



# North Connex EIS Review

HERITAGE

AUGUST 2014



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## ACRONYMS AND ABBREVIATIONS

CNVMP	Construction Noise and Vibration Monitoring Program
EIS	Environmental Impact Statement
HCA	Heritage Conservation Area
LEP	Local Environment Plan
LGA	Local government Area
OEH	Office of Environment and Heritage
RMS	Roads and Maritime Service
SOHI	Statement of Heritage Impact

# 1 INTRODUCTION

## 1.1 BACKGROUND

In August 2014, ngenvironmental was commissioned by Ku-ring-gai Council to undertake a review of the Non-Aboriginal Heritage component of the Environmental Impact Statement (EIS) that has been carried out by Roads and Maritime Services (RMS) for the North Connex tunnel proposal and is on public display between 15 July and 12 September 2014.

North Connex is a State significant development currently being investigated for approval. Construction is expected to commence in January 2015 and is expected to take four years to complete. North Connex will be a 9 kilometre long tunnel up to 90 metres below the ground. The tunnel will connect the M1 and M2 Motorways, roughly along the alignment of Pennant Hills Road. Part of the tunnel will go under parts of Ku-ring-gai Local Government Area (LGA). It is expected that up to 30,000 trucks will use the tunnel, reducing the demand on Pennant Hills Road. Two ventilation facilities will be located above ground near the northern and southern interchanges of the tunnel. The northern ventilation facility will be located in the Hornsby LGA, adjacent to the Ku-ring-gai Council LGA but not within it. (MAP)

Ku-ring-gai Council is concerned about the potential impacts to heritage items located in the construction area and buffer zone throughout the construction period and also following the opening of the tunnel. Therefore, an independent review of the EIS in relation to the heritage structures within the Ku-ring-gai LGA has been undertaken to assess to accuracy of the assessments made in the EIS.

## 1.2 METHODOLOGY

This report only reviews those items located within the Ku-ring-gai Council LGA. A comparison has been made between statements of significance and impact assessments contained in the EIS with statements of significance and impact assessments as determined by ngenvironmental. The significance assessments were based on previous research commissioned by Ku-ring-gai Council.

The report is prepared in accordance with the guidelines *Assessing Heritage Significance* (2001) set out by the NSW Heritage Division (Office of Environment and Heritage), and follows the principles of the Australia ICOMOS *Burra Charter*. The Charter sets the standard of practice for providing advice, making decisions about, or undertaking works to places of heritage or cultural significance (ICOMOS 1999).

The Heritage Impact Statement assessment is carried out in line with the guidelines established in *Statements of Heritage Impact* (1991), as published by the NSW Heritage Division (Office of Environment and Heritage).

This report:

- Outlines the background of the current study and proposed works (Section 1).
- Discusses issues such as statutory heritage listings and legislative requirements (Section 2).
- Assesses the accuracy of significance assessments and impact statements (Section 3).
- Discusses other potential issues in relation to heritage values that are not evident at the property level (Section 4).
- Summarises the information and assesses the overall accuracy of the EIS (Section 5).



### 1.3 LOCATION

Ku-ring-gai Local Government Area is located 16 kilometres from the city of Sydney on the city's North Shore. It is composed of the suburbs of Gordon, Killara, Lindfield, Pymble, Roseville, St Ives, Turramurra/Warrawee and Wahroonga. The North Connex project will have potential heritage impacts on the suburb of Wahroonga. The suburb of Wahroonga is located across two local government areas, Hornsby and Ku-ring-gai, and is divided by the Pacific Highway. It is shown in Figure 1 and Figure 2. The North Connex route is approximately along the Pacific Highway. The map provided in the EIS of the impact zone is divided into 5 maps. A composite map created from these maps of the project zone is shown in Figure 3.



Figure 1: Wahroonga. Six maps.



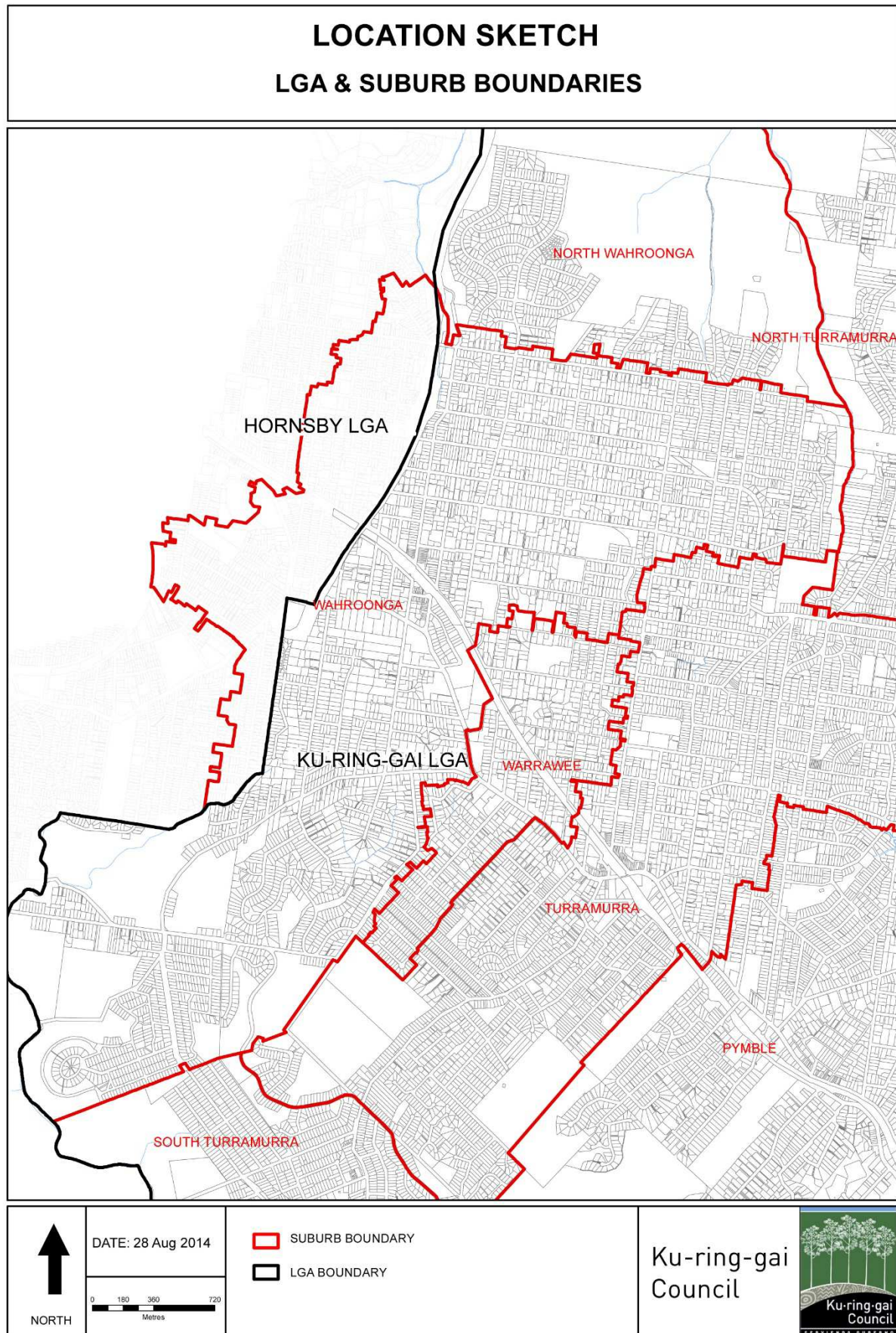


Figure 2: Suburb and LGA boundaries of study area. Courtesy Ku-ring-gai Council.



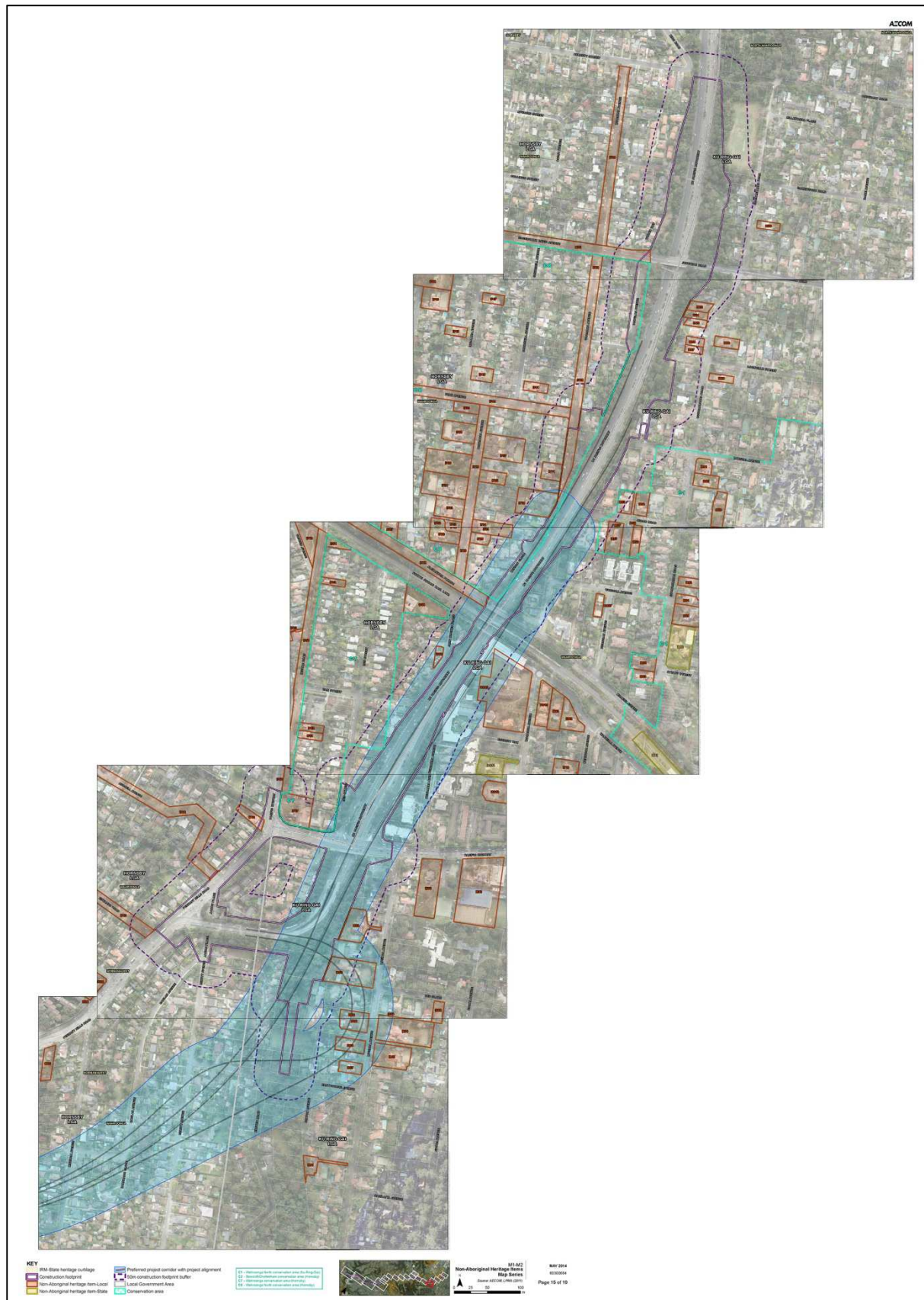


Figure 3: Composite map from pages 17-21: Appendix 3 of Non-Indigenous Heritage Technical Reports

## 2 LEGISLATIVE AND STATUTORY CONSIDERATIONS

Places of heritage value can be subject to different levels of recognition and protection. This protection (at Local, State and Commonwealth levels) includes specific measures for the protection of heritage items. The text below provides a summary of the legislative framework at each level of government.

Local heritage places are protected under the *Environmental Planning and Assessment Act 1979* (EP&A Act). The planning system established by the EP&A Act includes Local Environmental Plans (LEPs) and other provisions relating to development control. Heritage items are added to a heritage schedule of a LEP often following identification and assessment from a local shire heritage study. These items are then given protection by the heritage provisions within the relevant plan, which will then require consent of Council for certain developments. The *NSW Heritage Act 1977* defines local heritage significance as being *in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.*

Heritage places of significance at a state level are protected by the *NSW Heritage Act 1977*. Administered by the NSW Heritage Division – Office of Environment & Heritage, the Act details the statutory requirements for protecting historic buildings and places. "State heritage significance" is defined by the Act as *in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.*

State agencies and authorities in NSW are required to keep a register of heritage places under their management under Section 170 of the Act. The s.170 registers are also held in the NSW Heritage Division State Heritage Inventory (SHI), an electronic database of statutory listed heritage items in NSW.

Places of national significance fall under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Any action that is likely to have a significant impact on the matters protected under the EPBC Act must be referred to the Commonwealth Environment Minister for further consideration. These are listed on the Australian Heritage Database (AHD), which includes the National Heritage List. The AHD also contains the Commonwealth Heritage List that comprises those places on Commonwealth lands and waters or under Australian Government control. Items on both of these lists are protected under the EPBC Act.

The following statutory listings were checked to determine the number of heritage listed properties located within the construction and buffer zone in each register, as defined on **Figure 7-82 Heritage inventory results within the study area and surrounds** located on page 887 of the EIS:

Statutory Instrument	EIS Inventory	nghenvironmental search
Ku-ring-gai Planning Ordinances	10 (including 2 HCA)	9 (including 1 HCA)
Ku-ring-gai Draft Local Environmental Plan (LEP) 2013	15 (i.e. 5 in addition to those identified in the planning ordinances)	15 (including 1 HCA)
State Heritage Inventory	nil	nil

Statutory Instrument	EIS Inventory	nghenvironmental search
State Heritage Register	nil	nil
Section 170 Register	nil	nil

The EIS refers to two HCAs being impacted by the works. It is not clear what the second HCA is, as it is not discussed in the significance or impacts sections. In addition, a heritage item at 7 Burns road, which is partially in the impact zone has not been included in the impact assessment. It is not clear why 7 Burns Road has not been addressed in the EIS, as other properties partially in the impact zone have been assessed. It should be noted that it is included on the heritage mapping for the EIS. It appears to have been overlooked. It is assessed as having local significance and it is located in the Wahroonga HCA.

### 3 ASSESSMENT OF IMPACTS

This section reviews the statement of significance for each heritage property to be potentially impacted by the project, and reviews the statement of heritage impacts for adequacy.

At the time of preparing the EIS, Ku-ring-gai council was in the process of updating its LEP. Given the acknowledged draft status of the LEP and that heritage inventory sheets will not be available in the online register until after the LEP is adopted, it would have been a worthwhile exercise for RMS to have contacted Mt Ku-ring-gai's heritage officer for updated significance assessments. This would have made for a more comprehensive literature review than the review referenced on page 881 of the EIS. This information was collected for this report as a result of a simple phone call. Some additional heritage reports previously undertaken by council are also easily accessible on council's website at:

[http://www.kmc.nsw.gov.au/Plans\\_and\\_regulations/Building\\_and\\_development/Heritage-listed\\_properties/Heritage\\_reports](http://www.kmc.nsw.gov.au/Plans_and_regulations/Building_and_development/Heritage-listed_properties/Heritage_reports)

This webpage was last updated July 2013. Reports can also be accessed through the Ku-ring-gai local library.

It is recognised that there is no statutory requirement to refer to information outside of the listed schedules. However, it is considered best practise in the *Statements of Heritage Impact* (1991) guidelines to consult all available material of relevance. This information was easily found through public channels of information.

The EIS notes on page 882 that the search for heritage items was carried out on 2 December, 2013. As a result, some of the significance assessments that have been used in this report would not have been available to RMS if they had enquired, as they were not at the time compiled. They are included and referenced here in order to enable Council to present the revised information to facilitate heritage planning in later phases of the project. Where necessary, it is noted if this information was completed prior to 2 December 2013.



## 3.1 C1- WAHROONGA HERITAGE CONSERVATION AREA

### 3.1.1 Details

The boundaries for the Wahroonga Heritage Conservation Area (HCA) are shown in Figure 4. The proposed impacts from the development are primarily concentrated in the western end of Burns Road.

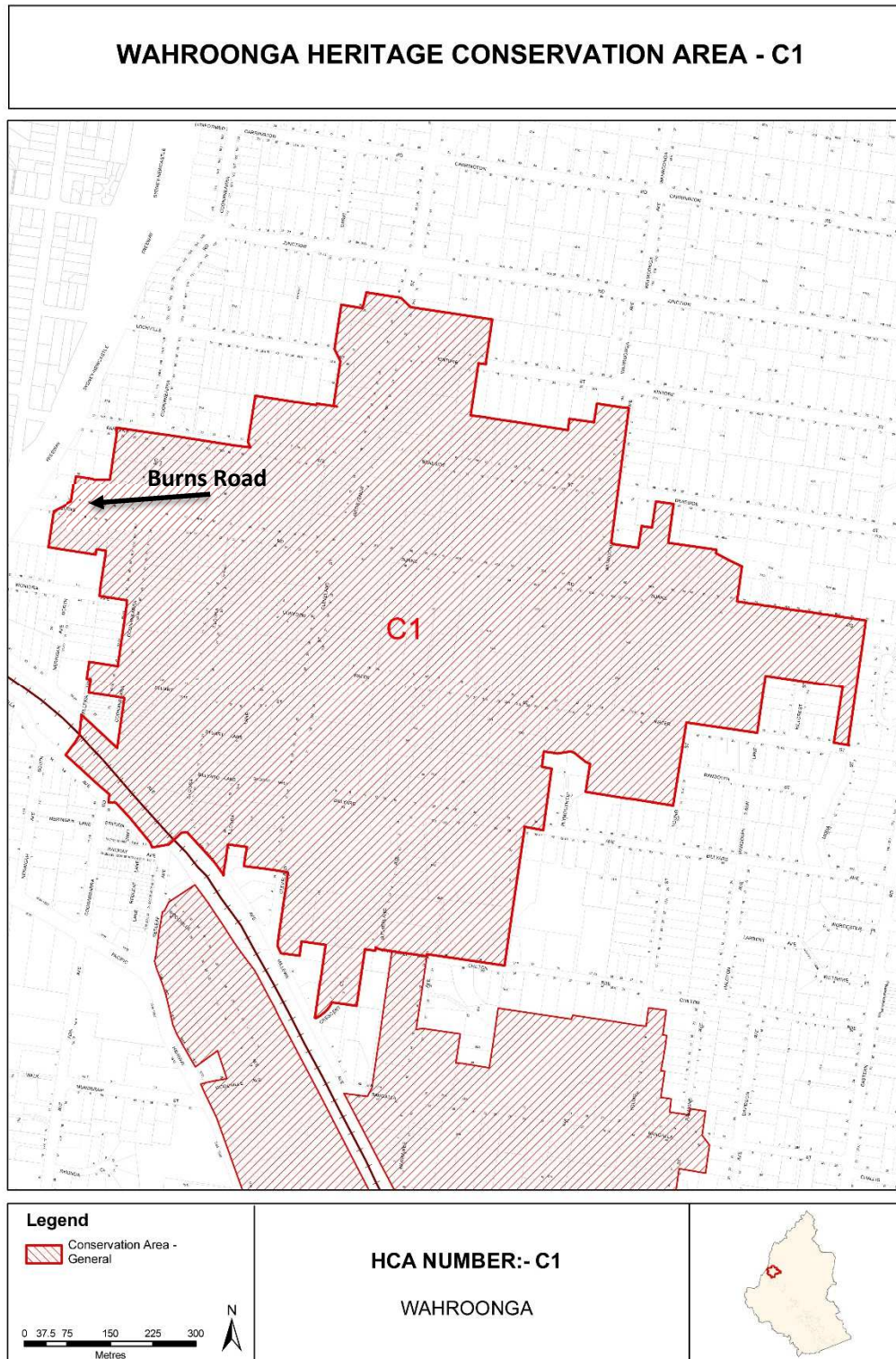


Figure 4: Wahroonga Conservation Area C1. Courtesy Ku-ring-gai Council

### 3.1.2 Significance Assessment from EIS

The Significance Assessment used in the EIS was taken from the Ku-ring-gai Planning Ordinances. The summary statement of significance listed in the appendix is as follows:

*The heritage conservation area covers an area from John Hughes Place to Ingram Road and Isis Street, Wahroonga. The area is part of a larger landscape of existing roads, houses and vegetation. Wahroonga Heritage Conservation Area is of heritage significance for its distinctive residential streetscapes which evidence the transformation of early subdivisions of the 1890s into the later rectilinear grid lot street and lot pattern of later subdivisions including the Wahroonga Heights Estate. The area contains a significant collection of grand residences from the Federation and Inter-war periods.*

### 3.1.3 Other available statements of significance

The Wahroonga Conservation Area has been assessed in the following studies:

- Paul Davies Pty Ltd (2010) Northern Heritage Conservation Area Review.
- Ku-ring-gai Local Environment Plan (2013) Heritage Data Form.

These reports are available through council's website.

The most recent statement of significance is as follows:

*Wahroonga Heritage Conservation Area is of heritage significance for its distinctive residential streetscapes which evidence the transformation of early subdivisions of the 1890s into the later rectilinear grid lot street and lot pattern of later subdivisions including Wahroonga Heights estate. The area contains a significant collection of grand residences from the federation and Inter-war periods, built following the opening of the North Shore railway line in 1890, many of these the residences of prominent families of this period, often designed by prominent architects, for example the 1894 Ewan House (formerly Innisfail) designed by architect Herbert Wardell for John Thomas Toohey, and eleven houses designed by the architect Howard Joseland. The western end of Burns Road and western side of Coonanbarra Road are representative streetscapes of intact more modest federation period houses.*

*The through-block pathways and formal avenues of street trees within the area (in Burns Road, Water Street and Coonanbarra Road) along with the formal landscaping of Wahroonga Park, and its distinctive John Sulman designed shops in Coonanbarra Road facing the Park, are a tribute to the work of the Wahroonga Progress Association in the early 20<sup>th</sup> century (which included Sulman as a member), and have resulted in a high-quality and distinctive residential landscape.*

### 3.1.4 Comment

The Statement of Significance used in the EIS is not the most recent available assessment. However, it is noted that the two statements of significance are consistent in their assessment of the heritage values of the Wahroonga Conservation Area.

### 3.1.5 Statement of Heritage Impact from the EIS

The EIS considers the impact to the Conservation Area to be negligible. This is because the curtilage of the HCA will not be physically impacted upon by the road infrastructure. The Statement of Heritage



Impact (SOHI) for the Conservation Area is located in section 8.4, on page 123 of the Technical Working Paper - Non-Aboriginal Heritage Assessment.

*Impact Type: Visual*

*The heritage conservation area is located to the east of the M1 Pacific Motorway. Properties that are directly adjacent to but not within the conservation area would be subject to full or partial acquisition due to the widening of the motorway at this location to accommodate the integration of the southbound portal. This would locate road infrastructure closer to the western edge of the heritage conservation area that is currently the case. Visual impacts would be associated with construction (short-term) and operation. For operation, the impacts would be associated with changes to noise walls and loss of screening vegetation. Landscaping would provide screening of the project from the conservation area, once established.*

*Degree of Impact: Negligible Impact.*

### **3.1.6 Review of Impact Assessment**

**Visual:** The HCA will not be physically impacted upon by the development. However, the visual impact to the HCA will initially be substantial following the removal of vegetation and existing noise walls. In the long term, this area will be rehabilitated and the noise walls replaced with walls of a similar design (page 204, Technical Working Paper-Urban design). The overall impact to the heritage values of the conservation area will be minimal, given the current location of the motorway and already existing noise walls.

Potential acoustic treatment for properties in the HCA is not addressed in the EIS. However, at a community meeting on 18 August 2014 it was noted that some residents of Burns Avenue received letters advising they are eligible for noise mitigation measures being carried out on properties. Properties on the western end of Burns Avenue that are adjacent to the impact zone but may be within the noise impact zone, have been listed in the LEP (Draft KLEP, p. 85) as heritage items. However, as they fall outside the construction zone buffer, they have not been included in the heritage assessment for the EIS. If acoustic treatments are to be undertaken, an impact assessment should be carried out to ascertain the impact of this treatment to the heritage values of the area and also separate assessments for listed properties. It is not necessary or a legal requirement to carry out a SOHI to each property receiving noise mitigation, unless they are listed on heritage registers. Any treatment that may be carried out needs to consider the heritage values of the area and also reflect the style of each building.

The acquisition of properties bordering on the HCA will bring the motorway immediately adjacent to the HCA. The following properties are listed in the EIS in table 8-15 and Table 8-16 (pp.973-976):

- 54471: 1-3 Burns Road
- 706260: 2B Burns Road
- 54471: 2 Burns Road

There is concern that the closer proximity of infrastructure could impact upon the heritage values of the HCA. As the road infrastructure does not impact on the curtilage of the HCA, the impact to the HCA is negligible. This assumes that the rehabilitation works outlined in the EIS are carried out at the end of the construction period and that Ku-ring-gai Council manages the conservation area in line with its current significance assessment. The closer location of the infrastructure does not in itself alter the values of the HCA.

The artist's impressions for the Northern Air Ventilation System contained in Appendix I-Urban Design does not contain a projected view from the Wahroonga Conservation Area. This is potentially due to the height of the noise walls and the topography of the area combined limiting the views to the ventilation system. While the current design of the ventilation system is not consistent with constructions suitable for heritage conservation areas, this may not be an impact relevant to the Wahroonga conservation area located in the Ku-ring-gai LGA as the ventilation system may not be visible from the Wahroonga HCA. This should be clarified by RMS.

### **3.1.7 Summary**

The significance assessment of the heritage structure was not the most recent available assessment. However, the statement used is consistent with the assessment from 2013.

The assessment of the visual impacts to the heritage values of the HCA contained in the EIS were supported by this investigation. However, community consultation suggests that additional works (i.e. acoustic treatments of properties) are potentially being considered that have not been addressed in the EIS. These proposed actions need to be investigated and their impact to heritage assessed prior to action being taken.

## 3.2 1897, 1898, 1900, 1901 - TIMBER COTTAGES GROUP

### 3.2.1 Details

1897, 1898, 1900 and 1901 is part of a group of timber cottages on Coonanbarra Road. They are located nearby the Wahroonga HCA, but are not within its boundaries. The items are located at 120, 122, 126 and 128 Coonanbarra Road, Wahroonga. The significance assessments, statements of heritage impact and the review for these four items are the same. They possess individual heritage significance, and also significance as a group of similar structures. Therefore, they have been addressed together.

### 3.2.2 Significance Assessment from EIS

The Significance Assessment used in the EIS was taken from the Ku-ring-gai Planning Ordinances. The summary statement of significance listed in the EIS is as follows:

*The listed statement of significance, historic background and description for this site states that these are residential buildings (private) that are examples of timber cottages.*

### 3.2.3 Other available statements of significance

The significance assessment used for the timber cottages is the most recent available.

### 3.2.4 Comment

The statement of significance used in the EIS is the most recent available significance assessment.

### 3.2.5 Statement of Heritage Impact from EIS

The EIS noted two potential impacts to 120, 122, 126 and 128 Coonanbarra Road. The Impact Assessments are as follows:

*Impact Type: Vibration (surface works); Visual*

*Comment: This heritage item would be located near the northern portal of the project with surface works required immediately adjacent to the item on the M1 Pacific Motorway. Potential impacts may include:*

- Vibration impacts during surface construction, however surface works would adhere to safe working distances. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*
- Visual impacts during construction and operation. Existing vistas and view lines from the property would be considered during detailed design, including rehabilitation strategies that are sympathetic to the heritage item.*

*Degree of Impact: Minor impact Vibration; Minor impact Visual*

### 3.2.6 Review of Impact Assessment

**Vibration:** The EIS does not outline a Construction Noise and Vibration Monitoring Program (CNVMP) for heritage structures in the event that impacts to heritage structures are detected. A monitoring program

that includes measures that would allow for an adjustment to the program of works, rather than only monitoring impacts, is recommended to avoid potential impacts to the heritage items.

**Visual:** The current vista is of a noise wall behind a screen of vegetation from previous rehabilitation works following construction of the M1. If rehabilitation strategies are carried out as stated in the EIS the visual impact to 120 Coonanbarra as an individual item and as part of the timber cottages group will be negligible.

Community concerns have been raised about the potential impact of weather on the cottages if the vegetation is cleared, and if this will increase the rate of deterioration to the timber structures. Timber can become subject to weather damage if it is left exposed and unsealed against the elements. The timber cottages are painted, and this provides protection from the weather. Provided the property owners continue to maintain their properties to the same standard as they currently do, weathering should not be an issue during the construction period.

### **3.2.7 Summary**

The investigation into 120, 122, 126 and 128 Coonanbarra Road contains a statement of significance which is the most recent available.

The general assessment of impacts to 120, 122, 126 and 128 Coonanbarra Road are consistent with the findings of this investigation. This is provided that at detailed design a CNVMP for heritage structures is incorporated into the works program.

### 3.3 I902

#### 3.3.1 Details

I902 is located at 130 Coonanbarra Road, Wahroonga. It is nearby the Wahroonga HCA, but not within it.

#### 3.3.2 Significance Assessment from EIS

The Significance Assessment used in the EIS was taken from the Ku-ring-gai Planning Ordinances. The summary statement of significance listed in the appendix is as follows:

*The listed statement of significance, historic background and description for this site states that these are residential buildings (private) that are examples of timber cottages.*

The field assessment to confirm the statement of significance for this item noted that the item had been replaced by a two storey brick structure.

#### 3.3.3 Other available statements of significance

More recent statements of significance are not available for this item.

#### 3.3.4 Comment

Field surveys carried out by RMS indicate that the item has been replaced by a two storey brick structure. A field survey carried out by **ngh**environmental confirmed this.

A field assessment by **ngh**environmental confirmed that the item has been replaced by a two storey brick structure at some stage. It is not clear when this occurred.

#### 3.3.5 Statement of Heritage Impact from EIS

The statement of heritage impact for 130 Coonanbarra Road is as follows:

*Despite being listed on the current Ku-ring-gai Planning Scheme Ordinance, the current state of the property is not consistent with the listed heritage item description. Ku-ring-gai Municipal Council has resolved to recommend its removal from Schedule 5 of the Draft Ku-ring-gai LEP to the Department of Planning and Infrastructure.*

#### 3.3.6 Review of Impact Assessment

The item is not the timber cottage as listed, therefore there is no impact to heritage.

#### 3.3.7 Summary

As the item has been replaced at some stage, there is no impact to heritage as the current residence on the site is not a heritage structure.

## 3.4 I855 DRAFT LEP – DWELLING HOUSE

### 3.4.1 Details

I855 is located at street address 4 Burns Road, Wahroonga, also known as “Narrango”. It is located within the Wahroonga HCA as a bordering property.

### 3.4.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*No statement of significance is contained within the Ku-ring-gai Planning Ordinance. The reasons for listing this item are due to its cultural, architectural and municipal significance.*

### 3.4.3 Other available statements of significance

A Statement of significance was undertaken in 2006 by Perumal Murphy Alessi Pty Ltd in association with Glen Cowell Heritage Services Pty Ltd. The statement of significance is as follows:

*No. 4 Burns Road has limited historic and social significance as a building constructed in the first decade of the 20<sup>th</sup> Century. It has, however, been so heavily modified that it is now impossible to identify the original building form, detail and fabric. The integrity of the building has been severely compromised by the modifications.*

### 3.4.4 Comment

The statement of significance used in the EIS is not the most recent publicly available Statement of Significance. However, it is noted that the more recent significance assessment recommends that the item be removed from listing as an individual item, although it still makes a contribution to the streetscape of the conservation area. This does not affect the assessment of the item as a part of the conservation area.

### 3.4.5 Statement of Heritage Impact from EIS

The EIS noted two potential impacts to 4 Burns Road. The Impact Assessment from the EIS is as follows:

*Impact: Vibration (surface works); Visual*

*Comment: Part of the property would be located within 50 metres of cut and-cover sections of the northern portal.*

*Potential impacts may include:*

*- Vibration impacts during surface construction, however surface works would adhere to safe working distances.*

*Vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*

- Visual impacts during construction and operation primarily due to the widening of the existing M1 Pacific Motorway corridor at this location and changes to noise walls. However, this impact would be minimised due to the screening effect from surrounding residential developments.

DOI: Potential minor impact – vibration. Minor impact – visual.

### 3.4.6 Review of Impact Assessment

**Vibration:** The EIS does not outline what a program of monitoring works would entail, therefore it is difficult to determine if the monitoring works are suitable. Section 7.2-Noise and Vibration of the EIS does not outline a CNVMP for heritage structures in the event that impacts to heritage structures are detected. A monitoring program that allows for an adjustment to the program of works, rather than only monitoring impacts, would be required to avoid potential impacts to the heritage item.

**Visual:** The current vista is of a noise wall behind a screen of vegetation from previous rehabilitation following road works. The EIS refers to the role of neighbouring properties in minimising the visual impact to 4 Burns Road. Section 8.1 - Land Use and Property states that these properties are to be compulsorily acquired for the development. This information is covered in greater detail in the assessment of Conservation Area impacts in Section 3.1 of this report. As they are scheduled for removal, these properties will not perform a screening role for 4 Burns Road.

### 3.4.7 Summary

The investigation into 4 Burns Road contains a statement of significance which is not the most recent available. However, the more recent significance assessment questions the heritage significance of the item. It does not exclude the item from the conservation area.

The impact assessment for the item does not indicate what mitigation measures would be implemented in the event vibration monitoring identifies impacts to the property.

The impact assessment for visual impacts refers to the role of neighbouring residences in screening the views from the property. However, neighbouring residences have been identified as being acquired for the project construction. If compulsorily acquired and demolished, they will not be able to undertake this role. The EIS should address this potential impact.

## 3.5 1959 “HINDFELL” DWELLING HOUSE

### 3.5.1 Details

1959 is known as “Hindfell” and is located at 11A Lucinda Avenue, Wahroonga.

### 3.5.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*No statement of significance is contained within the Ku-ring-gai Planning Ordinance. The reasons for listing this item are due to its cultural, architectural and municipal significance.*

### 3.5.3 Other available statements of significance

11A Lucinda Avenue has been the subject of investigations for the current LEP. The heritage Data Form was completed in May 2014. Therefore, it would not have been available for the investigations into the EIS. However, the information that the significance assessment used as the basis for its investigations was found in a history article titled ‘Lucinda Avenue’. It does not appear to have been consulted in the literature review.

Research undertaken during the preparation of the heritage items for the LEP identified 11A Lucinda Avenue as being designed by the architect Edward Jeaffreson Jackson. In 2001 the heritage office recommended the works of Jackson be recognised and heritage listed. In addition, the property was built for prominent newspaper editor Henry Gullet, and his daughter medical pioneer Dr Lucy Gullett. Owing to its potential historic and associative significance, the item was held over to allow more thorough investigation to determine an appropriate significance assessment (Ku-ring-gai Council minutes, 26 November 2013). The heritage data form for the property was obtained from council’s heritage adviser. The statement of significance for 11A Lucinda Avenue is as follows:

*Hindfell at 11A Lucinda Avenue, Wahroonga is of state significance as an intact, well-known and highly regarded example of the work of influential and innovative architect, Edward Jeaffreson Jackson, who practised architecture in Sydney between 1885 and 1908. He is regarded as having introduced the English Arts and crafts style to Australia and heavily influencing leading Australian architects. Jeaffreson Jackson’s houses provide a very direct translation of the aesthetics of the English Arts and Crafts movements to the Australian context and are highly significant for that reason. There are 10-11 known examples of Jackson’s designs in Sydney, from an estimated 50 or more. The small number of surviving works, their prominence and quality and the clients he built them for make them highly significant as a group. In 2001 the NSW Heritage Office recommended that all of Jeaffreson Jackson’s surviving works warranted recognition and heritage listing.*

*Hindfell (1901) includes most of Jeaffreson Jackson’s Arts and Crafts signature style and design features such as asymmetrical massing, large, sheltering roofs and flamboyant Arts and Crafts styling such as oriel windows, roof dormers, shingled roofs, tall chimneys, timber brackets, verandahs and porches. According to Dr John Phillips, most feature large chimney inglenooks and stair halls.*



*Hindfell is also significant for its association with Henry Gullett (1837-1914), editor of the Sydney Morning Herald and Daily Telegraph and his daughter, Dr Lucy Gullett (medical pioneer and founder of the Rachel Forster Hospital for Women).*

The significance assessment finds the item to be of State heritage significance, and is to be recommended for State listing to the Heritage Office.

#### **3.5.4 Comment**

11A Lucinda Avenue was identified as a potential heritage structure during the heritage assessment for the LEP. The current draft status of the LEP means that an updated significance assessment was not available for use in the EIS. The significance assessment referenced in this study was obtained following an enquiry to Ku-ring-gai council. Given the potential state significance of the item as indicated by the more recent significance assessment and also previous comments from the Heritage Office in 2001, an updated significance assessment should be considered in the EIS.

#### **3.5.5 Statement of Heritage Impact from the EIS**

The EIS noted four potential impacts to 11A Lucinda Avenue. The Impact Assessment is as follows:

*Impact: Vibration and settlement (tunnelling); Visual; At-property Acoustic treatment*

*The property would be located within the preferred project corridor.*

*Potential impacts may include:*

- Settlement during and after construction, however this would be less than five millimetres, which is considered to be negligible.*
- Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*
- No significant permanent change to visual context given the presence of the existing motorway. Potential for temporary visual impacts while construction works are undertaken within the existing motorway corridor.*
- Potential direct impacts due to eligibility for at-property acoustic treatment. The need for acoustic treatment at this property would be confirmed during detailed design, in consultation with the landowner, and with consideration of potential impacts to heritage values.*

*DOI: Potential negligible impact – vibration and settlement. Negligible impact – visual. Potential impact depending on required treatment – At-property acoustic treatment.*

#### **3.5.6 Review of Impact Assessment**

**Settlement:** The potential impact of 5 millimetres or less should not result in cosmetic damage, therefore this is a negligible impact.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts. This does not take into account the fabric of the

building and if cosmetic damage is likely to be difficult to amend. The EIS notes on page 78 that heritage structures need to be assessed on a case by case basis. For the Statement of Heritage Impact, this has not been done. It can potentially be addressed in detailed design with a CNVMP for heritage structures.

**Visual:** The area immediately behind 11A Lucinda Avenue will be used as a temporary construction compound. The current presence of the motorway means that visual impacts to the property are unlikely, provided rehabilitation is carried out as defined in the EIS.

**Noise:** At property acoustic treatment is not defined with reference to the specific noise levels for 11A Lucinda Avenue, as these would be determined at detailed design. The EIS notes that in line with the Burra Charter, any modifications made need to be reversible. It is not clear if the noise impacts are only for the construction period, or for ongoing noise issues from the road once the tunnel is operational. If the treatment is required for ongoing noise levels then it is likely that the acoustic treatment would be permanent. This point needs to be clarified.

### 3.5.7 Summary

The significance assessment of the heritage structure was the most recent available significance assessment at the time of the EIS. However, investigations carried out as part of the Draft LEP mean that an updated assessment has become available. This information was also available in historical papers about Lucinda Avenue. The updated significance assessment needs to be considered for future works impacting on this property, particularly owing to its potential for state significance.

The statement of heritage impact does not take into account the fabric of the property. The significance assessment for 11A Lucinda Avenue lists the built form, including distinctive window design, as part of the inherent heritage values for the property. In addition, it does not clearly state the reasons for acoustic treatment in order to determine if this would be a short term or permanent alteration to the fabric of the building. Acoustic treatment to the property needs to factor in the potential state significance of the property into any future treatment to the site. Although the Burra Charter does note that changes should be identifiable and reversible, it prefers a cautious 'do as little as possible' approach. The potential for this should be fully explored through a more thorough Statement of Heritage Impact that takes into account the revised significance assessment as carried out as part of the Draft LEP. Planning and monitoring works need to address the appropriate level of significance for the item.

## 3.6 LEP 1953 “BOLTON GRANGE” DWELLING HOUSE

### 3.6.1 Details

I953 is known as ‘Bolton Grange’, street address 21 Lucinda Avenue, Wahroonga.

### 3.6.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*No statement of significance is contained within the Ku-ring-gai Planning Ordinance.*

*Reasons for listing are due to its cultural, architectural, municipal significance.*

*Historical period: 1921-1940. Substantially intact.*

### 3.6.3 Other available statements of significance

The Statement of significance used was the most recent available. A revised statement is planned on being undertaken for the current revision of the LEP. This is not currently available, but may be available prior to construction works commencing.

### 3.6.4 Comment

The Statement of Significance used for the EIS is the most up to date assessment available.

### 3.6.5 Statement of Heritage Impact from the EIS

The EIS noted three potential impacts to 21 Lucinda Avenue. The Impact Assessment is as follows:

*Impact type: Vibration and Settlement (tunnelling); Visual*

*This item would be located above the on-ramp and off-ramp portals on the M1 Pacific Motorway / Pennant Hills Road connector and would lie directly above the on-ramp and off-ramp tunnels. The northern interchange compound (C9) would also be located directly adjacent to the property boundary.*

*Potential impacts may include:*

- Settlement during and after construction, however this would be 10 millimetres or less, which may result in cosmetic damage only.*
- Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*
- Visual impacts from vegetation clearance and the introduction of new infrastructure. Re-vegetation of the area would occur following construction which would limit potential long-term visual impacts. Existing vistas and view lines from the property would be considered during detailed design, including rehabilitation strategies that are sympathetic to the heritage item.*

*Degree of Impact: Potential minor impact – vibration and settlement; minor impact visual*

### 3.6.6 Review of Impact Assessment

**Settlement:** The potential impact of 10 millimetres or less resulting in potential cosmetic damage is considered to be a minor impact. This does not take into account the fabric of the building and if cosmetic damage is likely to be difficult to amend. This impact assessment is not based on the individual features of the property. The vibration assessment on page 78 of the EIS notes that the individual features of the property need to be factored into impact assessments. This does not appear to have been done in this instance.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts, or monitor damage for later repair.

**Visual:** The area immediately behind 21 Lucinda Avenue will be used as a temporary construction compound. The view lines will be impacted in the short to medium term, depending on the program for rehabilitation. The view lines from the property will also be altered with the new construction on and off ramps being located within view of the property.

**Noise:** It is not clear why 21 Lucinda Avenue has not been listed as potentially requiring acoustic treatment. The property is in close proximity to 11A Lucinda Avenue, which has been identified as potentially requiring at property acoustic treatment. It will also be located above the on and off ramps.

### 3.6.7 Summary

The significance assessment of the heritage structure was the most recent available assessment.

The statement of heritage impact does not take into account the fabric of the property in determining potential impacts to the structure from vibration and settlement.

It is not clear why 21 Lucinda Avenue has not been identified as requiring at property acoustic treatment and 11A Lucinda Avenue has. Noise maps and listings in the appendix are not easily interpreted for those without training, and do not appear to factor in potential heritage issues. There is a potential risk that once construction commences acoustic treatment will be required and the heritage impacts may not have been adequately addressed.

## 3.7 1954 – DWELLING HOUSE

### 3.7.1 Details

I954 is located at 24 Lucinda Avenue, Wahroonga.

### 3.7.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*No statement of significance is contained within the Ku-ring-gai Planning Ordinance. The reasons for listing this item are due to its cultural, architectural and municipal significance.*

### 3.7.3 Other available statements of significance

As part of the draft LEP, a heritage assessment has been undertaken as part of the Draft Heritage Items Deferred from KLEP 2013 for Further Review and Assessment. The report is being currently undertaken by council and it is acknowledged that this information was not available at the time that the EIS was undertaken. The revised statement of significance was obtained from council. It is included here for future reference.

The most recent statement of significance is as follows:

*Of local significance as a large, imposing, three storey Neoclassical house designed by Scott, Green and Scott in 1936 for Group Captain Edye Rolleston Manning and his wife, Phyllis. It was, at the time, a very costly house and intended to display the social rank of its owners. The siting of the house over three levels on a sloping block overlooking a large, private rear garden, and approached via an established garden, high fence and driveway contribute to its imposing character. Internally, the spaces are large and of particular note is the grand circular staircase.*

*It helps demonstrate the history of Lucinda Avenue in the 1930s following the break-up of the Matakana estate. The scale and cost of the house indicates the growing affluence of the upper North Shore during the inter-war period. The house is one of many in the immediate area which are impressive in scale and designed by well-known architects for wealthy clients and which are an important component of the Lucinda Avenue streetscape.*

### 3.7.4 Comment

The Statement of Significance used in the assessment of 24 Lucinda Avenue was the most recent available at the time the EIS was undertaken. The updated statement of significance should be referred to at a later stage in the project. The assessment of local significance remains.

### 3.7.5 Statement of Heritage Impact from the EIS

The EIS noted three potential impacts to 24 Lucinda Avenue. The impact assessment is as follows:

*Impact: Vibration and settlement (tunnelling); Visual*

*Comment: The property would be located within the preferred project corridor.*

*Potential impacts may include:*

- *Settlement during and after construction, however this would be less than five millimetres, which is considered to be negligible.*
- *Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*
- *Permanent visual impacts associated with surface works at the northern interchange are unlikely given the distance to these areas (over 250 metres) and presence of surrounding residential properties and vegetation. Existing properties would also likely obscure temporary visual impacts associated the northern interchange compound (C9).*

*DOI: Potential negligible – vibration and settlement. Negligible – Visual*

### **3.7.6 Review of Impact Assessment**

**Settlement:** The potential impact of 5 millimetres or less which is considered to be a negligible impact. It should not result in cosmetic damage.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts, or monitor damage for later repair.

**Visual:** 24 Lucinda Avenue is located on the opposite side of the road to the Lucinda Avenue properties bordering the construction compound. The property is also located on the low side of the hill. Other residences would likely obscure the vistas from the property to the new construction. Therefore a visual impact to the property is considered to be negligible.

### **3.7.7 Summary**

The significance assessment of the heritage structure was the most recent available assessment.

The statement of heritage impact does not define management measures that would be put in place should monitoring during construction identify impacts to the property are occurring. Apart from this point, this review is consistent with the statement of heritage impact.

## 3.8 LEP 1955 – “MATAKANA” DWELLING HOUSE

### 3.8.1 Details

I955 is known as ‘Matakana’, street address 28 Lucinda Avenue, Wahroonga.

### 3.8.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*No statement of significance is contained within the Ku-ring-gai Planning Ordinance. The reasons for listing this item are due to its cultural, architectural and municipal significance.*

### 3.8.3 Other available statements of significance

The Statement of significance used was the most recent available. A revised statement is planned on being undertaken for the current revision of the LEP. This is not currently available, but may be available prior to construction works commencing.

### 3.8.4 Comment

The statement of significance used to base the assessment on is the most recent available. Once the revised assessment currently being undertaken for the LEP is available it should be referred to in preference to the current assessment.

### 3.8.5 Statement of Heritage Impact from the EIS

The EIS noted three potential impacts to 28 Lucinda Avenue. The Impact Assessment is as follows:

*Impact type: Vibration and settlement (tunnelling); Visual*

*The property would be located within the preferred project corridor.*

*Potential impacts may include:*

- Settlement during and after construction, however this would be less than five millimetres, which is considered to be negligible.*
- Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*
- Permanent visual impacts associated with surface works at the northern interchange are unlikely given the distance to these areas (over 250 metres) and presence of surrounding residential properties and vegetation.*

*Temporary visual impacts would also unlikely be significant for the same reasons.*

*DOI: Potential negligible impact – vibration and settlement. Negligible impact – visual.*

### 3.8.6 Review of Impact Assessment

**Settlement:** The potential impact of 5 millimetres or which is considered to be a negligible impact. It should not result in cosmetic damage.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts, or monitor damage for later repair.

**Visual:** The construction compound is located behind properties on the other side of Lucinda Avenue. In addition, 28 Lucinda Avenue is located on the lower side of the hill. Given the screening effect of other residences and the topography of the area, the visual impact to the property is likely to be minimal.

### 3.8.7 Summary

The significance assessment of the heritage structure was the most recent available assessment.

The statement of heritage impact does not define management measures that would be put in place should monitoring during construction identify impacts to the property are occurring. The visual impacts to the property are considered to be accurate. Apart from this point, this review is consistent with the statement of heritage impact.



## 3.9 1956 – “CULLINGRAL” DWELLING HOUSE

### 3.9.1 Details

I956 is located at 33 Lucinda Avenue, Wahroonga.

### 3.9.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*No statement of significance is contained within the Ku-ring-gai Planning Ordinance. The reasons for listing this item are due to its cultural, architectural and municipal significance.*

### 3.9.3 Other available statements of significance

A Heritage Assessment was undertaken for 33 Lucinda Avenue in 2002 as part of heritage assessments commissioned by Ku-ring-gai from Tropman and Tropman Architects.

The assessment of significance undertaken by Tropman and Tropman (2002) assessed the property as having cultural and aesthetic significance. The statement of significance is as follows:

*In considering the cultural heritage qualities of the Ku-Ring-Gai Municipal area, this particular building has a high degree of merit due to its detailing and the intactness of its setting. With the added significance of the mature trees on the property contributing to the forested setting of the house, this house and its landscape has a high degree of importance when set against the wealth of built fabric to be found in the Ku-Ring-Gai Municipal Area.*

A revised statement is planned on being undertaken for the current revision of the LEP. This is not currently available, but may be available prior to construction works commencing.

### 3.9.4 Comment

The Statement of Significance used in the assessment of 33 Lucinda Avenue was not the most recent available. The more recent assessment lists the surrounding gardens as part of the significance of the building. These features should be considered in the Statement of Heritage Impact.

### 3.9.5 Statement of Heritage Impact from the EIS

The EIS noted three potential impacts to 33 Lucinda Avenue. The Impact Assessment is as follows:

*Impact type: Vibration and settlement (Tunnelling); Visual*

*Comment: This item would be located above the on-ramp and off-ramp portals on the M1 Pacific Motorway connector and would lie directly above the ramps to the main alignment tunnels. The northern interchange compound (C9) would also be located near item.*

*Potential impacts may include:*

*- Settlement during and after construction, however this would be 10 millimetres or less, which may result in cosmetic damage only.*

- *Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*

- *Visual impacts however adjacent properties are likely to screen views to the project from this property. Existing vistas and view lines from the property would be considered during detailed design, including rehabilitation strategies that are sympathetic to the heritage item.*

*DOI: Potential minor impact – vibration and settlement. Minor impact – visual.*

### **3.9.6 Review of Impact Assessment**

**Settlement:** The potential impact of 10 millimetres or less resulting in potential cosmetic damage is considered to be a minor impact. This does not take into account the fabric of the building and if cosmetic damage is likely to be difficult to amend. This impact assessment is not based on the individual features of the property. The vibration assessment on page 78 of the EIS notes that the individual features of the property need to be factored into impact assessments. This does not appear to have been done in this instance.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts, or monitor damage for later repair.

**Visual:** Parts of the grounds for 33 Lucinda Avenue have been subdivided from the property. Therefore, the area immediately behind the item is screened by residences. The view lines from 33 Lucinda Avenue are not expected to significantly alter. The visual impacts are likely to be negligible.

### **3.9.7 Summary**

The significance assessment of the heritage structure was not the most recent available assessment.

The statement of heritage impact does not take into account the fabric of the property and does not define the scope of vibration monitoring works and how impacts would be addressed if they arise. The visual assessment is consistent with the findings of this investigation.

## 3.10 I960 – DWELLING HOUSE

### 3.10.1 Details

I960 is located at 37A Lucinda Avenue, Wahroonga.

### 3.10.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*Excellent timber example of an Inter-War Bungalow. Has much in common with the original Californian model, with suggested Japanese influence. Unusual double-gabled design. Good condition. Fine quality original timber detail, including windows and gables.*

### 3.10.3 Other available statements of significance

A heritage assessment has been undertaken as part of the Draft Heritage Items Deferred from KLEP 2013 for Further Review and Assessment. The report is being currently undertaken by council and it is acknowledged that this information was not available at the time that the EIS was undertaken. The revised statement of significance was obtained from council. An assessment was undertaken by council in 2012. This information was available from council, although it was not on public display. The assessment does not contain a statement of significance. The house is assessed as being locally significant.

### 3.10.4 Comment

The statement of significance for 37A Lucinda Avenue has not been included in the updated heritage review. Therefore, the assessment used in the EIS is the most recent available.

### 3.10.5 Statement of Heritage Impact from the EIS

The EIS noted three potential impacts to 37A Lucinda Avenue. The Impact Assessment is as follows:

*Impact type: Vibration and Settlement (tunnelling); Visual*

*Comment: This heritage item would be located above the on and off-ramp portals on the M1 Pacific Motorway / Pennant Hills Road connector and would lie directly above the on and off-ramp tunnels. The northern interchange compound (C9) would also be located near item.*

*Potential impacts may include:*

- Settlement during and after construction, however this would be 10 millimetres or less, which may result in cosmetic damage only.*
- Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*
- Visual impacts during and after construction, however this would be reduced in part by distance and the screening effect of surrounding residential developments. Existing vistas and view lines*

*from the property would be considered during detailed design, including rehabilitation strategies that are sympathetic to the heritage item.*

*Degree of Impact: Potential minor impact – vibration and settlement. Minor impact – visual.*

### **3.10.6 Review of Impact Assessment**

**Settlement:** The potential impact of 10 millimetres or less resulting in potential cosmetic damage is considered to be a minor impact. This does not take into account the fabric of the building and if cosmetic damage is likely to be difficult to amend. This impact assessment is not based on the individual features of the property. The vibration assessment on page 78 of the EIS notes that the individual features of the property need to be factored into impact assessments. This does not appear to have been done in this instance.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts, or monitor damage for later repair.

**Visual:** The rear yard of 37A Lucinda Avenue has been subdivided from the property in the past. There is a residence immediately behind the property. This residence is likely to offer visual screening of the project. The visual impact is likely to be negligible.

### **3.10.7 Summary**

The significance assessment of the heritage structure was the most recent available assessment.

The statement of heritage impact does not take into account the fabric of the property and does not define the scope of vibration monitoring works and how impacts would be addressed if they arise. The visual assessment of negligible impacts is consistent with this report.

### 3.11 1957 “MANSFIELD” DWELLING HOUSE

#### 3.11.1 Details

1957 is also known as ‘Mansfield’, and is located at 41 Lucinda Avenue, Wahroonga.

#### 3.11.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*No statement of significance is contained within the Ku-ring-gai Planning Ordinance. The reasons for listing this item are due to its cultural, architectural and municipal significance.*

#### 3.11.3 Other available statements of significance

The property was assessed as part of the HCA Review – North as undertaken by Paul Davies Architects in 2010. As part of the draft LEP, a heritage assessment has been undertaken as part of the Draft Heritage Items Deferred from KLEP 2013 for Further Review and Assessment. The report is being currently undertaken by council and it is acknowledged that this information was not available at the time that the EIS was undertaken. The revised statement of significance was obtained from council. It is included here for future reference.

*Of local significance as a highly intact example of a late inter-war Tudor-style residence designed by the architect, Louise Leigh Robertson of L S Robertson and Son in 1938. The simplified Tudor-style details and overall quality create a feeling of restraint and elegance. The house sits back from the street within a garden setting. The two storey height, pitched tiled roof and use of multi-tone red bricks gives the house an imposing air and makes a valuable contribution to the streetscape of Lucinda Avenue.*

#### 3.11.4 Comment

The Statement of Significance used in the assessment of 41 Lucinda Avenue was the most recent available at the time the EIS was undertaken. The updated statement of significance should be referred to at a later stage in the project. The assessment of local significance remains.

#### 3.11.5 Statement of Heritage Impact from the EIS

The EIS noted three potential impacts to 41 Lucinda Avenue. The Impact Assessment is as follows:

*Impact: Vibration and settlement (tunnelling); Visual*

*Comment: This heritage item would be located near the on and off-ramp portals on the M1 Pacific Motorway / Pennant Hills Road connector and would lie directly above the on and off-ramp tunnels. The northern interchange compound (C9) would also be located near item.*

*Potential impacts may include:*

*- Settlement impacts during and after construction, however this would be five millimetres or less, which is considered to be negligible.*

- *Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*

- *Visual impacts during construction and operation. However this would be reduced in part due to the screening effect of surrounding residential developments. Existing vistas and view lines from the property would be considered during detailed design, including rehabilitation strategies that are sympathetic to the heritage item.*

*DOI: Potential minor impact – vibration and settlement. Minor impact – visual.*

### **3.11.6 Review of Impact Assessment**

**Settlement:** The potential impact of 5 millimetres or less is considered to be a negligible impact. It should not result in cosmetic damage.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts, or monitor damage for later repair.

**Visual:** 41 Lucinda Avenue will be screened from the project site by adjacent residence. A visual impact is likely to be negligible.

### **3.11.7 Summary**

The significance assessment of the heritage structure was the most recent available assessment at the time of the EIS, and the revised assessment should be referred to during detailed design.

The statement of heritage impact does not take into account the fabric of the property and does not define the scope of vibration monitoring works and how impacts would be addressed if they arise. The visual assessment of negligible impacts is consistent with this report.

## 3.12 I1012 – “POOLE HOUSE” DWELLING HOUSE

### 3.12.1 Details

I1012 is known as ‘Poole House’, located at 24 Woonoona Avenue, Wahroonga. The house is located on the complex of Abbotsleigh College. Buildings as part of the Abbotsleigh College complex are heritage listed. Poole House is the only heritage listed property to fall within the project impact zone.

### 3.12.2 Significance Assessment from EIS

The Ku-ring-gai Planning Ordinances were consulted for the statement of significance. The summary statement of significance listed in the appendix is as follows:

*Reasons for listing; architectural, municipal significance. Historical period: 1901-1920.*

*The oldest building on the Junior Campus. Altered or extended unsympathetically.*

### 3.12.3 Other available statements of significance

The statement of significance used to base the assessment on is the most recent available. Once the revised assessment currently being undertaken for the LEP is available it should be referred to in preference to the current assessment.

### 3.12.4 Comment

The statement of significance refers only to the individual building within the construction zone. It does not take into account the potential impacts to the entire heritage values of Abbotsleigh College. The significance assessment was the most recent available at the time the EIS was undertaken.

### 3.12.5 Statement of Heritage Impact from the EIS

The EIS noted two potential impacts to 24 Woonoona Avenue. The Impact Assessment is as follows:

*Impact: Vibration and settlement (tunnelling)*

*Comment: The property would be located within the preferred project corridor. Potential impacts may include:*

- Settlement during and after construction, however this would be less than five millimetres, which is considered to be negligible.*
- Vibration impacts during tunnelling. However, vibration levels are anticipated to be below potential damage levels relevant to heritage structures. An existing condition survey and a program of monitoring would also be undertaken to identify early potential risks to the heritage item.*

*DOI: Potential negligible impact*

### 3.12.6 Review of Impact Assessment

**Settlement:** The potential impact of 5 millimetres or less is considered to be a negligible impact. It should not result in cosmetic damage.

**Vibration:** The scope of the monitoring works is not defined, therefore it is difficult to determine if the monitoring works will mitigate against heritage impacts, or monitor damage for later repair.

### **3.12.7 Summary**

The significance assessment of the heritage structure was the most recent available assessment.

The statement of heritage impact does not take into account the fabric of the property and does not define the scope of vibration monitoring works and how impacts would be addressed if they arise. Given the location of the property it is unlikely that there will be visual impacts to the property.



## 4 OTHER CONCERNS

The project has the potential to impact on the heritage values of the conservation area and heritage listed properties in the Ku-ring-gai LGA. These concerns are addressed here and assessed.

### 4.1 DESIGN OF THE VENTILATION SYSTEM

The topography of the area and the planned inclusion of noise walls means that it is unlikely that the northern ventilation facility will be visible from the heritage properties and areas that fall within the visual impact zone. However, this is not made explicit in the EIS. As it is a community concern, this point should be clarified. The design of the ventilation system is not seen to be consistent with the surrounding Wahroonga Heritage Area (Hornsby). Its potential impact to the Ku-ring-gai portion of the Wahroonga Heritage Area needs to be more clearly defined in the non-Aboriginal heritage section, given that the ventilation system will be located within the Wahroonga HCA.

### 4.2 NOISE WALLS: DESIGN, LOCATION AND IMPACT ON CONSERVATION AREAS

The views to and from the Conservation area C1 will be impacted in the short term by the project, owing to the removal of the noise walls and vegetation. The current plan as outlined in the EIS is for noise walls to be replaced with a similar design to that currently in place, depending on assessed height and material requirements. Revegetation is also planned for the area. If this is carried out in the way it has been described in the EIS it will not have a long term visual impact on the conservation area.

The artist's impressions of noise walls are shown in the Technical working paper – Urban design (pp.201-208). In addition, the EIS states throughout that revegetation will occur once construction has been completed. The design of the noise walls, works of art that may be added to them and the revegetation in the vicinity of the walls needs to factor in the heritage values of the surrounding area. Following the four year construction period, there is potential at this point for a community consultative approach. This would allow residents to draw on their own interpretation of the heritage values of the area. It has been requested from residents that community consultation be carried out in respect to noise wall design at this point.

### 4.3 DOCUMENT OVERVIEW

In general, the EIS is difficult to read and interpret. The decision to refer to a combination of lot, DP and addresses inconsistently throughout the document and the appendices has reduced the legibility. Potential impacts to heritage, such as noise, vibration and settlement and visual impacts are not addressed directly, but are cross referenced to the individual technical papers. These technical papers have little or no direct reference to heritage issues and planning.

Photographs of properties used in the significance confirmation are often of gates and hedges. How significance has been confirmed and impacts adequately assessed without viewing the actual property is not explained by the document.

The poor legibility of the maps in general has added to this confusion. The maps do not flow from one page to the next, as they are ordered south to north. The division of the northern interchange portion of the maps across two pages combined with the chosen sequence has compounded the legibility issues.

## 5 SUMMARY

The review of the non-Aboriginal heritage component of the North Connex EIS has found the following:

- Some of the information used for the Statements of Significance and Statement of Heritage Impacts was outdated. However, it is recognised that these oversights do not substantially alter the substance of the heritage impact assessment in relation to most of the items (except 11A Lucinda Avenue) and the heritage conservation area within the Kuring-gai Council LGA. Detailed design should factor in updated significance assessments.
- 11A Lucinda Avenue (Hindfell) is a substantially intact property of potential state significance. It is appropriate that a more detailed impact assessment and vibration monitoring program be established for 11A Lucinda Avenue. The issue of acoustic treatment also needs to be addressed with regard to the intactness of the property and its aesthetic significance.
- The EIS assesses four potential impacts to heritage items as confirmed by this review. They include vibration impacts, settlement impacts, visual impacts and impacts from acoustic treatments. In summary:
  - Vibration impacts – The EIS does not define the scope of vibration monitoring works that would be undertaken, in particular how impacts would be addressed if they arise. Also the assessment did not take into account the fabric of the property in its assessment. The vibration assessment on page 78 of the EIS notes that the individual features of the property need to be factored into impact assessments. This should be considered to confirm potential degree of impact and ensure adequate measures are put in place to protect the properties. Table 14 on page 31 of Appendix F: Noise and Vibration has a table for structural damage safe limits. These are not interpreted in the heritage section of the EIS, nor are they interpreted with regard to the fabric of the buildings.
  - Settlement impacts – The EIS determined that some properties have the potential to be subject to at most minor cosmetic damage. However, the assessment did not take into account the fabric of the property in its assessment. The vibration assessment on page 78 of the EIS notes that the individual features of the property need to be factored into impact assessments. This should be considered to confirm potential degree of impact and ensure adequate measures are put in place to protect the properties.
  - Visual impacts – The EIS as confirmed by our review has determined that the majority of the visual impact to heritage items would be negligible due to the plan for the replacement of noise walls and revegetation once construction is completed. However, it is noted that for 4 Burns Road the potential visual impact described in the EIS will not be screened by neighbouring properties, as these properties are marked for acquisition and demolition. The EIS should be amended to address this potential impact.
  - Acoustic treatment impacts – the EIS for heritage recommends one property for potential acoustic treatment. The reasons for the selection of this property and the exclusion of neighbouring properties is not stated in the heritage chapter of the EIS and is not made clear in the noise chapter of the EIS. Community consultation has raised the possibility that acoustic treatment is being considered

for other properties. If this is the case, the appropriate heritage assessments should be carried out.

The heritage chapter of the EIS has inconsistencies and in some cases uses outdated significance assessments as the basis for investigation of impacts, but the general thrust of the document is considered to be accurate. The project will avoid direct impacts to heritage properties and the heritage conservation area. However, the potential for impacts has not been adequately addressed. The EIS has left many aspects of future planning to detailed design. This has created confusion and uncertainty in the community and has made it difficult for the community to understand the ongoing process. In addition, the low legibility of the document, cross referencing to technical papers that are not interpreted and difficult to read maps has made it difficult to clarify points of confusion.