



**REVITALISING
NEWCASTLE**

Newcastle Light Rail Associated Road Upgrades

Technical Paper 5 – Statement of heritage impact

November 2016





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Executive Summary

RPS has been engaged by GHD Pty Ltd on behalf of Transport for NSW (TfNSW) to prepare a Statement of Heritage Impact for proposed work associated with the Newcastle Light Rail project. GHD was commissioned by TfNSW to undertake an assessment of the potential environmental impacts of the proposal. This report will be included in a Review of Environmental Factors prepared for the proposal in accordance with the provisions of Part 5 of the *Environmental Planning and Assessment Act 1979*.

This report assesses the potential impact of the proposed works on listed heritage items and the archaeological resource. The report has been prepared in accordance with relevant legislation, regulations, standards and guidance. In addition, it outlines the relevant environmental and archaeological context, landforms, landscape features, disturbances, legislative context and the nature of the proposed activity.

The proposal includes proposed road upgrades associated with the Newcastle Light Rail project. The road improvements include:

- Selected areas of widening the road within the existing road corridor;
- Reducing the extent of centre road medians;
- Realigning existing traffic lanes;
- Adjusting kerb lines;
- Road resurfacing;
- Changes to footpaths and cycle lanes;
- Changes to line marking and signage

The proposal site is within the curtilage of one heritage item (1161 Stewart Avenue Fig Trees) and spans two heritage conservation areas. The conservation areas are the Hamilton South Garden Suburb Heritage Conservation Area (C3) and the Newcastle City Centre Heritage Conservation Area (C4). Both are listed on the Newcastle LEP 2012 and are of local significance. Other heritage items abutting or within 50 metres of the proposal site range in significance grading from local to state.

No impact to archaeological deposits at the Palais Royale and Saunders' Shop has been identified due to the previous land uses of the area and the limited nature of the subsurface works.

During construction, if historic relics are encountered in the proposal area, works must cease in the affected area and the Heritage Council must be notified in writing in accordance with s146 of the Act. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area.

The s146 provisions should be outlined in a cultural heritage management plan prepared as part of the construction environmental management plan. The cultural heritage management plan would provide detailed guidance on heritage induction, exclusion fencing, vibration monitoring, unexpected finds protocols, reporting, and the management of historic heritage during the construction process.

Potential impacts from vibration have been assessed and are to be managed by using vibration monitoring as outlined in the German Standard DIN4150: Part 3-1999 Effects of Vibration on Structure (DIN 1999). Works are to cease if these vibration values are exceeded and alternate work methods used to reduce vibration.

The following recommendations are intended to provide general advice to mitigate against harm to heritage items in the context of the available proposal information. As a result of implementing these measures, further mitigation actions may need to be undertaken as required.

Recommendation 1

A cultural heritage management plan is to be prepared as part of the construction environmental management plan. The cultural heritage management plan would provide detailed guidance on heritage induction, exclusion fencing, vibration monitoring, unexpected finds protocols, reporting, and the management of historic heritage during the construction process.

Recommendation 2

A heritage induction must be carried out in advance of the proposed works. All relevant staff, contractors, and subcontractors will be made aware of their statutory obligations for heritage under the *Heritage Act 1977* through the site induction and toolbox talks.

Recommendation 3

If during works, substantial intact archaeological relics of state or local significance are uncovered, then, works must cease in the affected area and the Heritage Council must be notified in writing in accordance with s.146 of the Act. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area. Guidance on unexpected finds and reporting processes will be provided in the cultural heritage management plan.

1.0 Introduction

RPS has been engaged by GHD Pty Ltd on behalf of Transport for NSW (TfNSW) to prepare a Statement of Heritage Impact for road upgrades associated with the Newcastle Light Rail Project. GHD was commissioned by TfNSW to undertake an assessment of the potential environmental impacts of the proposal. This report will be included in the Review of Environmental Factors prepared for the proposal in accordance with the provisions of Part 5 of the *Environmental Planning and Assessment Act 1979*.

1.1 Background

The NSW Government is revitalising the Newcastle city centre. The revitalisation will reinforce the city's role as a 21st century regional centre, unlock the potential of the city centre as a place that can meet the needs of the current and future community, and boost economic activity across the Hunter Region.

The Newcastle Urban Transformation and Transport Program (NUTTP) has been established to deliver the NSW Government's \$460 million commitment to revitalise the city. The program aims to bring people back to the city centre by strengthening connections between the city and the waterfront, creating employment opportunities, providing more public space and amenity, and delivering better transport. The NUTTP comprises:

- (1) Urban redevelopment/renewal projects led by UrbanGrowth NSW; and
- (2) The transport program led by Transport for NSW.

1.2 The proposal

The proposal is for road improvements at three locations (**Figure 1**):

- Stewart Avenue including the Hunter Street/ Stewart Avenue intersection and King Street/ Stewart Avenue intersection; Hannell Street/ Throsby Street intersection; Honeysuckle Drive;
- Steel Street/ Hunter Street intersection; and
- Darby Street/ King Street intersection.

The proposal includes:

- Selected areas of widening the road within the existing road corridor;
- Reducing the extent of centre road medians;
- Realigning existing traffic lanes;
- Adjusting kerb lines;
- Road resurfacing;
- Changes to footpaths and cycle lanes; and
- Changes to line marking and signage.

1.2.1 Hannell Street and Stewart Avenue

Stewart Avenue/ King Street intersection

The following intersection upgrade is proposed with associated line mark realignment:

- Extend existing right turn lane on Stewart Avenue into King Street by about 35 metres;
- Extend right turn lane on Parry Street into Stewart by about 100 metres;

- Right turn into Wood Street from Parry Street to be removed;
- Right turn lane extension on King Street into Stewart Avenue by about 30 metres;
- Right turn lane extension on King Street into National Park Street by about 45 metres; and
- Trees in median on King Street to be removed.

Stewart Avenue/ Hunter Street intersection

The following intersection upgrade is proposed with associated line mark realignment:

- Additional left turn lane into Hunter Street (westbound) about 50 metres;
- Left turn lane into little King Street (eastbound) about 40 metres;
- Extend existing right turn lane on Hunter Street into Stewart (northbound) by about 60 metres;
- Footpath widened on western side to 4.5 metres north of Hunter Street along Stewart Avenue; and
- Eight parking bays on north east corner of intersection removed.

Stewart Avenue/ Honeysuckle Drive

The following intersection upgrade is proposed with associated line mark realignment:

- Additional right turn lane into Honeysuckle Drive (about 80 metres);
- Footpath widened on western side to 4.5 metres north of Hunter Street along Stewart Avenue;
- New designated left turn bay into Bishops Gate St (about 45 metres);
- New designated slip lane into Honeysuckle Drive (about 145 metres); and
- Left turn lane on Honeysuckle Drive into Stewart Avenue to be extended about 105 metres.

Hannell Street/ Throsby Street intersection

The following intersection upgrade is proposed with associated line mark realignment:

- Extend existing right turn lane on Hannell Street into Throsby Street by about 55 metres;
- Designated left turn lane on Throsby Street into Hannell Street (about 42 metres) with five parking bays to be removed to accommodate left turn lane; and
- Six parking bays on westbound traffic along Throsby Street to be removed.

Honeysuckle Drive

The proposal includes new access for proposed depot to be provided off Honeysuckle Drive.

1.2.2 Steel Street/ Hunter Street intersection

The following intersection upgrade is proposed with associated line mark realignment:

- New designated right turn lane on Hunter Street into Steel Street (about 55 metres);
- New through and left turn lane on Hunter Street into Steel Street with four parking bays removed;
- New concrete median on Steel Street north of Hunter Street;
- Existing right turn lane on Hunter Street into Steel Street to be extended about 60 metres;
- Ten parking bays to be removed on eastbound direction to accommodate new eastbound lane and proposed bus stop relocation;

- New design right turn lane on Hunter Street into Steel Street (about 65 metres);
- Ten parking bays to be removed along the westbound approach to the intersection;
- Westbound bus stop be removed;
- Designated right turn bay created on Steel Street into Hunter Street; and
- Through and left turn lane created with about four parking bays removed.

1.2.3 Darby Street/King Street intersection

The following intersection upgrade is proposed with associated line mark realignment:

- New designated left turn slip lane on Darby Street into King Street (about 55 metres)
- Three parking bays on King Street (westbound) to be removed to accommodate slip lane;
- Existing right turn bay on Darby Street into King Street to be extended by about 25 metres. Existing parking in southbound direction on Darby Street to be removed to accommodate extension;
- Existing left turn on Darby Street into Hunter Street to be extended by 15 metres with two parking bays to be removed to accommodate extension; and
- Existing left turn through lane to be extended 15 metres with six parking bays to be removed.

1.2.4 Construction of the proposal

The proposal includes the following activities:

- Mobilisation and site establishment including construction boundary hoardings and traffic barriers;
- Property survey and utilities adjustment including the adjustment of property boundaries (where required) and relocation of services;
- Vegetation clearing and trimming including the removal of vegetation where required, topsoil stripping and stockpiling and structure removal where required;
- Earthworks, formation of road alignment including excavation of soil and rock, rock breaking, loading, haulage, compaction of fill areas and grading;
- Installation of drainage infrastructure including excavation of trenches and pits, delivery and placement of precast pipes and pits, trench filling, and compacting;
- Paving including concrete sawing, delivery of raw materials and placement of surface material;
- Re-surfacing works including milling the asphalt to expose the underlying concrete and laying new asphalt;
- Site restoration/removal including removal of all plant, signage and left over materials;
- Installation of signage and other road furniture; and
- Line marking.

The proposal would involve the following minor earthworks:

- Minor excavations for the installation of the new median along Stewart Avenue, between Parry Street/ King Street and the northern edge of the existing rail corridor; and
- Minor excavation for relocation and/or provision of new signals and any utility relocations.

1.3 Methodology

This Statement of Heritage Impact has been prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Burra Charter)* (2013) and associated Guidelines as well as best practice standards set by the NSW Heritage Branch. Best practice guidance followed in this report includes *Assessing Heritage Significance* (Heritage Officer (former), 2001) and *Statements of Heritage Impact* (Heritage Office and Department of Urban Affairs & Planning (former), 1996, revised 2002).

Additional advice on heritage is provided in the *City of Newcastle Heritage Strategy* (Newcastle City Council 2014:22-25), the *Newcastle Archaeological Management Plan Review* (Higginbotham 2015) and the *Newcastle Archaeological Management Strategy* (City of Newcastle 2015).

A SoHI is intended to assess the impact, or potential for impact, of a proposal on heritage items or relics. It should be noted that the construction methodology for the proposal would be finalised by the contractor engaged to do the works, and as such the following advice should be reassessed if changes are made.

The document is intended to inform the preparation of a heritage management plan that would manage the heritage resource during the construction process.

1.4 Authorship

This report has been prepared by RPS Cultural Heritage Consultants Ben Slack and Tessa Boer-Mah and reviewed by Senior Manager Cultural Heritage Erin Williams.



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TITLE : **FIGURE 1: THE PROPOSAL**

LOCATION :
NEWCASTLE

DATUM:GDA 1994
PROJECTION: GDA 1994 MGA Zone 56

DATE : **30/09/2016**
PURPOSE: **HERITAGE**

VERSION (PLAN BY): AA3 (tessa.boer-mah)

PATH: J:\JOBS\124K\124007 Newcastle\10 - Drafting\Arcgis Map Documents\24-25 Roads\124007 Figure 1 NLR Proposal AA3 20160930.mxd

CLIENT: **GHD**
JOB REF: **PR124007**

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2.0 Historical background

This section provides an overview of the historic occupation of Newcastle by European and later settlers. The historic context has been used to identify historic archaeological areas specific to the proposal site and was drawn upon for the impact assessment.

2.1 Early settlement 1801-1820s

The first reference to the area now known as Newcastle was in 1797 when Lieutenant John Shortland, while returning from pursuing escaped convicts, noticed the small island of Nobbys (Goold 1981). Drawing into the inlet behind the island, Shortland found the entrance to a large river which he named in honour of Governor Hunter (Newcastle and District Historical Society. n.d.:6). While surveying the area he noticed lumps of coal near present day Fort Scratchley and collected samples before returning to Sydney (Windross and Ralston 1978).

In 1801 Governor King sent a small expedition to investigate the resources of what was then known as Coal River (now Hunter River). The subsequent report detailed the potential for a salt works, the presence of coal and an abundance of shell for the production of lime. On this advice a small settlement was established but it failed after only six months because of inadequate management. In 1804 Governor King again sought to establish a convict settlement at what he called King's Town (Windross and Ralston 1978:9) with a small party of 20 soldiers and a similar number of convicts. These convicts were part of the Irish Rebellion at Castle Hill with their relocation required because of the perceived danger to the settlement at Sydney (Turner 1997:7).

The new settlement at Newcastle provided an additional location for the housing of convicts and a place for the procurement of timber, coal and lime for Sydney. With the only method of transport being by sea, loading facilities and safe anchorages for boats were critical to the success of the settlement.

Records indicate that by 1804 there was a stone wharf, 108 feet long and 13 feet wide being built at the end of present day Watt Street (Goold 1981:12). This wharf was likely to have serviced an early recorded coal yard in the vicinity and later the Convict Lumber Yard constructed in 1817.

In 1812 when Governor Macquarie visited the settlement it was still small with a population of about 100. By 1815 the size of the settlement had swollen with an influx of convicts following the closure of Norfolk Island (Turner 1997:8). This growth continued and by 1821 there were 1,169 people living in what was described as a camp. The convicts were employed predominantly in public works, most importantly the construction of a breakwater to Nobbys to provide better protection for shipping. The remainder of the convicts were employed in the timber industry, lime production and coal mining (Turner 1997:9). The Convict Lumberyard associated with the convict employment in processing timber is bounded to the south by present day Scott Street and to the north Bond Street.

In his investigation of the penal settlement of Newcastle, J.T. Bigge (1822:282) described the settlement as a camp with 13 houses belonging to the government and 71 occupied by convicts. Bigge also described that prisoners who either could not find accommodation or who could not be trusted at large, were housed in wooden barracks that had been recently built on the order of Major Morisset (Bigge 1822:282).

In 1823 Governor Macquarie announced that Newcastle would no longer be a convict settlement and that role would be delegated to Port Macquarie further north. Following this, the population of Newcastle declined and the large barracks that had been constructed to cater for a thousand men now only housed one hundred. Despite the change in the role of Newcastle, convicts were still assigned there until 1848. Works on

the breakwater slowed and the stands of timber were no longer readily available (Turner 1987:11). The area occupied by the convict huts was centred on present day Watt Street.

The need for a reliable source of food for the small settlement was partially met by the establishment of a Government Farm. Limited information is known of the Government Farm, which occupied much of the land east of Cottage Creek and to the west of the Newcastle CBD. Also known as the Commandant's Farm it was first mentioned by Governor Lachlan Macquarie in 1812. The evidence is that the farm grew wheat and maize, had an overseer who had his own farm nearby and that convicts were used for labour on the farm (Archaeological & Heritage Management Solutions Pty Ltd 2004). Reverend Lancelot Threlkeld, who later on provided a mission at Lake Macquarie for the Aboriginal people, was recorded as living at a cottage in the area of the Government Farm (AHMS 2004:18).

Despite the loss of Newcastle as a significant penal settlement, the 1820s saw important developments. In 1827 Henry Dangar, a surveyor, drew up a layout for a town plan with 192 leasehold allotments established (Goold 1981:26). Other improvements included the building of a brick flour mill at the present day Obelisk location above King Edward Park; the building of a parsonage; and the construction of the first Court House in Church Street (Goold 1981:22).

2.1.1 Government Farm

The area north of Hunter Street and west of Steel Street was part of the Government Farm, also known as the Commandant's Farm. In evidence provided to the Bigge report, Brevet Major Morisset, Commandant at Newcastle, described the Government Farm as follows:

'There is a farm belonging to the Government on the river at some distance from the town over which is placed an overseer, who has a farm of his own in the neighbourhood; and to him I give up my four men in consideration of a certain quantity of wheat and maize for my use which last year amounted to 350 bushels – I have made this arrangement rather than conduct any farm on account of government or have anything to do with farming transactions' (Bigge 1822).

This evidence demonstrates that the farm grew wheat and maize, had an overseer who had his own farm nearby and that convicts were used for labour on the farm. 'A certain quantity' implies that it was a part of the yield rather than the whole, which also in turn implies that the farm was productive.

In excavations conducted by AHMS at the Palais Royale (2011) (Government Farm Archaeological Site) sandstone footings were uncovered which were considered evidence of 'the Commandant's Cottage'. This claim is attached to a number of buildings in the Newcastle area, as there were 13 different Commandants of the penal colony between 1804-1821; all of whom occupied different residences during their respective tenures (AHMS 2011).

2.2 Newcastle town formation and subsequent development

From the 1820s onward the population of Newcastle grew and the town development expanded accordingly. There were four areas that were developed and of relevance to this study: the Cottage Creek Cemetery, the former (second) Honeysuckle Railway Station, the Saunders Shop, and the Hamilton South Garden Suburb.

2.2.1 Cottage Creek Cemetery

Due to the rise in population, Newcastle required a new cemetery and a site beside Cottage Creek was selected for this purpose.

The cemetery was known variously as Honeysuckle Point Cemetery, Cottage Creek Cemetery and Newcastle West Cemetery. Prior to use as a cemetery, in the early period of Newcastle's settlement, it was part of the area known as Government Farm. The first burial took place in what was known as Cottage Creek Cemetery in 1840. The cemetery comprised a Wesleyan Methodist/Presbyterian section to the west and a Roman Catholic section to the east.

The northern portion of the cemetery was resumed in 1854 for the construction of the Great Northern Railway, which cut through the north eastern corner of the Methodist/Presbyterian burial ground and the north western corner of the Roman Catholic burial ground. It is not known whether bodies or any unmarked graves were located on the resumed land or whether the railway was built over the top of them (Plate 1).

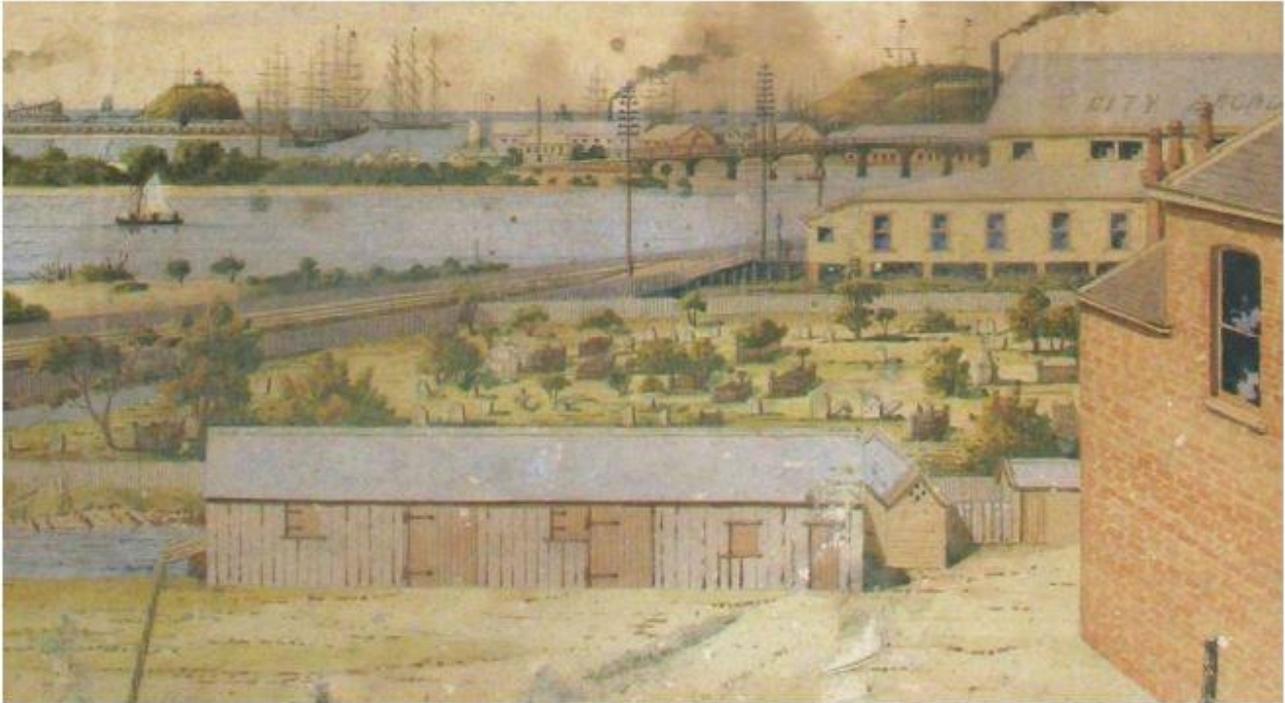


Plate 1 “View from Tower A.J.S Bank, Wickham, NSW” by Alfred Sharp in 1894 (Courtesy Coal River Working Party). The cemetery is mid frame with the railway to the left.

The cemetery closed around 1916 with the internments exhumed for reburial at Sandgate Cemetery. It appeared the exhumations were incomplete as detailed in a report on an archaeological excavation in 2001. Those excavations, prior to the construction of the Ibis Hotel, revealed human bone, coffin fragments and grave cuts still *in situ*, despite all grave monuments and above-ground evidence of the cemetery having been cleared (AHMS 2001). The approximate extent of the cemetery and archaeological features is displayed in Figure 5.

2.2.2 Railway era and the former (second) Honeysuckle Railway Station

The Hunter Valley Railway Company was formed in 1853 to facilitate the movement of produce from the Hunter Valley to the docks of Newcastle for shipping. For construction of the line, Honeysuckle Point including the area of present day Worth Place, was resumed for the location of the railway terminus (C & M.J. Doring 1991:11).

The Company was short-lived and by 1854, shortly after awarding the contract for the Honeysuckle Point to Hexham Railway, it failed. The first line commenced at Honeysuckle Point (near present day Civic Station) and proceeded west to Hexham (near present day Tarro Station). The railway, on leaving Honeysuckle Point Station, headed in a westerly direction, skirting the edge of the tidal waters and crossing Cottage Creek on

two single line wooden viaducts. Of note in the construction of the line was that in the area of Hexham Swamp, the problem of inundation was solved by laying brushwood (ti-tree) bed as a foundation (Webber. nd:98). Known as the Great Northern Railway, it was opened on 30th March 1857 by the Governor General Sir William Dennison in front of an estimated crowd of 1,500 people. Following the opening, the Governor General travelled by train on the 16 ½ mile journey.

In 1857, the NSW Government assumed control of the construction of the Great Northern Railway following the failure of the Hunter Valley Railway Company. Since 1849, the potential for railways to accelerate economic development along the rail route was recognised and the Government recognised the potential of a government-owned railway to stimulate the growth of the Newcastle coalfields.

In 1857, a new section extending the line west to East Maitland was constructed and in 1858 the line was again extended east to Newcastle Station and west to Maitland Station (Engineering Heritage Aust. The Great Northern Railway 2006:4). From that point, expansion of the line was rapid; by 1875 the line had reached Murrurundi and by 1885 Glen Innes and Narrabri (NSW Railways Thematic History:43).

The eastward extension of the railway in 1858 incorporated a level crossing at present day Merewether Street. The presence of the low timber Australian Agricultural Company (AA Company) Bridge resulted in lowering the ground surface for the new railway to pass underneath. This caused repeated problems with flooding and led to Government pressuring the AA Company to replace the wooden bridge with a superior iron one (Webber. nd:100). A level crossing was also installed at Market Street.

The expansion of the railway network was dependent on the availability of workshops for maintenance and the construction of additional rolling stock and in support of this, Honeysuckle Point became a focal point for rail infrastructure and workshops. An 1857 drawing showed two large structures and a number of smaller ones in the area of Honeysuckle Point on the northern side of the rail line near present day Worth Place. Honeysuckle Point remained the centre for building and maintaining rolling stock for the next 100 years (C & M.J. Doring 1991:5).

2.2.2.1 Honeysuckle Railway Station 1857 – 1872 (original)

The first train terminus was at Honeysuckle Point, near the present day Civic Station footbridge on the Hunter Street side. It is described as a timber building (43 feet x 10 feet) with a wooden platform (118 feet x 6 feet). Other structures associated with the station were a run around loop; two road engine houses; two road carriage sheds; and a forge shop and store (Webber. n.d: 96-97). The decision to terminate the railway at Honeysuckle rather than further east was due to the presence of the low AA Company Bridge and a series of coal carrying tramways, together with privately owned land and properties (McKillop and Sheedy 2008:17).

The first staff appointed included: 1 station master; 1 head porter; 1 driver; 1 fireman; and 1 cleaner.

2.2.2.2 Honeysuckle Railway Station 1872 – 1938 (second)

The second Honeysuckle Station was built approximately 700 metres to the west of the original station. Constructed in 1872, it was demolished around 1938. The buildings described as being associated with the Station included a goods shed, office, jib crane, parcels room, waiting room, boat house, overbridge, signal box, and a loading box (C & M.J. Doring 1991: Sheet 6).

Suters Architects (1997 Inventory #1037) described Honeysuckle Point Station (second) as having two staggered brick-walled platforms, either side of a double track. The southern platform had a brick station building facing Hunter Street, opposite Steel Street, as well as lavatories, goods shed, etc. The northern platform was further east, built on the edge of the causeway embankment, and had a small wharf for passengers arriving by boat. Passengers crossed between platforms via an ornate iron over-bridge.

The station was closed in February 1936 with the opening of Civic and Wickham Railway Stations. The station was demolished around 1938, however the ornate wrought and cast iron bridge remained until 1952 (C & M.J. Doring 1991:322).

Recent works have located the footings of the Honeysuckle Railway Station (1872-1938) on the north eastern boundary and have identified the footings associated with this structure (RPS 2014).

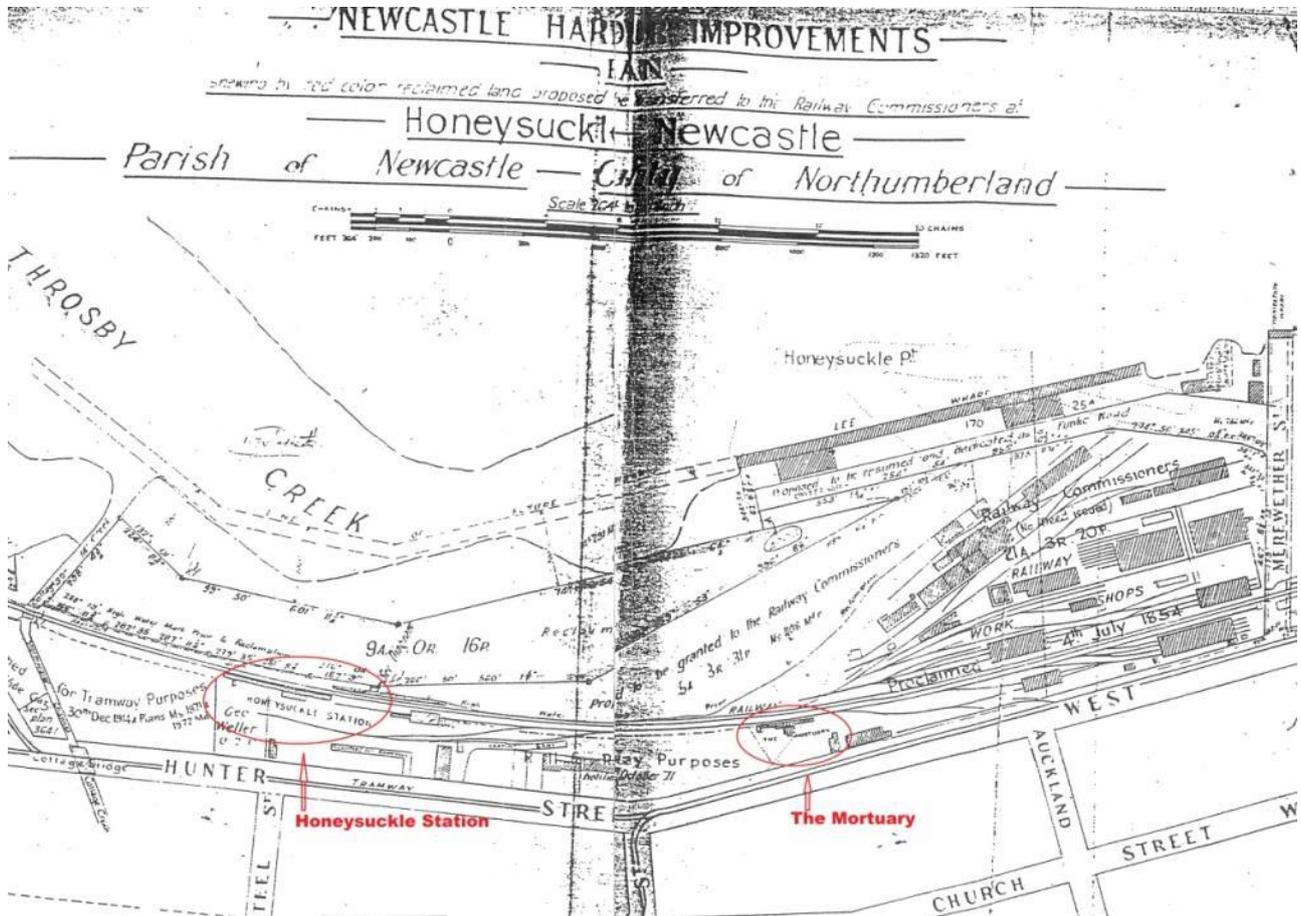


Plate 2 Reproduction of map for Honeysuckle Newcastle showing the second Honeysuckle Station (Source: C & M.J. Doring 1991 from State Rail Survey Map 11 February 1916)

2.2.3 Saunders' Shop, Corner of Hannell Street and Bishopsgate Street

John Saunders built the Victorian Italianette style terrace house in 1890 on the corner of Hannell and Bishopsgate Streets. In late 1906 an impressive two storey commercial and residential building was constructed to accommodate John Saunders' commercial venture (EJE 2011) (Plate 2). Saunders' Shop continued operations until 1923 when the site, including the shop and house, was granted to Tooheys Limited who converted the house into the Criterion Hotel (Plate 3, Plate 4). Additionally there were six unidentified buildings noted in the ERM (2000) report. It is unclear when these items were constructed and demolished as no standing structures are left within this locality.



Plate 3 Saunders' Shop and house (EJE Heritage 2011)



Plate 4 Aerial photo taken in 1920 showing Saunders' Shop and the Criterion Hotel



Plate 5 Criterion Hotel and Saunders' Shop to the right (Newcastle Herald)

This area has been subject to previous roadworks and archaeological monitoring due to the discovery of cellars associated with the late 19th century structures known as Saunders Shop and Saunders House (ERM 2000). Due to its long history in Newcastle, the site was deemed to have high archaeological potential and heritage significance and archaeological remains were likely to have a high level of intactness.

Monitoring and excavation of debris material occurred in March 2000 and revealed very few artefacts. In 2011 EJE was commissioned to prepare a Statement of Heritage Impact for the area which concluded that the area containing Saunders Shop held no intrinsic heritage significance beyond the previously demolished buildings. Although the excavation revealed few artefacts, the extent and length of time the site was occupied means there is potential for archaeological material to remain in the area.

2.2.4 Hamilton South Garden Suburb and the Australian Agricultural Company

The Australian Agricultural Company was formed in London in 1824 to seek pastoral opportunities in the colony of New South Wales. The initial focus was on wool, however, following the J.T. Bigge Report (1822) criticising the operation of Government coal mining in Newcastle, the report's recommendation that the fledgling industry should be privatised was acted upon. The AA Company was granted 890 hectares of coal-bearing land to foster the development of a private coal industry (Campbell, Brougham and Caldwell 2009:1). Included in that grant was harbour front land that stretched from present day Brown Street to Merewether Street; this land was intended for access to the foreshore and shipping facilities (Webber and Wylie 1968:55). In 1831 the Company opened its first pit, the A Pit, at the corner of present day Brown and Church Streets, Newcastle. This mine was the first privately owned and appropriately equipped coal mine in Australia (Campbell, Brougham and Caldwell 2009:2). The AA Company was awarded subsequent land grants which covered large areas of Newcastle.

By the early 1900s the AA Company had finished coal mining in the Hamilton area and set about plans to subdivide and sell off its excess land. The vision for this subdivision was to create a Garden Suburb, a town

planning approach which was adopted during the early 20th Century in Australia which derived from the English and American concepts of the Garden City. By 1914 prominent architect and planner Sir John Sulman was working for the AA Company to produce plans and layouts for the suburb. The proposed subdivision was focussed around three main avenues: Stewart, Parkway and Gordon (Colin Brady Architecture and Planning 2002; Walker 1997). The plans were produced to a high level of detail and a plan for the tree plantings along Stewart and Gordon Avenue stipulated that the trees be planted a half chain apart (33 feet/10 metres) (Plate 6).

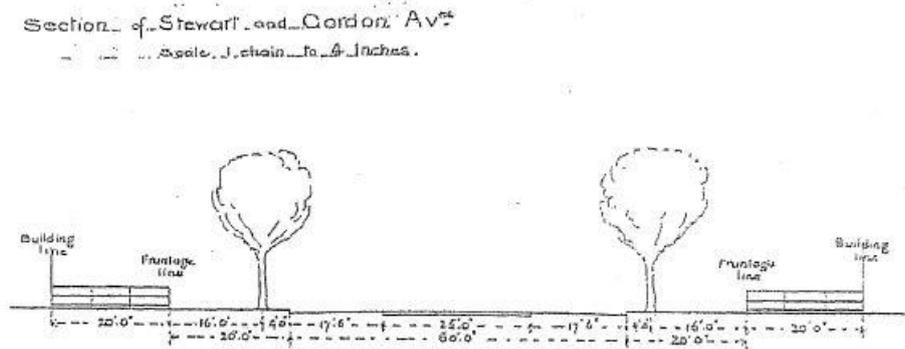


Fig. 9 J. Sulman, Section of Stewart and Gordon Aves. [Reduced scale]
Ref. 131/15/330 Australian Agricultural Company Correspondence, Noel Butlin Archive, ANU

This sketch accompanied a letter 26 February, 1913 to Colonel Ranclaud, A.A.Co. Sulman recommended that trees be planted half chain (33 ft / 10.m) apart, fitted to the dimensions "if the tree will not subdivide exactly to half chain distances apart from road to road along Gordon Avenue, they will of course have to be fitted in as nearly to that dimension as appropriate".

Plate 6 Plan of Tree Plantings along Stewart and Gordon Avenue Stipulating Trees should be planted 10 metres apart (J. Sulman 1914, reproduced from Colin Grady Architecture and Planning)

2.2.5 Palais Royale (Government Farm Archaeological Site)

Upon European settlement in Newcastle the Palais Royale Dance Hall/Government Farm Archaeological Site (684 Hunter Street) was part of the Government Farm, also known as the Commandant's Farm. At the northern boundary of the lot was the original terminus of the Great Northern Railway Line, Honeysuckle Railway Station (Office of Environment and Heritage 1996).

In the evidence to the Bigge report in January 1820, Brevet Major Morisset, Commandant at Newcastle, described the Government Farm as follows:

"There is a farm belonging to the Government on the river at some distance from the town over which is placed an overseer, who has a farm of his own in the neighbourhood; and to him I give up my four men in consideration of a certain quantity of wheat and maize for my use which last year amounted to 350 bushels – I have made this arrangement rather than conduct any farm on account of government or have any thing to do with farming transactions" (Bigge 1822).

This evidence demonstrates that the farm grew wheat and maize, had an overseer who had his own farm nearby and that convicts were used for labour on the farm. "A certain quantity" implies that it was a part of the yield rather than the whole, which also in turn implies that the farm was productive.

In excavations conducted by AHMS at the former Palais Royale, sandstone footings were uncovered which were hailed as "the Commandant's Cottage". This appellation is attached to a number of buildings in the Newcastle area, as there were 13 different Commandants of the penal colony between 1804-1821, all of whom occupied different residences during their respective tenures (AHMS 2004).

2.3 Land use and previous geotechnical investigations

The proposal site has previously been used as a rail and road corridor, and footpath, and contains related structures and infrastructure. The results from the geotechnical assessment conducted for the Newcastle Light Rail show that the previously disturbed ground extends to 0.7 - 0.8 m below the road pavements (RCA Australia 2015:7). A selection of geotechnical testing locations has been summarised in Table 1. The selection of sites was based on proximity to areas of archaeological interest or where there were changes in subsurface soils which assisted with the archaeological assessment. The RCA Australia report (2015) should be referred to directly if geotechnical results are required for other purposes.

Table 1 Geotechnical Testing

Location	Test Pit / Bore hole #	Results
Civic Theatre	BH18	Borehole through road pavement near Civic Theatre. Concrete to 0.32 metres, then fill comprised mainly of sand (0.32 - 0.7 metres). Sand from 0.7 - 7.2 metres, followed by clay and sand from 7.2 - 8.95 metres.
Wolfe Street	BH13	Borehole through road pavement near Wolfe Street. Pavement (asphaltic concrete) to 0.35 metres, then fill, gravel and sand from 0.35 - 0.8 metres, followed by sand from 0.8 - 3.9 metres, followed by clayey sandy silt 3.9 - 5 metres. Sandstone encountered from 5 metres onwards.

The results of the geotechnical testing show that while there were high levels of disturbance in the upper layers, natural sand layers may be present from 0.7 metres below ground level. Depending on the historic sand dune movement, archaeological material may be present in the natural sand layers and this has been identified in several archaeological excavations (AHMS 2004; AHMS 2011; ERM 2000). Fill layers also have the potential to contain historic archaeological material.

3.0 Heritage significance assessment framework

3.1 Basis of assessment of heritage significance in NSW

The following section provides an overview of the relevant legislative framework relating to the protection and management of historic heritage in NSW. This overview is provided for information rather than as legal advice.

The heritage registers list items and places considered to be of heritage significance at the national, state, or local government level. The listing reflects the level of significance of that heritage item or place.

Acknowledged heritage items and places are recorded in statutory and non-statutory registers held at the Federal, State and local level depending on their level of significance. Internationally significant sites of 'outstanding universal value' are inscribed in the World Heritage List (WHL) and in turn, such sites are usually recognised through their inclusion on Federal and state-level registers.

Federal designations include the National Heritage List (NHL) and the Commonwealth Heritage List (CHL) created by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Both registers are maintained by the Department of Environment and Energy and are available to view on an online database, the Australian Heritage Database. The NHL includes natural, historic and Indigenous places that are of outstanding national heritage value to the Australian nation. The CHL protects natural, Indigenous and historic heritage places on land owned or leased by the Commonwealth or a Commonwealth Authority. To reach the threshold for the NHL, a place must have 'outstanding' heritage value to the nation whereas to be entered on the CHL, a place must have 'significant' heritage value.

Heritage places of state significance are included on the State Heritage Register (SHR) maintained by the Heritage Branch. Places included on the SHR are available on an online database, the NSW Heritage Inventory database; however, it should be noted that the inventory includes items of state and local significance in NSW, it may not necessarily be comprehensive and inclusion on the inventory does not carry statutory weight in its own right. In order to reach the threshold for inclusion in the SHR, a place needs to meet one of more of the heritage criteria identified by the Heritage Council of NSW. The ultimate decision on whether a place is included on the State Heritage Register is made by the Minister for Heritage.

Places of local significance are included in heritage schedules in Local Environmental Plans (LEPs).

In addition to legislative protection there is guidance provided by *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013* (Australia ICOMOS 1999).

3.1.1 Heritage Act 1977 and the NSW Heritage Branch

Historical archaeological relics, buildings, structures, archaeological deposits and features are protected under the *Heritage Act 1977* (and subsequent amendments) and may be identified on the State Heritage Register (SHR) or by an active Interim Heritage Order.

The Heritage Council of NSW, constituted under the *Heritage Act 1977*, is appointed by the Minister and is responsible for heritage in NSW. The Council reflects a cross-section of community, government and conservation expertise with the NSW Heritage Branch being the operational arm of the Council. The work of the NSW Heritage Branch includes:

- Working with communities to help them identify their important places and objects;
- Providing guidance on how to look after heritage items;
- supporting community heritage projects through funding and advice; and

- Maintaining the NSW Heritage Database, an online list of all statutory heritage items in NSW

The 1996 NSW Heritage Manual, published by the NSW Heritage Branch and the then Department of Urban Affairs and Planning, provides guidelines for conducting assessments of heritage significance. The Manual includes specific criteria for addressing the significance of an item and this assessment has been completed in accordance with those guidelines. These criteria are addressed more fully in Section 7 of this report.

Historical archaeological relics, buildings, structures, archaeological deposits and features with State heritage significance are protected under the *Heritage Act 1977* (and subsequent amendments) and may be identified on the SHR or by an active Interim Heritage Order (IHO). Approval must be gained from the NSW Heritage Council when making changes to a place listed on the SHR or a place covered by an IHO. That approval is sought through lodgement of a s.57 or a s.60 application prior to commencement of works.

Section 170 of the *Heritage Act 1977* requires each State Government agency to keep records of heritage items owned or operated by it. The management of s170 Register items needs to be in line with the *State Agency Heritage Guide* (2001) under the *Heritage Act 1977* s.170A (3), and for rail infrastructure, also the *Asset Management Strategy* (2011).

Approval from the NSW Heritage Division is required when excavating any land in NSW where there is potential of disturbing an archaeological relic (of non-Indigenous origin). Under the *Heritage Act 1977* a 'relic' is defined as any deposit, artefact, object or material evidence that:

- a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
- b) is of State or local heritage significance

The application type required to gain approval is dependent on whether the site is of local or state significance. The following provides an overview.

3.1.1.1 [Archaeological sites of state significance](#)

The following approvals may apply to archaeological sites of state significance:

Section 57 Application (Standard Exemption) – There are 17 standard exemption types, the one pertaining to the excavation of archaeological sites is detailed under Standard Exemption 4 and may be applied for if it is demonstrated that:

- (a) an archaeological assessment, zoning plan or management plan has been prepared in accordance with Guidelines published by the Heritage Council of NSW which indicates that any relics in the land are unlikely to have State or local heritage significance; or
- (b) the excavation or disturbance of land will have a minor impact on archaeological relics including the testing of land to verify the existence of relics without destroying or removing them; or
- (c) a statement describing the proposed excavation demonstrates that evidence relating to the history or nature of the site, such as its level of disturbance, indicates that the site has little or no archaeological research potential.

Section 60 Application – this is required for items on SHR listed land where there is a likelihood that identified State heritage significant items/s will be impacted on as a result of the proposal.

3.1.1.2 [Archaeological sites of local significance](#)

The following approvals may apply to archaeological sites of local significance:

Section 139 Application (Exception 1B) – This exception can be applied for where the excavation or disturbance of land will have a minor impact on archaeological relics including the testing of land to verify the existence of relics without destroying or removing them.

Section 139 Application (Exception 1C) – This exception can be applied for where the site has little likelihood of relics or no archaeological research potential.

Section 140 Application – this is required to excavate or disturb land that will or is likely to result in the discovery, movement and/or destruction of relics (that are not State heritage).

If during works substantial intact archaeological relics of State or local significance are identified, works must cease in the affected area and the Heritage Council must be notified in writing in accordance with s146 of the Act. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area.

3.1.2 Local heritage protection

The EP&A Act and its regulations, schedules and associated guidelines require that environmental impacts are considered in land use planning and development assessment. The EP&A Act defines ‘environment’ as ‘...all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings.’ The environment therefore includes cultural heritage. Heritage items and places are described in LEPs and shown on the heritage maps which accompany the LEP. All LEPs contain clauses dealing with heritage conservation. Under the EP&A Act all local governments in NSW are required to maintain a register of heritage places as Schedule 5 under their LEP.

The proposed works would be carried out under the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP). This legislation is intended to facilitate the delivery of infrastructure across NSW. The proposed works are development that is permissible without consent, however a requirement of the EP&A Act is that assessment be conducted under Part 5 (environmental assessment).

Under the Infrastructure SEPP, a public authority or a person acting on behalf of a public authority, must not carry out development that would impact on a heritage item unless the authority or the person has:

- (a) had an assessment of the impact prepared, and
- (b) given written notice of the intention to carry out the development, with a copy of the assessment, to the council for the area in which the heritage item or heritage conservation area (or the relevant part of such an area) is located, and
- (c) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.

3.1.3 Environmental Planning and Assessment Act 1979 (EP&A Act)

The EP&A Act regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage. Assessment documents prepared to meet the requirements of the EP&A Act including Reviews of Environmental Factors, Environmental Impact Statements and Environmental Impact Assessments, should address cultural heritage where relevant. Statutory planning documents such as Local Environment Plans and State Environmental Planning Policies typically contain provisions for heritage.

3.1.4 The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013

The *Burra Charter* is a set of best practice principles and procedures for heritage conservation. It was developed by Australia ICOMOS (International Council for Monuments and Sites), the Australian group of the international professional organisation for conservation. Although without statutory weight, the *Burra Charter* underpins heritage management in New South Wales and Australia. The policies and guidelines of the Heritage Council of NSW and the NSW Heritage Office are consistent with and guided by the *Burra Charter*.

3.2 Approvals process for State owned heritage assets

The approval process for heritage assets owned by the NSW government is detailed in the *State Agency Heritage Guide. Management of Heritage Assets by NSW Government Agencies* (Heritage Council of NSW 2005). The document states that:

- A state government agency cannot demolish or unsympathetically alter a heritage asset without Heritage Council notification or approval if the item is listed on the State Heritage Register. Demolition of any heritage asset, or a substantial portion of that asset, should only be considered in exceptional circumstances, and only after establishing there is no prudent or feasible alternative to demolition. This option should be considered as the last resort.
- An asset of local heritage significance can only be demolished or unsympathetically changed following a detailed evaluation involving specialist heritage advice that has shown there is no prudent or feasible alternative with a S170A notification required (Heritage Council of NSW 2005:20).

With regard to archaeological or potential archaeological sites:

- Anyone, including a state government agency, excavating any land in NSW who knows that they are likely to discover, expose, move, damage or destroy a relic, or suspects that they might, must apply for an excavation permit from the Heritage Council (Heritage Council of NSW 2005:21).

3.2.1 Railcorp Exemptions from s57 (1) under the Heritage Act 1977

There are a number of exemptions which have been drafted for railway sites listed on the State Heritage Register. These exemptions are to allow usual maintenance and some activities related to maintaining equipment associated with railway operations to go ahead without the need for Heritage Council approval or notification (*Agency-Specific Exemptions from Approval for NSW Transport – Railcorp* (now Sydney Trains) under the *Heritage Act 1977*, NSW Government Gazette No. 22 [pp. 715-720]).

4.0 Identified heritage items

4.1 Heritage registers

Items and places of national significance are recorded on the National Heritage List or the Commonwealth Heritage List. Items of significance to the people of NSW are recorded on the State Heritage Register (SHR), items of local significance are recorded on local environmental plans (LEPs), items under the ownership of the NSW Government are recorded on the s.170 Register. These registers are not static, with sites recorded and removed as deemed necessary.

4.2 Heritage register searches

Searches of heritage registers were undertaken to identify heritage items within the proposal site, and within 50 metres of and with a clear visual line to the proposal site.

4.2.1 National and Commonwealth heritage

A search of the Australian Heritage Database was undertaken on 21 April 2016 with reference to the NHL and CHL. No items on that database were identified within or adjacent to the proposal site.

4.2.2 State heritage

A search of the State Heritage Inventory database was conducted on 21 April 2016. No sites listed on the SHR are located within the proposal site. There is one item within 10 metres of proposal site (**Figure 2**).

Table 2 Items on the State Heritage Register within 10m of the proposal site (SHR)

Item	Address	Heritage Listing
Castlemaine Brewery (former)	787 Hunter Street	00312

4.2.3 Section 170 Registers

Section 170 of the *Heritage Act 1977* requires State Government Agencies to keep records of heritage items owned or operated by it. These registers can be found on the NSW Heritage Inventory. A search of this inventory was carried out on 21 April 2016. No items on the s170 Registers fall within the proposal area. There is one s.170 Register Heritage Items located within 50 metres of the proposal site. An application to have this item removed from the s170 register has been lodged with Sydney Trains in 2015.

Table 3 Items on s170 Heritage Registers within 50 metres of the proposal site

Item	Address	Heritage Listing ID
Wickham Railway Station Group	Hannell Street Wickham	SRA45

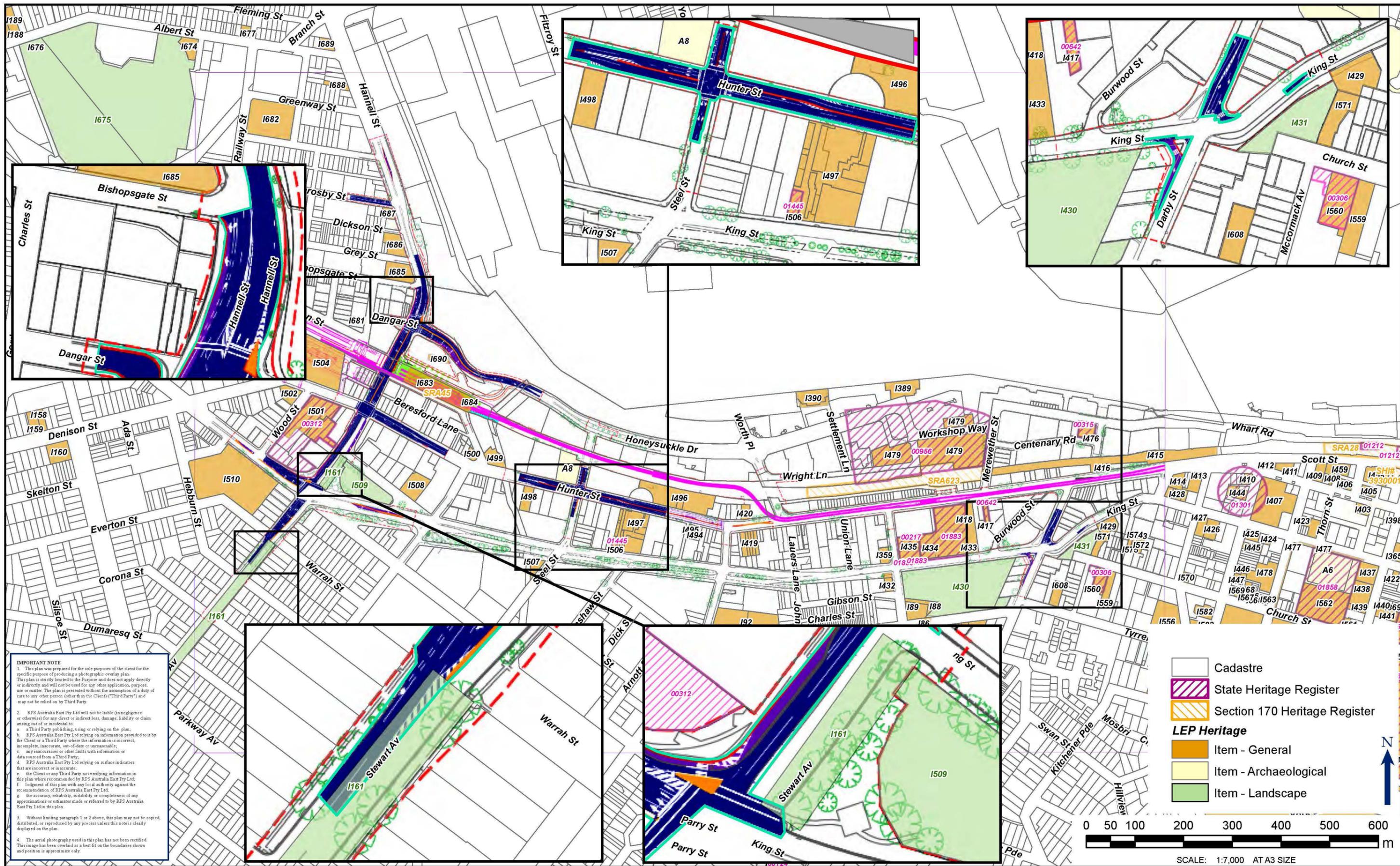
4.2.4 Local heritage

A search of the Newcastle LEP 2012 was undertaken on 21 April 2016 (**Table 4**). One listed item falls within the proposal site which consists of the fig trees located on the eastern side of Stewart Avenue, the majority of the proposal site lies within the Newcastle City Centre Heritage Conservation Area, with the Stuart Avenue portion south of the junction of Warrah Street being in the Hamilton Garden Suburb Heritage Conservation Area.

Table 4 Items on the Newcastle LEP Heritage Register within 50 metres of the proposal site.

Item	Address	Heritage Listing ID	Significance
Wickham Public School	54 Hannell St	I685	Local

Item	Address	Heritage Listing ID	Significance
Former Infants School	64 Hannell St	I686	Local
Albion hotel	72 Hannell St	I687	Local
Former School of Arts	80 Honeysuckle Dr	I690	Local
The Moorings (residential units)	199 King St	I429	Local
Civic Park	201 King St	I430	Local
Church Walk Park	203 King St	I431	Local
Newcastle Technical College	590-608 Hunter St	I496	Local
Hunter Water Board Building	599 Hunter St	I497	Local
Theatre Royale	669 Hunter St	I498	State Nominated
Former Castlemaine Brewery	787 Hunter St	I501	State
Former Newcastle Co-op Store	854 Hunter St	I504	Local
Army Drill Hall	498 King St	I508	Local
Birdwood Park	502 King St	I509	Local
Hamilton College Tafe	91 Parry St	I510	Local
Wickham Railway Station	Hannell St	I683	Local
Wickham Signal Box	Hannell St	I684	Local
Item – Conservation Area	Address	Heritage Listing ID	Significance
Newcastle City Centre Heritage Conservation Area		C4	Local
Hamilton South Garden Suburb Heritage Conservation Area		C3	Local
Item – Archaeological Site	Address	Heritage Listing ID	Significance
Palais Royale (Government Farm Archaeological Site)	684 Hunter Street, Newcastle West	A8	Local



TITLE : FIGURE 2: HISTORIC HERITAGE ITEMS AND PROPOSAL SITE

LOCATION :
NEWCASTLE

DATUM:GDA 1994
PROJECTION: GDA 1994 MGA Zone 56

DATE : 13/10/2016
PURPOSE: HERITAGE

VERSION (PLAN BY): A A3 (james.hugo)

PATH: \\ntfip01\data\UOBS\124k1\24007 Newcastle\10 - Drafting\Arogis Map Documents\24-25 Roads\Report 25 Historic\124007 Figure 2 NLR Historic C A3 20161013.mxd

CLIENT: GHD
JOB REF: PR124007

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4.3 Historic archaeological context

Newcastle City Council (Council) has commissioned reports on the archaeological heritage of the Newcastle city centre. The first report, produced in 1997, was the *Newcastle Archaeological Management Plan* (Suters Architects 1997). The report assessed the nature and extent of the historical archaeological sites with the information largely drawn from previous archaeological excavations and historical data.

The *Newcastle Archaeological Management Plan Review* (Higginbotham 2015) provided a more detailed assessment of the city's heritage. In addition to the identified Convict Lumber Yard site (SHR 00570); the draft report identified an extended archaeological area which had the potential to contain early convict huts. This was recorded as the Convict Hut Archaeological Area (Higginbotham 2015:14-16) and was considered by Higginbotham to have the potential to contain archaeological deposits associated with convict occupation in Newcastle.

In August 2015, Council released the *Newcastle Archaeological Management Strategy* (City of Newcastle 2015). The intent of the Strategy, which draws on the *Newcastle Archaeological Management Plan* (Suters Architects 1997) and *Newcastle Archaeological Management Plan Review* (Higginbotham 2015) is to provide a framework for the management of historic resources in the Newcastle inner suburbs.

4.3.1 Listed archaeological sites adjacent to the proposal site

As described in Section 3.4, two Archaeological Management Plans have been commissioned by Council: the *Newcastle Archaeological Management Plan* (Suters Architects 1997) and the *Newcastle Archaeological Management Plan Review* (Higginbotham 2015).

As identified in Table 5, this site lies adjacent to the proposal site:

- Palais Royale (Government Farm Archaeological Site) (Newcastle LEP 2012 A8) (Figure 5). This site was considered by Suters Architects to have low potential for sites to exist, given the extent of the historic development. Archaeological excavation, subsequent to that report, however found that some relics relating to occupation during the Government Farm era remained. The site is listed as an archaeological site in the Newcastle LEP 2012 as the Palais Royale (Government Farm Archaeological Site) and included in the Higginbotham report (2015). The Palais Royale (Government Farm Archaeological Site) is listed as significant at the local level. A more detailed discussion of the results of the archaeological excavation can be found in Section 4.2.4.3.

This site has been assessed by Council to have local significance.

4.3.2 Unlisted archaeological sites within the proposal site

There are two unlisted archaeological site within the proposal site, although they are unlisted, they are protected as archaeological sites under the *Heritage Act 1977*.

Recent investigations within the Newcastle rail corridor have revealed surface archaeological evidence of unidentified elements of the demolished Honeysuckle Railway Station complex (1872 – 1938) near Steel Street (south of railway line) (RPS 2014) (Figure 5)..

Previous roadworks revealed the existence of cellars beneath the surface which were related to the 19th century Saunders' Shop and the later Criterion Hotel. Few archaeological deposits were recovered during monitoring in 2000 and a Statement of Heritage Impact in 2011 determined the site containing Saunders' Shop held no intrinsic heritage significance beyond the previously demolished buildings.

4.3.3 Assessment of archaeological potential at intersection of Darby and King Street

This assessment included a review of the Newcastle Archaeological Management Plan (Higginbotham 2013 Volume 3). The review identified no historical structures within the boundary of the proposal at the Darby Street/ King Street intersection.

4.4 Synthesis of heritage items and archaeological areas

There are no SHR listed items in the proposal site. Six SHR items are located within 50 metres and with a clear visual line to the proposal site.

The proposal site is located in the Newcastle City Centre Heritage Conservation Area and the part of the Stewart Avenue portion of the proposal site is in the Hamilton South Garden Suburb Heritage Conservation Area. Fifteen locally listed heritage items are located within 50 metres and with a clear visual line to the proposal site. The curtilage of one item - fig trees along Stewart Avenue [I161] is within the proposal site, but the fig trees themselves are not in the proposal site.

The proposal site is located adjacent to one listed archaeological site – Palais Royale (Government Farm) – and one unlisted archaeological site –Saunders Shop.

5.0 Visual inspection

The visual inspection of targeted heritage items which were in or abutting the proposal site was undertaken on 29 June 2016 in order to document and verify the location of built heritage or heritage listed trees in relation to the proposed works. The visual inspection included four precincts: Stewart Avenue, Newcastle City Hall and Civic Theatre District, Nesca House and Civic Park. These precincts contain the following heritage items: figs trees along Stewart Avenue (in proposal site) (Newcastle LEP I161), Newcastle City Hall and Civic Theatre District (SHR1883, part listed in Newcastle LEP I433 and I434), Nesca House (SHR217, also listed in Newcastle LEP I435) and Civic Park (Newcastle LEP I430).

5.1 Stewart Avenue Fig Trees – (LEP I161)

The fig trees that line Stewart Avenue in Hamilton East are listed under the Newcastle LEP (I161); the area extends from the intersection with Warrah Street and continues south to the intersection with Parkway Avenue and a small area on the Stewart Avenue side of Birdwood Park. During the visual inspection GPS co-ordinates of the fig trees were recorded and photographs taken.

The heritage listing specifies fig trees only and not other species of trees. The visual inspection identified that there are five trees located on the eastern side of Stewart Avenue. The three fig trees on the western side are not within the Newcastle LEP curtilage for I161; however, the listing for this item identifies trees on both sides of the road are part of the listing and thus those on the western side are considered to be part of this listing (T6W, T7W and T8W). All fig trees identified along this portion of Stewart Avenue were photographed and their locations mapped with GPS. The visual inspection identified that there are other species of trees between the fig plantings and down the southern end of the curtilage there are no fig trees remaining (Plate 8). The visual inspection also identified an additional six fig trees in the Birdwood Park segment of the curtilage (north of King Street); these trees are not in the proposal site. There are currently 11 fig trees located on the eastern side of Stewart Avenue and within the I161 Newcastle LEP curtilage. There are three fig trees on the western side of Stewart Avenue which are not in the Newcastle LEP curtilage mapping, but are considered part of the listing on the basis of the SHI listing description. Thus there are 14 fig trees which are considered to be in this listing.

In comparing a Google street view dated June 2015 to images taken during the visual inspection, at some point within this period, one fig has been already been removed between figs T4E and T3E.



Plate 7 LEP listed fig trees, east side of Stewart Ave, view south east (fig T5E, T4E and T3E)



Plate 8 Southern end of I161 curtilage, view north no fig trees in this part of the curtilage

6.0 Significance assessment

In line with the *Burra Charter*, before making decisions about the future of a heritage item it is first necessary to understand its heritage significance and the values it embodies. There is one heritage item which is identified as being within the proposal site and the proposal site also spans two conservation areas. This section provides a statement of significance for the item and conservation areas. This section also considers the significance of items abutting the proposal site as identified on the SHR, Section 170 Heritage and Conservation Register or Newcastle LEP 2012.

6.1 Significance assessment Stewart Avenue Fig Trees – (LEP II 61)

The Stewart Avenue Fig Trees comprise 11 trees on the eastern side of Stuart Avenue. There are an additional three trees on the western side of Stuart Avenue. In the State Heritage Inventory the following physical description is used: “*Substantial Hill’s Fig Trees line either side of this principle approach to the city centre.*”

6.1.1 Historical significance (SHR criterion A) – An item is important in the course or pattern of NSW’s cultural history (or the cultural or natural history of the local area)

The figs provide a prominent avenue planting of mature trees on a principle approach to the City Centre. The tree plantings are associated with the Australian Agricultural Company’s subdivision of the area in the early 20th century. The figs are thus also associated with town planning approach of Garden Suburb adopted during the early 20th century in Australia, which derives from the English and American concepts of the Garden City.

6.1.2 Associative significance (SHR criterion B) – An item has strong or special association with the life or works of a person, or a group of persons, of importance in NSW’s cultural or natural history

The plantings are also associated with the prominent architect and planner Sir John Sulman, who designed the plantings for Stewart and Gordon avenues and which were to be planted a half chain apart (33 feet / 10 metres). This was recorded on a schematic plan from 1914.

6.1.3 Aesthetic/technical significance (SHR criterion C) – An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement

The fig plantings are aesthetically significant as an example of a tree lined avenue as part of the Garden Suburb. The aesthetic qualities have been reduced due to the removal of trees from the original planting alignment and the introduction of other tree species.

6.1.4 Social significance (SHR criterion D) – An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons

The fig plantings have social significance for their association with the social aspirations of residents residing in the Garden Suburb, particularly the realisation of greenery which is a crucial element of the Garden City.

6.1.5 Research potential (SHR criterion E) – An item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history

The fig plantings have been compromised by the removal of adjacent plantings. However, the specification for the spacing of plantings was clearly delineated by Sulman and therefore, while the plantings are still extant, there remains the opportunity to document and analyse whether the planned early 20th century Garden Suburbs in fact reflected the architect’s designs.

6.1.6 Rarity (SHR criterion F) – 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)

Stewart Avenue is one of the only major thoroughfares in the Hamilton South Garden Suburb which has plantings on either side of the avenue. It also retains fig trees which were planted at 10 metres apart according to the Sulman design of 1913 and therefore the plantings and their configuration are locally rare.

6.1.7 Representativeness (SHR criterion G) – An item is important in demonstrating the principal characteristics of a class of NSW’s (or the local area’s) cultural or natural places, or cultural or natural environments

The fig plantings are representative of an important element of the Garden Suburb design. They demonstrate a prominent example of a major tree lined avenue within the Hamilton South Garden Suburb. The vertical column of the trees was a deliberate part of the marketing strategy and were meant to have been accompanied by pillars of characteristic design (although many of the pillars were not built and the ones that had been were relocated). Thus the trees remain the only vertical elements envisioned as part of the original design.

6.1.8 Integrity and intactness

The integrity and intactness of the overall fig plantings design is low, with the portion of trees that line either side of the avenue limited. The trees themselves, however, appear in reasonable health and good condition.

6.1.9 Statement of significance

The figs provide a prominent avenue planting of mature trees on a principle approach to the City Centre and are associated with the Garden Suburb adopted during the early 20th century in Australia, derived from the English and American concepts of the Garden City. They have associations with the Australian Agricultural Company that subdivided the area in the early 20th century, as well as with prominent architect and planner Sir John Sulman, who drew up the specific design for the plantings along Stewart and Gordon avenues. The fig plantings have an aesthetic appeal that embodied the social aspirations of the residents who bought properties in the Hamilton South Garden Suburb. The Hamilton South Garden Suburb included three main avenues: Stewart, Parkway, and Gordon. The plantings along Stewart Avenue are the only examples of a major tree lined avenue using fig trees.

6.2 Significance assessment Hamilton South Garden Suburb Heritage Conservation Area – (LEP C-3)

The following statement of significance is reproduced from the State Heritage Inventory:

“The area is significant in the following respects: for its evidence of early twentieth century town planning and land development practices in Australia; as part of a high profile residential suburb, initially designed by the prominent Australian architect and planner Sir John Sulman; as one of the first examples of estate planning in the garden suburb movement; for its evidence of Newcastle’s economic growth, particularly between 1918

and the 1940s; and for its contribution to the identity of Newcastle and for the high regard the local community hold the suburb in.”

6.3 Significance assessment for the Newcastle City Centre Heritage Conservation Area

The following statement of significance is reproduced from the State Heritage Inventory:

“The Newcastle City Centre Heritage Conservation Area is significant on many levels. The assemblage of commercial and civic buildings is a powerful reminder of the city's rich history and its many phases of development. The number of historic buildings surviving is quite remarkable for a city of this size, with a number of pre-1840s buildings surviving (Rose Cottage, c1830, Newcomen Club, 1830, Parts of James Fletcher Hospital). All of these are associated with the city's penal heritage. It is also known to be a city with a rich archaeological record of national significance, for its potential to yield information about the early convict settlement and early industrial activities. The city area is known to have been a place of contact between colonists and the indigenous population, who owned the land on the southern shores of the Hunter river. This evidence is available in historical accounts and in the archaeological record surviving beneath the modern city. The high numbers of commercial and civic buildings of the 19th and 20th centuries gives the city a historic character which is notable and allows an understanding of the importance of the city as a place of commerce, governance and city building. The historical foundation of the city was the discovery and exploitation of coal with good shipping access via a safe and navigable harbour. The town's layout by Surveyor General Henry Dangar in 1828 is still visible in the city's streets, and is an element of historical value.”

6.4 Significance assessment for other heritage items

A summary of heritage significance for items abutting or outside the proposal site is provided in Table 5.

Table 5 Summary of significance

Item	Address	Heritage Listing ID	Significance
Wickham Public School	54 Hannell St	I685	Local
Former Infants School	64 Hannell St	I686	Local
Albion hotel	72 Hannell St	I687	Local
Former School of Arts	80 Honeysuckle Dr	I690	Local
The Moorings (residential units)	199 King St	I429	Local
Civic Park	201 King St	I430	Local
Church Walk Park	203 King St	I431	Local
Newcastle Technical College	590-608 Hunter St	I496	Local
Hunter Water Board Building	599 Hunter St	I497	Local
Theatre Royale	669 Hunter St	I498	State Nominated
Former Castlemaine Brewery	787 Hunter St	I501	State
Former Newcastle Co-op Store	854 Hunter St	I504	Local
Army Drill Hall	498 King St	I508	Local
Birdwood Park	502 King St	I509	Local
Hamilton College Tafe	91 Parry St	I510	Local
Wickham Railway Station	Hannell St	I683	Local
Wickham Signal Box	Hannell St	I684	Local
Item – Archaeological Site	Address	Heritage Listing ID	Significance
Palais Royale (Government Farm Archaeological Site)	684 Hunter Street, Newcastle West	A8	Local

6.5 Significance summary

The proposal site is within the curtilage of one heritage item and spans two heritage conservation areas. The heritage item comprises fig trees lining Stewart Avenue and they are listed on the Newcastle LEP (I161) and are identified as having local significance. The conservation areas which span the proposal site are: the Hamilton South Garden Suburb Heritage Conservation Area (C3) and the Newcastle City Centre Heritage Conservation Area (C4). Both are listed on the Newcastle LEP and have local significance. Other heritage items abutting or within 50 metres of the proposal site range in significance grading from local to state including the Palais Royale (Government Farm Archaeological Site), which is of local significance. The unlisted Saunders' Shop is of local significance.

7.0 Impact assessment

The proposal includes a number of road improvements associated with the Newcastle Light Rail project and includes pavement widening, line marking and the placement of a number of new medians.

7.1 Stewart Avenue Fig Trees (I161)

The proposal will not affect the Stewart Avenue Fig Trees (I161). The proposed works within the item curtilage is line marking. No ground disturbance is proposed.

7.2 Hamilton South Garden Suburb Heritage Conservation Area

The proposal will not affect the significance of the Hamilton South Garden Suburb Heritage Conservation Area. The significance of the Hamilton South Garden Suburb Heritage Conservation Area is demonstrated through architecture and plantings as significant components. The proposal will not affect significant components associated with the Hamilton South Garden Suburb Heritage Conservation Area.

7.3 Newcastle City Centre Heritage Conservation Area

The proposal will not affect the significance of the Newcastle City Centre Heritage Conservation Area. The significance of the Newcastle City Centre Heritage Conservation Area is demonstrated through the historical commercial and civic buildings and archaeological resources. The proposal will not affect the significant fabric or known archaeological resources within the Newcastle City Centre Heritage Conservation Area.

7.4 Palais Royale (Government Farm) archaeological site (A8)

The proposal will not affect the Palais Royale (Government Farm) archaeological site. Line marking is proposed within the road corridor of Hunter Street and Steel Street. No ground disturbance is proposed within the road corridor within 20 metres of the archaeological site.

7.5 Saunders' Shop archaeological site

The Saunders Shop archaeological site is located on the corner of Hannell Street and Bishopsgate Street. The proposal includes pavement widening with a maximum depth of excavation of one metre and line marking. The proposal is within an area subject to a previous road upgrade that required the removal of relics associated with the Saunders' Shop (ERM 2000). Due to the previous archaeological salvage of relics within that area and the disturbance associated with the road upgrade, the proposal is unlikely to affect relics associated with the Saunders' Shop.

7.6 Vibration

There is the potential for vibration damage to heritage items adjacent to the proposal; mitigation of vibration has been outlined in Section 8.1. This applies to all built heritage items in Table 5.

7.7 Statement of Heritage Impact

There is minimal potential for impact to the Stewart Avenue fig trees (I161), Hamilton South Garden Suburb and Newcastle City Centre Heritage Conservation Area and Palais Royale (Government Farm) and Saunders' Shop archaeological sites.

The works proposed have the potential to cause vibration damage to heritage items adjacent to the roadworks. Appropriate precautions in Section 8 have been included to reduce the potential for impacts to be sustained.

8.0 Mitigation

The previous section identified impacts to heritage items, this section will outline the alternatives and/or management and/or mitigation measures to be adopted.

8.1 Management of vibration impacts to built heritage items

There is no Australian standard for acceptable vibration on heritage structures, but the German standard is accepted as an international standard. The German Standard DIN4150: Part 3-1999 Effects of Vibration on Structure (DIN 1999) provides guidelines for peak particle velocity (mm/s) on heritage structures and is reproduced in Table 6.

Table 6 Vibration Criteria for Heritage Structures

Type of Structure	Peak Component Particle Velocity (PPV) mm/s			Vibration of horizontal plane of highest floor at all frequencies
	Vibration at the foundation* a frequency of:			
	1 to 10 Hz	10 to 50 Hz	50 to 100 Hz **	
Structures that, because of their sensitivity to vibration, do not correspond to those listed in lines 1 and 2 and are of great intrinsic value (eg. are heritage)	3	3 to 8	8 to 10	8

*Foundation is the base of the building

**For frequencies above 100 Hz, the maximum values specified in this column shall be applied

Vibration monitoring should be carried out for all works in the vicinity of built heritage items and values stipulated in Table 6 are not to be exceeded. Works are to stop if these vibration values are exceeded and alternate work methods used to reduce vibration.

8.2 Management of unexpected finds

During construction, if historic relics are encountered in the proposal area, works must cease in the affected area and the Heritage Council must be notified in writing in accordance with s146 of the Act. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area.

The s146 provisions should be outlined in a cultural heritage management plan prepared as part of the construction environmental management plan. The cultural heritage management plan would provide detailed guidance on heritage induction, exclusion fencing, vibration monitoring, unexpected finds protocols, reporting, and the management of historic heritage during the construction process.

8.3 Summary

Potential impacts from vibration have been assessed; they are to be managed by using vibration monitoring in accordance with criteria outlined in the German Standard (DIN4150: Part 3-1999). Works are to stop if these vibration values are exceeded and alternate work methods used to reduce vibration.

Procedures for unexpected finds must be followed. This will include ceasing works in the affected area and notifying Heritage Council in writing in accordance with s146 of the Act. Depending on the nature of the

discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area.

A cultural heritage management plan would be prepared as part of the CEMP. The cultural heritage management plan would provide detailed guidance on heritage induction, exclusion fencing, vibration monitoring, unexpected finds protocols, reporting, and the management of historic heritage during the construction process.

9.0 Conclusions and recommendations

This report has assessed the potential impact of the proposed works on listed heritage items and the archaeological resource. The report has been prepared in accordance with relevant legislation, regulations, standards and guidance. In addition, it outlines the relevant environmental and archaeological context, landforms, landscape features, disturbances, legislative context and the nature of the proposed activity.

The proposal site is within the curtilage of one heritage item and spans two heritage conservation areas. The conservation areas are the Hamilton South Garden Suburb Heritage Conservation Area (C3) and the Newcastle City Centre Heritage Conservation Area (C4). Both are listed on the Newcastle LEP and have local significance. Other heritage items abutting or within 50 metres of the proposal site range in significance grading from local to state.

The proposal includes a number of road improvements associated with the Newcastle Light Rail project and includes pavement widening and lane extensions, line marking and the placement of a number of new medians.

The proposal will not affect the Stewart Avenue Fig Trees (I161). The proposed works within the item curtilage is line marking. No ground disturbance is proposed in this area.

No impact to archaeological deposits at the Palais Royale and Saunders' shop has been identified due to the previous land uses of the area and the limited nature of the subsurface works.

During construction, if historic relics are encountered, works must cease in the affected area and the Heritage Council must be notified in writing in accordance with s146 of the Act. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area.

The s146 provisions should be outlined in a cultural heritage management plan prepared as part of the construction environmental management plan. The cultural heritage management plan would provide detailed guidance on heritage induction, exclusion fencing, vibration monitoring, unexpected finds protocols, reporting, and the management of historic heritage during the construction process.

Potential impacts from vibration have been assessed and are to be managed by using vibration monitoring in accordance with criteria contained in the German Standard DIN4150: Part 3-1999 Effects of Vibration on Structure. Works are to stop if these vibration values are exceeded and alternate work methods used to reduce vibration.

The following recommendations are intended to provide general advice to mitigate against harm to heritage items in the context of the available proposal information. As a result of implementing these measures, further mitigation actions may need to be undertaken as required.

Recommendation I

A cultural heritage management plan is to be prepared as part of the CEMP. The cultural heritage management plan would provide detailed guidance on heritage induction, exclusion fencing, vibration monitoring, unexpected finds protocols, reporting, and the management of historic heritage during the construction process.

Recommendation 2

A heritage induction must be carried out in advance of the proposed works. All relevant staff, contractors, and subcontractors will be made aware of their statutory obligations for heritage under the *Heritage Act 1977* through the site induction and toolbox talks.

Recommendation 3

If during works, substantial intact archaeological relics of state or local significance are uncovered, then, works must cease in the affected area and the Heritage Council must be notified in writing in accordance with s.146 of the Act. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area. Guidance on unexpected finds and reporting processes will be provided in the cultural heritage management plan.

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