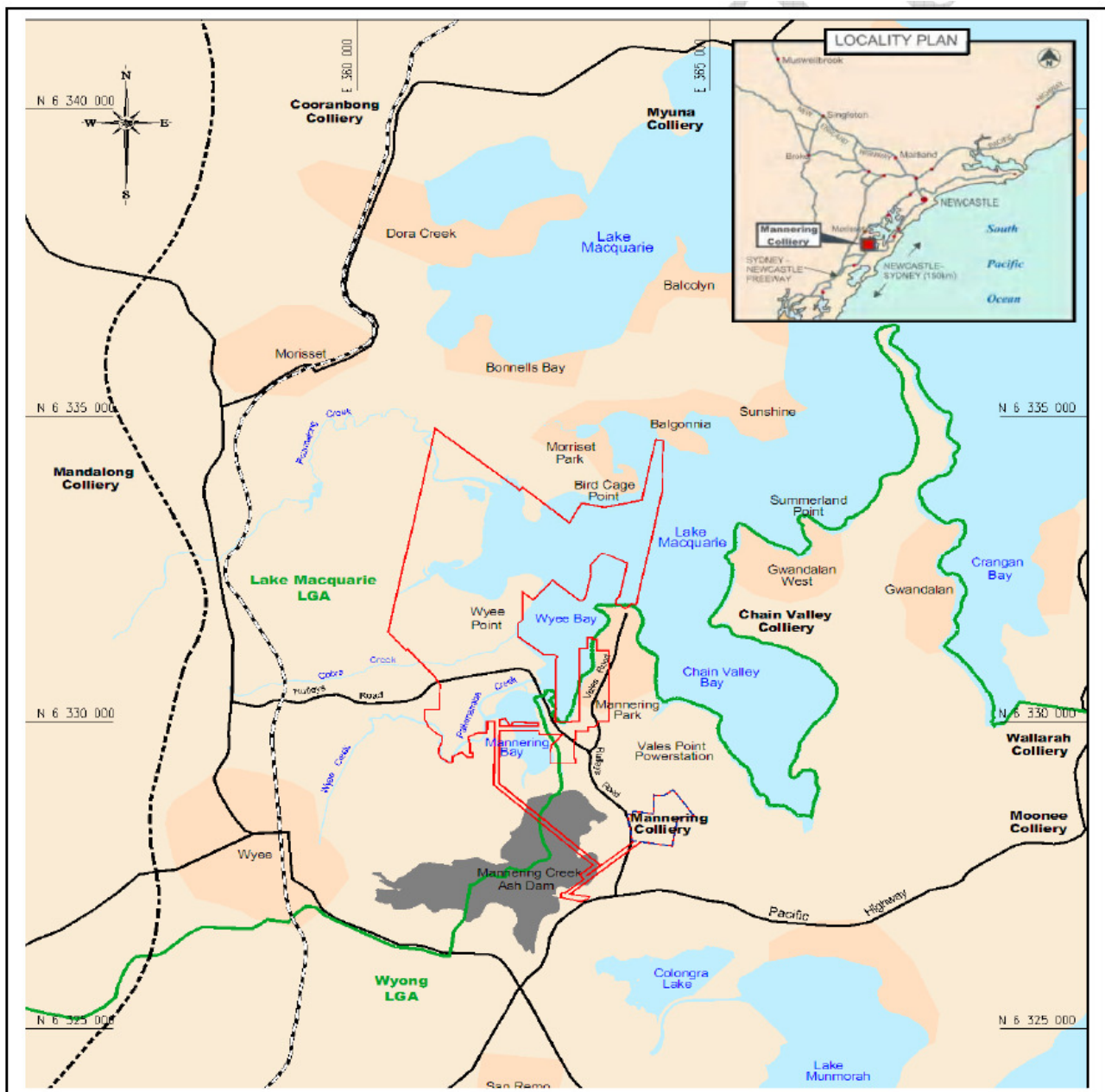
A SIA is a systematic, staged approach of enquiry with the core stages being:

1. **Profiling:** This involves the understanding of the scale and scope of the project, parameters of the SIA, identification of the stakeholders (determined by the areas of affectation).
2. **Scoping:** This involves the identification of the likely impacts arising from the development and includes consultation and feedback from identified stakeholders. Consultation is undertaken in a range of ways and may include informal consultation, stakeholder engagement, surveys etc.
3. **Assessment:** This section explores the likely impacts that will arise. The scope of the assessment is determined by the likely impacts and as a guide may include (but not be limited to),
  -  Changes to the population and characteristics of the area
  -  The community structure, its character or beliefs
  -  The health and safety of those living and working in the vicinity of the development
  -  An assessment of safety as it relates to crime, anti social and nuisance behaviour
  -  Social cohesion, in particular the quality of life of those living in the vicinity of the development
  -  Cost of living, including housing affordability
  -  Accessibility
  -  Sense of Place and community
  -  The impact on existing services
4. **Management:** All impacts should be identified and those that are identified as having an adverse or detrimental affect need to be managed and mitigated where possible. It is not always possible to manage all adverse impacts however identification of these impacts and how they can be managed must be taken into account. Similarly impacts that are identified as being positive need to also be identified and capitalised upon where possible and appropriate. This allows for an assessment as to whether the proposal meets net community benefit criteria.
5. **Monitoring:** Strategies to monitor identified impacts may need to be identified to ensure that management strategies are adhered to and those cumulative impacts are identified, monitored and taken into account with further development.

## 1.2 Background

Mannering Colliery (Mannering) is an underground coal mine which is wholly owned and operated by Centennial Coal Company (Centennial), a fully owned subsidiary of Banpu Minerals (Singapore) Pty Limited (Banpu).

Mannering Colliery is located approximately 40 kilometres south of Newcastle. The Mannering Surface Facilities (including administration building, workshops and coal crushing facility) are located nearby to Vales Point Power Station, 3 kilometres south of Mannering Park. Mannering Colliery is located within the proclaimed Mine Subsidence Districts of West Lake Macquarie and Swansea - North Entrance and is within both the Lake Macquarie and Wyong Local Government Areas (see Figure 1).



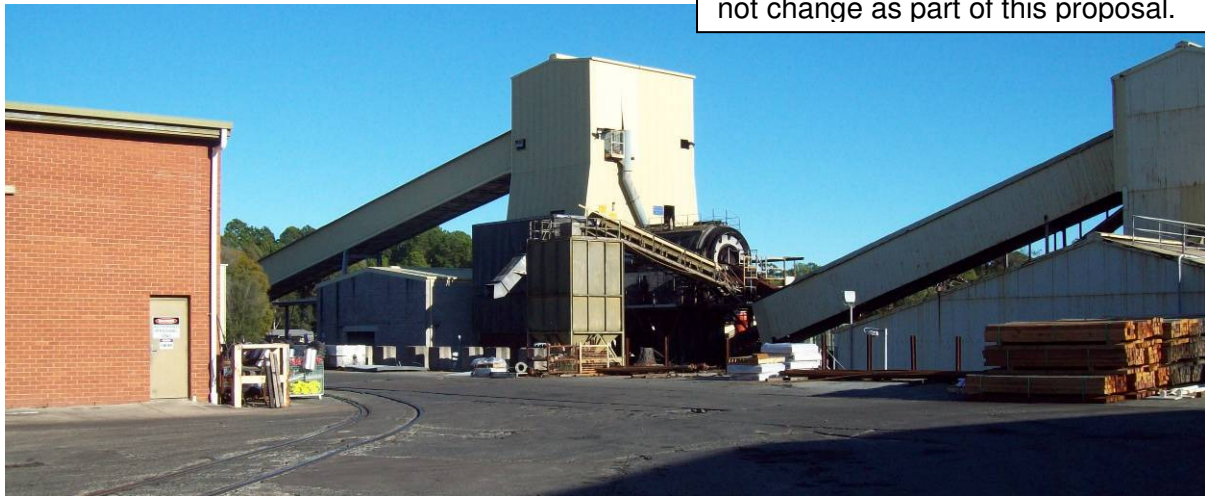
**Figure 1:** Mannering Park Colliery Project Boundary with Local Government Area Boundaries Highlighted.

Development of Mannering commenced in 1960 in conjunction with the construction of Vales Point Power Station and has previously been known as the Wyee State Colliery. Mannering has extracted coal utilising both the bord and pillar and longwall mining methods in the Great Northern and Fassifern coal seams for over 45 years. Mannering currently produces ROM coal from the Fassifern seam which is transported via a dedicated overland conveyor to Vales Point Power Station for domestic electricity generation.

Mannering Colliery was granted Project Approval by the Department of Planning (DoP) under Section 75J of the EP&A Act 1979, on 12 March 2008 to undertake mining in the Fassifern seam by bord and pillar methods producing up to 1.1 Mt of Run of Mine coal per year.



Surface infrastructure at Mannering Colliery. The existing infrastructure will not change as part of this proposal.



Pollution control dams on site at Mannering Colliery

Mannering propose to mine by bord and pillar method in 5 new areas of the Fassifern Seam (as shown by the blue areas on the attached plan MG1495) and mine using bord and pillar in additional areas of the great northern seam (as shown by the yellow and orange areas on the attached plan MG1495).

The combined extraction from the Great Northern and Fassifern Seams will not exceed the already approved 1.1 Mt of Run of Mine coal per annum or predicted subsidence levels of less than 20 mm.

Mining is to be undertaken within CCL721 utilising existing equipment with the addition of 1 new continuous miner and an additional 40 employees. The total workforce will be 170 employees as a result of this project.

No change to surface infrastructure or coal handling is required for the project as production rates will not exceed current capacity. The operation will continue to operate within existing approval limits and controls.

Some of the proposed workings lie beneath the Mannering Creek Ash Dam notification area and a large proportion is within the high water level subsidence control zone.

A map of the proposal is shown below.

### **1.3 Mining Method and Design**

Place-change mining, by one of the two place-change units currently in operation at Mannering, will be used to develop the proposed panels in the Fassifern seam with the addition of 1 continuous miner in the Great Northern Seam.

Key features of the development are:

-  First workings only,
-  Long term stable pillars (minimum of 30m x 30m centres or 24.5m x 24.5m coal),
-  Substantial barrier pillars between panels (minimum 54.5m width coal),
-  No undermining of existing Great Northern seam extraction workings,
-  Designed to provide long term stability beneath foreshore areas and other natural and man-made features.

**Mining Rate:** The currently approved mining rate of 1.1 Mt of ROM coal per annum will not be exceeded by the proposed project.

**Coal Handling:** No changes to coal handling infrastructure is proposed. Current capacity and rates will be maintained.

**Coal Markets and Coal Transport:** Product coal will continue to be delivered to Vales Point Power Station by dedicated conveyor at currently approved rate of up to 1.1 Mt per annum. No change to coal transport infrastructure is proposed.

**Infrastructure requirements (surface and underground):** No change to surface coal delivery and handling is required. Additional conveyor systems will be installed underground to deliver coal from the Great Northern Seam to the current main drift belt system for delivery to the surface.

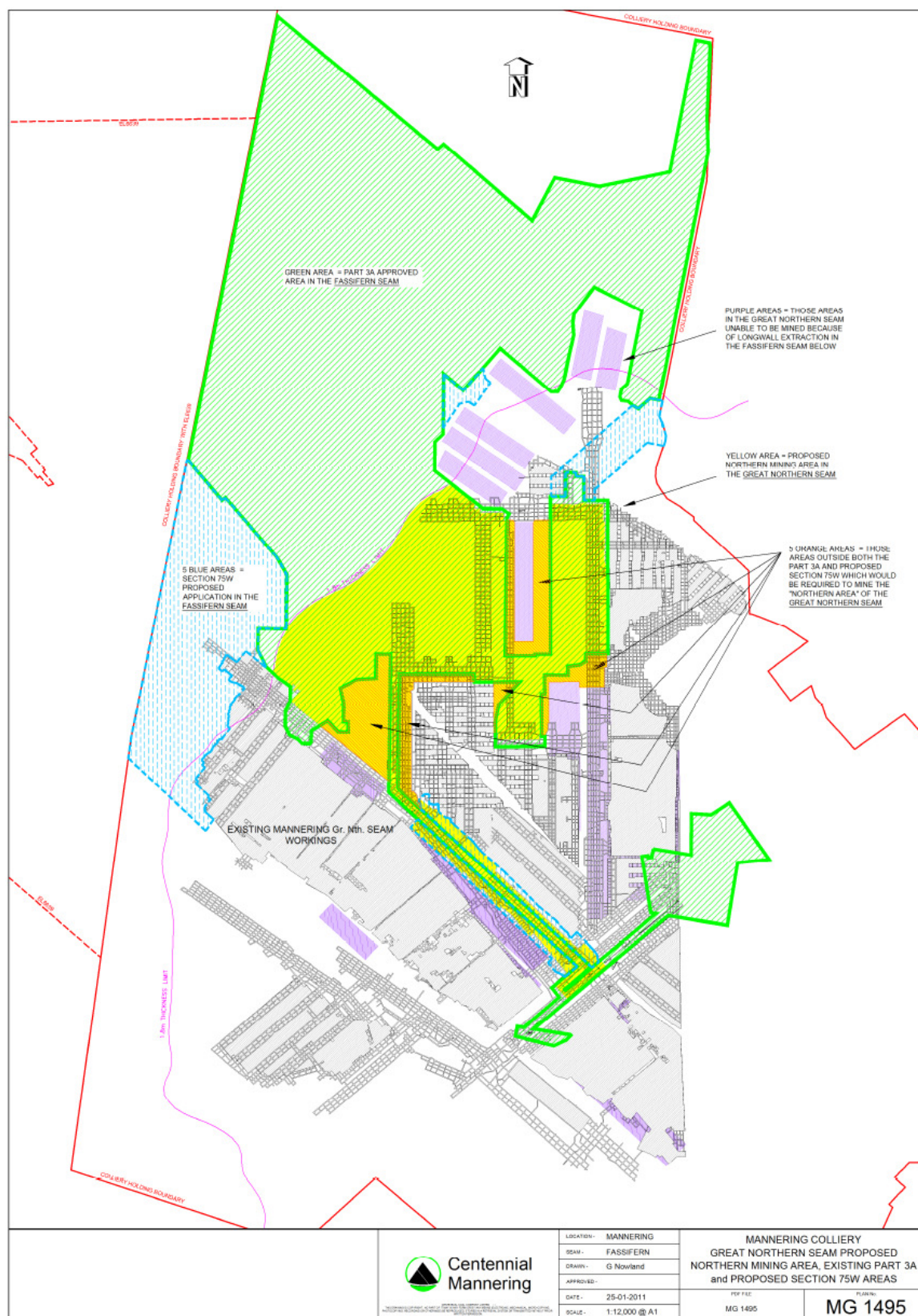
**People requirements:** An additional 35 full time employees will be required to man the additional production unit in the Great Northern Seam raising people requirements to a total of 170 full time employees. No changes to surface or bath house facilities will be required to accommodate the additional employees. The addition of 35 employees will have minimal impact on traffic flows to and from the Colliery on a shift basis. Upgrade plans for the Colliery and Rutleys Rd intersection have been submitted to Wyong Shire Council for approval.

### ***1.4 Comments on Proposal***

The scope of the above proposal does not identify any major amendments or changes to the existing mine infrastructure or operational requirements of the mine.

The proposed extension area is relatively small and the bord and pillar method of mining will result in 20mm or less of subsidence.

Underground mining will occur under residential areas. Therefore the proposal will cause concerns regarding the impact of subsidence despite the bord and pillar mining method and minimal predicted subsidence levels.



**Figure 2: Mannering Colliery with Proposed Extension Areas.**

## 2. AREA CHARACTERISTICS

The area characteristics and descriptions will be brief and summarise the information contained in the Community Profile prepared for Mannering Colliery.

### 2.1 Area Descriptions

The Mannering Colliery project area is within the Local Government Areas of Lake Macquarie and Wyong. A brief description of each LGA characteristics is provided below along with the residential sub regions of Mannering Park, Doyalson and Morisset.

### 2.2 Lake Macquarie LGA

Lake Macquarie City is located in the Hunter Region of New South Wales, about 110 kilometres north of Sydney. Lake Macquarie City is bounded by Newcastle City in the north, the Tasman Sea in the east, Wyong Shire in the south and Cessnock City in the west.

Lake Macquarie City is a rural and residential area with some industrial land use. The City encompasses a total land area of about 750 square kilometres, of which a large proportion is National Park, State Forest and nature reserves.

Lake Macquarie was first inhabited by the Awabakal tribe over 8,000 years ago. Lake Macquarie's original inhabitants derived their name from the lake, with the word Awabakal meaning people of the calm surface. The calm surface also heavily influenced the first white settlers to the area in 1800 as they developed a strong fishing industry on the lake. The oldest existing town, Catherine Hill Bay, retains the original cottages built by the area's first coal miners in the late 1800s. Catherine Hill Bay's landmark feature, the old coal loader, seemingly stretches out to sea dates back to the town's original industry of mining.

Residential areas are dispersed around the lake and the largest population centres are located north of the lake (in suburban Newcastle) including Charlestown, Glendale and Cardiff. The other main population centres are Belmont, Morisset, Mount Hutton, Swansea, Toronto and Warners Bay.

The Lake Macquarie LGA is one of the fastest growing cities in the Hunter, and one of the largest cities in New South Wales. In summary;

-  Lake Macquarie's population is approaching 200,000 people.
-  Lake Macquarie is the Hunter's largest city, accounting for 37% of the Lower Hunter population.
-  Lake Macquarie is the fourth most populous city in NSW, and the eighth most populous city in Australia.

The population of Lake Macquarie is expected to grow by 60,000 – 70,000 people over the next 25 years, which will create a demand for 36,500 new dwellings.

### 2.3 Wyong Shire

Wyong is thought to be named from an Aboriginal word meaning "place of running water".

Wyong Shire is a growing residential area, with some commercial and industrial land use. The Shire encompasses a total land area of over 820 square kilometres, including substantial areas of national parks, state forests, coastline and lakes. The Shire includes the major service centre of Wyong-Tuggerah and numerous townships spread around Tuggerah Lake, Budgewoi Lake, Lake Munmorah and the southern shore of Lake Macquarie. The western half of the Shire is predominantly rural.

The original inhabitants of the Wyong area were the Guringai and Darkinjung Aboriginal people. European settlement dates from 1825 when the first land grant was made. Land was used mainly for farming and timber getting. Growth was minimal until the 1870s and 1880s, spurred by the opening of the railway line in 1889 and the expansion of tourism. Significant development occurred during the post-war years, aided by the improved access brought about by the construction of the Sydney-Newcastle Freeway in the 1960s, and the expansion of metropolitan Sydney. The population grew from about 10,000 in 1947 to nearly 19,000 in 1961, and then to nearly 33,000 in 1971. Rapid growth took place during the 1970s and 1980s, with the population growing from 47,000 in 1976 to 82,000 in 1986. Substantial growth continued during the 1990s, with growth continuing at a slower rate between 2001 and 2006. The population increased from over 100,000 in 1991 to nearly 138,000 in 2006, (Enumerated Data. Usual Residence population in 2006 was 139,800).

Major features of the Shire include the coastal lake system of Budgewoi Lake, Lake Munmorah, and Tuggerah Lake, beaches, Wyrabalong National Park, Lake Macquarie State Conservation Area, Jilliby State Conservation Area, Munmorah State Recreation Area, Olney State Forest, Ourimbah State Forest, Wyong State Forest, The Entrance Waterfront, University of Newcastle (Central Coast Campus), TAFE NSW – Hunter Institute (Ourimbah and Wyong Campuses), Central Coast Community College, Wyong Hospital, Westfield Tuggerah (shopping centre) and Wyong Racecourse, . The Shire is served by the Sydney-Newcastle Freeway, the Pacific Highway and the Sydney-Newcastle railway line

## 2.4 Population and Demographic Overview

The population and demographic analysis has taken into account key information which will provide an insight into the character of the area and surrounds. The areas included in the profile are:

-  Mannering Park
-  Doyalson
-  Doyalson North
-  Wyee Point and
-  Wyee.

Due to the geography and land use characteristics of the area, each of the residential areas is relatively small and are separate townships. They have a small range of infrastructure to support the community's day to day needs with higher order retail and commercial needs being met at the larger centres such as Morisset or Tuggerah.

Within each area there is an emerging mix of socio economic groups. This has come about with newer residential development occurring on the Lake foreshore. Therefore, people live in the area(s) for a range of reasons, not just because it is close to where they work.

The area has:

-  A growing number of retirees generally (note Doyalson North population characteristic is strongly influenced by residential aged care facility).
-  There are generally low labour force participation rates across most areas except Wyee Point.
-  The area has generally higher levels of unemployment across most areas.
-  Coal and Energy Generation employment are not characteristic of the area despite proximity to this type of industry.
-  Income levels are generally lower than other areas within the respective LGA's.

## 2.5 Comments on Area Descriptions

The areas primarily affected by the proposal are a mix of residential, rural and industrial land uses and primarily include Wyee Point, Mannering Park.

These areas also provide an entry / access point to the lake due to a number of small marinas / mooring areas located throughout, meaning that the area is accessed by a broad range of people, not only residents. Doyalson and Wyee also act as a thoroughfare for residents living on the eastern side of the Lake, via the Pacific Highway to the Sydney Newcastle Expressway. Wyee is also a commuter destination point with many people using Wyee railways station as an access point for Sydney.

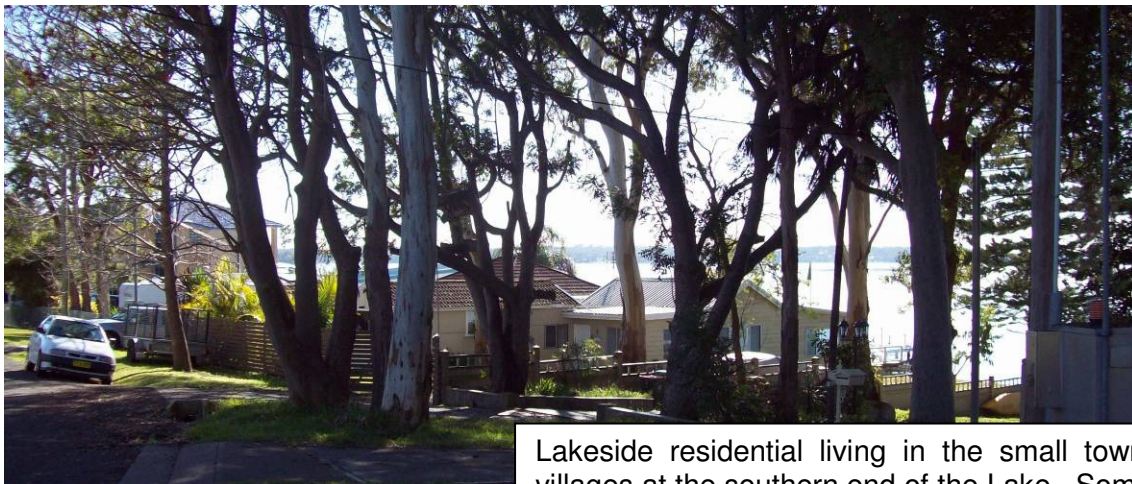
Industrial infrastructure (such as conveyors, high voltage power lines etc) are visible throughout the area as is the power station facility.

The area is also undergoing some change. There are numerous examples across the west lakes area where existing residential areas are becoming redeveloped. This is evidenced by older dwellings are being replaced with larger, modern homes.

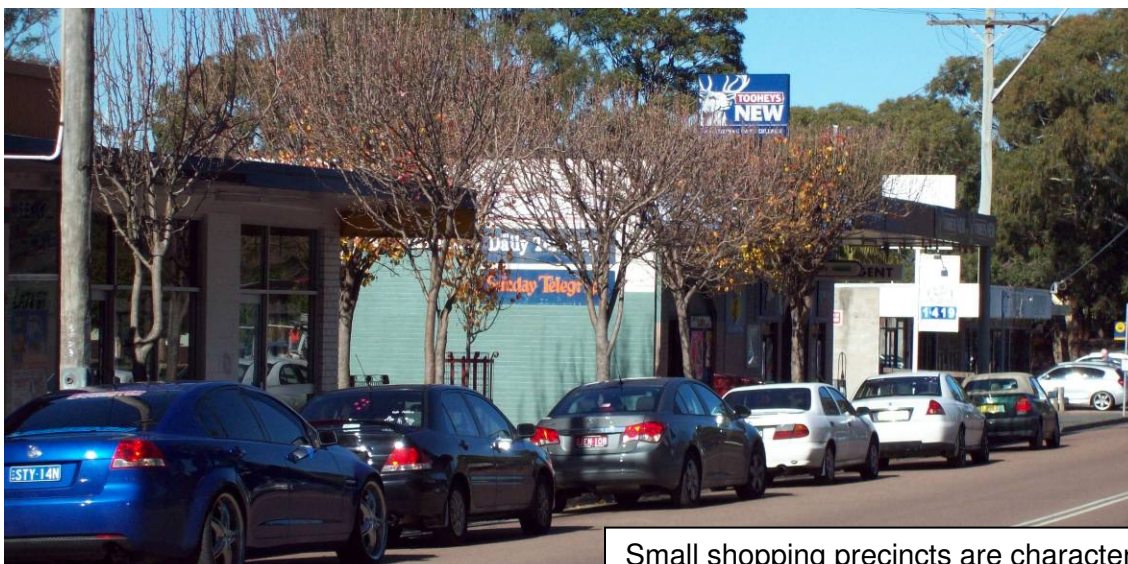
High quality / upmarket residential and tourist development is scheduled to get underway at Trinity Point. This development will include a mix of residential and tourist related facilities as well as a high quality (deep water) marina. Due to demand for wet moorings this development will cater to a broad market including Sydney. The Trinity Point proposal was subject to vocal opposition from the local (and surrounding) community with the main opposition relating to the change in character of the area, over development of the land (including marina development) and impact on the lifestyle of existing residents.

Murrays Beach has also undergone some residential development. Murrays Beach sits on the eastern lake foreshore and offers high quality lake side living, catering to the mid to high end of the market.

Both Trinity Point and Murrays Beach are on the Lake Macquarie foreshore and the mining / power infrastructure can be seen from these areas. Any impact (ie new infrastructure, undermining etc) will potentially activate these communities as they may wish to protect their lifestyle, community amenity, investment etc.



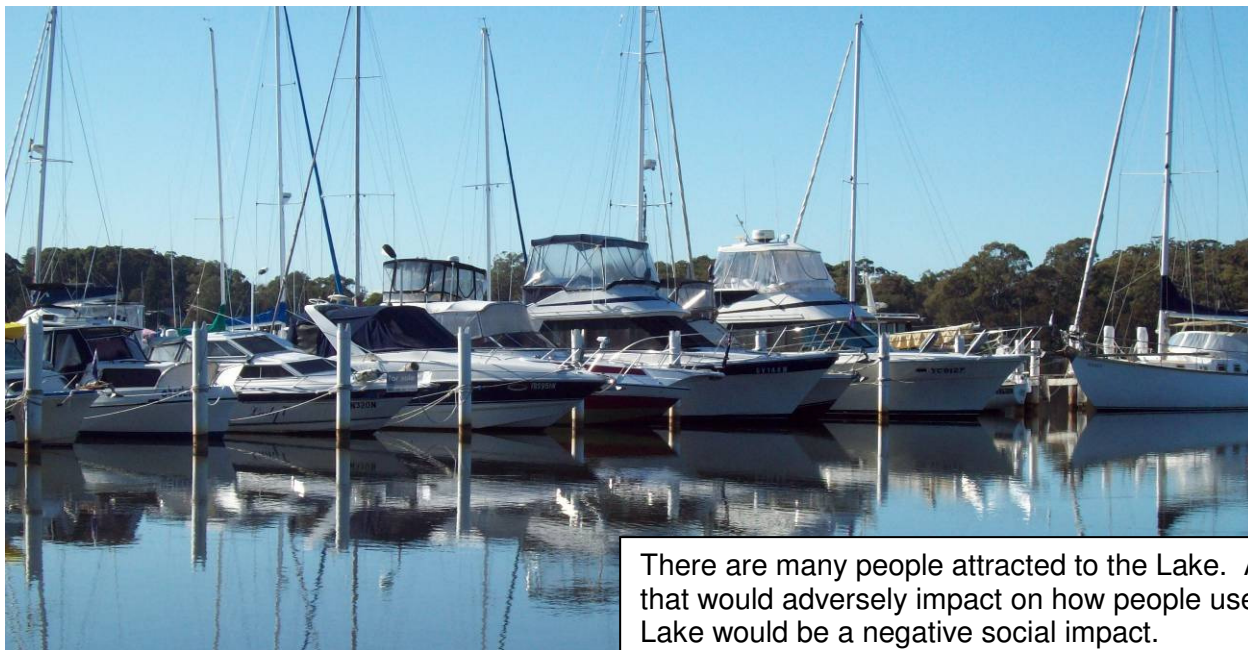
Lakeside residential living in the small towns / villages at the southern end of the Lake. Some of these dwellings are being redeveloped.



Small shopping precincts are characteristic of many of the residential areas.



The power station is within close proximity to the Lake.



There are many people attracted to the Lake. Anything that would adversely impact on how people use the Lake would be a negative social impact.



View of the power station from the eastern side of the Lake.



Power station infrastructure can be seen from Rutley's Road. Above is a coal conveyor.

## 3. POTENTIAL SOCIAL IMPACTS

### 3.1 Social Impact (Risk Assessment) Checklist

The following is a checklist that is used to guide the social impact process. The previous sections of this report provide understanding as to the scope of the proposal. Consultations and the area analysis will provide some insight to the community structure and values etc allowing for identification of the potential social impacts.

It should be noted that using the checklist below will result in repetition of certain issues however the information will be summarised / consolidated. Management strategies can then be developed and tested with further consultation and engagement.

**Population Impacts:** The population characteristics of the area are important to assess as major changes may bring about the need to increase infrastructure to the area to cater with increased demand and / or relates generally to the population / community groups that will be impacted upon by the proposal.

| Impact Assessment Question                                                             | Yes / No  | General Impact Assessment Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Will there be any impact on the population / community as a result of the development? | Potential | <p>Local population / communities will already be impacted upon by noise, dust, visual etc in areas that are located within proximity to the existing project (including other mines and power stations) or as they travel in the area because they can visualise the related infrastructure.</p> <p>With this in mind, any changes to the operation of the project (even if it is within approved limits) will either be positive (if it is a reduction in activity, for example reduced number of haul trucks per hour) or negative impact (if it is an increase in activity, for example increase in the number of haul trucks per hour). As the main scope of the project is not increasing the ROM and there is no amendments to infrastructure / or surface operational activities the social impact in this regard is negligible.</p> <p>The mine method is bord and pillar so subsidence will be less than 20mm. However any activity where mining will be undertaken under / near residential housing will result in concerns being raised.</p> <p>In relation to this project, the issue could gain traction due to:</p> <ol style="list-style-type: none"> <li>1. Historical events at Chain Valley Bay (discussed during consultations) where residents stated they have been impacted upon by mine related subsidence; and have been seeking recognition / compensation for 20+ years.</li> <li>2. There are numerous examples of older / existing residential dwellings being renovated along the lake foreshore. More people are moving into this area because the lakeside housing is relatively affordable and the area is accessible to major retail / commercial areas as well as freeway and rail.</li> <li>3. The emergence of new residential development in the areas of Trinity Point and Murrays Beach could potentially be 'activated' if development of mine / power infrastructure / operations was considered to impact on their way of life / amenity.</li> <li>4. There is current public activity relating to mining via public meetings supported by Wyong Shire Council. Despite the limited impact of this proposal, the cumulative impact of mining could influence people's views regarding this / any proposal.</li> </ol> |

|                                                                          |    |                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Will the development cause the relocation of any part of the population? | No | <p>This will not occur as there is no land acquisition being proposed.</p> <p>Residents however may feel that they would prefer to relocate if they are being undermined as part of this proposal.</p> <p>Furthermore developers may see any future proposal as having a negative impact on their investment.</p> |
|--------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Community Structure, Character and Beliefs:** The community structure, character and beliefs relate to the impacts the development may bring about on relationships between people due to their customs, beliefs, attitudes and even religious beliefs.

| <b>Impact Assessment Question</b>                                                                                                                                           | <b>Yes / No</b> | <b>General Impact Assessment Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Will the development impact on any relationships, customs, beliefs, attitudes, religions, create disruption or need to be considered in any way as part of the development? | Potential       | <p>In the context of this project 'community' relationships have been identified via:</p> <ol style="list-style-type: none"> <li>1. geographic location: eg townships / villages in the vicinity of the project or where the mining is to take place, such as parts of Mannering Park;</li> <li>2. organised groups: eg Mannering Park Progress Association actively promote the wellbeing of the community, comment on issues impacting on the community and undertake activities such as fundraising to make improvements to infrastructure etc.;</li> <li>3. informal groups coming together in response to issues: for example residents from Chain Valley Bay are willing to share their negative experiences relating to mining and the formation of community meetings / forum to discuss the impacts of mining.</li> </ol> <p>Each of the above is to be considered as a means of expressing community structure, character and beliefs. While this project has negligible direct impact, mining generally has resulted in a larger, and broader, scale of social impact.</p> <p>Given the above, the direct impacts relating to this project (and to Centennial) mean that there is a potential for a loss of professional relationships between the community and Centennial Coal due to the proposal. This may come about due to:</p> <ul style="list-style-type: none"> <li> This proposal will lead to a further and potentially larger proposal – this could lead to distrust between the community and Centennial Coal if issues raised here are not addressed adequately. Centennial need to consider the impacts of projects external to Mannering such as Chain Valley Bay. This provides an opportunity to build trust and confidence through formal and informal information and technical sessions, building relationships with the Mine Subsidence Board etc.</li> <li> If activities that have been agreed to by Centennial Coal (eg the Rutleys Road intersection) have not been completed. Any such activities need to be proactively addressed and the CCC kept up to date on progress (outside of the formal meeting process).</li> <li> If there are ongoing and largely unaddressed concerns relating to the mines operations (eg discharges into the lake etc).</li> <li> Users of the lake may object to the extent of mining under the lake bed.</li> </ul> |

**Health:** Provides an overview of how the development will impact on the health of those affected by the development. This can include direct health impacts from dust / pollution and also impacts to general amenity brought about by visual impacts.

| <b>Impact Assessment Question</b>                                                       | <b>Yes / No</b> | <b>General Impact Assessment Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Will the development affect the health of the community or their perceptions of health? | Potential       | <p>Impact on health will relate to the impact on amenity, therefore a negative impact on quality of life.</p> <p>Factors that influence amenity relate to noise, dust, visual / loss of scenic landscapes; loss of convenience to residents (eg increase in rail movements); mining activities encroaching onto / near other land.</p> <p>While it is proposed that the project will remain within approved limits, undermining of residential areas will impact on general amenity of existing residents.</p> <p>New residents may not share the same history / values of existing residents of the area meaning that they may be more likely to be sensitive to mine related issues and identify a negative effect on health (including amenity). Such residents may become involved in the informal groups identified previously.</p> |

**Social Cohesion:** Assesses how the development will impact on the quality of life of residents in the area (include distributional impacts).

| <b>Impact Assessment Question</b>                                                                 | <b>Yes / No</b> | <b>General Impact Assessment Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Will the proposal change the lifestyles of existing residents in the vicinity of the development? | Potential       | <p>The development as it is stated will not cause major disruptions over and above what is currently experienced.</p> <p>However there will be angst created by undermining of residential areas.</p> <p>New residential development (eg within established areas and also new developments such as Trinity Point and Murrays Beach) may be 'activated' if the extent of mining under the lake is larger than what is generally known.</p> |

**The Cost of Living (Income Levels, Employment, Housing and Accessibility):** The impact on cost of living explores if the development will bring about changes to the locality which is being developed. The questions asked here include will housing and land prices increase as a result of the development, will the cost of living be affected (i.e. an increase in say supermarket groceries), will there be impacts on employment etc?

| <b>Impact Assessment Question</b>                                                                     | <b>Yes / No</b> | <b>General Impact Assessment Comment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Will the cost of living be increased or decreased e.g. land, supermarket, grocery and housing prices? | No              | <p>The area has a diverse landscape which includes industry. If there is no change to the infrastructure it is assumed that there will be no negative impact on housing prices as a result. The renovation of existing residential housing will be the primary factor influencing housing / property prices, not the impact of mining.</p> <p>Furthermore, the method of mining (bord and pillar) will result in less than 20mm of subsidence which is well within normal environmental factors that result in land movement.</p> <p>The general cost of living will not be impacted upon by this proposal.</p> |

**Sense of Place and Community:** Sense of place and community relates primarily with the aesthetics of the surrounding neighbourhood / residential character. The key area of analysis here is whether it complements the existing character, is the design in keeping with its surrounds etc?

| <b>Impact Assessment Question</b>                  | <b>Yes / No</b> | <b>General Impact Assessment Comment</b>                                                                                                                                                                                                                                                                                                        |
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| Is the aesthetic nature of the community affected? | No              | <p>Mining infrastructure is generally characteristic of the local community. It is tolerated to a degree by those within proximity as long as it does not adversely affect resident's lifestyles, which would be adversely impacted upon if there was an increase in noise, dust etc.</p> <p>This project does not impact on these factors.</p> |

### 3.2 Summary of Potential Impacts

Mines and power stations have been a part of the community for many years and many of the small townships in the area emerged as a settlement for local employees. There is also associated infrastructure that is visible from the surrounding areas.

With this in mind, the area is undergoing a degree of change. This is evidenced by numerous examples across the west lakes area where existing residential areas are becoming redeveloped and older dwellings being replaced with larger, modern homes. This type of change does not generally see an increase in population, but what does occur is a rapid change in how new residents connect to the community. These residents may have different values and lifestyle aspirations. They are more susceptible to the impact of mining regardless of whether the mines operation is within approved areas / limits.

However this proposal does create some negative impacts which need to be addressed; not only to minimise the concerns relating to this proposal, but to also protect the image and future business of Centennial Coal despite the limited nature / low impact of this project.

A list of specific issues/impacts are listed below which have been drawn from the body of this report.

| <b>Issue / Impact</b>                                                                                                                                                                                                   | <b>Strategy</b>                                                                                                                                                                                                                                                                                                                                                             |
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| The general community (of the area) do not appear to be fully aware of Mannering Colliery's full operations. This specifically includes areas mined (current and future), mining methods, and management of subsidence. | <p>The CCC needs to be provided with a full understanding of the mines operations (ie build their knowledge and understanding so informed discussion and decision making can occur).</p> <p>This may include virtual tours, underground visits and technical sessions.</p> <p>CCC could engage others in the community who may have an interest in mining / Centennial.</p> |

| Issue / Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <p>Residents from Chain Valley Bay (CVB) expressed concern about subsidence and the impact on their properties (not necessarily relating to Mannering Colliery).</p> <p>Residents stated that they have had attempted to have this matter addressed by the Mine Subsidence Board however without success. A level of cynicism and distrust exists in relation to accountability of mining companies regarding the management of subsidence and compliance with specific regulations.</p> | <p>CVB residents live along side both Mannering and Myuna projects. CVB residents are vocal and new proposals / modifications present an opportunity to voice their angst and distrust.</p> <p>This needs to be managed. This may include using CVB as an example of past practice and how Centennial operates differently.</p> <p>Assist CVB resident's access Mine Subsidence Board personnel.</p> <p>Take key messages from CVB residents and specifically address as part of this proposal. For example CVB wanted to know what percentage of coal was being removed and stated their concerns would be less if the percentage of coal removed is 30% or less.</p> |

| Issue / Impact                                                                                                                                                                                                                                                           | Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <p>The proposal to mine underneath residential areas of Mannering Park lead to concerns being raised about subsidence; the impact of mining on property values etc.</p>                                                                                                  | <p>Technical sessions may be useful to the CCC in the first instance and then to the broader community.</p> <p>As per above, also use terms such as the percentage of coal to be removed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>The area to be mined under Mannering Park is understood to be an access road (or series of access roads) linking parts of the underground workings. The extent of mining shown on the plan for the project was stated to be more substantial than an access road.</p> | <p>Need to be specific with terminology as some residents had a very different understanding of the extent of underground mining under Mannering Park. The creation of an access road was thought to be a narrow tunnel, where the proposal illustrated a much larger area to be mined.</p> <p>With the above in mind, make formal contact with the Mannering Park Progress Association to build relationship, clarify the scope of this project. This would specifically include using correct terminology for the project and clarifying that mining under the Mannering Park area is to create access tunnels. Potentially show a mine plan with access tunnel footprint rather than the broad area if this is not to be included.</p> |

| Issue / Impact                                                                                                                                                                                                                                                                 | Strategy                                                                                                                                                                                                                                                             |
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| <p>Lake Macquarie City Council (LMCC) was concerned regarding the impact of the subsidence on the hydro-dynamics of the Lake and subsequent impact on the Lakes marine ecology. LMCC acknowledged that monitoring will be undertaken however a mitigation strategy is also</p> | <p>Clearly identify the mitigation strategy.</p> <p>Potential opportunity exists to assist LMCC in their research work.</p> <p>Potential to improve communication between Centennial and LMCC via information briefings that include proposals for all projects.</p> |

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| required in the event that there is a detrimental impact on the lakes ecology. |  |
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| Issue / Impact                                                                                                                                                                                               | Strategy                                                                                                                                                                                                                                                       |
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| <p>The proposal will result in longevity of the mine operations, and therefore an overall contribution to the local and state economy.</p> <p>There will be a requirement to employ 40 additional staff.</p> | <p>The identified positive messages will potentially be overshadowed if the above matters are not adequately addressed.</p> <p>Furthermore, the management of the above issues will be vital given the proposed future plans for Mannering Park and Myuna.</p> |
| <p>The proposal does not impact generally on existing pit top infrastructure or its operations and therefore does not create additional impacts on the local / surrounding community.</p>                    |                                                                                                                                                                                                                                                                |
| <p>Subsidence is at a level of 20mm or less.</p>                                                                                                                                                             |                                                                                                                                                                                                                                                                |

| Issue / Impact                                                                                                                                                                                                 | Strategy                                                                                                                                                                                                                                         |
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| <p>There appears to be a level of agitation from Wyong Shire Council towards mining generally in the area. Wyong Council are supporting a public meeting about the impacts of mining in mid November 2011.</p> | <p>Wyong Council's rep on the CCC needs to be clear as to the scope of the project, including terminology used. This specifically relates to the mining under Mannering Park and his understanding that the proposal was for an access road.</p> |

## 4. CONCLUSION

In closing, the SIA has found that proposed modification to Mannering Colliery results in little or no impacts to the community over and above what is currently experienced.

The positive impacts are:

-  The proposal will result in longevity of the mine operations, and therefore an overall contribution to the local and state economy.
-  There will be a requirement to employ 40 additional staff, resulting in an overall workforce of 170.
-  The proposal does not impact generally on existing pit top infrastructure or its operations and therefore does not create additional impacts on the local / surrounding community.
-  Subsidence is at a level of 20mm or less.

However, management of community concerns is the priority issue that has been identified in this SIA. There is a degree of angst that is evident due to the proposed undermining of existing residences. This angst exists regardless of the predicted subsidence being less than 20mm. This is, in part, caused by:

1. The lack of understanding of modern mine practices and the management of subsidence.
2. Concerns regarding property damage not been adequately addressed. Therefore the community does not feel their concerns have been heard and fear they will not be protected against subsidence related damage should it occur.
3. Past mining practices at Chain Valley Bay means that these residents become 'activated' when new proposals are discussed.
4. Lack of general information about Mannering's activities mean there is a misconception by the mine thinking they are 'operating under the radar' when in fact the community are not aware of the scope of the mines operations.

The impact on the hydro dynamics that was raised by LMCC can be addressed via inclusion of a mitigation strategy should impacts on marine ecology be identified.

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