

TABLE OF CONTENTS

1 INTRODUCTION 3

1.1 LAND TO WHICH THIS PLAN APPLIES 4

1.2 BACKGROUND 4

1.3 STATE HERITAGE SIGNIFICANCE 5

1.4 EXEMPTION FOR CERTAIN DEVELOPMENT 6

2 WANGI POWER STATION COMPLEX - ENVIRONMENT 7

2.1 HISTORY 7

2.2 TOPOGRAPHY AND VEGETATION 7

2.3 FLOODING 11

2.4 LAND USE 12

2.5 SOCIAL AND ECONOMIC CONTEXT 12

2.6 MOVEMENT SYSTEMS 13

2.7 WANGI POWER STATION COMPLEX: DEVELOPMENT STAGING 13

2.8 INTERFACE BETWEEN LAND USES 13

2.9 CONTAMINATION 13

3 WANGI POWER STATION COMPLEX - PRECINCTS 15

3.1 WANGI POWER STATION BUILDING PRECINCT 15

3.2 WANGI POWER STATION - RESIDENTIAL SUBDIVISION PRECINCT 17

3.3 WANGI POWER STATION – COLLIERY PRECINCT 18

4 ISSUES SPECIFIC TO THE WANGI POWER STATION COMPLEX 19

4.1 SPECIFIC ISSUES RELATING TO THIS LOCALITY 20

5 DEVELOPMENT CONTROLS 21

5.1 CONTEXT AND SETTING 21

5.2 CONTAMINATION 21

5.3 SUBDIVISION AND MOVEMENT 22

5.4 SOCIAL AND ECONOMIC IMPACTS 23

5.5 LAND USE INTERACTIONS 23

FIGURES

Figure 1 - Aerial of the Wangi Power Station 3
 Land to which this plan applies..... 4
 Figure 2 - Area Plan Boundary for the Wangi Power Station Heritage Precinct 4
 Figure 3 - Wangi Power Station Heritage and Curtilage Zone 5
 Figure 4 - Sketch of the Wangi Power Station Building..... 7
 Figure 5 - Topography of the Wangi Power Station Complex..... 8
 Figure 6 - Vegetation – for Part of the Wangi Power Station Complex 9
 Figure 7 - Native Vegetation Corridors for Wangi Power Station Complex..... 10
 Figure 8 - Wangi Power Station Complex and Flooding 11
 Figure 9 - Wangi Power Station Complex and Land Use Zones..... 12
 Figure 10 - Areas Known to Require Remediation for Contamination 14
 Figure 11 - Wangi Power Station Building Precinct..... 15
 Figure 12 - Wangi Power Station Views Analysis 16
 Figure 13 - Wangi Power Station – Residential Subdivision Precinct..... 17
 Figure 14 - Wangi Power Station– Colliery Precinct 18

1 INTRODUCTION

This Area Plan contains local objectives and controls for the development of the Wangi Power Station Precinct as shown in Figure 2. It aims to provide guidance for development to ensure the vision and principles outlined in the Wangi Power Station Master Plan 2006; and in the Wangi Power Station: Conservation Management Plan by Paul Davies Architects P/L June 2006, are realised.

The Wangi Power Station Precinct has three distinct sub-precincts. First, the Wangi Power Station Building Precinct, zoned to enable adaptive reuse of the building and its immediate surrounds. Second, there is the Residential Subdivision Precinct. The canal, built to support the Power Station Building, separates these two precincts, and leads into Lake Macquarie. Third is the Myuna Colliery Precinct that includes the balance of the land identified in the State Heritage Register.

Figure 1 shows the Wangi power station building. This aerial photograph, taken from above Lake Macquarie, shows the canal that flows into the lake in the foreground. Myuna Colliery can be seen in the background, directly behind the power station building.

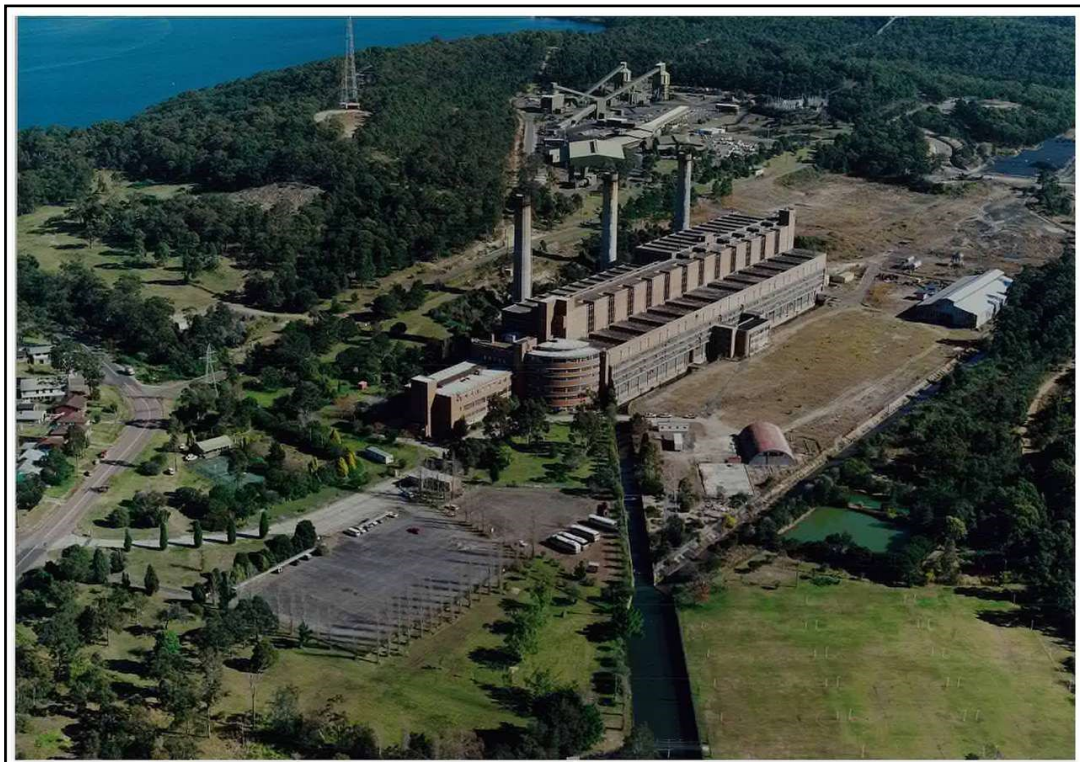


Figure 1 - Aerial of the Wangi Power Station

1.1 LAND TO WHICH THIS PLAN APPLIES

This Area Plan applies to all the land outlined in heavy green edging as shown in Figure 2 – Area Plan Boundary for Wangi Power Station Heritage Precinct.



Figure 2 - Area Plan Boundary for the Wangi Power Station Heritage Precinct

1.2 BACKGROUND

Wangi Power Station is a unique building that is aesthetically distinctive in its design and setting. This complex has been a strong visual and social identify of the Wangi Area since its construction commenced in the 1940's. It is associated with leading the evolution of coalfields – sited power stations and power generation in NSW. For these and other reasons, it has heritage significance. Following its decommissioning in 1986 the station building and its surrounds were listed on the State Heritage Register. The property was sold to a private company in 1999 and the land was rezoned to a mixed use and medium density residential zone in 2010.

The proposed adaptive reuse of the Wangi Power Station building and surrounds is a project in an interesting and scenic location. Special controls are provided to protect the character and heritage significance of the building and to coordinate the future development in a way that also protects the existing town of Wangi and its environment.

Prior to the development of the Wangi Power Station Site, Lake Macquarie Local Environmental Plan 2014 requires an Area Plan be prepared. This is to supplement Lake Macquarie Development Control Plan 2014, and provide guidance for future development in the Wangi Power Station Building and surrounding land.

1.3 STATE HERITAGE SIGNIFICANCE

The State Heritage Register (SHR) of the NSW Office of Environment and Heritage lists the “Wangi Power Station Complex” as an item of local/regional and state heritage significance. The land affected by the SHR listing of the Wangi Power Station Complex, is shown in Figure 2. This land comprises the power station building, the Myuna Colliery and further land bounded partially by Summerhill Drive, Wangi Road and Donnelly Road. The area mapped by the SHR, in part crosses over these roads to the north, south and east respectively. The Wangi Power Station Complex is listed due to its significance to the state for historic, aesthetic, and social importance, as well as reasons relating to research, and its architectural rarity.

The Wangi Power Station Conservation Management Plan (CMP) (2006, Paul Davies P/L; 2000, EJE Architecture) provides further information. The CMP is to guide for any development proposal for this land and for Council and the NSW Office of Environment and Heritage, to consider in the assessment of any proposed development. It affords the greatest level of heritage significance to the area shown as the curtilage shaded in Figure 3 below.



Figure 3 - Wangi Power Station Heritage and Curtilage Zone

1.4 EXEMPTION FOR CERTAIN DEVELOPMENT

Any changes to items listed on the State Heritage Register need to retain the qualities and characteristics that make the heritage place special. Any major works proposed for items on the State Heritage Register need to be assessed and approved by the Heritage Council.

The assessment process can waste the time and resources of both the owner and the Heritage Council if the works are minor and will have minimal impact on the heritage significance of the place. The Minister for Planning has granted exemptions for certain activities that would otherwise require approval under the NSW Heritage Act.

The exemptions that apply to the Wangi Power Station Complex are:

1. **standard exemptions** for all items on the State Heritage Register. Typical activities that are exempted include building maintenance, minor repairs, alterations to certain interiors or areas and change of use; and
2. **site specific exemptions** for a particular heritage item can be approved by the Minister on the recommendation of the Heritage

Section 5 of this Area Plan lists the exemptions. It is important to check whether or not the activity you propose is exempted from referral to the Heritage Council. Before developing firm proposals to change a heritage item, the following actions should be taken:

3. Check the boundaries of the item to which the State Heritage Register listing applies;
4. Check the exemptions, which apply to your heritage item;
5. Read these explanatory notes to ensure that the work you propose is exempted, and check if prior Heritage Council notification and endorsement is required before the works are commenced;
6. If the work is not exempted, apply to the Heritage Council for approval under section 60 of the Heritage Act;
7. Check with the council about any other approvals that may be required;
8. Check with the Heritage Branch if the work you propose involves the disturbance of relics more than 50 years old.

After checking the above, various exemptions for maintenance and cleaning, and repairs are incorporated into this Area Plan to ensure that the Heritage Office does not need to receive referrals for.

2 WANGI POWER STATION COMPLEX - ENVIRONMENT

Located for its proximity to water and coal, Wangi Power Station was the last of the Railway's power stations built, and the last one to close. For a time it was the largest power station in NSW, representing the transition from Railways to Elcom as the predominant power generation authority in NSW. The range of parcels comprising the "Wangi Power Station Complex" is not all in the one ownership. It includes the Myuna Colliery, the Station Building, the canal, and a curtilage extending over the otherwise bounding roads of Donnelly Road, Wangi Road and Summerhill Drive. Figure 4 shows a sketch of the station building by (CMP, Davies 2006).

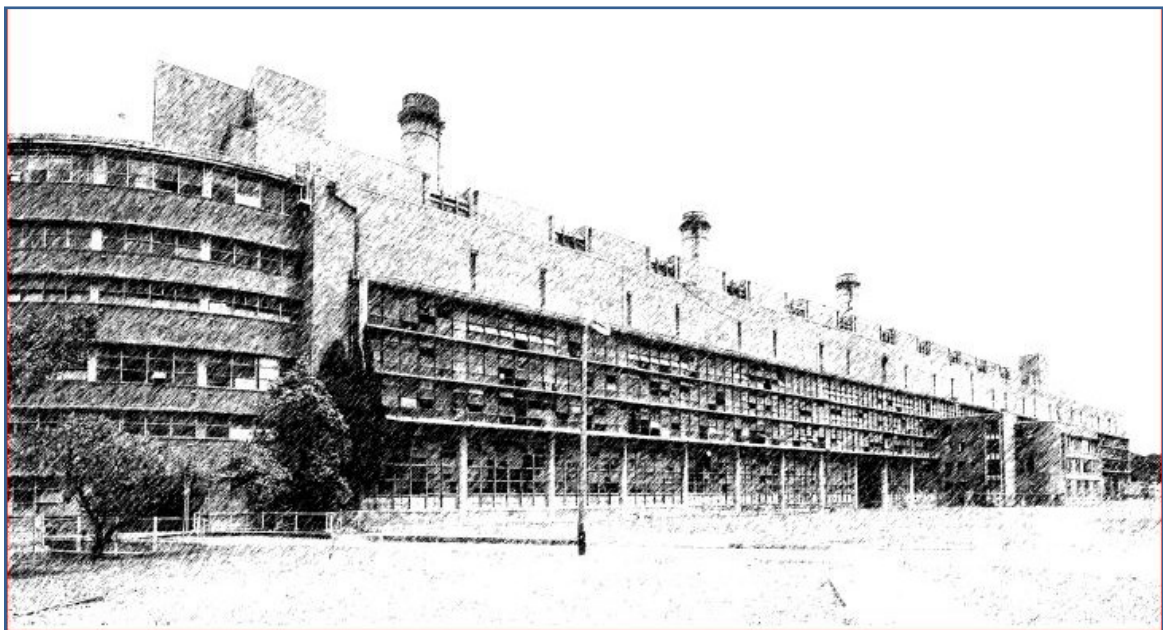


Figure 4 - Sketch of the Wangi Power Station Building

2.1 HISTORY

The Wangi Power station opened on 7 November 1958, operations as a power station ceased in 1986, and the formal decommission was 31 April 1989. The significance of the Complex is due in part to the leading role the Wangi Power Station had in the evolution of coalfield –sited power stations and power generation in New South Wales. A similar level of significance is attributed to it for being the largest power station in NSW for at least the first five years of operation. It also had a pre-eminent part in relieving NSW from drastic power shortages and blackouts in the late 1950's, and playing a major role in restoring power supply to NSW after the total state power shutdown of 10 June 1964 (CMP, by EJE Architecture, Jan 2000).

2.2 TOPOGRAPHY AND VEGETATION

The power station building and associated canal sit at the base of the valley that rises up from Wangi Creek. Irregular slopes rise from this flatter base at the station building forming gradients ranging from approximately 5-10 per cent in the northern and south western portions. The development of the power station saw Wangi Creek reformed from a meandering creek through the swampy valley base, into a concrete lined channel connected directly to Lake Macquarie. Figure 5 provides the topography of the area (CMP, Davies 2006).

The topography is an important characteristic of the Wangi Power Station Complex and should be acknowledged and incorporated into the design of any future development of the site.

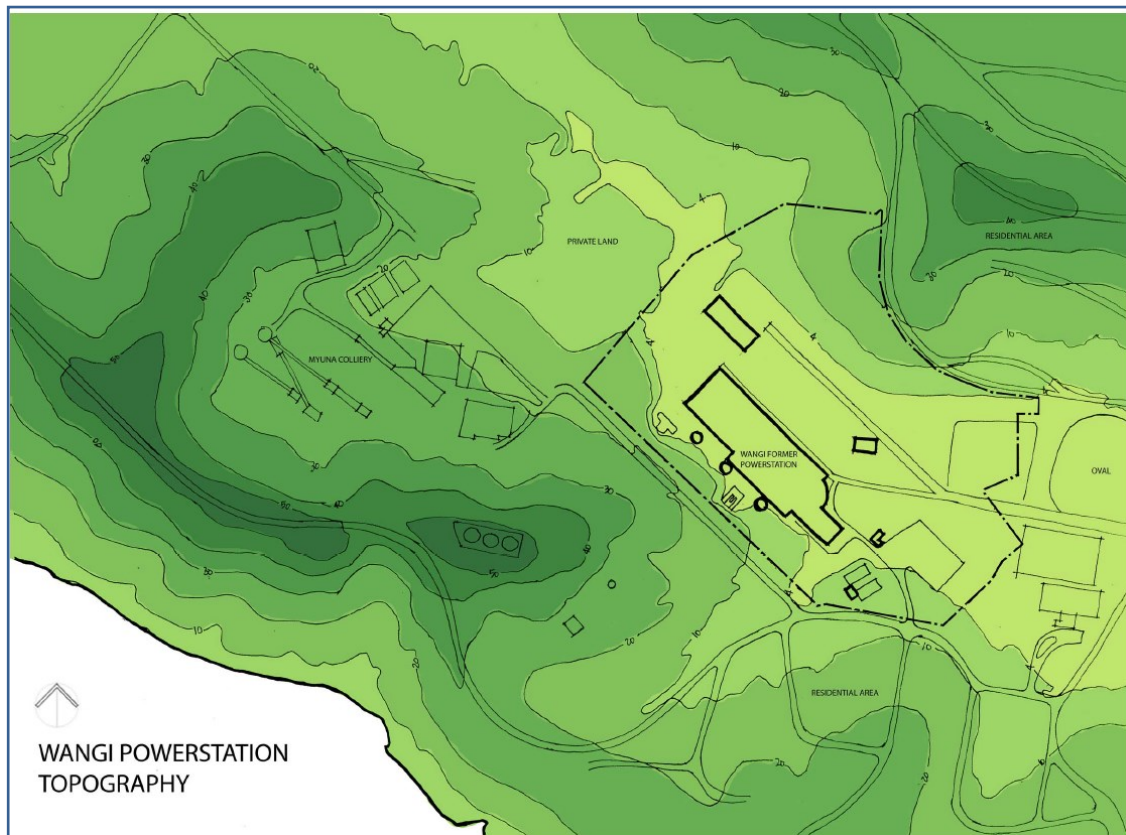


Figure 5 - Topography of the Wangi Power Station Complex

Fragmented native vegetation is evident, much of which includes regrowth. The most heavily vegetated areas are situated on the northeast slopes up to Donnelly Road and to the south, and southwest slopes on both sides of Summerhill Drive.

The ecological assessment of this land has focussed on only part of the Complex, the Wangi Power Station Precinct and the Residential Subdivision Precinct. These two precincts have vegetation in two major canopy associations – Swamp Mahogany in the lower areas along the channel, and Smooth-barked Apple further up the slope. Figure 6 presents the findings of the ecological study (HWR Ecological, 2005). The Swamp Mahogany Forest is an Endangered Ecological Community – Swamp Sclerophyll Forest on Coastal Floodplains.

Native vegetation corridors have also been mapped on the complex. There is the potential to rehabilitate a native vegetation corridor along the boundary between the E1 Local Centre and SP1 Special Activities zones.

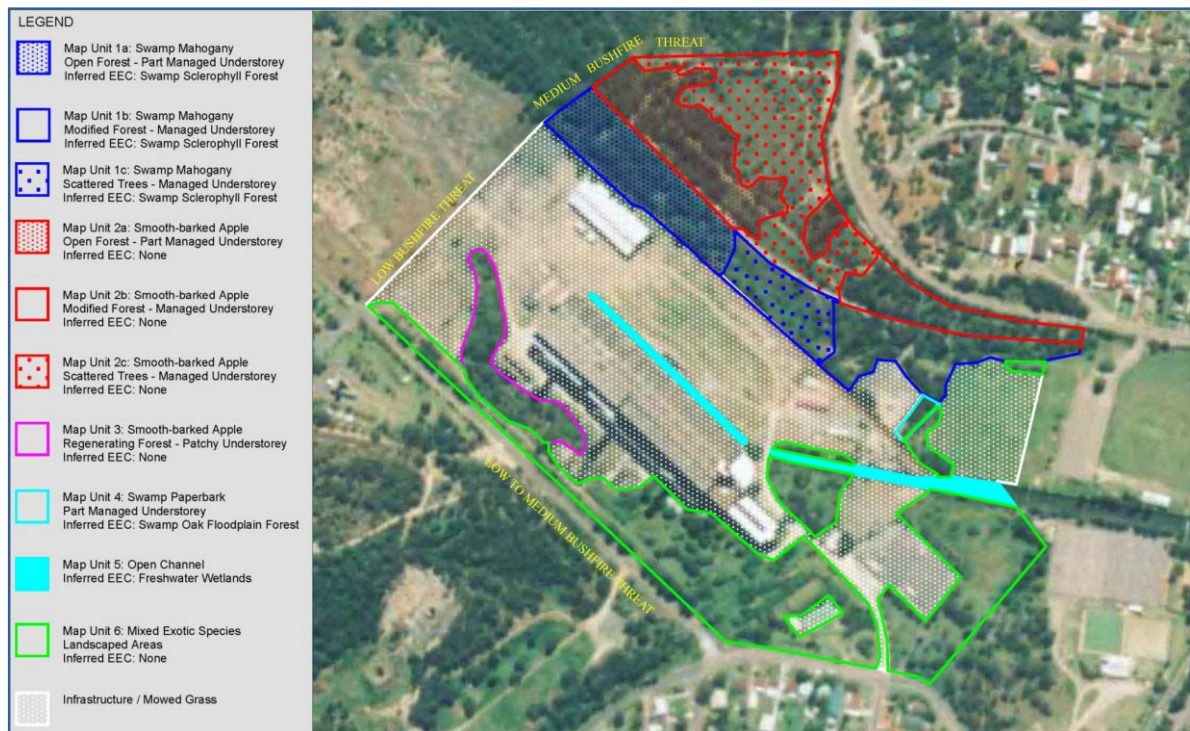


Figure 6 - Vegetation – for Part of the Wangi Power Station Complex

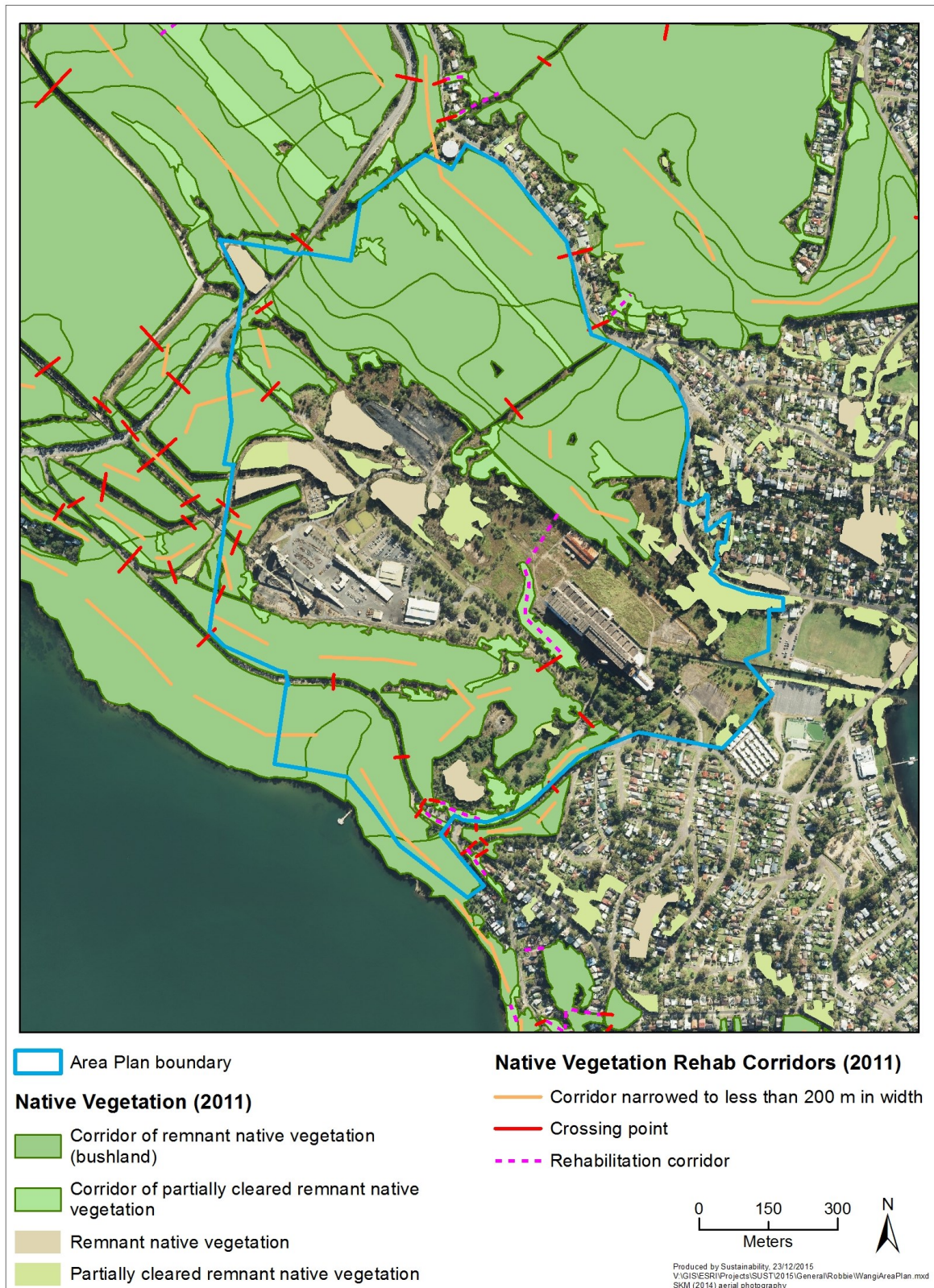


Figure 7 - Native Vegetation Corridors for Wangi Power Station Complex

2.3 FLOODING

Wangi Power Station Complex is close to the shores of Lake Macquarie and the lower lying land is subject to flooding as shown in Figure 8 shows the narrow sliver of the site affected by the 1:100-year flood event, this is the canal.

Lots affected by the 1:100-year flood and which are below the 500 mm freeboard level have development controls applied to manage food hazard. All areas below the 3 m Australian Height Datum (AHD) are subject to Council's Sea Level Rise provisions. Thus, flood controls affect part of the land on either side of the canal, being the lower land zoned for residential development and part of the land zoned for mixed use.

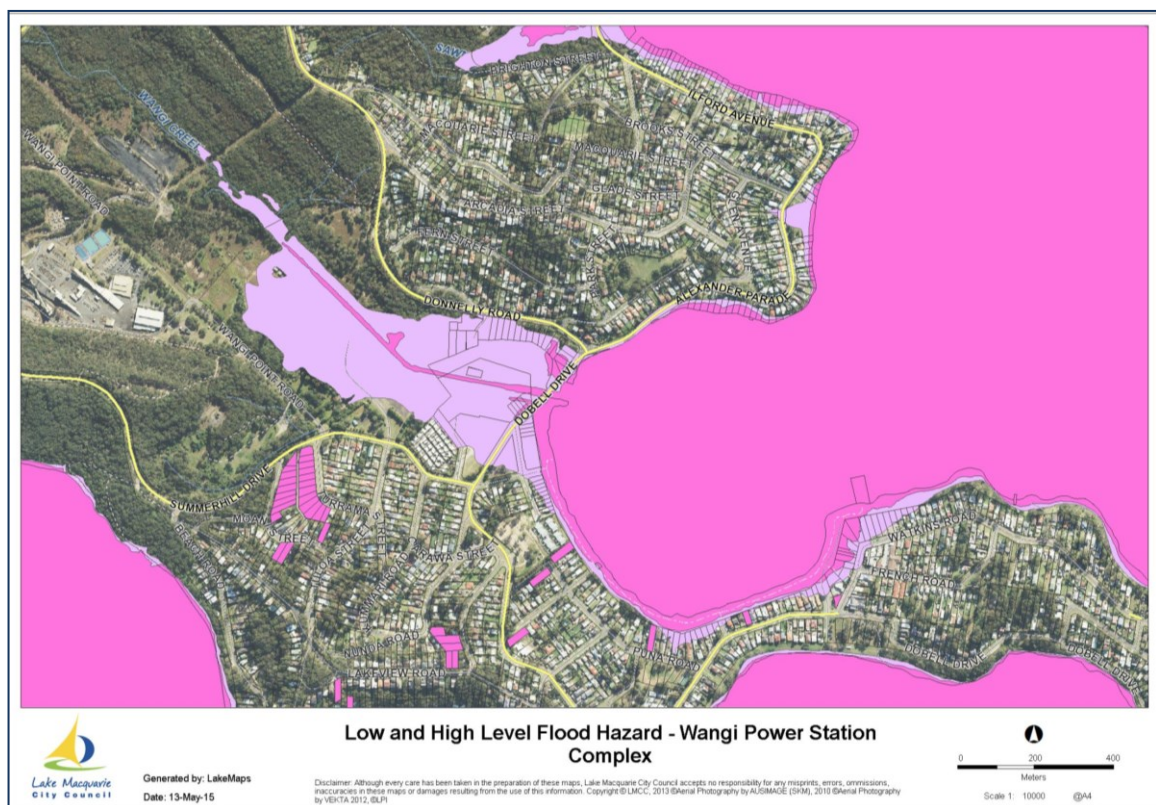


Figure 8 - Wangi Power Station Complex and Flooding

2.4 LAND USE

Lake Macquarie Local Environmental Plan (LEP) 2014 provides the land use zones for this area. Within the Wangi Power Station Complex, are various land use zones as shown in Figure 9.

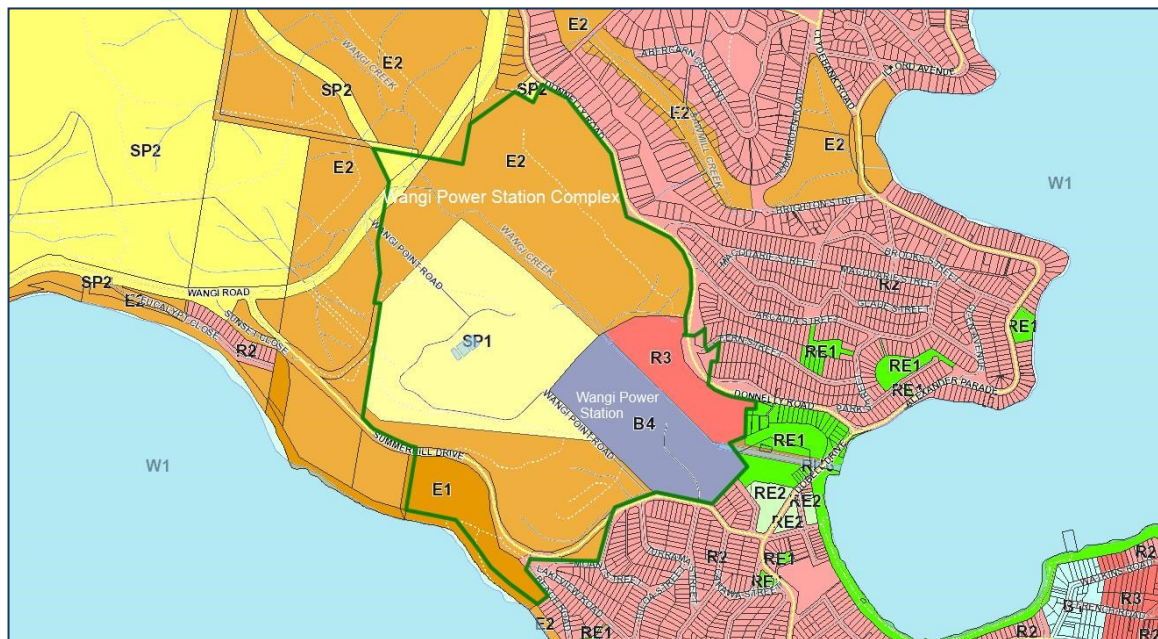


Figure 9 - Wangi Power Station Complex and Land Use Zones

The land use zones include SP1 -Special Activities Zone (Myuna Colliery), E1 Local Centre Zone (power station building and immediate surrounds), R3 – Medium Density Residential (for a future residential subdivision south of Donnelly Road, and C2 Environmental Conservation Zones for the land immediately north and south of the Colliery. The Complex also includes to a lesser extent, areas of land zoned C1 National Parks and Nature Reserves to the south of Summerhill Drive and a very small area zoned R2 - Low Density Residential on Donnelly Road.

2.5 SOCIAL AND ECONOMIC CONTEXT

The closest settlement is the neighbourhood centre of Wangi Wangi, approximately 1.5km away. At full capacity, the Wangi Power Station building could include 5,000 m² of new retail space and a mix of residential and commercial development along with entertainment, tourist and recreation facilities.

Development on the R3 medium density residential zoned land could house between 100 – 300 people or more, depending on the mix of development type, dwelling sizes and other uses.

The development of the Wangi Power Station Complex must support the LMCC centres hierarchy. This involves protecting the hierarchy, and recognising and reinforcing the role of the Wangi Wangi neighbourhood centre, and the roles of the town centres of Toronto and Morisset. The scale and mix of uses within the station building must therefore support this hierarchy.

The existing sporting grounds to the east of the Wangi Power Station Complex provides access to the lake and beyond and forms a potentially significant link for recreation opportunities for new residents.

2.6 MOVEMENT SYSTEMS

The integration of the development into the broader environment is important. Movement systems should provide straightforward connections into and between the station building, residential subdivision component, and the existing networks. This includes connecting pathways for vehicles, pedestrians and cycles. These pathways need to ensure the canal is not a deterrent for movement around the site.

2.7 WANGI POWER STATION COMPLEX: DEVELOPMENT STAGING

The Residential Subdivision precinct is zoned to enable a new medium density residential subdivision. LEP 2014 requires the subdivision is to occur after the adaptive reuse of the station building is underway.

2.8 INTERFACE BETWEEN LAND USES

The existing and proposed land uses within and adjoining the Wangi Power Station Complex varies significantly, in type and intensity. It is particularly important to ensure future development is designed to minimise potential conflict between these different land use types.

The adaptive reuse of the station building and the proposed residential subdivision have the potential to introduce many more people that will spend time (living, working and visiting) close to the Myuna Colliery. The nature of the Colliery operations must be considered alongside the likely expectations of new residents, workers and visitors.

Design, through built form and positioning, must minimise the conflict between existing mining operations and adjoining land uses. This means design to minimise, in particular, noise, dust and visual impacts. Similarly, ongoing mining operations need protection. Careful planning and design of future development is required so Colliery operations are not influenced, with the consequence of affecting possible petroleum exploration and resource recovery.

Noise, Visual and Dust Impacts

The colliery operates 24 hours a day, seven days a week. The basic standard for night time residential amenity must be protected to a level of 36 dB(A) (HLA Envirosciences P/L Aug 2001). All parts of the site are exposed to noise from the colliery in excess of this level, with the least affected being any eastern facing residential development within the station building, (which would be somewhat protected by the shielding by the building itself).

The topography and the height of noise sources and receivers exclude the use of acoustic barriers or landscaping as effective ways to address noise from the Colliery. Levels are below the criterion for commercial and industrial development.

The hours and nature of the colliery include activity 24 hours a day and the emission of dust. These characteristics mean that the design of future development must take into account the likely effects on the visual amenity and air quality of that development.

2.9 CONTAMINATION

The historic use of the site for coal fired power generation involved activities that can generate contamination. Figure 10 below shows the location of known contamination on the site based on findings from a series of contamination assessments, including site history reviews, sampling and testing, and analysis. The main and final assessment undertaken was under the supervision of a Third-Party Contamination Auditor.

Reference should be made to the *Remedial Action Plan for the Former Wangi Power Station prepared by RCA Australia July 2005*. In addition, refer to State Environmental Planning Policy (Resilience and Hazards) 2021.

Site remediation of hydrocarbon contaminants present within fill and natural soils is required prior to the redevelopment of the site.

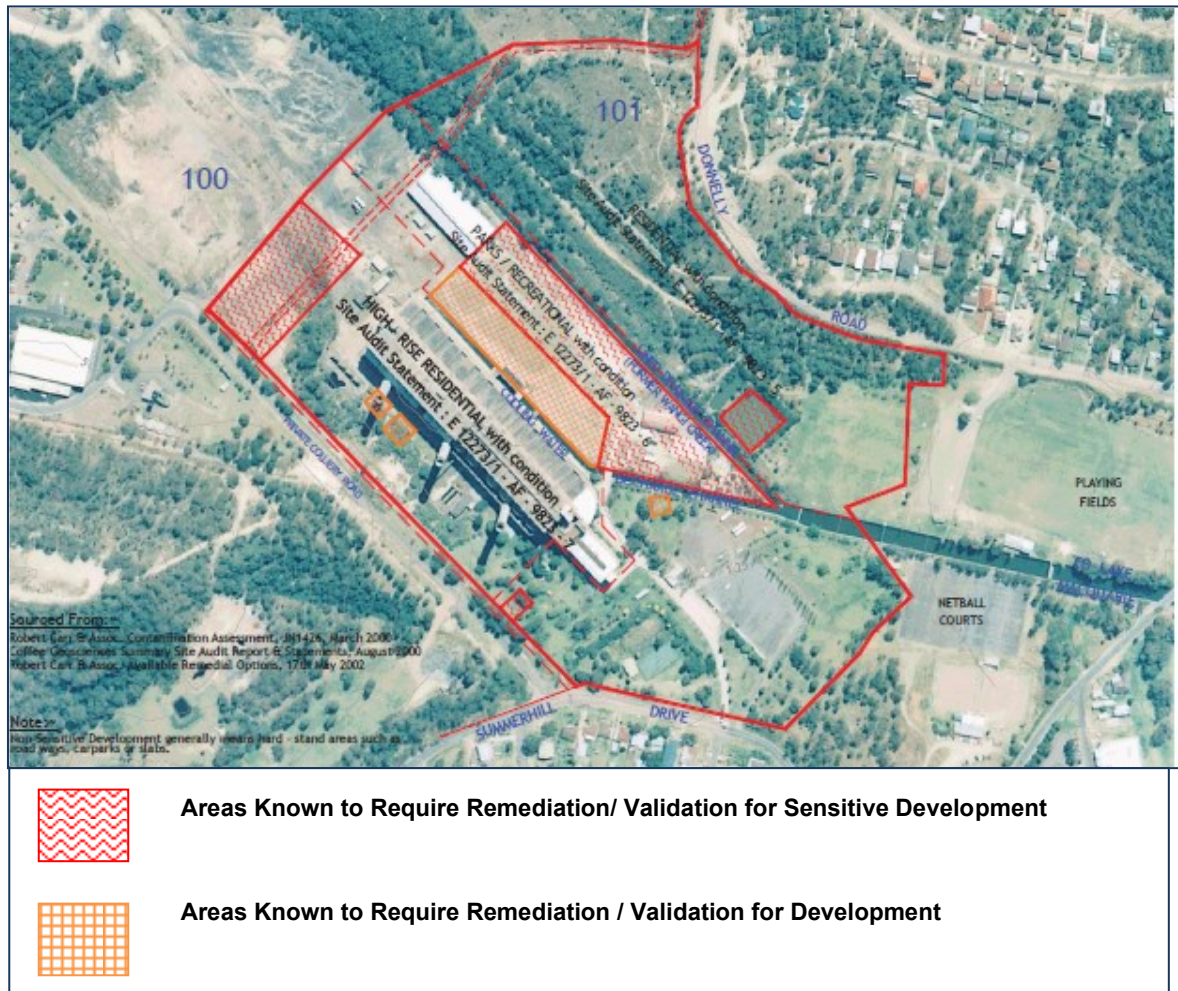


Figure 10 - Areas Known to Require Remediation for Contamination

3 WANGI POWER STATION COMPLEX - PRECINCTS

The Wangi Power Station complex has historic significance at several levels. For that reason, the area is described in three precincts that aim to capture particular characteristics in each. The distinct character of the precincts making up the Wangi Power Station Complex is described below.

3.1 WANGI POWER STATION BUILDING PRECINCT

Existing Character

The Wangi Power Station Building Precinct is characterised by the dominant large-scale power station building, its setting, and in particular its design. The design is an eclectic and unusual for a utilitarian building form, evidently implemented to showcase the move to coal-field based power generation. The building design is important, including its position and presentation to the main road, the landscaped entry court, and the relative importance of the administration facilities.

The overall design of Wangi power station is unattributed to a particular designer. It is likely according to architectural assessment, that the chief railway's electrical engineer of the time developed the station building, as the design is balanced and competent but lacks in its execution. This is evident in the poor integration of systems and the building's administrative parts.



Figure 11 - Wangi Power Station Building Precinct

The extensive use of brickwork on the building is of high significance. It is the only station of the modern era (post second world war) in NSW to use brick cladding over a riveted steel frame (and it is a very late example of the use of riveted steel). (Davies, 2006)

The Wangi Power Station Precinct is shown in Figure 11. It is characterised by the strong visual impact the station building has on the area. It has significant scale and massing and distinctive

chimneystacks. In a small and remote community, this is testimonial to the importance of coal mining and power generation in the region and State. Its location is of particular significance, marking the shift from locating power stations at population centres to locating them adjacent to fuel supplies. The building presents a contrast in the otherwise small village character and landscape setting. Aesthetic value is evident in the design and form of the building.

This precinct includes the canal, which runs the length of the eastern side of the building to join Wangi Creek (that bounds the Precinct to the northeast).

There is aesthetic significance in the setting of the building, set deep into the narrow strip of land, where it sits obliquely to the principal view locations. This achieved a minimisation of impact of the large building form in the locality.



Figure 12 - Wangi Power Station Views Analysis

Figure 12 provides a view analysis of the station building, showing that the station building is well screened for a building its size. The narrow view corridor to the east offers the best views of the building and the design of any future development should honour this.

There are filtered glimpses from the north and southeast. The topography and the Colliery's private lease limit views from the south to the northwest as shown by the large arc (refer to Figure 12). Mature trees screen much of Dobell Drive on the foreshore and Donnelly Road between the site and the residential area. Whilst the building is not always visible, the chimneystacks are another dominant feature of the precinct, and these are visible from many more vantage points.

Desired Future Character

The future desired character of this precinct is a vibrant mix of residential, tourism and commercial development, which service residents and complements the small township of Wangi Wangi. The station building is to retain its significant design features.

Outside the station building, the design, setting and landscaping of new development is to support the unique nature of the station building, its setting and views and addresses any potential impacts on the identified views and design features.

Clear and effective links will connect the Wangi Power Station Precinct to and from the adjoining residential development, and the existing facilities and environment.

Rehabilitation of a native vegetation corridor along the western edge of the precinct will create a link for native fauna to move between existing remnant native vegetation patches to the north west and south west of the site. Such rehabilitation would provide a buffer and visual relief from the adjacent mine site.

3.2 WANGI POWER STATION - RESIDENTIAL SUBDIVISION PRECINCT

Existing Character

The Residential Subdivision Precinct is bounded by the station building and associated canal to the west. The Myuna Colliery is to the north-west of this Precinct and to the east is an area of low density residential housing on Donnelly Road. The canal forms the southwest boundary, dividing this Precinct from the Wangi Power Station Precinct. To the south and southeast is low density residential development, and recreation areas.

The Residential Precinct is characterised by its vegetation, aspect and slope. The land forms a cross slope, that slopes down from Donnelly Road to the canal.

Desired Future Character

The design of future development in the Residential Precinct is to recognise the landscape and surrounds, in particular the interface between the new medium density development form and the three adjoining precincts. It is important to minimise conflict between land uses and to enable integration where appropriate.

Links to and from this Precinct are important and should enable the integration of functions between the adapted power station building, and the new and existing residential development. The density of residential development in this location is specifically reliant upon the facilities and services envisaged within the station building. Figure 13 shows the extent of the Residential Precinct.

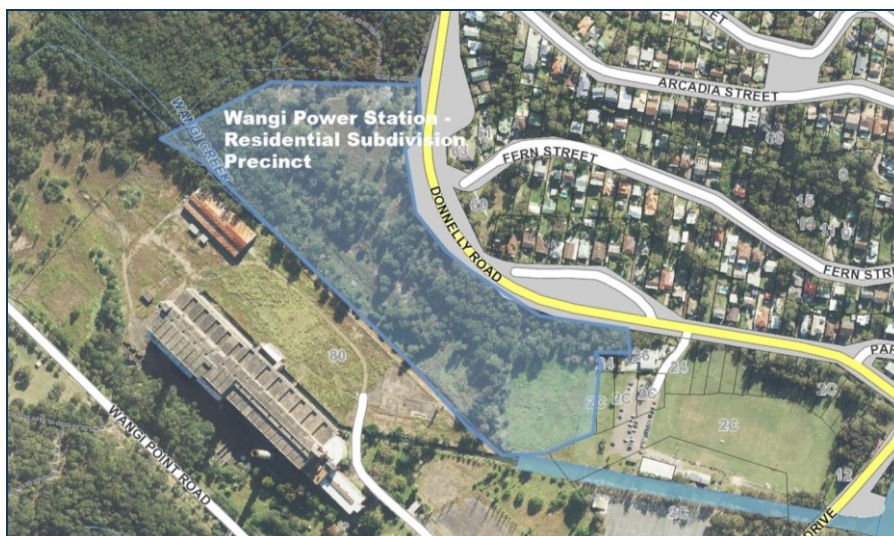
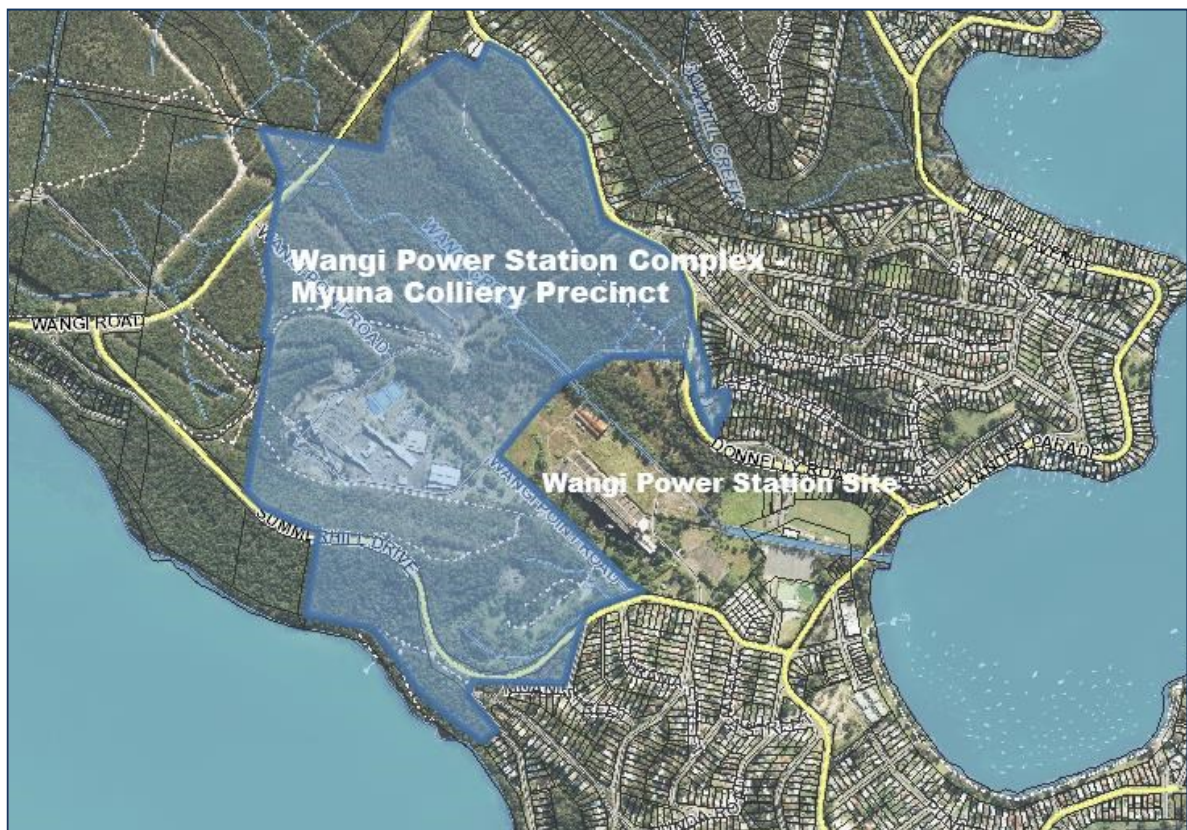


Figure 13 - Wangi Power Station – Residential Subdivision Precinct

Residential development should also respect the ecological attributes of the precinct including retention of the higher quality native vegetation such as the Swamp Mahogany Open Forest, existing and rehabilitated native vegetation corridors and identified habitat (including hollow bearing trees). More detailed site based ecological investigations will be required to ascertain how this can be achieved.

3.3 WANGI POWER STATION – COLLIERY PRECINCT

The Wangi Power Station–Colliery Precinct includes the balance of the land identified in the State Heritage Register. The operating Myuna Colliery dominates this precinct, also characterised by its topography, which forms a backdrop to the station building, and reinforces its setting. The Colliery Precinct is shown in Figure 14 below. This area includes the balance of the land listed by the NSW Office of Environment and Heritage, excluding the Power Station and Residential Subdivision Precincts. Proposals for development in the Colliery Precinct must recognise the heritage listing of



this land as being of state significance.

Figure 14 - Wangi Power Station– Colliery Precinct

4 ISSUES SPECIFIC TO THE WANGI POWER STATION COMPLEX

The adaptive reuse of the station building and subdivision of part of the site for residential development must consider the site-specific issues identified in this Area Plan.

4.1 SPECIFIC ISSUES RELATING TO THIS LOCALITY

Future development in the Wangi Power Station Complex must address the following:

- Design principles that respond to the iconic nature of the power station building, its unique built form including its scale, mass, position, proximity to the lake, and visual impacts of development on its integrity and on view corridors,
- The characteristics of the Precinct in which it is proposed,
- The sensitive elements of the local topography,
- The conservation and interpretation of the heritage significance of the site and an approved conservation management plan,
- The intended adaptive re-use of the station building, the proportionate mix of uses proposed, and the preservation of the integrity of the Wangi Wangi neighbourhood centre,
- Integration of pedestrian and cycle and vehicle networks into and around the complex,
- The location of significant flora and fauna, vegetation corridors, and revegetation areas,
- Rehabilitation of native vegetation corridor across the site,
- Mitigation measures for potential conflicts with adjoining land uses,
- Identification of future recreation, community and /or social facilities,
- Development staging and sequencing, in particular relating to the residential subdivision,
- Management of waste and demolition material from the past use of the site including land that has been identified as, or is potentially, contaminated, and
- Sustainable stormwater management including water reuse.

5 DEVELOPMENT CONTROLS

In addition to the general controls for development found in LM DCP 2014, the following controls apply to development applications within the Wangi Power Station Complex:

5.1 CONTEXT AND SETTING

Objectives:

- a. To protect the views of the station building from the lake and ridgelines.
- b. To protect the heritage significance to the state for historic, aesthetic, and social importance, as well as reasons relating to research, and its architectural rarity heritage, of the Wangi Power Station Complex.
- c. To ensure development does not detract from the dominant cultural and natural elements of the area and complements the landform and setting of the precinct.
- d. To complement and reinforce the form and architectural style of the station building.
- e. To integrate the Wangi Power Station Complex with the surrounding environment.
- f. To ensure built form defines and contributes to the desired character of each Precinct.

Controls:

1. Development proposals must address impacts on the view corridors shown in Figure 12.
2. Built structures and landscaping works must respect the state heritage significance of the station building and its curtilage, and design to address any impacts on this.
3. Development proposals must incorporate bulk, form, scale and landscaping consistent with, and complementary to the historic station building and Complex whilst recognising and contributing to the desired future character of each of the Precincts that it affects.
4. Development of the land associated with the station building may be required to include a Heritage Assessment and Statement of Heritage Impact, and must outline:
 - i. appropriate curtilage for the Wangi Power Station Complex; and
 - ii. development and landscaping adjacent to the station building has appropriate setbacks, and building bulk, form, scale and height.
5. Practical and legible connections must be made between the Complex and the existing community.

Note: *The Wangi Power Station Complex precinct forms a curtilage in the absence of a clearly defined curtilage, endorsed by the NSW Office of Environment and Heritage. Two Conservation Management Plans (CMPs) (2000, EJE; 2006, Davies) have been submitted in support of future development of this Complex. At the time this Area Plan was prepared, these were not endorsed by the NSW Office of Environment and Heritage.*

5.2 CONTAMINATION

Objectives

- a. To ensure contaminated land is identified within the Wangi Power Station Complex.
- b. To ensure contaminated land within in the Wangi Power Station Complex is remediated to be suitable for the purpose of the proposed development and prior to the commencement of that use.
- c. To ensure no exposure to contaminated material occurs with the use of the site.

Note: Contamination risk includes contaminating substances moving from the areas identified and placed on the site as fill. Refer to State Environmental Planning Policy (Resilience and Hazards) 2021. Refer also to the Remedial Action Plan by RCA Australia July 2005.

Controls

- 1 Where a Detailed Site Investigation Report identifies the need for remediation, a Remedial Action Plan must be prepared and submitted with the application.
- 2 A Phase 2 Detailed Contamination Site Assessment (as outlined in State Environmental Planning Policy (Resilience and Hazards) 2021) must be provided for an application to develop or subdivide land within areas identified as potential contamination sites Figure 8 – Areas Known to Require Remediation for Contamination.
- 3 Further investigation must be undertaken to determine the extent of extraction and treatment to remediate the specific areas identified with significant hydrocarbon contamination, (see Figure 8) which may include:
 - i Removing ash fill found present in areas of the site prior to approval for uses such as commercial., retail, residential and recreational, tourism uses, or the like,
 - ii Remediation by excavation and treatment of land affected by hydrocarbon contamination by either land farming, or offsite disposal,
 - iii Capping areas of low level hydrocarbon contaminants used for open space, with 0.5m clean soil to reduce exposure (not required in areas of permanent paving).

5.3 SUBDIVISION AND MOVEMENT

Objectives

- a. To stage the development of the Wangi Power Station Complex, including subdivision, in a logical and well coordinated manner.
- b. To integrate the development of the Complex with the existing subdivision pattern of adjoining lands.
- c. To create a transport network that provides access, mobility and connectivity within the site and to adjoining areas for pedestrians, bicycles and vehicles.
- d. To encourage safe and effective pedestrian and cycle networks.
- e. To ensure services are available to the Wangi Power Station Complex when developed.

Controls

1. The medium density residential development component of the Wangi Power Station Precinct must occur after the Wangi Power Station Building adaptive reuse is approved and complete.
2. The movement network for pedestrians, cycles and vehicles should be designed to:
 - i. provide a subdivision pattern consistent with the existing grid subdivision pattern of residential lots and with good solar access;
 - ii. integrate and connect well with existing local roads to Council's satisfaction;
 - iii. provide a low speed environment (50 km/h speed zoning); and
 - iv. encourage walkable, permeable movement networks with short distances to intersections and through connections.
3. Pedestrian and cycleway networks must connect to the sportsgrounds east of the Complex and to the broader Lake Macquarie bicycle and footpath network.

4. Safe pedestrian and cyclist crossings should be provided across Donnelly Road and Summerhill Drive.
5. The implications of the proposed road network on the efficiency and safety of traffic movement into and around the Complex must be investigated and mitigation measures included in development applications proposing changes to the existing road network.

Note: To limit adverse impacts on the existing local road network, traffic management measures may be required to limit traffic volumes entering existing local roads during peak periods.

5.4 SOCIAL AND ECONOMIC IMPACTS

Objectives

- a. To support the Lake Macquarie City Council centres hierarchy.
- b. To ensure protection and recognition of the role of the Wangi Wangi neighbourhood centre and the roles of the town centres of Toronto and Morisset.
- c. To promote mixed use development and quality urban design, which safeguards the amenity of the residential uses whilst integrating the other permissible uses including commercial, retail, recreational, service and tourism facilities.

Controls

1. The gross floor area of all buildings to be used for retail development (that is retail premises, shops and shop top housing) must not exceed 5,000 m² or be disproportionately larger than the Wangi Wangi neighbourhood centre.
2. The balance of the non – residential component of the station building i.e. excluding the retail mentioned in control 1 above, is to be a combination of uses permitted on the land other than retail development.
3. The scale and mix of uses within the station building must support the town centres hierarchy.
4. Appropriate services for the anticipated population must be designed and incorporated into the development of this complex and recognising the remote location.
5. The design and placing of mixed uses in the Power Station Precinct must be logical and provide a variety of interests and opportunities for residents and visitors whilst protecting amenity and minimising conflict.

5.5 LAND USE INTERACTIONS

Objectives

- a. To minimise land use conflicts between the various different land uses within and adjoining the Wangi Power Station Complex.
- b. To protect the ongoing operations of the Myuna Colliery.
- c. To ensure residential and public amenity is designed into any future development.

Controls

1. All residential development must ensure night time residential amenity is protected to a level of 36 dB(A) as a standard base level. Internal noise levels may be attained through:
 - i. Appropriate detailed design of residential apartments, e.g. thicker glass, smaller windows or apartment designs do not expose sleeping areas to the Colliery;
 - ii. The inclusion of high mass building materials, sound insulation including thicker glazing and appropriate arrangement of rooms and building layout;

- iii. Acoustic amenity on the western face of the building could be achieved by using thicker glass and /or smaller windows, or sleeping areas design/location.
 - iv. Any development incorporates all practical mitigation measures for the management of noise, visual, dust and odour impacts from the adjoining Myuna Colliery.
 - v. Any proposed residential development will not, or is unlikely to be, adversely affected by noise, visual or odour impacts from the adjoining mining and petroleum production operation
2. Residential development on Donnelly Road should be designed sensitively to recognise the low density residential development across the road, through various design methods such as setbacks, stepping building facades and landscaping.