Excellence in your environment

niche
Environment and Heritage

Link Road Holdings
Wallsend NSW
Historical Heritage Assessment

Lake Macquarie City and City of Newcastle LGAs
Prepared for Eden Estates (Newcastle) Pty Ltd
Prepared by Niche Environment and Heritage Pty Ltd 14 December 2020

niche-eh.com

Excellence in your environment

Document control

Project number	Client	Project manager	LGA
6014	Eden Estates (Newcastle) Pty Ltd	Samuel Ward	City of Newcastle and Lake Macquarie City LGAs

Version	Author	Review	Status	Comments	Date
D1	Samuel Ward	Wendy Thorp	Draft		30 October 2020
D2	Samuel Ward	Wendy Thorp	Draft		4 November 2020
Rev0	Samuel Ward	Wendy Thorp	Final		11 December 2020
Rev1	Samuel Ward	Wendy Thorp	Final		14 December 2020

Cover Photo: Water course within the Project Area taken at site survey waypoint 23 (Source: Niche)

Niche Environment and Heritage Pty Ltd (ACN 137 111 721)
Enquiries should be addressed to Niche Environment and Heritage
PO Box 2443, Parramatta NSW 1750, Australia
Email: info@niche-eh.com

Table of Contents

List of Figures

List of Plates

List of Tables

1. Introduction

1.1 The Project Context

Niche Environment and Heritage Pty Ltd (Niche) has been engaged by Eden Estates (Newcastle) Pty Ltd to undertake non-Indigenous heritage investigations of the former Newcastle Wallsend Coal Company Pty Ltd and New Wallsend Colliery (Glencore) land holdings which form the project area (see Section 1.2). These investigations are preliminary to the re-zoning applications for this land under the gateway process for the purpose of developing the land for residential housing. This report is a historical heritage assessment (HHA) which examines the cultural heritage values which are associated with the project area.

1.2 The Project Area

The project area is located in the lower hunter (see Figure 1). It is on the border of the Lake Macquarie City Council and City of Newcastle Local Government Areas (LGAs) and within both those LGAs. It encompasses parts of the suburbs of Wallsend, Elermore Vale, Glendale and Edgeworth.

The project area consists of the former Glencore land holdings which are comprised by the following Lot/and DP land parcels: A//36897; B//36897; 1//192650; 2//800035; 3051//1202601; 3053//1202601; 3052//1202601; 3057//1208470; 31//35580. These land parcels were formerly associated with the Glencore-owned West Wallsend Underground Mine.

The project area is also within the Parishes of Teralba, Kahibah and Hexham.

1.3 The Site

The project area is bisected by the east-west route of the Link Road which connects Newcastle with the Hunter Expressway and the Pacific Motorway (see Figure 2). The land consists of forested areas crossed by the Link Road, several fire trails and is bounded by several housing developments (to the southeast, south, southwest and north east, a private school (to the southeast), retirement villages (southeast), the Summer Hill landfill (in the north, operated by Newcastle City Council), the Glendale TAFE NSW campus, and surrounds a Hunter Water property where two large water reservoir tanks are located (near the centre of the project area).

1.4 Objectives of the Work

The purpose of this report is to inform and provide evidence for the application to re-zone the project area. The application is concerned with creating a new housing development on the site. This report is an investigation into the historic period heritage within the project area. The Aboriginal heritage assessment is discussed in a separate report.

The objectives of this report are:

- Identify and document the land's historic-period heritage items and places, particularly its historical archaeological potential;
- To provide information, advice and support which can be used in the master planning process in relation to any items of heritage significance within the land;
- To provide recommendations to manage any places of heritage significance on the land; and
- To document this analysis in a comprehensive report that will accompany a re-zoning application for the site.

1.5 Methodology

This report has been prepared with reference to the Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013) and in accordance with the best practice standards set out by Heritage NSW. The relevant best practice guidelines include:

- Assessing Heritage Significance (Heritage Office (former), 2001),
- Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Council, 2009).

The relevant state and local heritage legislation were also examined and utilised in this report (see Section 2). This assessment draws on existing historical studies, previous assessments, historical sources and a physical assessment of the project area; a reference list is included at the end of this report.

1.6 Report Structure

This report has been structured to provide an analysis of the statutory heritage legislation (Section 2). Section 3 provides an overview of the historical phases which have transformed the physical landscape of the project area. Section 4 discusses the site inspection and analyses the physical evidence present within the project area. Section 5 comprises an analysis of the various components of cultural heritage and identifies those areas of historic-period cultural heritage value within the project area. The final sections provide direction on the management of these heritage values. It provides strategies and protocols consistent with statutory obligations to manage them before or during the development.

1.7 Authorship, Acknowledgements

This report has been prepared by Samuel Ward (Heritage Consultant, Niche), edited and reviewed by Wendy Thorp (Principal – Cultural Resources Management) with technical assistance provided by Greg Tobin (GIS Consultant, Niche). Unless otherwise attributed, images used in this report are produced by Niche.

niche Environment and Heritage

0 2
km
GDA 1994 MGA Zone 56

Regional Location of the Project Area

Link Road Holdings, Wallsend
Historical Heritage Assessment

Niche PM: Samuel Ward Niche
Proj. #: 6014
Client: Eden Estates (Newcastle) Pty Ltd

Figure 1

Drawn by: GT File: T:\spatial\projects\a6000\a6014_Link_Rd_Holdings_HAA\Maps\report\6014_Figure_1_Location.mxd Last updated: 12-Oct-20 3:40:04 PM

v2.0

Drawn by: GT File: T:\spatial\projects\a6000\a6014_Link_Rd_Holdings_HAA\Maps\report\6014_Figure_2_ProjectArea.mxd Last updated: 12/1/2020 11:20:37 AM

niche Environment and Heritage

N

0 300

m

GDA 1994 MGA Zone 56

Niche PM: Samuel Ward Niche
Proj. #: 6014
Client: Eden Estates (Newcastle) Pty Ltd

Project Area

Link Road Holdings, Wallsend
Historical Heritage Assessment

Figure 2

2. Statutory Framework and register searches

This section provides a summary of relevant legislation and associated planning instruments designed to identify, protect and conserve significant heritage items and their values. The management and conservation of historic-period heritage and archaeological sites is subject to a range of statutory provisions in the NSW state government legislation. In NSW archaeological remains and heritage items are afforded statutory protection under the following Acts:

- the Heritage Act 1977 (NSW) (the Heritage Act); and
- the Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act);
- Environmental Planning and Assessment Act 1979 (the EP&A Act).

2.1 Commonwealth and National legislation

2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. Under the EPBC Act, protected heritage items of significance are listed on the National Heritage List (NHL) or the Commonwealth Heritage List (CHL). The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth. These lists can be searched online via the Australian Heritage Database, which also includes places on the Register of the National Estate (RNE) which was closed in 2007 but is maintained on a non-statutory basis as a publicly available archive and educational resource.

No listed heritage items were identified on the CHL, NHL inside or within 500 metres of the project area. No sites were listed on the non-statutory RNE within 500 metres of the project area.

2.2 State Legislation

2.2.1 Heritage Act 1977

The Heritage Act 1977 affords statutory protection to those items identified as having heritage significance and which form part of the NSW heritage record. The Act defines a heritage item as "a place, building, work, relic, moveable object or precinct". Items that are assessed as having State heritage significance are listed on the NSW State Heritage Register (SHR). Proposals to alter, damage, move or destroy heritage items listed on the SHR (or protected by an Interim Heritage Order [IHO]), require an approval under s60 of the Heritage Act 1977.

Archaeological features and deposits are afforded statutory protection by the 'relics provisions' of the Act. A relic is defined as "any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and is of State or local heritage significance". Land disturbance or excavation that will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed is prohibited under the provisions of the Act, unless carried out in accordance with a permit issued under s140 or s139 of the Act.

There are no heritage items listed on the State Heritage Register inside or within 500 metres of the project area.

2.2.2 State Heritage and Conservation (s.170) registers

Under s.170 of the Heritage Act 1977, NSW government agencies are required to maintain a register of heritage assets under their control or ownership. Each government agency is responsible for ensuring that the items entered on its register under s.170 are maintained with due diligence in accordance with State Owned Heritage Management Principles. Items listed on s.170 Heritage and Conservation Registers are listed on the State Heritage Inventory (SHI).

There are no heritage items listed on s.170 registers located inside or within 500 metres the project area.

2.2.3 Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act 1979 (EP&A Act) establishes the framework for cultural heritage values to be formally assessed in the land use planning process in NSW. The EP&A Act also requires local governments to prepare planning instruments, such as Local Environmental Plans (LEPs) to provide guidance on the level of environmental assessment required.

2.3 Local Government Planning Instruments

Heritage portions of the LEP are found in Part 5 Clause 5.10 of each LGA LEP. The project area is informed by the Newcastle Local Environment Plan (N-LEP) 2012 and the Lake Macquarie Local Environment Plan (LM-LEP) 2014, the Newcastle Development Control Plan (N-DCP) 2012 and Lake Macquarie Development Control Plan (LMDCP) 2014. These clauses regulate works undertaken within this LGA, and identifies areas of significance, and architectural precincts which have specific requirements for Development Applications.

There are four locally listed heritage items the located inside or within 500 metres the project area (see Table 1).

Searches of the Australian World Heritage Database, the Commonwealth Heritage List, National Heritage List, State Heritage Register, State Heritage Inventory, and Schedule 5 of the Newcastle Local Environment Plan (N-LEP) 2012 and the Lake Macquarie Local Environment Plan (LM-LEP) 2014 were conducted on the 08 August 2020.

A summary of the listed heritage items inside or within 500m of the project area are found in below, and heritage curtilages are identified on Figure 3.

Table 1: Heritage Items inside or within 500m of the project area

Heritage Item Name:	Listing Number	Listing Register	Level of Significance:	Location
Former West Wallsend Steam Tram Line	#I112	Newcastle LEP 2012	Local	Within the project area, to the southwest.
Woodlands House	#I640	Newcastle LEP 2012	Local	Outside the project area to the southwest.
West Wallsend Steam Tram Line	#92	Lake Macquarie LEP 2014	Local	Within the project area, to the south.
Speers Point Steam Tram Line	#6	Lake Macquarie LEP 2014	Local	Within the project area, to the south.

Drawn by: GT File: T:\spatial\projects\a6000\a6014_Link_Rd_Holdings_HAA\Maps\report\6014_Figure_3_HeritageItems.mxd Last updated: 12-Oct-20 11:43:07 AM

niche Environment and Heritage

0 400 m

GDA 1994 MGA Zone 56

Heritage Items

Link Road Holdings, Wallsend
Historical Heritage Assessment

Niche PM: Samuel Ward Niche
Proj. #: 6014
Client: Eden Estates (Newcastle) Pty Ltd

Figure 3

3. Historical Context

The purpose of this section is to provide historical context for the project area and the surrounding cultural landscape. This section contains evidence from primary archival sources and previously published secondary histories or reports. This analysis is not intended as a definitive history of the project area. Its purpose is to identify the principal periods of development, how those periods of change are expressed in the landscape and the additions made to it as well as those events or processes which may have acted to alter or remove evidence of the evolution of this cultural landscape.

3.1 The phases of historical development of the project area

The project area has evolved through several distinct phases. Each phase has altered the pre-settlement environment, added elements to it or sometimes removed older evidence. The phases which have been developed to define the history of the project area are summarised in table below. These phases are discussed in detail in this section.

Historical Phase name	Brief description
The Aboriginal Landscape and environmental context	This phase is concerned with those pre-settlement environmental aspects of topography, geology, soils, water and vegetation which were of value to Europeans and which were modified or exploited for their purposes. This landscape is also likely to have been modified to some degree by Aboriginal occupation and use prior to the arrival of Europeans.
The Regional European Context	This phase is concerned with the first European association with the project area through exploration and survey. It addresses the first response to the environment and resources of the place. It also marks the initial settlement and division of land around the project area, prior to the introduction of mining to the region.
First coal mining and extraction: a regional industry	The phase describes the introduction of pre-mechanised coal mining to the region
The development of transport and infrastructure	During this phase, the main transformation of the project area was by transport and utilities and other infrastructure uses.
Final industrial mining and industrial use of the project area.	This phase is concerned with the final years of industrial extraction of coal from the project area and the increasing outcomes and concerns regarding the impact of these works on the environment.
Post-mining rehabilitation and use	The phase encompassing the closure of the mine on the project area to the present day. It involves transformation and rehabilitation of the landscape to current standards of environmental management. It also addresses impact of modern urban waste on the project area.

3.1.1 The Aboriginal Landscape and environmental context

The landscape of the project area is situated in the coastal hinterland southeast of the wetlands and delta of the Hunter River near Newcastle, and north of Lake Macquarie. The region is part of the geological zone known as the Newcastle Coal Measures and is notable for the high yield coal seams which are located within layers of sedimentary rock across the region. These layers were formed from sediments deposited in rivers and swamps in the late Permian geological time period, approximately 255 million years ago. The coal deposits associated with the project area are all subsurface, and are comprised of the Nobbys, Dudley, Yard, Young Wallsend, Borehole and West Borehole Seams. The predominant coal seam is the Borehole seam, which is between the Nobbys Tuff claystone unit (roof of seam) and shale grading to a strong sandstone unit (floor of seam) (Glencore 2017-2020).

The current topography of the project area has been formed by uplift and erosion over time, which have formed a pattern of ridges which fan out from higher ground to the west, and lead towards Iron bark creek to the east, and the Hexham Swamp to the northeast, which are tributary to the Hunter River.

The soils of the project area are a mixture of Kurosol and Dermosol soil landscapes. Dermosols do not generally have a strong textural contrast and have a well-structured B2 horizon with low levels of iron inclusions. These soils are typically found in sites with poor drainage and are associated with high agricultural potential and good water-retention properties. Dermosols are associated with the northern portion of the project area, which is within the Hunter River catchment. The southern portion of the project area drains towards Lake Macquarie via Brush Creek and is marked by Kurosol soil landscapes. Kurosols are more likely to be acidic and are formed from materials which have a higher silica component. These soils are generally of lower agricultural potential and have lower water-holding capacity (Gray & Murphy 2002).

The project area was comprised of temperate woodland which, like the other areas of the Greater Newcastle district, provided habitat for many animals, birds and plant species which were plentiful food sources. A news article written in 1871 described this vegetation cover as a ‘primeval forest’ (Maitland Mercury, 1871). Wetlands to the northeast of the project area (the Hexham swamp) allowed for fish, water hen and crustaceans to be available as well. The landscape provided access to several perennial sources of fresh water, as well as the tidal zones of Lake Macquarie close by.

The natural landscape first viewed by Europeans was, in part, a cultural landscape thousands of years in the making, the traditional country of the Awabakal Aboriginal people. The region bounded by the Hunter River, Ironbark Creek and Mount Sugarloaf where the project area lies was referred to as Barrahinebin according to the testimony of Lieutenant Edward Close, who was an early European settler in the region (Barney, 1997). It is generally accepted that Aboriginal People had settled the eastern coastal regions of NSW from at least 30,000 years before present (B.P.), and that most archaeological evidence remaining is associated with the period from 5000 B.P. or later (Hardy, 2009 p9). The landscape of the Awabakal people was managed and transformed by the first Australians through fire-stick farming, and sustainable harvesting of the plants and wildlife suitable for food sources in the natural landscape. The landforms of the region such as caves were utilised both as shelter and also as focal points for cultural value. Spiritual understanding was represented using ochre and charcoal, and these representations also provided information of certain foods in the area, or lore which was important to the tribe. Bark was used for making shields, shelter and canoes, and weapons and tools were made from rocks and timber. The Awabakal people had a reliance on the landscape, which resulted in a necessity to maintain an equilibrium within the environment which they managed (Frost, 2005).

The poor soils and uneven terrain of the project area was considered of less value to early European settlers. With the plains around the Hunter River close by, there was less incentive to try to exploit these lands for cropping or grazing purposes. The early settlers did view the forest as valuable for its timber resource, however, and understood early on that the landscape had valuable coal deposits under the surface.

3.1.2 The Regional European Context

The Penal Settlement

The Hunter River was first surveyed by Lieutenant John Shortland in 1797 while tracking escaped convicts. He reported the region as having significant coal deposits, and that there was a good option for a port. A convict camp was established here in 1801 and subsequently a settlement was made at present-day Newcastle in 1804. It was intended as a gaol within a gaol, a penal settlement which had a harsh reputation and appalling conditions. Secondary offenders were sent from Sydney to work as labour in coal harvesting and timber cutting exploits; the hard labour was used as punishment for offences committed within the colony.

Free Settlers

From the 1830s the nature of the settlement at Newcastle and its region changed from primarily a penal settlement to an agricultural and pastoral district although convict assigned labour was used on these properties (Nashar, 1977). This expanded the scope of timber-getting, farming and coal operations in the Newcastle region, as the opportunity for advantage from the natural resources which were readily available in the region drew more interest from outside the district.

The earliest settlement near to the project area was concentrated around the area of Wallsend, the Hexham swamps and at Young Wallsend (now the suburb of Edgeworth). The route from Sydney to Newcastle passed through the Hexham swamps, and this road was seasonal in quality, depending on how saturated the wetlands were. These early landholders established farms and grazed cattle or sheep.

Land grants near the project area

The project area was not subject to land grants to private individuals but was rather crown land until after the early farmland in the region was alienated as grants. The early landowners had property which bordered the project area, which remained unallocated during this time. The parish maps (see Plate 1, Plate 2, Plate 3) below show the project area and the land divisions within it, along with the location of the European settlement which surround it. Some of the landholders from this period shown on the parish maps are located near the settlement of “Young Wallsend” which is now called Edgeworth. The names of these individuals include William Cattell, Joseph Birch, Oswald Nelson, Gilbert Ridley, Henry Daines, William McLean, Joseph and John Rodgers, Isaac Griffiths and Ben Cartwright. William Maclean’s property was adjacent to the south western boundary of the project area.

William Maclean arrived in the colony in 1828 aboard the ship Mary Hope with his wife and son. They acquired the grant north of Young Wallsend by 1831 according to an account Sir William Edward Perry, who was a director of the Australian Agricultural Company. William Maclean died in 1848 at Raymond Terrace north of Newcastle (Maitland Mercury, 1848). The property remained as unused land on the northern outskirts of Young Wallsend and has recently been sold for housing development. Other lands occupied by these settlers were resumed by subdivision into Young Wallsend or have been subsequently used for

housing developments. The project area was not settled by these people, however activities such as travel through or timber collection may have occurred within the project area at this time.

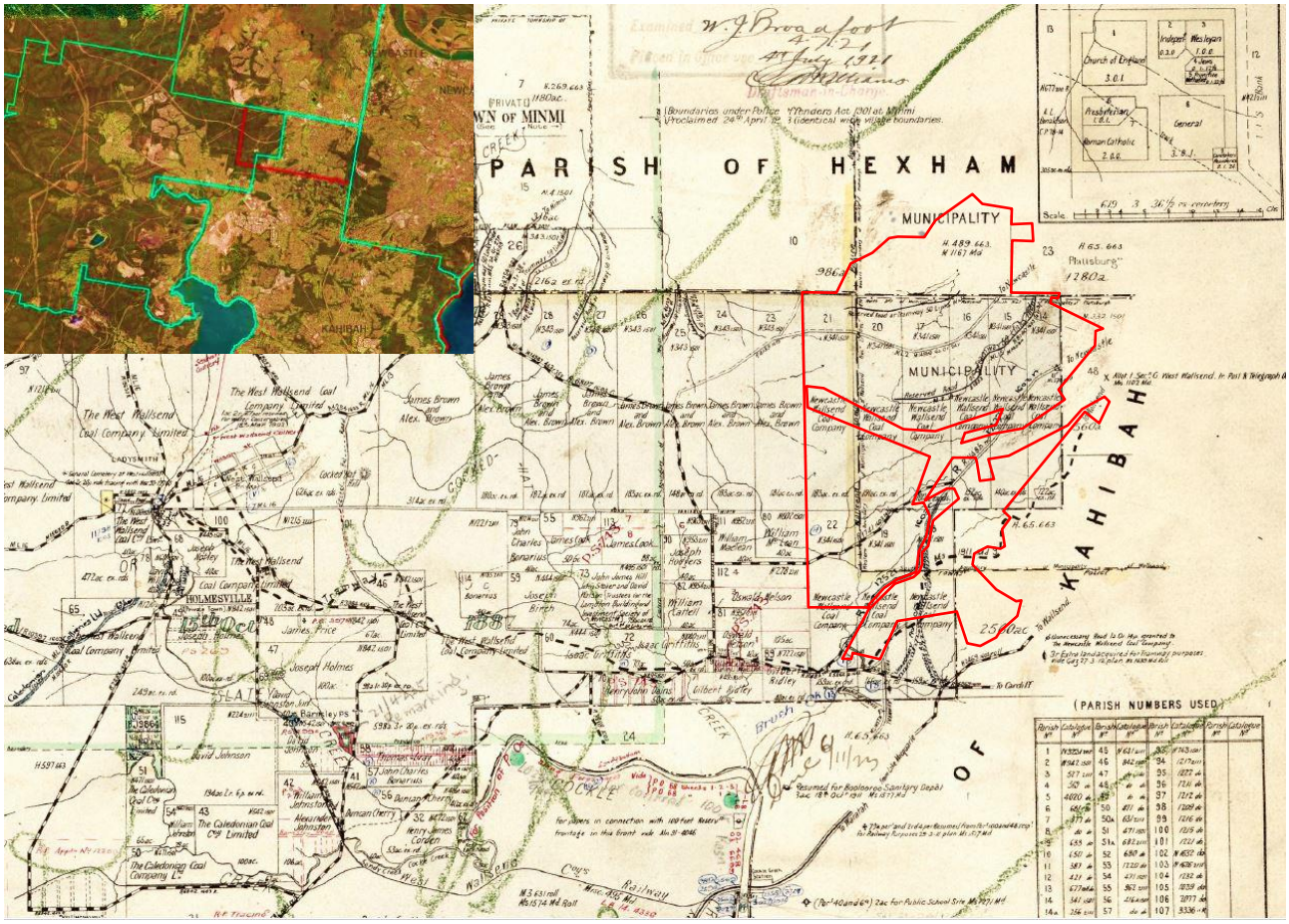


Plate 1: 1915 Parish map of Teralba showing land grants within the project area (indicated). Inset shows parish map boundaries in the Wallsend region (source LPI, Spatial services and Niche)

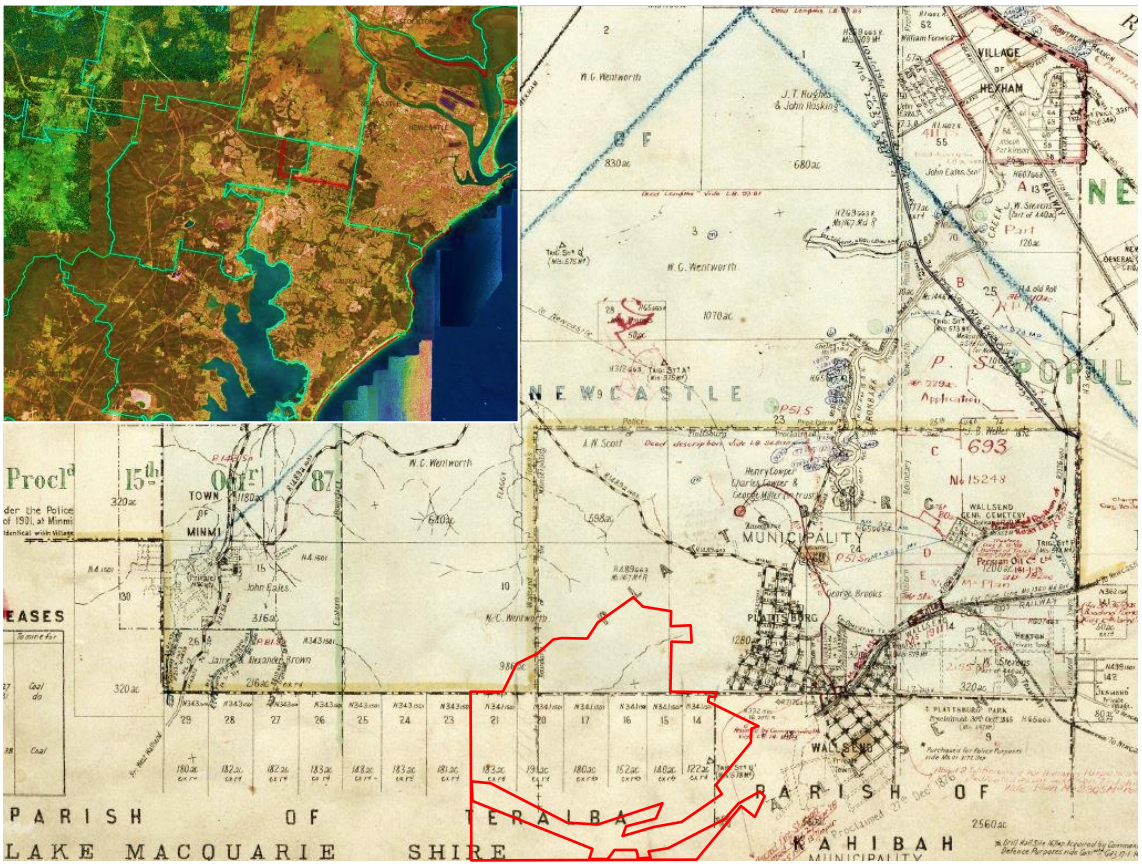


Plate 2: 1915 Parish Map of Hexham showing the urban centres of Minmi, Plattsburg, Hexham and Wallsend in relation to the project area (indicated in red). The inset shows the parish boundaries (source: LPI, spatial services and Niche)

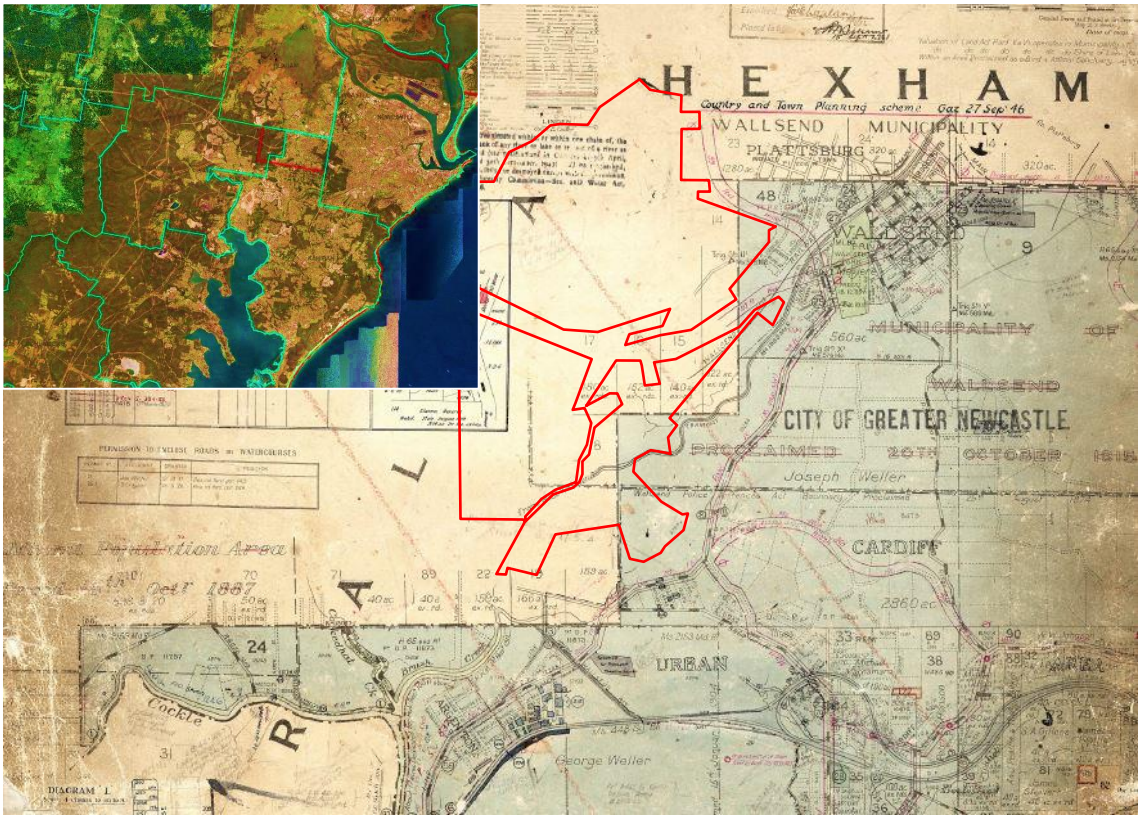


Plate 3: 1931 Parish of Kahibah (shaded green) map showing the urban growth of Wallsend to the east of the project area (indicated in red), and the development to the south (source: LPI, spatial services and Niche).

3.1.3 First coal mining and extraction: A Regional Industry

While the early settlement of the region surrounding the project area was influenced by farming, orchards and timber harvesting, the primary factor in the region's growth was coal mining at this location. Newcastle and the Hunter Valley is synonymous with coal mining in Australia and the project area was surrounded by mines and companies that were fundamental in the development of this industry. They were as follows.

The A.A. Company

Not directly related to the project area but the first coal operations in the Newcastle region were undertaken by the Australian Agricultural Company (A.A. Co.), using convict labour to extract coal from surface coal outcrops and easily accessible seams. This company was formed in 1824 and had a monopoly on coal production in NSW until 1847 (Nexus, 2005 p7; Austral, 2013 p11). This allowed for a significant increase in coal mining across NSW, with many new companies formed after this point to exploit coal resources across NSW.

James and Alexander Brown and the Melbourne and Newcastle Minmi Coal Company

Brothers James and Alexander Brown established a mining operation in 1843 on the Hunter River. They had contracts to supply the Hunter River Steam Navigation Company's requirement for coal and were able to undercut the prices charged for coal by the A.A. Company largely due to their mining of surface coal outcrops. By 1847 they had transitioned to shaft mining of lower coal seams (Andrews, 2007). The actions of J. & A. Brown were instrumental in the dissolution of A.A. Co.'s monopoly over coal production in NSW and paved the way for other coal producers to enter production after 1847.

The Melbourne and Newcastle Minmi Coal Company was formed in 1862 as a public float, with the brothers James and Alexander Brown holding a half share. This new venture included grants of land to the west of the project area which the brothers had purchased in 1853, after the lifting of the A.A. Co. monopoly. The Browns' operation at Minmi was originally hampered by the existing Minmi coal mine and railway running from Minmi to Hexham. The brothers eventually purchased this business and amalgamated the two companies (Andrews, 2007). The mine at Minmi was flooded in 1864, which jeopardised the mine's viability, but the operation continued until 1869, when the workings closed. The Browns had by this point moved to another location in the Newcastle region at Adamstown (Andrews, 2007). The 1915 Teralba Parish map (Plate 1) shows the relative position of the Browns' lands to the immediate west of the project area, with the 1915 Hexham Parish Map (Plate 2) displaying the location of the urban centres of Minmi to the north of the project area.

The Young Wallsend Coal Company (Y.W.C. Co.)

The Young Wallsend Coal Company (Y.W.C. Co., also known as the old Gretley mine) was formed in 1887 in the region to the south-west of the project area, which is now known as Edgeworth. This mine was less successful than other ventures in the region and closed in 1892. It was reopened in 1907 and then closed again in 1912. The details around the 1892 closure and records associated with this mine are key factors in the Gretley Mine disaster in the late 20th century. This mine flooding accident in 1996 was caused in part by erroneous plans drawn of this mine in 1892, on which the extent of historical workings of this mine as of 1892 can be seen (see Plate 4). The Gretley Mine was later added to the New Wallsend Mine and also West Wallsend Underground Mine workings (See Section 3.1.5) under the parent company Glencore Pty Ltd.

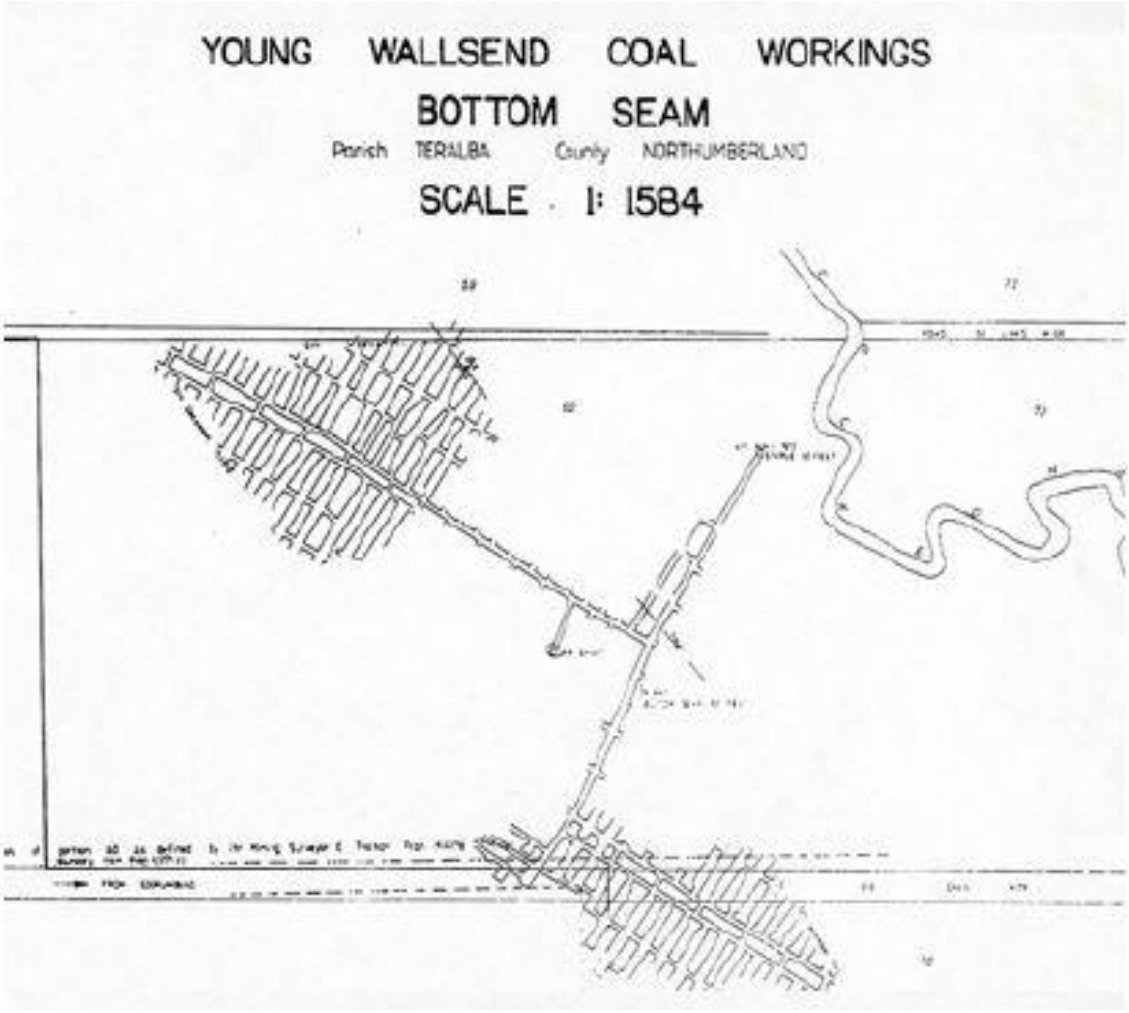


Plate 4: Historical workings of Young Wallsend Coal Mine as of 1892 (source: Phillips, 2006)

The West Wallsend Coal Company (W.W.C. Co.)

The West Wallsend Coal Company (W.W.C. Co.) was opened in 1885, located to the west of the project area in the Parish of Teralba (see Plate 1). The township of West Wallsend grew around the pit top in a similar manner to that which occurred in this historical phase in Wallsend. The West Wallsend Colliery had a private railway which connected the mine to the Government Main North Line, so that the run-of-mine could be removed to port (see Plate 5). A portion of a nineteenth century steam tramway linking Wallsend to West Wallsend runs through the project area. The W.W.C. Co. had a production of up to 200,000 tons of coal annually, however the mine closed due to economic pressure in 1923 (Nexus, 2005).

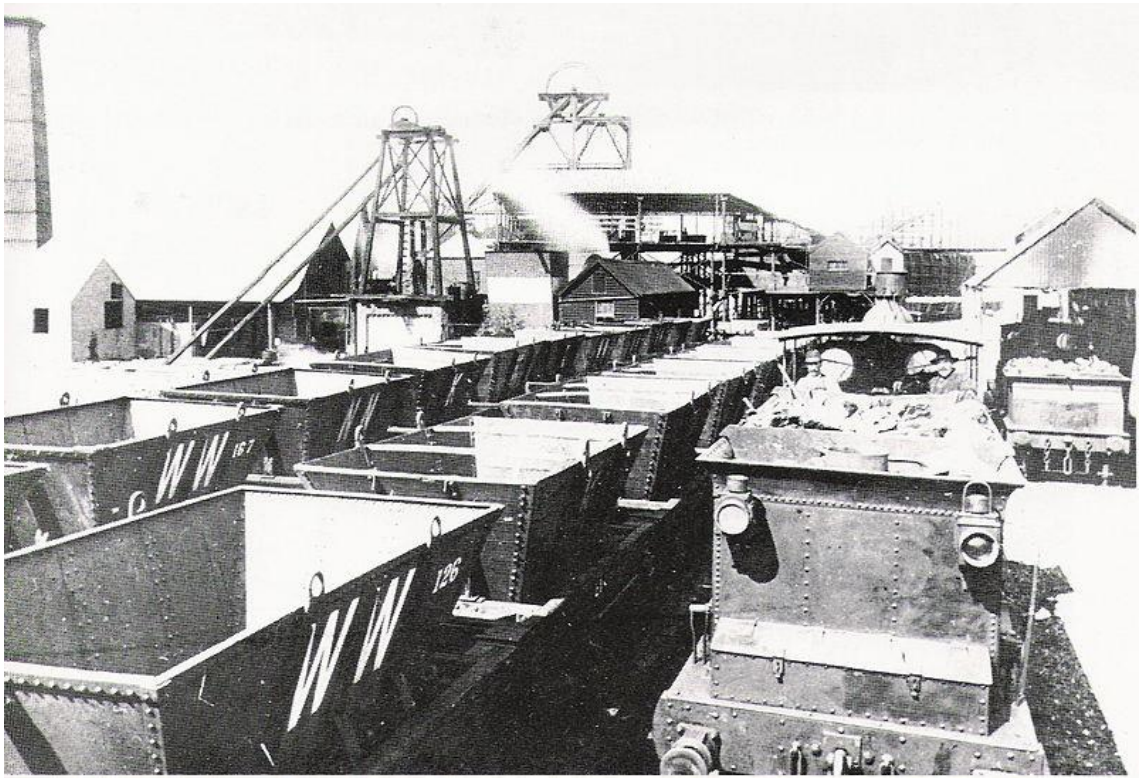


Plate 5: West Wallsend Colliery c1890s showing pit tops and railway yards (source: Newcastle Library).

The Newcastle Wallsend Coal Company (N.W.C. Co.)

The majority of the project area was alienated in grants made to the Newcastle Wallsend Coal Company (N.W.C. Co.), as shown on the 1915 Teralba Parish map (Plate 1) The focus of the N.W.C. Co. mining operation was centralised around Wallsend and largely encompassed shaft mines In the nineteenth century (see plates Plate 6 to Plate 9). The N.W.C. Co. had pit heads around which the town grew; the mining structures were eventually surrounded by the town of Wallsend (Nexus, 2005 p7; Austral, 2013 p11). Coal mining at Wallsend went through several phases in this early phase, with a rival co-operative operation set up in Plattsburg by former N.W.C Co. workers who opposed the management policies of the N.W.C. Co. The Wallsend Mines as a collective group of workings were among the most successful in NSW. The mine sites at Wallsend were finally closed in 1960, although the mine workings had reduced production capacity from 1934 (Austral, 2013 p12).

Plate 6: Coke ovens at Wallsend in 1870s (source: Newcastle and Hunter District Historical Society Archives, University of Newcastle Cultural Collections)

Plate 7: Surface infrastructure and coke ovens at Wallsend (source: University of Newcastle Cultural Collections)

Plate 8: Mine entrances to the Newcastle Wallsend Mine near Wallsend (source: University of Newcastle Cultural Collections).

Plate 9: Site of the original Newcastle Wallsend Coal Company b and c collieries Wallsend NSW (source: University of Newcastle Cultural Collections)

Within the Project Area

The project area was surrounded by centres of mining activity during this historical phase, but during this time the extent of these mines did not intrude into this undeveloped land. At the end of this period the process of mine closure and amalgamations had removed the smaller mining operations, leaving lands owned by larger companies, such as N.W.C. Co..

3.1.4 The Development of Transport and Infrastructure

The first main road route to Newcastle passed to the south of the project area in the 1820s, through the rural population centres which were yet to become mining centres. The location of this route was largely due to the early attempts to traverse the Hexham swamps located to the north of the project area. The early settlers identified the difficulties of some routes through the landscape and developed the route to the south of the project area.

Mining required more infrastructure between its own centres of production as well as to towns and places of shipment. These works included an extension of the stream tramway from Wallsend to West Wallsend from 1897. The construction of the West Wallsend extension began by contractors Hendrickson and Knutson in 1909. It was finished by the combined efforts of a 150-man labour force and significant resources by September 1910 along the route which passed along the southeast boarder, and the southern portion of the project area (see Plate 10). The further extension of the tramline to Speers point was completed in 1911, with only steam trams using the track from Wallsend to Speers Point and West Wallsend (Nexus 2005). The trams were not only a regularly scheduled service but were also available for charter for picnic parties on public holidays, and organised Sunday school events or company outings. These services operated alongside scheduled services up to 1918 (Nexus, 2005). By the 1920s, however, competition provided by road transport, along with the obsolescence of steam trams and the prohibitive cost of electrification of the route led to losses and fare increases in 1927 and 1928. Services were replaced by buses in 1930, and the line permanently closed in 1932. The track was pulled up along the route from Wallsend to Speers Point and West Wallsend between 1932 and 1937 (Nexus, 2005).

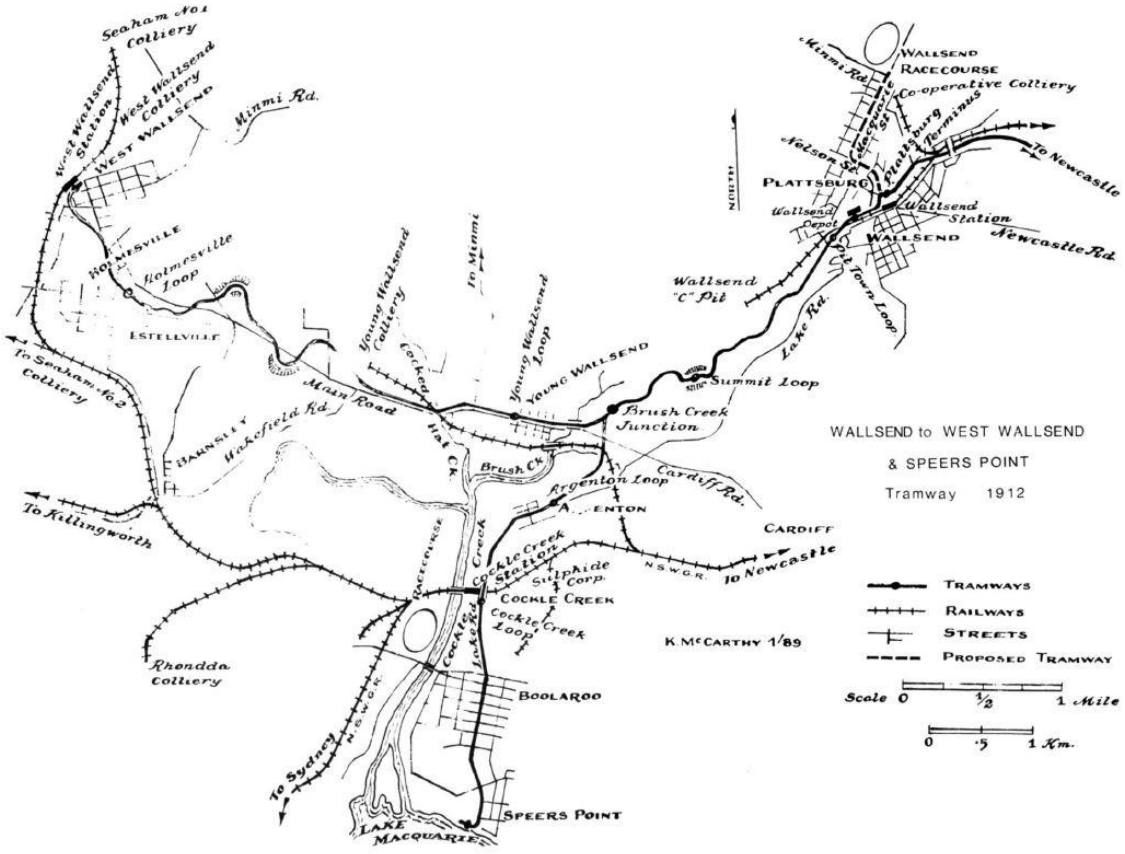
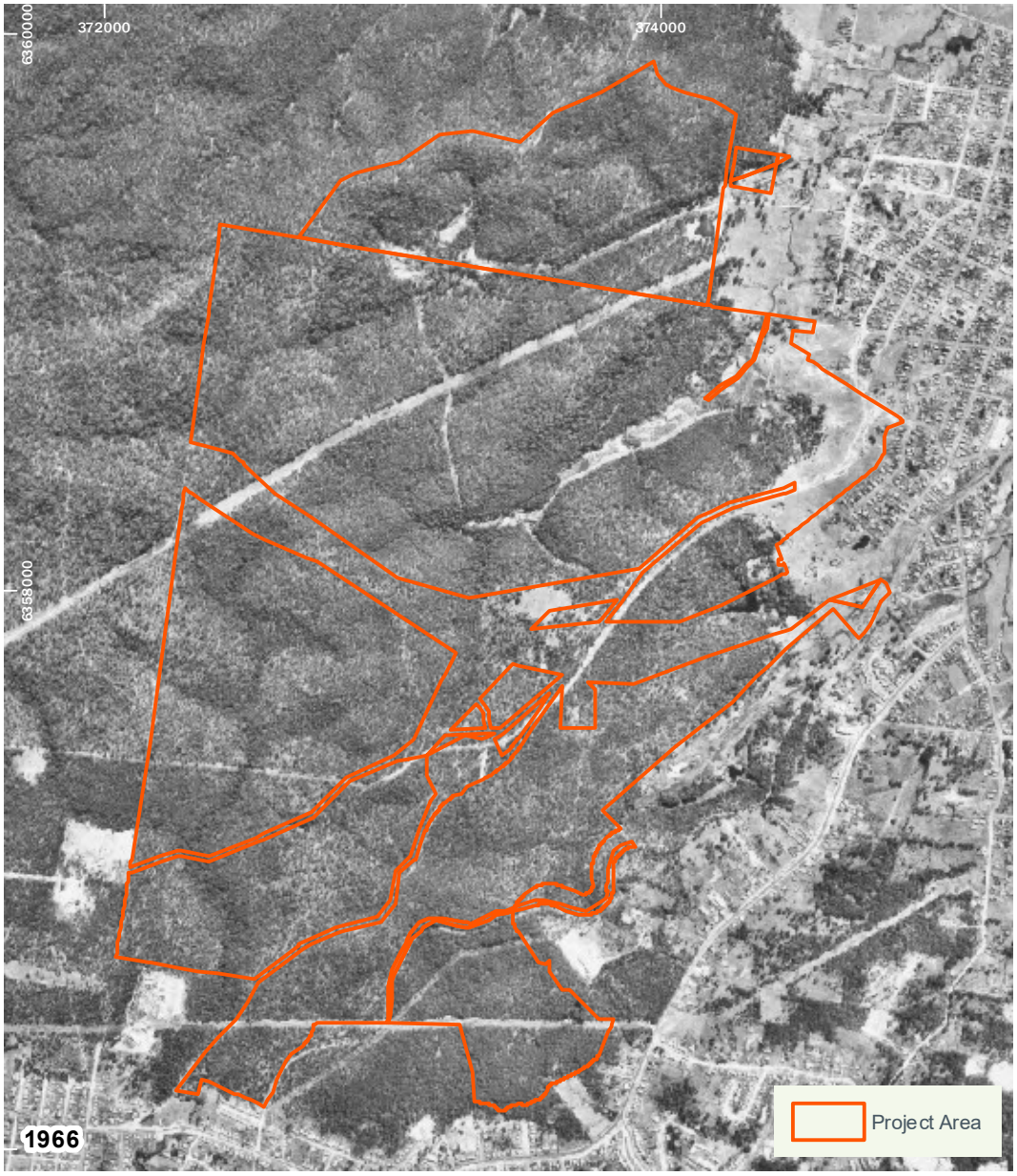


Plate 10: Plan of steam tram route from Wallsend to West Point 1912 (source: Trolley Wire 1990).

One aspect of new infrastructure which affected the project area was the introduction in the twentieth century of power lines which can be seen in aerial photographs that commence in the 1950s (see Figure 4). Larger capacity power lines were introduced later in the twentieth century.

Near the centre of the project area on land retained by Hunter Water are water storage tanks and delivery pipelines. The tanks are located on a hill providing gravity pressure for the pipes.

The other major transformative infrastructure development to have affected the project area was the construction of the Newcastle Link Road highway in 1993, as part of a larger upgrade of the Pacific Motorway and the Hunter Expressway. The motorway is located to the west of the project area on land which has been reserved by the Crown. The development of the infrastructure and service corridors which pass through these parcels of land fundamentally shifted this location from one that was bypassed, to the major route to access Newcastle from the south, and for power and water to be transferred throughout the landscape.



niche
Environment and Heritage

0 500
m
GDA 1994 MGA Zone 56

Niche PM: Samuel Ward Niche
Proj. #: 6014
Client: Eden Estates (Newcastle) Pty Ltd

Historical aerial photographs
Link Road Holdings, Wallsend
Historical Heritage Assessment

Figure 4

3.1.5 Final industrial mining and industrial use of the project area.

While the early coal mining companies had extracted a large quantity of coal from the several mines which are located around the boarder of the project area, there were extensive coal reserves left within existing mines and extending along coal seams beneath the project area. The process of amalgamation which continued beyond the 1930s had left these reserves in the control of a web of parent companies which had bought out individual mines as they became less economically viable.

The post-World War Two interest in industrial development in Australia, coupled with the progressive introduction of modern mining practices particularly longwall mining allowed for large companies to exploit coal resources which were previously not viable. Coal seams were assessed as a whole, and not delineated by limitations of access or historical site boundaries.

The project area was originally owned by the N.W.C. Co.; however, the ownership of this and the other mining sites in the region changed during this historical phase, with a process of amalgamation and mergers allowing for consolidation of individual mining sites under the same parent company. With relation to the project area, the N.W.C Co's Gretley Colliery was acquired by Oakbridge Ltd (through the subsidiary New Wallsend Coal Pty Ltd), which was eventually acquired by BHP in 1988 and Xstrata in March 2000, and Xstrata Coal became Glencore Holdings Pty Ltd. Glencore also acquired the West Wallsend Coal Company, which currently operates a mine site to the southwest of the project area.

As a result of these commercial arrangements, the mining operations associated with the old Wallsend Collieries, which were considered uneconomic and closed in 1935, were re-opened by N.W.C. Co. in 1969. Named the Gretley Colliery, and incorporating the Young Wallsend Colliery as well, mining extended at several sites across the project area as the older workings were re-visited, and coal was extracted from the Young Wallsend and Borehole seams beneath the project area.

Several new sites were developed within the project area as a result. These were originally developed by subsidiaries and then incorporated as parts of the Gretley Mine. The most significant of these were the New Wallsend Colliery No.2 and Wallsend Borehole Collieries, which were located at two adjacent sites in the northern section of the project area. These were developed during the 1970s and 1980s, with the coal extracted using modern longwall mining techniques. Other sites across the project area associated with the Gretley Mine in this historical phase were ventilation shaft location, monitoring sites, and a network of roads and other infrastructure required for maintenance and monitoring across the project area. There was a large amount of vegetation clearance in the location occupied by the mine surface sites, however the rest of the site remained covered by open woodland (see Plate 11, Plate 12 and Plate 13).

Plate 11: Aerial view taken in the 1990s of the Wallsend Borehole Colliery, part of the Gretley Mine, located in the northern section of the project area (Source: University of Newcastle Collection)

Plate 12: 1976 historical aerial imagery of the northern portion of the project area, showing the Wallsend Borehole Colliery and New Wallsend Colliery No. 2 Pit Top sites (Source: NSW Spatial Services)

Plate 13: 1984 historical aerial imagery showing the same Pit Top sites as the 1976 image (Source NSW Spatial Services).

The Gretley Mine operated in these sites until in 1996 a flooding disaster occurred which killed 4 miners, forcing a shutdown while a process of investigation and litigation ensued. The main cause of the accident was found to be the reliance on incorrect historical plans of the workings, which were incorrectly transposed by the NSW Mines Department in the 1960s. The plans were mis-interpreted during this process, so that the depth that the Gretley Miners were operating at was thought to be at a separate coal seams and at different levels the older, now-flooded workings of the Young Wallsend Mine. Instead of drilling adequate probe holes, which would have discovered the old mine, work was allowed to progress, and pressurised water entered from the flooded shafts with enough force to break the concrete cap on the Young Wallsend Mine pit top shaft, and displace the massive longwall machine where the men were working by 17.5 metres (Phillips 2006; Staunton 1998).

This disaster forced the closure of the Gretley Mine in 1998, and although the New Wallsend No. 2 Site recommenced operations in May 1999 under the New Wallsend Coal Pty Ltd, the investigation of the Gretley Mine disaster was ongoing. Xstrata acquired the mine in March 2000 and was convicted along with four mine managers under industrial relations legislation in 2005 although they had not owned the mine in 1996. A $1.47 million dollar fine imposed, however the mine had been closed in 2002, and a process of rehabilitation of the site was planned (Phillips 2006; Umwelt 2006).

3.1.6 Post-mining rehabilitation and use

The project area encompasses the land owned by Glencore at the end of mining operations in 2002. With the cessation of mining, the company rehabilitated the site, removing all structures constructed for the mine (see plates Plate 14 and Plate 15). Decontamination of the site was undertaken, mainly to rectify diesel fuel deposits detected in the region of the former coal stockpile. The former mine entries were made safe, through an innovative process of drilling, capping both ends of a mining shaft, and infilling with an inert substance. Re-growth of native vegetation on site was undertaken along with modification of the landscape of the project area surrounding Maryland Creek. The fire trails, gates and access points to the land parcels installed during the mine's operations were retained.

Plate 14: New Wallsend Colliery No.2 (in the north of the project area) prior to rehabilitation works (source: NSW Mining, 2014)

Plate 15: Former New Wallsend mine (in the north of the project area) after rehabilitation was completed (source: NSW Mining, 2014)

The intended use of the land was eventually to be for residential development across most of the site. This is evidenced by the roundabout installed near the centre of the holding along Newcastle Link Road, which currently has only the north and south exits connected to roads. The site was recently sold to the proponent, for the purpose of development.

Due to the proximity to the existing suburbs, and the remote nature of the forest within the project area, there is a significant amount of illegal dumping which currently occurs within the project area. While the majority of gates are locked, some fire trails are accessible though the installed concrete barriers, and the project area is commonly visited for recreational purposes.

3.1.7 Conclusions of Historical Context Research

- While Newcastle and the Hunter region is synonymous with the establishment of a secondary penal settlement from 1804 the project area was not influenced by this association other than by association through the use of convict labour on farms
- The lands surrounding the project area to the east and south were alienated in grants to free settlers in the 1820s through to the 1880s, and this land was developed as farms and later settlements.
- The southern part of the project area was used for the route of a steam tramway which was in use from 1909 to 1932. The tramway provided regular services and special holiday/weekend trips between West Wallsend, Speers Point and Newcastle through Wallsend. This route is now a bike path which was recently constructed as a means of re-using this heritage item.
- The project area was acquired by the Newcastle Wallsend Coal Company in grants during the 1890s. Although the land all around the project area and these grants were utilised for coal mining from the mid-nineteenth century there is no evidence to indicate that the project area was used for mining during this period. This ensured that large areas of the landscape remained intact and in an unsettled state until the 1950s.
- The mining works of the twentieth century were associated with industrialised underground mining practises; a mining operation was carried out across the project area. The surface infrastructure related to this was centralised on the northern portion of the project area. This mine used limited surface sites compared to the underground workings associated with this form of large-scale coal extraction. The mine set up fire trails, power infrastructure and roads to manage the site, with several vent shaft and monitoring locations across the project area.
- Mining ceased in 2002 and all above ground structures and works were removed and the land was actively regenerated over the period up to 2006, with a final report by Glencore determining this process complete in 2014.

4. Physical Analysis

4.1 Methodology

The project area was assessed by Samuel Ward and John Gillen (Heritage consultants, Niche) on the 29th and 30th September 2020. The purpose of this site inspection was to assess the heritage values present on site, by examining built items, landscape and views, and potential archaeological resources. The site inspection was guided by known locations of mining activity, historical research, and identified heritage items. The extent of the survey encompassed the entire project area, as access permitted, and was designed to target key sites of potential interest, as well as provide the maximum possible coverage in the given timeframe. The route followed by the survey can be seen in Figure 5, which also shows waypoints which were recorded along the route.

A pedestrian survey was undertaken in the section of the project area located below Newcastle Link Road and alongside the Steam Tramway heritage item (now a bike path). Another pedestrian survey was conducted of the southern portion of the project area, and for the areas along the bike path. The more remote areas were surveyed by vehicle as well as targeted areas of mining activity, which were referred to the survey team from former Glencore records. Some areas were not accessible by vehicle due to the steepness of the terrain.

4.2 Landscape

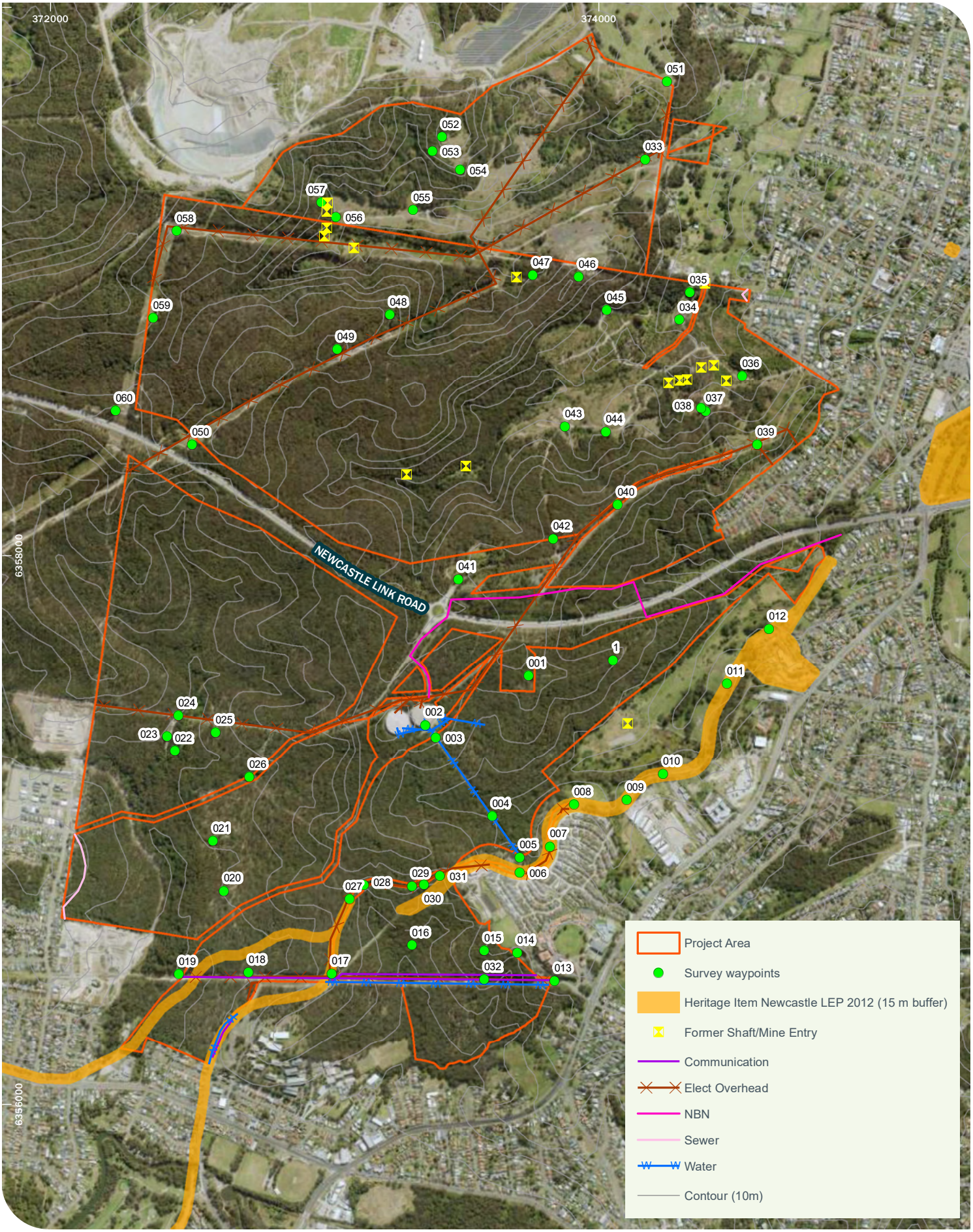
The project area is dominated by a series of ridgelines which project from the west, and extend up to the southern, western and northern boundaries of the site. Previous development and several rural smallholdings are situated along the boundaries, but not into, the project area.

Water courses and drainage lines within the project area are partially artificially formed by erosion management schemes, but also represent access routes throughout the landscape. Some areas in the north of the project area were subjected to artificial regeneration and landscaping processes, particularly along Maryland Creek. This was done to restore a natural landscape after mining had ceased on site.

Plate 16: Image of natural water course at waypoint 022.

Plate 17: Image of stormwater management located on a natural drainage line near waypoint 024.

The project area is largely forested; the vegetation was largely untouched until the 20th Century. These later works include cleared easements for power infrastructure.



Drawn by: GT File: T:\spatial\projects\a6000\a6014_Link_Rd_Holdings_HAA\Maps\report\6014_Figure_5_SurveyResults.mxd Last updated: 12/1/2020 11:29:44 AM

niche Environment and Heritage

0 300
m
GDA 1994 MGA Zone 56

Survey Results and Areas of Historical Interest

Link Road Holdings, Wallsend
Historical Heritage Assessment

Niche PM: Samuel Ward Niche
Proj. #: 6014
Client: Eden Estates (Newcastle) Pty Ltd

Figure 5

4.3 Views

The important views associated with the project area are those views to and from the ridgelines, which provide the major landmarks in the terrain (see Plate 18 to Plate 21). The other built landmarks, the power infrastructure, dominate their easements, and these corridors provide sightlines from ridge to ridge across the terrain. These views display the scope of the natural landscape, across the site, however they largely unobserved by the community due to their remote location.

The views to and from the water tanks at waypoint 003 also give a sense of scale and enable the viewer to understand the scope of the natural landscape. These structures are good landmarks which provide visual cues of a viewer's location within the site (see Plate 22 and Plate 23).

There are views along the route of the former steam tramway which are associated with the transfer of people and goods through the landscape in the early 20th Century retain their association as bike riders retrace this path and share similar views to early passengers on the tram system.

Plate 18: View from raised terrain across the landscape at waypoint 047.

Plate 19: Image of dam located at waypoint 055.

Plate 20: Image of views towards suburbs to the southeast of the project area, from waypoint 040.

Plate 21: Image of views afforded by power line easement within the project area.

Plate 22: Image showing views towards water tanks at waypoint 003.

Plate 23: Image showing views from water tanks at waypoint 003.

4.4 Roads

The main feature of the project area is Newcastle Link Road, which divides this area from east to west. The northern section and southern section of the project area separated by this road. These sections are distinct, despite sharing the same landform pattern. Along Link Road, in the central point of the project area is a disused roundabout, which is blocked on the northern and southern arms by large concrete blocks.

4.5 Tramway

There is a section of a nineteenth century steam tramway that runs through the southern part of the site. It encompasses the former route of the tramway, with cuttings, and road base present although there was no evidence of sleepers or rails. Part of the route is now used as a bike path and has been sealed with asphalt, with metal railings in place.

4.6 Former Mining Works

All surface mining structures associated with the New Wallsend Mine within the project area were removed as part of the mine's closure and rehabilitation process, apart from access gates located around the periphery of the project area. The surface sites previously associated with mining in this area were visited as part of the site inspection. These sites have been thoroughly rehabilitated, and the structures which may have been located here (vent shaft heads, mine ventilation infrastructure/crew or maintenance facilities, roadways etc.) have been demolished, although some sites are still identifiable from traces of remnant fabric such as road surfaces, or debris from the demolition of structures.

The sub-surface workings (tunnels and shafts) have been capped, filled and are inaccessible.

Plate 24: Image showing remains of works site on a former mining location within the project area (near waypoint 037).

Plate 25: Image showing a rehabilitated former mining surface site within the project area (near waypoint 038).

Plate 26: Image showing removed asphalt road surface near waypoint 037.

Plate 27: Image showing location of former surface site near to waypoint 057.

4.7 Hunter Water Storage Tanks

The Hunter Water Storage tanks and infrastructure are located south of the central roundabout and towards the centre of the site (see Plate 28 waypoint 002). There are two tanks used as reservoirs, both of which are approximately 60m in diameter, and 10m high. These tanks have service infrastructure of pipes and a pumping station as part of this site (Plate 29). They are both covered with graffiti around their sides. These tanks were constructed after 1966; they are not recorded on the historical aerial photographs from before this period.

Plate 28: Image of one of the two storage tanks at Waypoint 002

Plate 29: pipes and pumping infrastructure associated with the two water tanks at waypoint 002

4.8 Post-Mining Works

There were several other types of items found across the entire the project area that derive from the most recent use of the site. These activities include the construction of high-tension power lines, deposition of rubbish and vehicle wrecks, and maintenance of unsealed roads and fire trails. The images below Plate 30 to Plate 36) document a selection of these items which were identified during the site inspection.

- The car wrecks found were all burnt
- There was a significant amount of illegal waste dumping across the project area,
- Several different types of power infrastructure were identified, from disused and abandoned conductors or poles, to high-tension main grid supply powerlines which are in use.
- The tracks and easements across the project area are mainly related with former mine site management, or with the maintenance of power infrastructure.

Plate 30: Image of abandoned and burnt vehicle wreck near waypoint 001.

Plate 31: Image of powerline easement within project area, with vehicle wrecks (near waypoint 017).

Plate 32: Image of illegal dumping site near waypoint 018.

Plate 33: Image of vehicle wrecks near waypoint 044.

Plate 34: Image of high-tension power lines within the project area.

Plate 35: Image of deliberately destroyed power pole near mining infrastructure site at waypoint 038.

Plate 36: Image of abandoned power infrastructure – conductors and part of power pole near waypoint 047.

4.9 Identified Heritage Sites Within the project area.

The heritage-listed site within the project area is the Steam Tram Line which ran through the southern portion of the project area and linked Wallsend with West Wallsend and Speers Point (see Plate 37 and Plate 38). The land on which most of the tramway is located is Crown land. This section, which follows the historical route of the tramway, is contained within an easement over the property in favour of the relevant Council. There are, however, some sections of heritage curtilage which are within the project area – although these have been contested for their relation to the historical route of the steam tramway (see Figure 3).

Much of the length of the heritage curtilage and the historical route is physically separated from the project area by fencing, and also by private lands (see Figure 3). During the site inspection, the full length of this item was walked, with several key features identified:

- The majority of the route of the former Steam Tram Line is now bitumen-paved to create a bike path, and the easement is fenced along the route, separating it from the project area.
- The alignment of Lake Maquaire LEP item 92 passes through a portion of the project area near to the bike path, along a path which corresponds to the historical route of the West Wallsend steam tramway. While this alignment is accurate, there is a lack of surface evidence to indicate this section of the heritage item on site. This is in contrast to the sections of the historical route of the steam tramway which are associated with the bike path (Lake Macquarie LEP item #6).
- The bike path mostly follows the original route of the Speers Point to Wallsend sections of the tramway and preserves the original cuttings and other earthworks and the original road base and grades along this route. These cuttings are smaller in scale than regular train lines and were part of the tram infrastructure (Plate 37). The bike path passes through these cuttings and utilises the former road base of the tramway.
- Any archaeological evidence of track which was not previously removed is likely to be capped by the bitumen surface of the bike path. There was no visible evidence of remaining rails, sleepers or trackside items or infrastructure associated with the Steam Tram Line.
- The curtilage of the Newcastle LEP heritage item I112 does not match with the historical tram route and the bike path near waypoint 030. There were no surface indications at this waypoint for any archaeological potential at this area where the item's curtilage diverges to the south from the original route.
- The curtilage of Newcastle LEP item I112 Former West Wallsend Steam Tram Line which does not match the route of the bike path (near waypoint 030) should be raised with Newcastle council. The erroneous part of this heritage curtilage does not require further interpretation or retention as part of the structure planning.
- There are storm water management drains installed along the route, which are upgraded from the original drainage solutions by the works which created the bike path. There was no mention of the storm water drains in the Nexus report conducted in 2005

Plate 37: Image showing a cutting along the Bike Path (former Steam Tramway route).

Plate 38: image showing fencing and water management (storm drain) beside the bike path route.

4.10 Identified Heritage Sites in Proximity to the Project Area

4.10.1 Woodlands House Heritage Item

The Woodlands House heritage item is located outside the project area. It encompasses a structure which has been extensively modified to form a retirement complex. The landforms, private land and the route of the tramway form a barrier which separates this item from the project area physically and visually. There are no direct view lines between this item and the project area.

4.10.2 Mining Sites

The former mining sites which were located in the project area (related to the 20th Century Gretley/New Wallsend Mine) were inspected for their archaeological potential. These sites were thoroughly rehabilitated, and infrastructure removed or demolished during the mine's closure in 2006 and to the time of writing.

While some scattered items remain at these locations, these were the remnants of the demolition process, and consist of plastic, metal and wooden building waste, broken sections of bitumen and other discarded material. These objects are of limited archaeological value as the evidence they do not provide useful information about the activities present at these locations.

The sites associated with the location of the coal stockpiles, mine entrances and major infrastructure are located at Waypoint 043 to 047; and 055 to 057 and provide little indication to their previous use as a mine site. All mining shafts have been sealed with concrete caps and infilled with an inert compound which resists subsidence, providing no physical evidence on the ground surface of their location.

No evidence was found for any undocumented nineteenth century mining sites within the project area.

4.10.3 Early Settlement Sites

There was no evidence found for any undocumented settlement sites present within the project area. The 1950s and 1960s aerial images show that much of the project area remained uncleared of vegetation, and this remains true of the majority of the project area. ‘

4.11 Conclusions of the Site Survey

The conclusions that may be drawn from the site survey may be summarised as follows:

- There is still a substantial largely unaltered environmental context of landform, water and vegetation that documents the pre-settlement landscape
- Significant views are related to those to and from ridgelines and watercourses. There are several views created by modern infrastructure which carve through the site,
- There is no visible physical evidence of the early settlement phase of occupation which was located around the boarders of the southern portion of the project area
- There is no evidence of nineteenth century mining or infrastructure works other than a portion of a steam tramway that runs through the southern part of the site. This retains some elements of its original form but has been modified to serve as a bike path
- The principal physical evidence derives from twentieth century mining (limited), infrastructure including roads, tracks and power and waste disposal including illegal dumping

5. Analysis of the Evidence

5.1 Archaeological Evidence:

5.1.1 Prior analysis of archaeological resources within the project area

The nineteenth century steam tramway (now a bike path), which is partly encompassed within the southern part of the project area, is the only aspect of the project area that has been the subject of an earlier assessment. This assessment, made by Nexus Archaeology and Heritage in 2005 (Nexus, 2005) assessed the section of the route which runs between Wallsend and Speers Point and West Wallsend and through the current project area. This report was undertaken prior to the construction of the bike path along this route. It assessed the archaeological potential of this item. The report noted the discrepancy between the Newcastle LEP heritage curtilage and the historical route of the tramway around the "summit loop" to "Brush Creek junction". It concluded that the LEP map was 'misleading' (Nexus 2005).

The conclusions of the report may be summarised as follows:

- There was no visible evidence of extant sleepers and rail
- The earthworks and roadbed were intact
- That a zone of most likely or high potential archaeological evidence could extend up to 2.5 metres on either side of the roadbed
- An additional zone of 1.5 metres from this could encompass a moderate likelihood of archaeological evidence
- This zoning approximately corresponds with the curtilage of the LEP listing except for the discrepancy noted above of the summit loop to Brush Creek Junction.

The bike path and the land allocation given to this public space provides a buffer along most of the route which protects the identified zones of archaeological potential. This route itself, along with the cuttings and other earthworks associated with this feature provide a valuable resource for interpreting the past industrial landscape.

In the portion of the route where there is a discrepancy between the listed curtilage and historic records of the route it has been concluded that there is unlikely to be archaeological evidence preserved here based on the survey of this area by the Nexus report, and the historical evidence that the tramway was decommissioned with a deliberate removal of rail in the 1930s. However, there is a statutory requirement to assess this area prior to redevelopment

Upon physical inspection of the site, it was found that the section of heritage item 92 (part of the route associated with the steam tramway route, which is within the project area and extends towards the bike path was not associated with surface indications of this former tram route. There is significant disturbance in this area, and while there may be some remaining sub-surface potential, the past route of the tramway in this section is not distinct.

5.1.2 Archaeology within the Project Area

Apart from the tramway the project area has been the subject of several assessments by Umwelt (Australia) Pty. Limited which assessed the heritage implications of the mine rehabilitation process. Their work remains unpublished but was conducted in accordance with the Department of Primary Industries (DPI) approvals. The reports by Umwelt monitored each stage of the Mine decommissioning process and oversaw the transition of the landscape from an industrial use to a pre-mining 'Natural' state. This included a removal of structures, modification of landscapes, replanting and making safe any sub-surface deposits or shafts associated with former mining activities.

The reports produced as part of this process include:

- Mining Operations Plan for Phase 1 Mine Closure (Umwelt December 2002);
- Mining Operations Plan for Phase 2 Decommissioning and Rehabilitation (Umwelt July 2003);
- Conceptual Final Landform and Rehabilitation Design (Umwelt December 2003); and
- Phase 2 Mining Operations Plan Maryland Creek Design Drawings (Umwelt April 2004).

The conclusions from the present analysis connected with this report are that:

- There is no visible physical evidence of the early settlement phase of occupation in the southern portion of the project area
- There is no evidence of nineteenth century mining works other than a portion of a steam tramway that runs through the southern part of the site. This retains some elements of its original form but has been modified to serve as a bike path, which is the only section which retains this form
- The principal physical evidence derives from twentieth century mining (limited), infrastructure including roads, tracks and power and waste disposal including illegal dumping

In respect of the legacy of twentieth century mining (largely undertaken as long-wall underground excavation), those aspects of the mine workings located in the northern portion of the project area have either been removed or substantially disturbed after the closure of the mine in 2002, and the rehabilitation process in 2006.

The conclusion of the present analysis is that, apart from the bike path, the project area has a limited or low probability of encompassing a substantial or significant archaeological resource.

5.2 Built Heritage within the project area

There have been no earlier studies that address built heritage within the project area.

The mining sites associated with the Glencore/ West Wallsend Underground Mine's twentieth century operations across the northern part of the project area were described as "potentially hazardous areas" in documentation provided to the proponent by Glencore Pty Ltd. These areas are associated with the former New Wallsend Colliery No.2 and the mining rehabilitation process described in subsequent documentation (see Section 3)

There are now, no built items within the project area with the exception of later twentieth century infrastructure. The Hunter Water tanks are of potential value as landmarks within the landscape, however these items fall outside the project area.

5.3 Portable Relics and Artefacts

The only portable artefacts found within the project area are derived from waste dumping of recent activity. No evidence was found of artefacts or relics that derive from the early regional mining phase or earlier settlement of the region. Some scattered asphalt, discarded building debris and other limited works related to the 20th Century mining of the site was noted in areas identified as formerly in use for this purpose. The large-scale rehabilitation process on site had left these sites returned to a "natural" landscape. Fire trails, transmission wire easements and some infrastructure items related to the mining, rehabilitation and current management uses of the site remain.

5.4 Landscapes and views

5.4.1 Previously documented heritage landscapes or views within the project area

The earlier report by Nexus Archaeology which assessed the archaeological potential of the Steam Tramway identified that the route and curtilage of this item can be considered a heritage landscape. This incorporates the item itself, and the surrounding terrain which recreates the journey of the tramway throughout the landscape. This evaluation of the tramway/bike path as a cultural landscape component was confirmed by the present analysis.

In land areas to the south west of the site in Cameron Park, parts of the steam tramway have been incorporated into pedestrian and cycleways. There are other several examples in the Hunter Valley where former transport infrastructure has been re-used for pedestrian use. Fitzgerald Bridge in Aberdeen was a railway bridge which has been re-surfaced, and the bridge incorporated into a pedestrian and cycleway over the river (IPWEA, 2015). The Hunter River and Muscle Creek Bridge considered to be redundant and requiring an upgrade was retained as a pedestrian route and cycleway over the river (Umwelt 2019).

In both of these examples, the original built forms of the bridges were retained, although the road base was modified from rails to a bitumen bike path. This is similar to the work undertaken on the tramway within the project area. The views along and from the bridges were retained and a continuing use for the structures within their landscape context. These examples differ from the tramway within the project area in that only a small portion of their routes survive while a substantial part of the former steam tramway is preserved of the tramway partially within the project area.

Fernleigh Track is a shared cycleway which has been built along the former Belmont Rail Line which connects the cities of Newcastle and Lake Macquarie along a coastal route from Adamstown to Belmont. This example is similar to the re-use of the former stream tram line near the project area. However, in the case of Fernleigh Track, more physical evidence remains of the original structure and associated works including rail lines and tunnels, which have been incorporated into the track. Like the Steam Tramway, Fernleigh track incorporates views to and from the location of the former track, and users can recreate a journey along the railway. This is aided in this case by interpretive materials, including pamphlets and signage on site, to enhance understanding of the place and to promote its heritage value.

5.4.2 Heritage landscapes or views identified within the project area

The project area encompasses what is largely a "natural" landscape being open woodland and regenerated bush, waterways and ridgelines. This landscape does not essentially document the mining associations of the place as this was largely a sub-surface technology. The introduction of water tanks, roads and easements for power infrastructure largely documents the twentieth century impacts to the older cultural landscape.

The only view that expresses some association with the predominantly industrial landscape that comprehensively surrounded the project area is that along the tramway. This view is constrained on both sides at various points by the forest, by cuttings and opens up to view farmland alongside the track.

5.4.3 Conclusions

In comparison to the former sites listed above, the project area provides limited physical evidence of its past industrial history. The route of the steam tramway is a limited exception to this, as while it is now in use as a bike path, it does retain some views and physical evidence in the form of earthworks and route of the historic tramway at this location.

However, across the majority of the subject area, the industrial history of this landscape is not represented by archaeological evidence or views present on the site. As such, beyond the most recent activities of rehabilitation and recently developed infrastructure the project area does not provide substantial evidence of its past industrial history.

6. Cultural Significance of the project area

6.1.1 Assessment of NSW state significance criteria for Link Road Holdings (the project area)

An assessment of significance is undertaken in order to identify why a place may be of importance, the reasons or values that make it important and the community to which it has importance. This provides the framework for establishing management and mitigation strategies that will guide the future of the site.

The following section provides an assessment of heritage significance. The evaluation is made using the criteria defined in the NSW guidelines *Assessing Heritage Significance* (Heritage Council 2001) and also the current guidelines *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Council 2009) – (see Table 2). The project area has been evaluated using the NSW Heritage criteria expressed in these guidelines, and the results have been used to formulate a statement of cultural significance for the project area. Further explanation of each criterion can be found within this guideline.

Table 2: NSW Heritage assessment criteria (Heritage Council 2001).

Heritage significance criteria	Explanation of Heritage significance criteria
Criterion a): Historical Significance	An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area)
Criterion b) Associative significance	An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);
Criterion c) Aesthetic significance	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);
Criterion d) Social significance	An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;
Criterion e) Research potential	An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);
Criterion f) Rarity	An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);
Criterion g) Representativeness	An item is important in demonstrating the principal characteristics of a class of NSW's • cultural or natural places; or • cultural or natural environments. (or a class of the local area's • cultural or natural places; or • cultural or natural environments.)

In NSW, heritage items are assessed to be of national, state or local significance. This is not necessarily an attribution of importance to an item or place, but rather a recognition of the community to which the item or place holds importance. For instance, a local heritage item is considered important to the immediate community, whereas an item of State heritage significance is relevant to communities across NSW.

Based on the analysis of landscape, views, built heritage and archaeological values, the following is an assessment of the project area against each of the NSW criteria:

Table 3: Assessment of significance according to NSW criteria

Heritage significance criteria	Evaluation of significance criteria for the project area	Level of Significance
Criterion a): Historical Significance	The project area has connections to the nineteenth century mining development of the region but was largely unused until the mid-twentieth century. The route of the steam tramway provides evidence of the industrial past of the region although it has been modified for other purposes.	*The Project Area is not considered to have met the threshold of significance at a Local level for this criterion.*
Criterion b) Associative significance	The project area is not considered to have been associated with a significant historical figure or events, but rather has peripheral connections to significant figures in the mining industry of the region.	*The Project Area is considered to have not met the threshold of significance for this criterion.*
Criterion c) Aesthetic or Technical significance	The project area is associated with the technology of steam trams an innovative but quickly supplanted technology. The portion of the former tramway encompassed within the project area references the use of this technology but the adaptations made to it for its current use as a bike path have largely removed or modified the technology formerly demonstrated by it and, thus, reduce its ability to exemplify this aspect. The project area as a whole has aesthetic value as a modified natural landscape, however this aspect has been impacted by the introduction of elements of infrastructure and illegal dumping across the site.	*The Project Area is considered to have not met the threshold of significance for this criterion.*
Criterion d) Social significance	The project area has some associations with the former mining community, but the principal focus of these associations is with larger, older and more extensively used sites outside the project area.	*The Project Area is considered to have not met the threshold of significance for this criterion.*
Criterion e) Research potential	The project area is unlikely to have any substantial archaeological resources associated with the former mining uses or the older layer of early nineteenth century farming. Archival and physical evidence demonstrates minimal uses of the site for these purposes. The exception to this is the route of the steam tramway, however, while a valuable interpretive element the modifications made to this item reduce its ability to demonstrate or investigate aspects of this technology.	*The Project Area is considered to have not met the threshold of significance at a Local level for this criterion.*
Criterion f) Rarity	The landscape of the project area is not rare; it is similar to much of the landscape west of Newcastle and Lake Macquarie. It contains no rare or unusual technology or evidence of past uses The modified steam tramway is unique in the immediate locality although there are other examples in the region. .	*The Project Area is not considered to have met the threshold of significance at a Local level for this criterion although the former steam tramway does so; this is recognised in the LEP listing.*
Criterion g) Representativeness	The project area is a modified natural landscape that is not expressive of the largely industrial nature of the region nor of the earlier nineteenth century farming settlement.	*The Project Area is considered to have not met the threshold of significance for this criterion.*

6.1.2 Statement of Cultural Significance for Newcastle Link Road Holdings (the project area)

Newcastle Link Road holdings is located between the former mining settlements of Wallsend, Minmi, West Wallsend and Hexham. While the project area has connections to the historic industrial use of the region commencing in the nineteenth century it was largely unused for this purpose until the mid-twentieth century. In the southern part of the site is a portion of a modified early twentieth century steam railway, the Wallsend to West Wallsend and Speers Point Tramway, now used as a bike path which is the only direct and visible evidence of this earlier history. The modifications made to the tramway reduce its value as an example of a past technology, but it provides a valuable interpretive element in the landscape.

The latter is a modified cultural landscape typical of the region. It reflects the environmental characteristics that made this area of value to nineteenth century European settlers. There are views to and from the site however there are intrusive elements that reduce the qualities of this landscape. There is minimal evidence of the past industrial uses.

The project area is unlikely to encompass a substantial or significant archaeological resource of either the early nineteenth century farming landscape or the later industrial uses. In respect of the latter most evidence was removed when the site was rehabilitated or is sealed underground.

The project area has peripheral connections only with significant figures or companies. Similarly, it has some connections with the former mining communities, but their focus is on the larger and more intact industrial areas and places.

With the exception of the remnant steam tramway, which is of local significance, already recognised in its LEP listing, the project area has no identifiable cultural significance at either local or state levels.

7. Management of Heritage Value

7.1 Summary of heritage scope and values associated with the project area

The sites, places and views of heritage value within the project area are summaries in Table 4 below:

Table 4: Summary of Heritage Values

Name of heritage item	Description of item's heritage value	Grading of item's heritage value
Former Wallsend to West Wallsend and Speers Point Steam Tramway	This item provides an interpretive element in the landscape of the former industrial use of this area. It has limited research or technological values because of the modifications made to create its current purpose as a bike path. .	Moderate
Former mining sites associated with the Glencore West Wallsend Underground Mine	These former surface sites were associated with mining operations conducted underneath the project area from 1966 onwards. These sites have been demolished and any archaeological potential removed. Below ground elements are now capped and sealed.	Nil

7.2 Management and mitigation outcomes for impacts to Historical Heritage value

The below table provides an analysis of the impacts associated with re-zoning for each of the above items and suggests mitigative or management outcomes.

Name of heritage item	Outline of potential impacts to the item	Suggested mitigative or management outcomes
Former Wallsend to West Wallsend and Speers Point Steam Tramway	Possible physical impacts to heritage curtilage, possible mistaken curtilage boundary on LEP heritage maps, negative impacts to heritage views from construction, lack of community awareness of historical connections.	• Detailed heritage assessment required prior to works in the disputed section of the heritage curtilage (Newcastle LEP item I112), and the section of Lake Macquarie LEP item 92 which is within the project area • That a buffer be respected on either side of the existing bike path to retain some of the natural vegetation • Interpretation of this item be incorporated into the development of the site.
Former Mining sites associated with the Glencore mining operations within the project area	Removal of debris associated with mining, discovery of hazardous mining infrastructure and chemicals on site.	• During the removal of wastes and debris left from the rehabilitation of the mining works, if a substantial and intact relic of that industrial activity be uncovered it should be retained pending an identification and assessment of its cultural values and management requirements by a heritage specialist • Possible inclusion of historical names in future development (streets, parks, suburb name etc) that reflect the older industrial associations of the place

8. Conclusions and Recommendations

8.1 Conclusions of the report

Through the examination of the history associated with the project area, physical inspection of the site, and analysis of the cultural heritage values of the site, this report has determined that the majority of the Link Road Holdings site has no cultural heritage values at either state or local levels. The exception is the modified portion of the former Wallsend to West Wallsend and Speers Point Steam Tramway. This is of local heritage value.

With provision for the management and mitigation of impacts to this heritage item, there would be no loss of cultural heritage value that derives from re-zoning of this land holding. Recognition of the past associations of this place through strategies such as street names would be a desirable outcome that links the present community to the past use of the place and would complement the retention of the tramway, however, this action would have no appreciable impact on the assessed levels of significance or the management of the project area as a cultural landscape.

8.2 Recommendations for future management

Based on the above conclusions, the following recommendations have been developed:

Recommendations	
#1	That it is not necessary to incorporate the alignment of Lake Macquarie Heritage item 92: steam tramway which is within the project area into the master plan as there is a lack of surface evidence remaining in this location;
#2	That prior to works being carried out on areas of heritage curtilage associated with the Steam tramway heritage items a further detailed assessment be carried out by a qualified heritage specialist to assess any archaeological potential associated with and heritage impacts to these curtilages;
#3	That the development of the site considers the impact to heritage value outlined in this report, and considers the mitigative measures outlined in Section 7.2 which would enhance the inherent value of the site;
#4	That in the event of unexpected finds of heritage value are discovered during planning or works on site, that work should cease in this location and that Heritage NSW specialist services, Department of Premier and Cabinet be informed. Based on consultation with Heritage NSW, a qualified heritage specialist should be engaged to assess the find prior to works re-commencing.

9. References

Andrews, Brian (2007). *Coal, Railways and Mines - The Story of the Railways and Collieries of J & A Brown*. Iron Horse Press.

Australia ICOMOS (2013). *The Burra Charter, the Australia ICOMOS Charter for Places of Cultural Significance*. ICOMOS Australia.

Austral Archaeology Pty Ltd (2013). *1A Minmi Road & 12 Sandgate Road Wallsend, NSW: Archaeological Monitoring Results*. Final Report for ADCO Constructions Pty Ltd.

Australian Government (1999). *Environment Protection and Biodiversity Conservation Act 1999*. Australia.

Barney (1997). *Growth Driven by Rich Coal Deposit*, Newcastle Herald (supplement) 11 Nov 1997 page 7.

Biosis (2007). *Archaeological and Cultural Heritage Assessment: Review of West Cliff Area 5 – Longwalls 34-36, Appin, NSW*. Unpublished report for BHP Billiton Illawarra Coal 2007.

Department of Planning and Environment (1979). *Environmental Planning and Assessment Act, 1979*, NSW.

Department of Premier and Cabinet (1977). *NSW Heritage Act 1977*, NSW.

Department of Urban Affairs and Planning. (1996). *NSW Heritage Manual*. NSW.

Frost, S (2005). *Report to LMC Consulting group regarding an assessment for the existence of any evidence of Awabakal cultural heritage or habitation along the route taken for the proposed cycleway from Frederick Street Edgeworth to Ganney Street Wallsend*. Unpublished conservation management plan report prepared for the Awabakal Descendants traditional owners Aboriginal corporation, accessed October 2020, available at http://heritagensw.intersearch.com.au/heritagenswjspui/handle/1/4307

Gray, J.M. & Murphy, B.W. (2002). *Predicting Soil Distribution, Joint Dept. of Land & Water Conservation*. (DLWC) & Aust. Society for Soil Science Technical Poster, DLWC, Sydney.

Heritage Office (former), (2001). *Assessing Heritage Significance*. Heritage Council of NSW.

Heritage Council, (2009). *Assessing Significance for Historical Archaeological Sites and 'Relics'*. Heritage Council of NSW.

IPWEA (2015). *Case Study: Fitzgerald Bridge: replacement, repurposing and retaining history*. Web page by ASSET e-news, Institute of Public Works Engineering Australasia, viewed 4/11/2020 at https://www.ipwea.org/blogs/ipwea-australasia/2015/08/23/case-study-fitzgerald-bridge-replacement-repurposing-and-retaining-history

Kingswell, George H. (1890). *The Coal Mines of Newcastle, N.S.W. Their Rise and Progress*. Printed at the "Herald" office, Bolton Street, Newcastle NSW.

Lake Macquarie City Council (2014). *Lake Macquarie Local Environment Plan 2014*. Lake Macquarie, NSW.

Lake Macquarie City Council (2014). *Lake Macquarie Development Control Plan 2014*. Lake Macquarie, NSW.

Maitland Mercury and Hunter River General Advertiser (1871). *The Wallsend Coal Mines*. Thursday 28 September 1871.

McCarthy, K.A. (1990). *Newcastle Tramways Part 7 The Thrust Westwards: The Wallsend and Plattsburg to West Wallsend Extension of 1909-10*, 'Trolley Wire' No. 242 pp3-14.

Nashar, B (1977). The Geology of the Upper Hunter, Unpublished in-service course notes, University of Newcastle 1977.

Newcastle City Council (2012). *Newcastle Local Environmental Plan 2012*. Newcastle, NSW.

Newcastle City Council (2012). *Newcastle Development Control Plan 2012*. Newcastle, NSW.

NEXUS Archaeology and Heritage (2005). *Assessment of Historical Archaeology: Part of the Corridor of the Former Wallsend-West Wallsend/Speers Point Steam Tramway*. Report for Lake Macquarie Council, Morisset NSW 2264.

Phillips, Ken (2006). *The Politics of a Tragedy: A report on the dangerous state of New South Wales' work safety laws*. Institute of Public Affairs Work Reform Unit.

Staunton, J. H. (1998). *Report of a formal investigation under Section 98 of the Coal Mines Regulation Act 1982 by his Honour Acting Judge J.H. Staunton: Summary of Findings*. NSW government report, NSW.

Umwelt (2006). *Phase 2 Decommissioning and Rehabilitation of New Wallsend No. 2 Colliery*. Unpublished report for Glencore Pty Ltd.

Umwelt (2019). *Hunter River and Muscle Creek Bridge Replacement Project, Muswellbrook*. Review of Environmental Factors report, Newcastle, 2019.

University of Newcastle (2019). *News clipping on Early Wallsend History*. Transcription of item A6725(v) [Unsourced and undated, c.1895-1921] in the Percy Haslam Collection, Archives Rare Books & Special Collections Unit, Auchmuty Library, University of Newcastle.

niche
Environment and Heritage

niche-eh.com

Excellence in your environment

Contact Us

Niche Environment and Heritage
02 9630 5658
info@niche-eh.com

NSW Head Office – Sydney
PO Box 2443 North Parramatta
NSW 1750 Australia

QLD Head Office – Brisbane
PO Box 540 Sandgate
QLD 4017 Australia

Sydney
Brisbane
Cairns
Port Macquarie
Illawarra
Coffs Harbour
Central Coast
Gold Coast
Canberra

Our services

Ecology and biodiversity
Terrestrial
Freshwater
Marine and coastal
Research and monitoring
Wildlife Schools and training

Heritage management
Aboriginal heritage
Historical heritage
Conservation management
Community consultation
Archaeological, built and landscape values

Environmental management and approvals
Impact assessments
Development and activity approvals
Rehabilitation
Stakeholder consultation and facilitation
Project management

Environmental offsetting
Offset strategy and assessment (NSW, QLD, Commonwealth)
Accredited BAM assessors (NSW)
Biodiversity Stewardship Site Agreements (NSW)
Offset site establishment and management
Offset brokerage
Advanced Offset establishment (QLD)