

New Intercity Fleet – Springwood to Lithgow Rail Corridor Modifications

**Combined heritage assessment for Faulconbridge,
Linden, Woodford, Hazelbrook, Bullaburra,
Wentworth Falls, Leura, Bell, and Newnes Junction
stations**

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Combined heritage assessment for Faulconbridge, Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, Bell, and Newnes Junction stations

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Executive summary

Transport for NSW (TfNSW) is the government agency responsible for the delivery of major transport infrastructure projects in NSW and is the proponent for the New Intercity Fleet - Springwood to Lithgow Rail Corridor Modifications (the Project).

In May 2014, the NSW Government announced it is delivering the New Intercity Fleet, to replace trains carrying customers from Sydney to the Central Coast, Newcastle, Blue Mountains and the South Coast. The introduction of the New Intercity Fleet would allow for the replacement of the electric train fleets currently used to provide intercity services.

The New Intercity Fleet would:

- provide a more consistent and improved level of customer service for intercity customers
- facilitate the retirement of two electric train sets currently in operation
- reduce the costs of intercity operations
- increase capacity for intercity customers.

The Project would ensure adequate width of the carriageway along the Blue Mountains Line to facilitate the delivery of the New Intercity Fleet Program to replace the trains carrying customers from Sydney to the Blue Mountains. The Project would include the following key elements:

- modifications to station platform edges (also known as platform coping)
- re-positioning of rail tracks (track slewing) along the length of the rail corridor
- modification of the existing platform canopy at Faulconbridge Station
- extension of cabling routes at Hazelbrook and Woodford
- establishment and decommissioning of temporary construction compounds.

This report presents a summary of heritage impacts for station modifications required for the Project including at:

- Faulconbridge
- Linden
- Woodford
- Hazelbrook
- Bullaburra
- Wentworth Falls
- Leura,
- Bell
- Newnes Junction.

These stations are listed on the RailCorp Section 170 Heritage and Conservation Register. Linden, Bullaburra, Hazelbrook, Leura, Wentworth Falls, Woodford and Bell stations are also listed on Schedule 5 of the *Blue Mountains Local Environmental Plan 2015* (Blue Mountains LEP) as holding local heritage significance.

In summary, it is concluded that the Project would have a minor to negligible impact on the heritage significance of the nine subject stations.

The modification of the platform coping at these stations would result in a variation in treatment along the face of the station platforms. It is therefore recommended that the length of the corbelled brickwork coping at Faulconbridge, Linden, Woodford, Hazelbrook, Wentworth Falls, and Bell stations be rendered, as appropriate and advised by the heritage conservation architect, to create a consistent presentation. With this mitigation measure, it is anticipated that

the platform coping modifications would largely be unnoticeable and would not impact on the aesthetic significance of the stations.

At Leura Station and Newnes Junction Station modifications are required to platforms where there is little or no platform coping so removal would likely impact on the vertical platform wall as well as the coping. Impacts to the platform wall are not likely to result in a detrimental effect to the historical or aesthetic significance of Leura Station and Newnes Junction Station as the change would largely be unnoticeable once the cut face has weathered. In addition the functionality of the platforms would remain unchanged and therefore continue to support the heritage significance of the stations.

It is anticipated that the track slewing would be largely unnoticeable and would not impact on fabric of heritage significance.

No impacts to areas of archaeological sensitivity have been identified in association with the excavations required for the installation of the proposed cabling routes at Hazelbrook and Woodford or with the use of the temporary construction compounds located at Linden, Woodford and Newnes Junction stations.

Modifications to the platform canopy at Faulconbridge Station would impact heritage fabric that supports the visual appearance of the station building. However the proposed modifications would generally be unnoticeable and therefore have been assessed as minor. To further reduce the impact, it is recommended that the bolt heads used to attach the splice plates to the canopy rafters be matched in profile to those evident on the remainder of the canopy. They should be altered in diameter to ensure the new work is distinguishable from the original in order to be consistent with Article 22.1 of *The Burra Charter*.

Mitigation measures have been provided in this report to minimise impacts to the heritage listed stations.

1 Introduction

1.1 Background

Transport for NSW (TfNSW) is the government agency responsible for the delivery of major transport infrastructure projects in NSW and is the proponent for the New Intercity Fleet - Springwood to Lithgow Rail Corridor Modifications (the Project).

In May 2014, the NSW Government announced it is delivering the New Intercity Fleet, to replace trains carrying customers from Sydney to the Central Coast, Newcastle, Blue Mountains and the South Coast. The introduction of the New Intercity Fleet would allow for the replacement of the older electric train fleets currently used to provide intercity services.

The New Intercity Fleet would:

- provide a more consistent and improved level of customer service for intercity customers
- facilitate the retirement of two electric train sets currently in operation
- reduce the costs of intercity operations
- increase capacity for intercity customers.

The Project includes the following key elements:

- modifications to station platform edges (also known as platform coping)
- re-positioning of rail tracks (track slewing) along the length of the rail corridor
- modification of the existing platform canopy at Falconbridge Station
- extension of cabling routes at Hazelbrook and Woodford
- establishment and decommissioning of temporary construction compounds.

1.2 This assessment

This report presents the summary of heritage impacts to Falconbridge, Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, Bell, and Newnes Junction stations. These stations are listed on the RailCorp Section 170 heritage and Conservation Register and a number on the *Blue Mountains Local Environment Plan 2015* (Blue Mountains LEP). Summaries of statutory requirements, significance of each station, impact assessment and recommendations are provided for each station assessed.

1.3 Site location

This report relates to the following sites listed on the Blue Mountains Line that are listed on RailCorp's Section 170 Heritage and Conservation Register, being:

- | | | |
|------------------------|---------------------------|---------------------------|
| • Falconbridge Station | • Hazelbrook Station | • Leura Station |
| • Linden Station | • Bullaburra Station | • Bell Station |
| • Woodford Station. | • Wentworth Falls Station | • Newnes Junction Station |

The locations and heritage curtilages of these nine stations are provided in Appendix A.

1.4 Project methodology

This heritage assessment has been undertaken in accordance with the NSW Heritage Division guidelines *Assessing Heritage Significance* (NSW Heritage Office, 2001) and *Statements of Heritage Impact* (NSW Heritage Office, 2002) and includes:

- desktop searches of relevant heritage registers
- review of Project drawings and reference design reports
- review of the following key documents:
 - heritage register listings for the stations
 - historic plans for the stations held by the Sydney Trains Plan Room
- site inspections on 7 April 2017 by AECOM staff of eight of the nine stations (Faulconbridge, Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura and Bell stations) assessing the existing stations along with the existing character of the Project site and surrounding land uses. Newnes Junction Station was inspected by Artefact on 20 April 2017. Note: all photographs within this report were taken during these site inspections unless otherwise stated
- assessment of the Project against the heritage significance of the stations. The assessment has been undertaken in light of the conservation processes and principles found in *The Burra Charter: The Australian ICOMOS Charter for Places of Cultural Significance* (2013). *The Burra Charter* is considered to be the pre-eminent guidance document for the management of change for places of heritage significance within Australia.
- The Project has also been assessed against the Sydney Trains document *Heritage Platforms Conservation Management Strategy*, as the most relevant management document.

1.5 Report limitations

The purpose of this report is to identify and assess historic heritage and archaeological potential which might be impacted by the Project. Predictions have been made within this report about the probability of subsurface archaeological materials occurring within the site, based on surface indications and environmental contexts. However, it is possible that materials may occur in areas without surface indications and in any environmental context. These would be addressed in accordance with TfNSW's *Unexpected Heritage Finds Guideline* (Transport for NSW, 2015). This report is based on a reference design for the Project. It is noted that during detailed design, details of the Project may change or be refined.

A summary of the statutory requirements regarding historical heritage is provided in Section 2. The summary is provided based on the experience of the authors with the heritage system in Australia and does not purport to be legal advice. It should be noted that legislation, regulations and guidelines change over time and users of the report should satisfy themselves that the statutory requirements have not changed since the report was written.

2 Statutory context

2.1 Commonwealth legislation

2.1.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) defines 'environment' as both natural and cultural environments and therefore includes Aboriginal and non-Aboriginal historic cultural heritage items. Under the EPBC Act, protected heritage items are listed on the National Heritage List (NHL) (items of significance to the nation) or the Commonwealth Heritage List (CHL) (items belonging to the Commonwealth or its agencies). These two lists replaced the Register of the National Estate (RNE). The RNE has been suspended and is no longer a statutory list; however, it remains as an archive. None of the nine stations are identified on the RNE.

Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a matter of National Environmental Significance (known as a controlled action under the EPBC Act), may only progress with approval of the Commonwealth Minister for the Department of the Environment and Energy (DoEE). An action is defined as a project, development, undertaking, activity (or series of activities), or alteration. An action would also require approval if:

- it is undertaken on Commonwealth land and would have or is likely to have a significant impact on the environment on Commonwealth land; and,
- it is undertaken by the Commonwealth and would have or is likely to have a significant impact.

None of the nine stations are identified on the NHL or CHL, nor are they located on Commonwealth land. No referral under the EPBC Act with respect to heritage is therefore required.

2.2 State Legislation

2.2.1 Heritage Act 1977

The *Heritage Act 1977* (as amended) was enacted to conserve the environmental heritage of NSW. Under Section 32, places, buildings, works, relics, movable objects or precincts of heritage significance are protected by means of either Interim Heritage Orders (IHO) or by listing on the NSW State Heritage Register. Items that are assessed as having State heritage significance can be listed on the State Heritage Register by the Minister on the recommendation of the NSW Heritage Council.

Under Section 170 of the *Heritage Act 1977*, NSW Government agencies are required to maintain a register of heritage assets. The register places obligations on the agencies, but not on non-government proponents, beyond their responsibility to assess the impact on surrounding heritage items.

The stations that are the subject of this report have been identified on the RailCorp Section 170 Heritage and Conservation Register under State Heritage Inventory database. Under Section 170A(1)(c) Sydney Trains must provide the Heritage Division with written notice prior to demolition of any place, building or work entered in its register.

Archaeological features and deposits are afforded statutory protection by the 'relics provision'. Section 4(1) of the *Heritage Act 1977* (as amended 2009) defines 'relic' as follows:

"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”.

Approval to disturb an area that may contain relics must be obtained under Section 140.

2.2.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) allows for the preparation of planning instruments to direct development within New South Wales (NSW). This includes Local Environment Plans (LEP), which are administered by local government, and principally determine land use and the process for development applications. LEPs usually include clauses requiring that heritage be considered during development applications and a schedule of identified heritage items be provided. The EP&A Act also allows for the gazettal of State Environmental Planning Policies (SEPP).

2.2.3 State Environmental Planning Policy (Infrastructure) 2007

SEPPs are environmental planning instruments which address planning issues within the State. SEPPs often make the Planning Minister the consent authority for the types of development they relate to. The *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP 2007) is of relevance to this Project.

Clause 14 of ISEPP 2007 applies to infrastructure developments carried out by, or on behalf of, a public authority if the development is likely to impact a local heritage item or heritage conservation area (other than a heritage item that is also a State heritage item). Under ISEPP 2007, a public authority, or person/s acting on behalf of a public authority, must not carry out a development to which this clause applies, unless an assessment of the proposed impact has been prepared and forwarded to the local government of the area for comment. Comments received within 21 days must be taken into consideration. This Clause is of relevance to the Project as Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, and Bell stations are identified on the Blue Mountains LEP. It is recommended a copy of this report be forward to Blue Mountains City Council for comment.

2.3 Local government

2.3.1 Blue Mountains Local Environmental Plan 2015

Part 5, Section 5.10 of the Blue Mountains LEP deals with heritage conservation within the area covered by this LEP. All heritage items listed on the LEP are included in Schedule 5. The Blue Mountains LEP states:

(1) The objectives of this clause are as follows:

- a. to conserve the environmental heritage of the Blue Mountains
- b. to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
- c. to conserve archaeological sites,
- d. to conserve Aboriginal objects and Aboriginal places of heritage significance.

(2) Development consent is required for any of the following:

- a. demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):
 - i. a heritage item,
 - ii. an Aboriginal object,
 - iii. a building, work, relic or tree within a heritage conservation area,

- b. altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,
- c. disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation would or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,
- d. disturbing or excavating an Aboriginal place of heritage significance,
- e. erecting a building on land:
 - i. on which a heritage item is located or that is within a heritage conservation area, or
 - ii. on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,
- f. subdividing land:
 - i. on which a heritage item is located or that is within a heritage conservation area, or
 - ii. on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, and Bell stations are listed on Schedule 5 of the Blue Mountains LEP.

2.4 Summary of statutory controls

A summary of the statutory heritage listings are presented in Table 1.

Table 1 Summary of listed heritage items

Station	World Heritage List	National Heritage List	Cwth Heritage List	State Heritage Register	RailCorp's Section 170 Heritage and Conservation Register	Local environment plan
Faulconbridge Station	Not applicable	Not applicable	Not applicable	Not applicable	Faulconbridge Railway Station (#4801064)	Not applicable
Linden Station	Not applicable	Not applicable	Not applicable	Not applicable	Linden Railway Station (#4801918)	Blue Mountains LEP (LD007)
Woodford Station	Not applicable	Not applicable	Not applicable	Not applicable	Woodford Railway Station (#4801041)	Blue Mountains LEP (Wd002)
Hazelbrook Station	Not applicable	Not applicable	Not applicable	Not applicable	Hazelbrook Railway Station (#4801914)	Blue Mountains LEP (H007)
Bullaburra Station	Not applicable	Not applicable	Not applicable	Not applicable	Bullaburra Railway Station (#4800202)	Blue Mountains LEP (BL002)
Wentworth Falls Station	Not applicable	Not applicable	Not applicable	Not applicable	Wentworth Falls Railway Station (#4801039)	Blue Mountains LEP (Wf022)
Leura Station	Not applicable	Not applicable	Not applicable	Not applicable	Leura Railway Station (#4801024)	Blue Mountains LEP (La016)
Bell Station	Not applicable	Not applicable	Not applicable	Not applicable	Bell Railway Station (#4801013)	Blue Mountains LEP (BELL007)
Newnes Junction Station	Not applicable	Not applicable	Not applicable	Not applicable	Newnes Junction Signal Box (#4807638)	Not applicable

3 Historical context

3.1 European crossing of the Blue Mountains

For 25 years the Blue Mountains formed an impenetrable barrier to the expansion of the New South Wales Colony. Convicts seeking to escape were the first to attempt the crossing, but the strategy to following creeks or rivers upstream was unsuccessful when falls or rapids were met. Gregory Blaxland, William Lawson and William Charles Wentworth made the first real head way with their expedition in May 1813 (State Library of New South Wales, 2014). Later that same year, surveyor George Evans found a way through to Bathurst (National Museum of Australia, n.d.). Captain William Cox was tasked by Governor Lachlan Macquarie to form a road along this line, which was to become the basis for the Great Western Highway.

3.2 Railway development

The Blue Mountains Railway Line was constructed in stages, reaching Faulconbridge Station in 1867, Katoomba Station in 1868 and Lithgow Station in 1869. Various upgrades and other modifications were made to each station between the original construction and the electrification of the rail line in the 1950s. This resulted in the installation of overhead wiring structures along the length of the Blue Mountains Line. The stations of the Blue Mountains Line were later altered to accommodate the “V Set” trains in the 1970s.

This section provides a brief historical context of the stations assessed in this report, including Faulconbridge, Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, Bell, and Newnes Junction stations.

3.2.1 Faulconbridge Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“The line was opened in 1867 and duplicated in 1902, with Faulconbridge station being opened in 1877. Opening of a station here followed former Premier of NSW Sir Henry Parke's selection of the area for his residence. Faulconbridge is the maiden name of Sir Henry Parkes' first wife. His former residence is nearby. The present station building was erected in connection with the duplication, in brick Federation style similar to many other examples erected for the duplication of the line between 1898 and 1913.

The pedestrian bridge that provides access to the platforms was built in 1901. Its twin beam construction is typical of NSWGR practice. Since 1990, every component of the bridge has been replaced.”

(RailCorp, 2009)

3.2.2 Linden Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“The Main Western line opened through Linden in 1867 and the station opened in 1874 as a private station until 1882 called Linden Tank, though it was renamed Henderson's Platform from 1874 to 1879, after which it reverted to its present name, Linden.

During its early phase of operations, some sidings were built on the Up side to ease delays in the long section of single line track between Springwood and Lawson, though these have long been removed. There was also a Station Master's residence at this location though it is no longer extant.

The line was duplicated in 1902 and the present island platform and buildings date from that time. Like most stations between Emu Plains and Lithgow, Linden received a standard Federation style set of two platform structures, a main brick building and a detached brick out-of-shed.

At the Sydney end of the main structure, the roof was extended to provide a shelter for a future interlocking frame, which was installed in 1902, with duplication. The signal box closed in 1958 when automatic colour light signals were introduced. The platform is reached by a trussed footbridge that was erected in 1901.

This station has a short platform, meaning that passengers alighting or boarding must travel in the rear four cars of any eight or six car train serving the platform.”

(RailCorp, 2008)

3.2.3 Woodford Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Woodford Railway Station is of local significance as part of the early construction phase of railway line duplication across the Blue Mountains demonstrating the technological and engineering achievements in railway construction during the early twentieth century. The station is evidence of growth in the historic town of Woodford and is a prominent landmark from the main road owing to its higher setting with subway access. Woodford station building is a good example of a standard design island platform building and demonstrates typical architectural elements of the similar Federation style standard buildings that were built between Penrith and Lithgow during the early twentieth century.”

(RailCorp, 2009)

3.2.4 Hazelbrook Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“While the Main Western Railway passed through Hazelbrook from 1867, it was not until 1884 that a timber platform was erected at the village. When duplication of the line occurred in 1902, a new brick island platform and Federation style station buildings were built. The station was built as a single storey early Type II island platform building of Federation free classical style design. Complementing the station house in design, the smaller tuck-pointed red brick Lamp room was constructed on its southeast side. The 1902 platform consisted of English bond brick walls retaining a concrete deck. All were set between a rock cutting to the southwest and the Great Western Road to the northeast. As longer trains came into use, in 1944 the platform at Hazelbrook Railway Station was increased in length to its present 310 metres. Electrification of the Main Western line from Penrith to Lithgow was completed in 1957.

The present platform building with its standard Federation style design dates from line duplication in 1902, similar to many stations on this line. The building remains largely unchanged externally since that time, though internal modifications have been reported.

Little evidence is available about the history of Hazelbrook station, with no surviving plans of the original or present platform buildings. There is no consensus on the origin of the station name.”

(RailCorp, 2009)

3.2.5 Bullaburra Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“The single track main line through Bullaburra was opened in 1867 and the line from Glenbrook to Katoomba duplicated in 1902. Bullaburra was the last town to be developed on the Blue Mountains however, and the railway station did not open at this location until 1925, when the station was built to service the land subdivision occurring at that time.

The land for Bullaburra was subdivided and developed by Sydney property developer; Arthur Rickard & Co. At Rickard’s cost, the NSWGR erected a brick shelter shed which applied extended rafters to form platform awnings. This was inconsistent with the use of standard metal awning brackets used elsewhere on the NSW rail system. The Department of Railways did not take ownership until 1946.

In 1947, the Department of Railways proposed to erect a brick booking office but this was not constructed until 1957, at which time toilets were also added.

The pedestrian bridge that provides access to the platforms at Bullaburra was built at the time of the railway station construction, using twin beam construction typical of NSWGR practice. Since 1990, every component of the bridge, except the steel structure, has been replaced.

A modern two-sided covered platform shelter has been added.”

(RailCorp, 2009)

3.2.6 Wentworth Falls Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“The Great Western Railway went through Wentworth Falls in 1867 and the platform opened at this location in the same year, though it was named ‘Weatherboard’ until 1879. This was the terminus of the Blue Mountains railway from July 1867 until the Mt Victoria section of the line opened in May 1868.

In 1891, the station received its present composition of a main structure and two pavilions, one attached and one detached. It was one of the very last standard roadside stations to be built on the NSW rail system.

The ‘out of’ shed was erected in 1902 when the platform was converted from a side to an island configuration with the duplication of the line. The station is externally in very much original condition but a number of changes have been made internally including new toilet fittings, floor finishes and enclosed or adapted fireplaces.

The present pedestrian bridge dates from 1994.”

(RailCorp, 2009)

3.2.7 Leura Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“The Main Western line opened through Leura in 1868 and the station first opened in 1890, though it was closed for a brief period in 1891. Then construction contract for the Lawson to Blackheath section was awarded to William Watkins on 1 June 1865; the per way contract from Nepean River top Blackheath was awarded to Edward Larkin & William Wakeford on 17 September 1865. The line was duplicated from Wentworth Falls to Katoomba in 1902 and the present island platform and buildings date from that time. The line was electrified on 3 February 1957. Like most stations between Emu Plains and Lithgow, Leura received a standard Federation style set of two platform structures 'a main brick building' and a detached brick 'out-of' shed.

At the Sydney end of the main structure, the roof was extended to provide a shelter for a future signal interlocking frame, which was installed in 1912. The signal box closed in 1958 when automatic colour light signals were introduced. A room for the Station Master was provided by the extension of the building at the Sydney end in 1915.

The platform is reached by a pre-stressed concrete overbridge erected in 1985.

While externally the building is little changed from its appearance in 1915, it was substantially upgraded internally in 1994.”

(RailCorp, 2008)

3.2.8 Bell Station

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“The Western line through Bell opened in 1869. The station opened in 1875 as 'Mt Wilson' aiding in the subdivision and development of the nearby village of the same name. A waiting shed was erected in 1877, which was later enlarged to accommodate a station officer.

The station was relocated to its present site in 1889 and renamed 'Bell'. The station is named after Archibald Bell Jnr (1804-83) who, in 1833, discovered a new stock route across the Blue Mountains from Richmond to Lithgow, known as the 'Bell's Line of Road'. The station is located at the intersection of the railway and road and was the starting point for horse-drawn coach tours to Mt Wilson following its establishment as a popular tourist destination.

The section through Bell was among the last to be duplicated, with duplication from Hartley Vale to Bell opening in 1911 and from Bell to Zig Zag in 1910.

The current brick platform building was completed for duplication. A feature of the station design was the inclusion of an outdoor lever frame, later enclosed as a signal box at one end of the structure, which was typical for this type of building. Virtually every station between Penrith and Lithgow received the same style of Federation structure when the Western line was duplicated between 1898 and 1912.

The associated Railway Residences were sold during the 1970s and 1980s.

The station remains as an unattended station providing rail access to the village of Mt Wilson.”

(RailCorp, 2009)

3.2.9 Newnes Junction Signal Box

The following is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Single line opened from Mount Victoria to Bowenfels (via Lithgow Zig Zag) on 18 October 1869. Construction contract for the Clarence tunnel to end of Lithgow Zig Zag section was awarded to P Higgins on 15 October 1865. Dargans Creek Deviation constructed by the Public Works Department opened on 11 April 1897. Lithgow Zig Zag Deviation and duplication constructed by the Department of Railways opened on 16 October 1910.

The first station in the area opened on 27 November 1906. The current station replaced the earlier station (also called "Newnes Junction") which operated from 1906 to 1910.

The station and area is named after Sir George Newnes, an English shareholder in the Commonwealth Oil Corporation, which commenced shale oil mining in the nearby Wolgan Valley, north of the station in 1906. A private railway was constructed from the workings in the valley to the railway line at Newnes Junction. The private train to Newnes was discontinued on 4 July 1924.

There was originally a small waiting room on the platform, as well as the current Signal Box constructed c.1910. A residence was constructed in 1906. A goods shed from Hartley Vale was re-erected on site in 1918.

The signal box is still used for coal trains from the colliery loop, although the station ceased passenger services in 1975.

The earliest signal boxes containing interlocking machines were constructed of timber, brick or a combination of both and have been designated 'Type D'. Timber was the predominant material. The building itself represented only a small proportion of the total cost of the project, as the interlocking machine was usually much more expensive. These early structures had a gable roof, clad with corrugated, galvanised iron (steel) sheets, covering a flat-sided, box-like weatherboard structure. Windows were placed along the front wall at the operating level and partly down both sides. Usually, the stairs ascended directly to the door of the operating level. It is considered that this design derives its influences from those shown in the catalogues of McKenzie and Holland who supplied interlocking machines, and the experiences of John Parry, the officer responsible for installing the early interlocking machines. Immediately prior to joining the New South Wales Railways, John Parry had been employed by McKenzie and Holland. Within several years of the introduction of this design, a significant modification was introduced when an inverted (or concave), galvanised steel awning was placed above all the operating level windows and the landing. A landing, the full width of the signal box, was provided at the top of the stairs, and sometimes an enclosed earth closet was to be found at the rear of this landing.”

(RailCorp, 2011)

4 Physical description

The physical description of the stations is summarised in Table 2. Elements of each station which contribute to the stations significance, and are relevant to project, are also provided in Sections 4.1 to 4.9.

Table 2 Existing infrastructure at stations

Station	Details
Faulconbridge	<ul style="list-style-type: none"> station includes an island platform (constructed in 1902 and later extended in 1940s) with a single track in each direction, and station platform building platforms 1 and 2 are about 186 metres long tracks were laid in 1890 and 1902, and have undergone extensive modifications and replacements surrounding area is mostly low density residential
Linden	<ul style="list-style-type: none"> island platform (constructed 1902) with a single track in each direction (laid in 1890 and 1902), and level crossing at the west end of the platform (constructed c1902) platforms 1 and 2 are between 121 and 125 metres long surrounding area is mostly vegetated
Woodford	<ul style="list-style-type: none"> island platform (constructed 1902) with a single track in each direction platforms 1 and 2 are between 183 and 187 metres long surrounding area is mostly low density residential
Hazelbrook	<ul style="list-style-type: none"> island platform (constructed 1902) with a single track in each direction platforms 1 and 2 are between 183 and 186 metres long surrounding area is mostly low density residential with some commercial development
Bullaburra	<ul style="list-style-type: none"> island platform (constructed 1924) with a single track in each direction platforms 1 and 2 are 183 metres long surrounding area is mostly low density residential
Wentworth Falls	<ul style="list-style-type: none"> island platform (platform 1 constructed 1902, platform 2 constructed 1890) with a single track in each direction (laid in 1890 and 1902) platforms 1 and 2 are between 183 and 184 metres long both platforms have been extended at both ends, and coping has been raised and cut back on Platform 2 tracks have undergone extensive modifications and replacements surrounding area is mostly low density residential with some commercial development the station is currently being upgraded as part of the Transport Access Program
Leura	<ul style="list-style-type: none"> island platform (constructed 1902 and extended in 1912) with a single track in each direction platforms 1 and 2 are between 183 and 186 metres long the station is currently being upgraded as part of the Transport Access Program surrounding area is a combination of low density residential and commercial development
Bell	<ul style="list-style-type: none"> island platform (constructed 1911) with a single track in each direction, and level crossing (constructed 1985) platforms 1 and 2 are between 197 and 198 metres long surrounding area is mostly vegetated, with a small number of low density or rural residence

Station	Details
Newnes Junction	<ul style="list-style-type: none"> • one facing side and one island platform (total of three platforms) with three tracks and signal box • platforms 1 and 2 are between 124 and 130 metres long. Platform 3 is about 122 metres long • currently not in use by the public • surrounding area is mostly vegetated, with a small number of low density or rural residences

4.1 Faulconbridge Station

4.1.1 Station platform building

The following description of the station platform building is taken from the RailCorp Section 170 Heritage and Conservation Register:

“External: Constructed of face brick with corrugated metal gabled roof extending as an awning to both platforms, Faulconbridge railway station building is an early phase island platform building in standard Federation style design. It features 5 bays with linear arrangement along the platform, tuckpointed red brickwork and engaged piers between the bays. Other features include rendered and moulded two rows of string courses, moulded cornice, timber framed windows and doors with contrasting decorative trims and sills, standard iron brackets over decorative corbels supporting ample platform awnings, fretted timber work to both ends of awnings and gable ends, timber cross to gable ends, two tall corbelled chimneys, timber framed double-hung windows with toughened mesh glazing, and timber panelled door openings with fanlights.

Internal: The station building was not inspected internally (2009). Previous studies of the station indicate that the interiors have been substantially modified.” (RailCorp, 2009)

The canopy on platform 2 is supported on decorative metal brackets that are in a common design based on two interconnecting curves (Figure 1). The bracket is attached to the timber fascia, which supports the guttering. The corrugated iron sheeting over the canopy appears to have been recently replaced.



Figure 1 View looking north of the Platform canopy over platform 2 at Faulconbridge Station

4.1.2 Island platform (1902)

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Faulconbridge Railway Station has an island platform, which curves towards the east at the south end of the platform. The platform is brick faced with concrete deck and asphalt finish. Four garden beds planted with high manicured scrubs are located along the platform north of the station building. The platform also features period and modern light fittings, timber bench seating, modern signage and aluminium palisade fencing located at both ends of the platform.” (RailCorp, 2009)

4.1.3 Platform coping

The platform was constructed in two phases. The original 1902 section is constructed of unreinforced concrete, which was cast in situ. The original concrete corbel is preserved, but has been modified through the addition of two courses of brickwork during the platform extension works (Figure 2). The platform extension in the 1940s at the southern end was constructed entirely of brick and includes a corbelled overhang of four courses of bricks (Figure 3).



Figure 2 A section of the 1902 platform coping at Faulconbridge Station



Figure 3 View looking east of the 1940s platform extension at Faulconbridge Station

4.2 Linden Station

4.2.1 Island platform (1902)

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Linden Railway Station has an island platform in a curved shape towards the south. The platform is brick and concrete faced with concrete deck and central grass with hedges at both ends of the platform. The footbridge is located at the west of the main station building and the level crossing is at the west end of the platform. Modern light fittings and timber bench seating in addition to modern signage and aluminium palisade fencing at both ends of the platform are present.” (RailCorp, 2008)



Figure 4 View looking east of Linden Station platform

4.2.2 Platform coping

The island platform was constructed in two phases. The original 1902 section is constructed of unreinforced concrete, which was cast in situ. The original concrete corbel is preserved, but has been modified through the addition of two courses of brickwork during the platform extension works (Figure 5). Further, the coping shows evidence of previous modifications through the addition of a concrete, particularly adjacent to the platform building, where the curve of the platform is at its greatest. The platform extension constructed in the 1940s at the southern end was constructed entirely of brick and includes a corbelled overhang of four courses of bricks (Figure 6).



Figure 5 View west of a section of Linden Station platform 1. Note modifications to platform coping denoted by an arrow



Figure 6 View looking east of a section of Linden Station platform 1

4.3 Woodford Station

4.3.1 Island platform (1902)

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Woodford Railway Station has an island platform which curves towards the north. The platform is brick faced with concrete deck and asphalt finish. The platform also features modern light fittings, timber bench seating, modern signage and aluminium palisade fencing located at both ends of the platform. Various shape and form garden beds are located along the central line of the platform and at the base of the buildings. A ‘Centenary Time Capsule’ is located at the base of garden bed between the subway stairs and the station building. It was laid on 14 December 2002.” (RailCorp, 2009)



Figure 7 View looking east of 1902 section of Woodford Station platform 1



Figure 8 Platform 2 at Woodford Station showing the junction between the 1902 and 1940s platforms, together with the concrete coping. The junction is shown denoted by an arrow

4.3.2 Platform coping

The platform was constructed in two phases. The original 1902 section is constructed of unreinforced concrete, which was cast in situ. The platform extension constructed in the 1940s consists entirely of brick. The coping on platforms 1 (north) and 2 (south) consist of different materials. The coping on platform 2 is of consistent appearance, being of concrete and projecting over the platform wall by approximately 250 millimetres (Figure 8). While no historical documentation has been identified, an examination of the fabric would indicate that this coping was probably modified to its current configuration in the 1970s. The coping to platform 1 is less consistent, with the original 1902 concrete coping being preserved, but modified through the addition of between two and three courses of bricks, laid in differing arrangements across the length of the platform (Figure 9). The uncorbelled overhang is approximately 50 millimetres.



Figure 9 Platform 1 at Woodford Station showing the 1902 concrete coping capped with 1940s brickwork of varying arrangement

4.4 Hazelbrook Station

4.4.1 Island platform (1902)

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Hazelbrook Railway Station has an island platform, which curves towards the northeast at the south end of the platform. The platform is concrete faced with concrete deck and asphalt finish. It has been extended. Garden beds are present along the length of the platform planted with scrubs and a number of mature trees. The platform also features modern light fittings, timber bench seating, modern signage and aluminium palisade fencing located at both ends of the platform.” (RailCorp, 2009)



Figure 10 View looking south-east of the 1902 platform 1 at Hazelbrook Station



Figure 11 View looking north of the platform 2 at Hazelbrook Station showing the junction between the 1902 and 1940s platform phases

4.4.2 Platform coping

The platform was constructed in two phases. The original 1902 section is constructed of unreinforced concrete, which was cast in situ. The original concrete corbel is preserved, but has been modified through the addition of three courses of brickwork during the platform extension works (Figure 11). The platform extension constructed in the 1940s at the southern end was constructed entirely of brick and includes a corbelled overhang of four courses of bricks (Figure 11). The upper most course of bricks has been laid in soldier arrangement (laid on the short end, with the narrow edge facing out).

4.5 Bullaburra Station

4.5.1 Island platform (1924)

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Bullaburra railway station has an island platform which curves slightly at the western end towards the north. The pre-cast concrete drop panelled platform has a concrete deck and asphalt finish. A few gardens beds are located along the platform featuring mature trees and a few low lying shrubs. The platform also features modern light fittings, timber bench seating, modern signage and aluminium palisade fencing located at both ends of the platform. Country end partially replaced with modern precast concrete U-shaped panels.” (RailCorp, 2009)



Figure 12 View looking south-west of a section of 1924 platform of Bullaburra Station

4.5.2 Platform coping

Platform 1 is a modern concrete construction (2017) (Figure 13). Platform 2 is of precast concrete post and panel wall (Figure 14), however, it is currently slated for replacement, with the formwork in place.



Figure 13 View looking south-west of a section of platform 1 at Bullaburra Station



Figure 14 View looking south-west of a section of platform 2 at Bullaburra Station

4.6 Wentworth Falls Station

4.6.1 Island platform

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Wentworth Falls Station Group has an island platform in elliptical shape curved in accordance with the deviation of the line. It was originally constructed as a road side platform in 1890 and reconfigured to form an island platform in 1902 when the line was duplicated. The platform is brick faced with a concrete deck and asphalt finish. A number of kerbed garden beds with plantings and small trees are scattered along the central line of the platform and the bases of buildings at some elevations. Modern light fittings, signage, a water fountain, timber bench seating and aluminium palisade fencing at both

ends of the platform are other features along the platform. Access to the street level is provided by a set of stairs leading to the footbridge at the northern end.

Platform 1 (1902): Original platform is unreinforced concrete cast in situ, with stepped coping and rectangular weepholes. Platform has been extended at both ends in brick with corbelled coping.

Platform 2 (1890): Platform originally brickwork, laid in English bond, with a battered profile. Platform has been extended at both ends in brick with corbelled coping. Coping has been raised and cut back, particularly around the centre of the platform.” (RailCorp, 2009)



Figure 15 A section of 1902 platform coping at Wentworth Falls Station

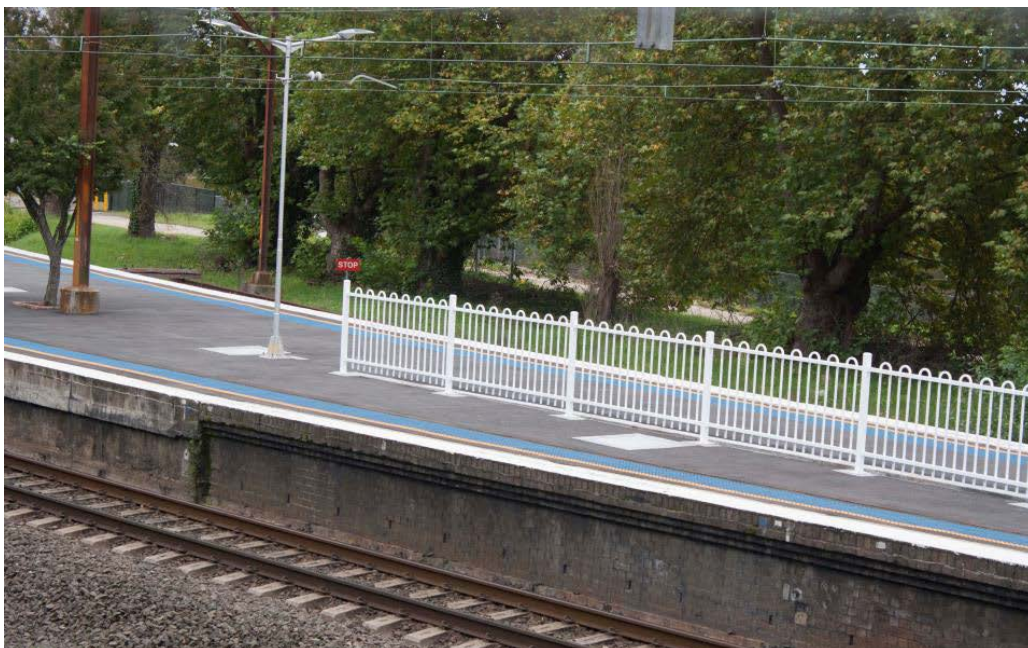


Figure 16 View north of a section of platform 1 showing the junction between the 1980 and 1902 phases at Wentworth Falls Station

4.6.2 Platform coping

The platform was constructed in three phases, which is reflected in the material and configuration of the platform coping. The central portion of platform 1 is constructed of unreinforced concrete, cast in situ in 1890. The coping consists of a roughly formed, uncorbelled overhang of approximately 20 millimetres. The platform has been extended at both ends in brick, although when these works occurred is unclear, the date on the plan being obscured (N.S.W.R Proposed Extension of Platform etc. Wentworth Falls; Plan No. Cv0212494). Subsequent plans indicate these works were completed prior to the 1930s. The brick section has a corbelled coping of four courses of bricks.

Platform 2 was constructed in 1902 of brick, with a corbelled coping. The extensions on either end are of similar construction.

4.7 Leura Station

4.7.1 Island platform (1902, extended 1912)

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Leura Railway Station has an island platform curved with a pointed end to the west. The platform is brick faced with concrete deck and asphalt finish. A small number of concrete edged garden beds with plantings are located between the station building and the out-of-shed as well as towards the western end of the platform. A mature tree is located on the eastern part of the platform between the station building and the footbridge. Period and modern light fittings and timber bench seating, and modern signage, water fountain and aluminium palisade fencing at both ends of the platform are other features along the platform.” (RailCorp, 2008)



Figure 17 View looking north west of a section of platform 1 at Leura Station

4.7.2 Platform coping

The platform is constructed of unreinforced concrete cast in situ (Figure 18). A small portion of platform 2 at the north western end appears to be of precast concrete post and panel wall (Figure 19). The majority of the platform does not have an over-hanging coping, with the exception of the post and panel wall section noted above, which has an overhang of approximately 100 millimetres. The addition of concrete to the coping is evident adjacent to the station platform building on platform 1.



Figure 18 View looking north of a section of platform 2 at Leura Station



Figure 19 View looking north west of a section of platform 2 at Leura Station

4.8 Bell Station

4.8.1 Island platform (1911)

The following description of the platform is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Island platform in elliptical shape curved at both ends. The platform is brick faced with concrete deck and asphalt finish with modern light fittings, signage, timber bench seating and aluminium palisade fencing at both ends of the platform are other features along the platform. Coping has been raised in brick and cut back.” (RailCorp, 2009)



Figure 20 View looking west of a 1911 section of platform at Bell Station



Figure 21 View looking north of a 1911 section of platforms 1 and 2 at Bell Station

4.8.2 Platform coping

The island platform was constructed in 1911 and does not appear to have been extended. The coping consists of four corbelled courses of bricks, sections of which have been previously modified by cutbacks (Figure 20).

4.9 Newnes Junction Station

4.9.1 Platform

The following description of the platforms is taken from the RailCorp Section 170 Heritage and Conservation Register:

“Brick faced island 135m platform with gravel surface and modern lighting. Also a brick faced side platform.” (RailCorp, 2011)

4.9.2 Platform coping

The brick faced island platform (platform 1) has a corbel of two courses of brick, each of which projects about 50 millimetres from the face of the platform and the previous brick respectively. The platform is finished with concrete coping that projects approximately 250 millimetres from the end of the brick corbel (Figure 22). The siding platform (platform 2) has no overhang as it lacks the two courses of brick corbelling (Figure 23).



Figure 22 View north west of Newnes Junction island platform (platform 1)



Figure 23 View south west of Newnes Junction siding platform (platform 2)

4.10 Railway track

The Blue Mountains Line track consists of sleepers, ballast and rail. It is noted that the sleepers are concrete throughout station precincts. It is anticipated that these items are not individually or collectively significant, having undergone extensive modifications and replacements since the lines were laid in 1890 and 1902.

5 Significance assessment

5.1 Assessment criteria

5.1.1 Significance assessment criteria

In order to understand how a development would impact on a heritage item, it is essential to understand why an item is significant. An assessment of significance is undertaken to explain why a particular item is important and to enable the appropriate site management and curtilage to be determined. The process of assessing heritage significance is outlined in the guideline *Assessing Heritage Significance* (NSW Heritage Office, 2001) which is part of the *NSW Heritage Manual* (Heritage Branch, Department of Planning). The *Assessing Heritage Significance* guidelines establish seven evaluation criteria which reflect four categories of significance and whether a place is rare or representative.

A heritage item can be identified as being significant at a local level (i.e. to the people living in the vicinity of the site), at a State level (i.e. to all people living within NSW) or be significant to the country as a whole and be of National or Commonwealth significance. In accordance with the guideline *Assessing Heritage Significance*, an item would be considered to be of State significance if it meets two or more criteria at a State level, or of local heritage significance if it meets one or more of the criteria outlined in Table 3. The Heritage Council require the summation of the significance assessment into a succinct paragraph, known as a Statement of Significance. The Statement of Significance is the foundation for future management and impact assessment.

Table 3 Significance assessment criteria

Criterion	Inclusions/Exclusions
Criterion (a) – <i>an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).</i>	The site must show evidence of significant human activity or maintains or shows the continuity of historical process or activity. An item is excluded if it has been so altered that it can no longer provide evidence of association.
Criterion (b) – <i>an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).</i>	The site must show evidence of significant human occupation. An item is excluded if it has been so altered that it can no longer provide evidence of association.
Criterion (c) – <i>an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</i>	An item can be excluded on the grounds that it has lost its design or technical integrity or its landmark qualities have been more than temporarily degraded.
Criterion (d) – <i>an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</i>	This criterion does not cover importance for reasons of amenity or retention in preference to proposed alternative.
Criterion (e) – <i>an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</i>	Under the guideline, an item can be excluded if the information would be irrelevant or only contains information available in other sources.

Criterion	Inclusions/Exclusions
Criterion (f) – <i>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).</i>	An item is excluded if it is not rare or if it is numerous, but under threat. The item must demonstrate a process, custom or other human activity that is in danger of being lost, is the only example of its type or demonstrates designs or techniques of interest.
Criterion (g) – <i>an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):</i> <ul style="list-style-type: none"> • <i>cultural or natural places cultural; or</i> • <i>natural environments.</i> 	An item is excluded under this criterion if it is a poor example or has lost the range of characteristics of a type.

A summary of the RailCorp Section 170 Heritage and Conservation Register listings significance assessments is present in Table 4. See Appendix B for further details of the significance assessment for the stations.

Table 4 Summary of significance assessment criterion met by station based on RailCorp Section 170 Heritage and Conservation Register assessments

Station	Criterion
Faulconbridge Station	a, b, c, d, g
Linden Station	a, c, d, e, g
Woodford Station	a, c, d, e, f, g
Hazelbrook Station	a, c, d, e, g
Bullaburra Station	a, b, c, d, f
Wentworth Falls Station	a, c, d, f, g
Leura Station	a, c, d, g
Bell Station	a, c, d, f, g
Newnes Junction Station	a, g

6 Archaeological assessment

A review was undertaken of the historical land uses and previous upgrades of the Project site through the use of aerial imagery, relevant heritage listings, site visits and drawings held in the Sydney Trains Plan Room.

High levels of previous disturbance have occurred around most of the stations included in this assessment due to the ongoing construction, operation and maintenance of the Blue Mountains Line generally resulting in a low archaeological potential.

At Linden Station potential archaeological relics have been identified (including sidings, a water tank and a Station Master's residence) however the Project (including construction compound locations) would not impact this area.

The significance assessment associated with the listing for Newnes Junction Station does not identify as holding archaeological significance or potential, however an examination of plans held by Sydney Trains, together with the site inspection, indicates one former structure to the west of the siding platform, which likely comprises a former waiting room which may have been constructed in 1932. No impacts to this structure are anticipated as no works (including the temporary construction compound) are proposed in this area.

7 Impact assessment

7.1 Proposed works

7.1.1 Overview

The Project would ensure adequate width of the carriageway along the Blue Mountains Line to facilitate the delivery of the New Intercity Fleet Program to replace the trains carrying customers from Sydney to the Blue Mountains. The following key elements are included:

- modifications to station platform edges (also known as platform coping)
- re-positioning of rail tracks (track slewing) along the length of the rail corridor
- modification of the existing platform canopy at Faulconbridge Station
- extension of cabling routes at Hazelbrook and Woodford
- establishment and decommissioning of temporary construction compounds.

Project works specific to at each station included in this assessment is detailed in Table 5. The proposed works are shown in the attached heritage design drawings.

Table 5 Project works

Station / item	Proposed works
Faulconbridge	Coping modifications, track slewing, modification of existing platform canopy
Linden	Coping modifications, track slewing
Woodford	Coping modifications, track slewing, signal relocation
Hazelbrook	Coping modifications, track slewing, signal relocation
Bullaburra	Coping modifications, track slewing
Wentworth Falls	Coping modifications, track slewing
Leura	Coping modifications, track slewing
Bell	Coping modifications, track slewing, crossover replacement
Newnes Junction	Coping modifications, track slewing

7.1.2 Coping modifications

To enable the passage of the New Intercity Fleet through the Stations and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of fabric off the vertical face of the coping in sections and the addition of concrete in others.

The proposed coping modifications for each station are provided in Appendix C. The maximum identified values for cutback and addition, subject to detailed design, are summarised in Table 6. Negative values indicate where cutback is necessary (to allow the necessary clearances for the wider trains), while positive values indicate the addition of concrete (to maintain a safe gap for customers entering and alighting from the trains). All negative values would be addressed, however, where a positive value of less than five millimetres is identified, this work would unlikely be completed. All work would be completed with a +/- 20 millimetre tolerance.

Platform coping cutbacks would be undertaken using a road saw or a demolition saw. The type of saw would depend on the depth of cut (roads saws have a larger blade so can cut deeper), and the safety controls that the contractor selects. The process for both saw types would be the same:

- alignment of cut to be marked out on the platform
- any services that may be under the platform coping cantilever (overhang) would need to be removed, and the surplus coping supported to prevent uncontrolled fall
- using one of the above saws, the concrete/brick would be cut along this alignment
- any locations where the new coping edge has imperfections or exposed
- reinforcement would need to be treated with a thin grout / epoxy.

In some instances, it would be necessary to extend the coping to reduce the gap between the trains and platform. It may be necessary to erect formwork and pour concrete into sections where greater modifications are required. The process would involve:

- cut back the existing edge by about 50 millimetres
- application of a corrosive inhibiting compound to the existing exposed cut steel
- drilling of holes for anchors, surveying and marking coping set-out
- installation of temporary timber framework and the use of packers as required to ensure formwork does not project past the coping edge
- installation of new galvanised steel plates and anchors
- installation of infill repair mortar
- trowelling a 15 millimetre deep joint in the new repair mortar as a continuation of the existing platform slab joints
- installation of tactiles and painting.

Table 6 Coping modifications summary

Station	Maximum cutback (subject to detailed design) in millimetres	Maximum addition (subject to detailed design) in millimetres
Falconbridge	-40	101
Linden	-23	23
Woodford	-25	78
Hazelbrook	-22	434
Bullaburra	-61	1
Wentworth Falls	-35	213
Leura	-128	149
Bell	-80	83
Newnes Junction	-234	nil

7.1.3 Track slewing

Track slewing refers to lateral alterations in the rail positioning to ensure adequate distance to platforms, and passing distance between trains. The works would include the temporary disconnection of signalling and communications infrastructure, re-positioning of the tracks and the replacement of ballast, headstock and other items as required. The extent of the modifications is shown in the relevant individual appendices relating to the stations. The maximum slew, subject to detailed design, is summarised in Table 7.

Table 7 Track slewing summary

Station	Maximum slew (subject to detailed design) in millimetres
Faulconbridge	-40
Linden	-50
Woodford	52
Hazelbrook	-46
Bullaburra	60
Wentworth Falls	122
Leura	95
Bell	94
Newnes Junction	-167

7.1.4 Canopy modifications at Faulconbridge

The Project would include the removal of 0.11 metres of canopy along platform 2 at Faulconbridge Station. The works would be limited a 10 metre length on the south eastern end of the platform. The modification would be undertaken by removing the existing corrugated steel roofing and cutting a 0.11 metre section out of the existing steel tee roof rafter. The existing guttering and bargeboard would be reconnected to the rafter members through the use of splice plates and painting to match the existing. The existing corrugated steel roofing would be trimmed to fit and refixed to the roof rafters.

7.1.5 Other enabling works

Ancillary works have been identified at Hazelbrook Station and Woodford Station. Works at Hazelbrook Station include the extension of a cabling route by 22 metres from the western end of the platform. At Woodford Station, the identified works include the installation of two track circuit bases and a five metre extension of the existing cable route. The works are located on the northern side of the railway line, to the west of the platform. At Bell Station the crossover would be replaced.

7.2 Project justification and options

7.2.1 Justification

Improving transport customer experience is a focus of the NSW Government's transport initiatives. Trains are an important component of the transport system and, as such, play a critical role in shaping the customer's experience and perception of public transport. The introduction of the New Intercity Fleet would allow for the replacement of the existing intercity trains that are approaching the end of their service life and are experiencing a number of adverse operational impacts including declining reliability, lower availability (due to maintenance and failures), higher maintenance costs and lower customer amenity. The New Intercity Fleet would provide a better experience for public transport customers by delivering an accessible, modern, safe and comfortable travel experience.

The NSW Government's decision to introduce the New Intercity Fleet would result in a number of changes from the existing fleet including an increase in the total length of the trains up to 205 metres and an increased train width to cater for growing customer patronage and improved customer comfort. Modifications to existing rail infrastructure are essential to accommodate and operate the new trains while meeting appropriate safety and design standards. It should be noted that a number of existing trains cannot run on the Blue Mountains Line and work to standardise the line is needed, regardless of the New Intercity Fleet.

The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network.

7.2.2 Project options to achieve necessary width clearances

TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line.

Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team.

TfNSW assessed four options to achieve necessary width clearances for the Project. These options are provided in Table 8.

Table 8 Summary of width clearance design options

Option	Design detail	Options discussion
1 – Track slewing only	Movement of rail laterally within the rail corridor to provide necessary clearances from nearby objects	<p>The slewing of track would not impact heritage significant fabric or heritage significant views of the stations. This would result in neutral physical and visual impacts to the platform coping.</p> <p>This option was discounted because widespread track slewing would result in significant readjustments of existing overhead wiring structure configurations throughout the Blue Mountains Line.</p>

Option	Design detail	Options discussion
2 –Coping modification only	Leaving existing track in its present configuration and ensuring necessary clearances by reducing platform width. Also involves the removal of intervening or overhanging objects (specifically, the canopies of platform buildings)	This option would involve a greater amount of removal of existing platforms and station buildings than the preferred option (Option 3). This option would result in the trimming of the canopies of the island platform station buildings, which would result in greater heritage impacts.
3 – Combination of track slewing and coping modification (the preferred option)	Design detail for this option has been provided in Section 7.1	This option presents a balanced approach between potentially deep platform and building excisions in Option 2, and the necessity to readjust overhead wiring structures implicit in Option 1. As described in Section 7.4, this option would result in minor physical and minor visual impacts to the heritage significance of each station.
4 – Do nothing option	No modifications to platform edges or existing track configuration	Due to the larger size of the New Intercity Fleet, the do nothing option would fail to meet safety and operational standards for the introduction of the new fleet. This option would fail to meet the objectives of the Project.

7.3 Heritage Platforms Conservation Management Strategy

In addition, the works have been assessed against the *Heritage Platforms Conservation Management Strategy* (Australian Museum Business Services, 2015). The Strategy was developed in order to protect heritage platforms from incremental changes and works associated with large scale renewals. Of relevance to the current Project are strategies 1, 2, 5, 7, 8 and 11. Due to the minor nature of the Project some of these strategies are not applicable. The strategies of relevance to the current Project are outlined below, together with how the Project has responded to the strategies.

Table 9 Assessment of Project against the Heritage Platforms Conservation Strategy

Strategy	Comment
Strategy 1: <i>Manage and operate heritage platforms in a way that recognises the heritage values of each place. This includes the heritage value of each platform, its associated elements, and the overall heritage value of its station or place</i>	The heritage value of the platform has been recognised through the design process and by limiting the impacts to the stations. Track slewing has been used to minimise the extent of the coping modifications. Reliance on coping modifications alone to achieve the required width clearance may have resulted to impacts to additional heritage items, such as to awnings associated with the station platform buildings. As discussed in Section 7.2, the implementation of both track slewing and coping modifications achieves the necessary width clearances, while reducing the level of impact to heritage fabric and the need to relocate other structures, principally overhead wiring stanchions, along the rail corridor.
Strategy 2: <i>Conserve a representative sample of principal platform types, and other key aspects of heritage platform design and arrangement in use within the Sydney Trains managed railway network</i>	It is acknowledged that the New Intercity Fleet Project as a whole would result in alterations to nine stations listed on the RailCorp Section 170 Heritage and Conservation Register (Faulconbridge, Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, Bell and Newnes Junction stations). Within the context of the 626 platforms identified within the Heritage Platforms Conservation Management Strategy, it is considered that there would remain a representative sample of unmodified principal platform types.

Strategy	Comment
Strategy 5: <i>Conserve and manage the fabric of heritage platforms in accordance with statutory requirements and heritage best practice</i>	The impacts have been minimised by limiting the works to the coping through the implementation of a combination of slewing the tracks and coping modifications. The proposed works would blend into the existing station environments due to the fabric and surface treatments, as recommended in Section 9.
Strategy 7: <i>Retain and conserve original or other historic platform detailing and surface features where these contribute to the heritage significance of the platform and the station precinct</i>	The modification of the coping would remove both original and non-original platform detailing, subject to detailed design. The brick coping is considered to be significance fabric associated with the island platforms, and the modifications would result in a loss. This is unavoidable as leaving the copings intact may have resulted in greater impacts to other aspects of the stations, modifications to awnings associated with the significant station building.
Strategy 8: <i>Major change should be managed through an integrated planning process, which considers measures to avoid, minimise, or mitigate adverse impacts on the heritage significance of the platform and the broader place at each stage of the process</i>	As discussed in Section 7.2, the planning process considered the heritage significance of each station and a combination of track slewing and coping modification was implemented, which avoided potentially greater adverse impacts, such as modifications to the awning of the station associated with the significant station building. The integrated planning process included consultation with Sydney Trains and NSW TrainLink.
Strategy 11: <i>Heritage opportunities and constraints should be carefully considered throughout the options analysis and design process</i>	As discussed in Section 7.2, the heritage constraints of the stations have been carefully considered, with the option selected that minimises impacts to fabric. It is considered that the Project fulfils this strategy.

Section 9 provides some recommendations to ensure compliance with the Heritage Platforms Conservation Management Strategy.

7.4 Heritage impact assessment

The stations that are the subject of this report have been identified as holding local significance. The impacts have been assessed according to standard heritage terminology, provided in Table 10.

Table 10 Impact type definitions

Impact type	Definition
Major negative impacts	Substantially affects fabric or values of state significance
Moderate negative impacts	Irreversible loss of fabric or values of local significance; minor impacts on State significance
Minor negative impacts	Reversible loss of local significance fabric or where mitigation retrieves some value of significance; loss of fabric not of significance but which supports or buffers local significance values
Negligible or no impacts	Does not affect heritage values either negatively or positively
Minor positive impacts	Enhances access to, understanding or conservation of fabric or values of local significance
Major positive impacts	Enhances access to, understanding or conservation of fabric or values of state significance

7.4.1 Impacts to heritage significant fabric

Modifications of platform copings

Coping modifications at the nine stations would involve the removal and addition of coping horizontally across the lengths of the platforms. The fabric is still considered to be of heritage significance, with the exception of Bullaburra, where works are currently underway to replace the platform walls and coping that will remove and replace the extant heritage fabric. The cutting of this fabric is considered to constitute a minor impact as it constitutes an irreversible loss of fabric of local significance, but the impacts to the aesthetic significance can be mitigated through the rendering of the entirety of the corbelled copings to present a consistent presentation. Further detail regarding impacts to each station is included below.

Faulconbridge Station

Faulconbridge Station was constructed in two phases: 1902 with a concrete corbelled overhang, and a platform extension with a brick corbelled overhang constructed in 1940. The removal of coping would be limited to the corbelled overhang across both phases of the platforms, subject to detailed design.

The modifications to the coping would not impact on the historical significance of Faulconbridge Station as it would continue to provide evidence of an early station and the associations with former Premier of NSW Sir Henry Parkes would not be attenuated by the Project.

The modifications to the coping are considered to be minor. It is anticipated that they would largely be unnoticeable and would have minimal impact on the aesthetic significance of Faulconbridge Station. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face.

The modification to the coping would not impact on the station buildings, which is identified as the primary component holding representative significance.

Linden Station

Linden Station was constructed in two phases: 1902 with a concrete corbelled overhang, and a platform extension with a brick corbelled overhang constructed in 1940. The removal of coping would be limited to the corbelled overhang across both phases of the platforms, subject to detailed design.

These modifications to the coping would not impact on the historical significance of Linden Station in that the evidence of its engineering achievements would not be impacted.

The modifications to the coping are considered to be minor. It is anticipated that they would largely be unnoticeable and would have minimal impacts on the aesthetic significance of the station. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face.

The modification to the coping would not impact on the Linden Station buildings or footbridge.

Woodford Station

The platform coping modifications generally consist of the addition to the coping on platform 1 and the removal of concrete from platform 2. The platform coping is inconsistent between platforms 1 and 2. Platform 1 consists of original 1902 concrete coping, capped with 1940s brickwork. The proposed modifications would cover the coping with new material. Platform 2 appears to be a replacement coping, the fabric suggesting it was modified in the 1970s. The coping modifications on this platform will therefore not impact on fabric of heritage significance. All impacts would be limited to the overhanging sections and would not impact on the platform wall, subject to detailed design.

These modifications to the coping are considered to be minor. It is anticipated that they would largely be unnoticeable and would have minimal impacts on the aesthetic significance of the station. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face.

No impacts are proposed for the Woodford Station building, structures and pedestrian subway. The modification to the coping would not impact on the Woodford Station cutting.

Hazelbrook Station

The Hazelbrook Station platform was constructed in two phases: 1902 with a concrete corbelled overhang, and a platform extension with a brick corbelled overhang constructed in 1940. The majority of works required at the station are platform coping additions. The removal of coping would be limited to the corbelled overhang across both phases of the platforms, subject to detailed design.

The modifications to the coping would not impact on the historical significance of Hazelbrook Station in that the 1900s constructions and 1860s sandstone culvert would not be impacted.

The modifications to the coping are considered to be minor. It is anticipated that they would largely be unnoticeable and have minimal impacts on the aesthetic significance of the station. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face.

The modification to the coping would not impact on the Hazelbrook Station building, structures or culvert.

Bullaburra Station

Platform 1 is a modern concrete construction (2017). No impact to heritage fabric would occur. Platform 2 is of precast concrete post and panel wall, however, it is currently slated for replacement with the formwork in place. Therefore, when the works associated with the Project are undertaken, the heritage fabric would likely have been removed. No additional heritage impact would be associated with the Project at Bullaburra.

The modifications to the coping are considered to be minor. It is anticipated that they would largely be unnoticeable and have minimal impacts on the aesthetic significance of the station.

Wentworth Falls Station

The Wentworth Falls Station was constructed in three phases: 1890 concrete with minimal coping, and the 1902 and pre-1930s brick extensions with corbelled brick overhangs. Coping modifications at Wentworth Falls Station would largely consist of the addition of concrete, with 25 millimetres or less being removed. Within the 1890 section, the removal would be limited to 7 millimetres and would therefore not impact on the wall of the platform, subject to detailed design. Elsewhere, the modifications would be limited to the corbelled brick overhang, subject to detailed design.

The modifications to the coping are considered to be minor. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face. It is anticipated that they would largely be unnoticeable and have minimal impacts on the aesthetic significance of the station.

The modification to the coping would not diminish the legibility of the two phases of construction. It is therefore considered that there would be no impact to the assessed significance under this criterion.

Leura Station

The overhang of the coping at Leura Station is minimal. The removal of coping therefore has the potential to impact on the vertical concrete platform wall as well as the coping. The impacts

to the vertical wall would be reduced or removed adjacent to the station platform building on platform 1 where previous modifications included the addition of cement. In this area, the removal of the coping is likely to be limited to the previously added cement. Removal of coping would impact the entire concrete wall in other sections of platform 1. Additions of concrete would be required along the majority of platform 2. The cutting of the platform coping/wall and addition of concrete to the concrete platform is not likely to result in a detrimental effect to the historical or aesthetic significance of Leura Station as the change would largely be unnoticeable.

The modifications to the platform coping / wall are considered to be minor as they are largely limited to sections previously modified. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face. It is anticipated that they would largely be unnoticeable and would have minimal impacts on the aesthetic significance of the station. The modification to the coping would not impact on the Leura Station Signal Room or Out of Shed.

Bell Station

Bell Station was constructed in 1911 and does not appear to have been extended. The platform coping consists of four corbelled courses of bricks, sections of which have been previously modified by cutbacks. The Project would include the removal of up to 80 millimetres from platform 1 (eastern side) and the addition of up to 40 millimetres of concrete on the western, platform 2 side. The modifications would be limited to the corbelled brick overhang on both platforms, subject to detailed design.

The modifications to the coping are considered to be minor. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face. It is anticipated that they would largely be unnoticeable and would have minimal impacts on the aesthetic significance of the station. It is therefore recommended that the length of the corbelled brickwork be rendered to create a consistent presentation.

The modification to the coping would not impact on the Bell Station building.

Newnes Junction Station

The brick faced island platform (platform 1) has a corbel of two courses of brick, each of which projects about 50 millimetres from the face of the platform and the previous brick respectively. The platform is finished with concrete coping that projects approximately 250 millimetres from the end of the brick corbel. The Project would include the removal of up to 110 millimetres on platform 1 which would be limited to the concrete coping. The cutting of the platform coping is not likely to result in a detrimental effect to the historical or aesthetic significance of Newnes Junction Station as the change would largely be unnoticeable once the cut face has weathered.

The siding platform (platform 2) has no overhang as it lacks the two courses of brick corbelling. The removal of up to 227 millimetres would therefore impact the entirety of the platform wall. While this would impact original fabric, the siding platform would not be removed and can therefore continue to be interpreted as part of the broader station precinct. The modifications to the coping and platform wall on platforms 1 and 2 are therefore considered to be minor.

The platform coping modifications would not impact on the fabric of the Newnes Junction Signal Box. The works would not impact on the historical significance of Newnes Junction Station in that the evidence of the relationship to the adjacent colliery would not be altered. As a result, minimal impacts on the heritage significance of the station are anticipated.

Track slewing

The track slewing would not impact on fabric of significance. It has been determined that the tracks have been replaced since the construction of the Blue Mountains Line, and have previously been slewed at some stations. It is therefore considered that the proposed slewing would not impact on fabric of heritage significance.

Canopy modifications (Faulconbridge Station only)

Modifications to the platform canopy at Faulconbridge Station would impact heritage fabric that supports the visual appearance of the station building. However the proposed modifications would generally be unnoticeable and therefore have been assessed as minor. To further reduce the impact, it is recommended that the bolt heads used to attach the splice plates to the canopy rafters be matched in profile to those evident on the remainder of the canopy. They should be altered in diameter to ensure the new work is distinguishable from the original in order to be consistent with Article 22.1 of *The Burra Charter*.

7.4.2 Impacts to archaeological resources

Excavation works have been identified at Hazelbrook and Woodford in relation to the extension of cabling routes and at Bell Station for crossover replacement. These routes are located within the ballasted area of the rail corridor and it is considered these areas hold no archaeological potential due to the level of previous disturbance and ongoing disturbance of the rail corridor.

7.5 Cumulative impact assessment

While this document assesses the impacts of the New Intercity Fleet works on Faulconbridge, Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, Bell, and Newnes Junction stations in isolation, it is recognised that works would be necessary at other stations along the Blue Mountains Line, which are listed in Table 11.

All of these stations are listed on the RailCorp Section 170 Heritage and Conservation Register, with six stations also listed on the State Heritage Register.

Table 11 Stations included in the New Intercity Fleet project

Station	SHR?	Station	SHR?
Faulconbridge	No	Katoomba	Yes
Linden	No	Medlow Bath – the subject of this assessment	Yes
Woodford	No	Blackheath	Yes
Hazelbrook	No	Bell	No
Lawson	Yes	Newnes Junction (not in use)	No
Bullaburra	No	Eskbank (not in use)	Yes
Wentworth Falls	No	Lithgow	Yes
Leura	No		

The original development of the Blue Mountains Line out to Lithgow was largely undertaken in the 1860s. Stations were developed and added at later dates in response to ongoing residential development and the expansion of businesses. Many of the original timber items have since been replaced with brick and concrete structures, however there are a number of

elements within each curtilage that retain their original heritage value and any works along the length of the line has the potential for cumulative impacts.

Since there original construction there has been a number of alterations and modifications to each station within the Project site. The Project would result in coping impacts (both cutbacks and addition) to every station along lengths of both the original fabric as well as fabric that has been previously modified. Where works are required, it has been recommended that the bricks show the original arrangement and give a clean outer appearance. As a result, the overall visual appearance and fabric arrangement would largely be retained, minimising any cumulative impacts. Through an assessment of the works, impacts to the heritage settings have been determined to be negligible to minor.

In the case of platform extensions at Katoomba Station and Lithgow Station, the works are unlikely to have a substantial cumulative impact as the design has located the extensions along sections of the platform that have been previously modified and are relatively minor in length when compared to the platform as a whole. As a result, the cumulative impacts from the platform extensions are anticipated to be negligible to minor.

Track slewing, overhead wiring system modification, signalling works and earthworks have been assessed as not contributing to the heritage of each of the station areas and as a result, no cumulative impacts would result from these works.

The additional elements that largely characterise the Blue Mountains Line (station buildings, signalling boxes, stabling yards and other structures that form part of the listing) would not be impacted as a result of the Project. The nature and visual character of the stations within the context of the greater Blue Mountains would be retained and any impacts would be largely temporary. As a result, given the nature of the works, the extent of physical impacts and mitigation measures proposed, cumulative impacts as a result of the Project are not anticipated.

Stations are active heritage sites that need to be adapted and modified to meet modern customer expectations. It is a balancing act to meet these expectations while preserving the fabric that contributes to the heritage significance of the stations.

7.6 Summary of heritage impacts

In summary, it is concluded that the Project would have a minor to negligible impact on the heritage significance of the nine subject stations. It is acknowledged that the cutting back of the coping and addition of concrete would result in a variation in treatment along the face. It is therefore recommended that the length of the corbelled brickwork coping at Faulconbridge, Linden, Woodford, Hazelbrook, Wentworth Falls, and Bell stations, be rendered, as appropriate and advised by the heritage conservation architect, to create a consistent presentation. With this mitigation measure, it is anticipated that the coping modifications would largely be unnoticeable and would not impact on the aesthetic significance of the stations.

At Leura Station and Newnes Junction Station modifications are require to platforms where there is little or no platform coping so removal would likely impact on the vertical platform wall as well as the coping. Impacts to the platform wall are not likely to result in a detrimental effect to the historical or aesthetic significance of Leura Station and Newnes Junction Station as the change would largely be unnoticeable once the cut face has weathered. In addition the functionality of the platforms would remain unchanged and therefore continue to support the heritage significance of the stations.

It is anticipated that the track slewing would be largely unnoticeable and would not impact on fabric of heritage significance.

The modifications to the canopy at Faulconbridge Station would impact on fabric that supports or buffers the station building more broadly. However, the proposed modifications to the

canopy are unlikely to be noticeable. For this reason, the impacts have been assessed as minor. To further reduce the impact, it is recommended that the bolt heads be matched in profile to those evident on the remainder of the canopy. They should be altered in diameter to ensure the new work is distinguishable from the original. Article 22.1 of *The Burra Charter* (ICOMOS (Australia), 2013) indicates that new work should be distinguishable from original or early work. Altering the diameter of the bolts would comply with this.

No impacts to areas of archaeological sensitivity have been identified in association with the proposed cabling routes at Hazelbrook and Woodford or the temporary construction compounds. It is considered that there is unlikely to be impacts to archaeological relics and approval for the works under Section 139 of the *Heritage Act 1977* is not required.

Table 12 provides a summary of the heritage impacts to Faulconbridge, Linden, Woodford, Hazelbrook, Bullaburra, Wentworth Falls, Leura, Bell, and Newnes Junction stations.

Table 12 Summary of heritage impacts

Proposed work	Impact to fabric	Visual impact	Impact to archaeological remains
Modification of platform coping	Minor	Negligible	Nil
Slewing of track within the rail corridor	Negligible	Negligible	Nil
Canopy modifications (Faulconbridge Station only)	Minor	Negligible	Nil
Cabling route extensions	Nil	Nil	Nil
Temporary construction compounds	Nil	Temporary	Nil impact to archaeological relics

8 Statement of Heritage Impact

The objective of a Statement of Heritage Impact is to evaluate and explain how the proposed development, rehabilitation or land use change would affect the heritage value of the site and/or place. A Statement of Heritage Impact should also address how the heritage value of the site/place can be conserved or maintained, or preferably enhanced by the Project.

This report has been prepared in accordance with the *NSW Heritage Office & Department of Urban Affairs and Planning NSW Heritage Manual (1996)* and *NSW Heritage Office Statements of Heritage Impact (NSW Heritage Office, 2002)*. The guidelines pose a series of questions as prompts to aid in the consideration of impacts based on the type of Project. The guideline suggests the below questions be used to direct discussion in relation to the modifications. A Statement of Heritage Impact has been prepared for the modifications at each station, as outlined in the following sections.

8.1 Faulconbridge Station

Table 13 outlines the guidelines and discussion for the consideration of impacts of the Project on Faulconbridge Station.

Table 13 Statement of heritage impact for Faulconbridge Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The canopy modification methodology has been designed to limit impact to significant fabric. The methodology would allow the bargeboard, fascia and guttering to remain intact with the alterations being to the rafters only. The use of splice plates to reconnect the rafter members following the removal of 110 millimetres would be executed in a manner that would reduce the visual impact through the use of bolts with a similar head shape to those evident throughout the remainder of the canopy fixings. The works would be painted to match the existing.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The rafters proposed for modification would have a splice plate, which would not be evident on the unmodified rafters. However, it is considered that the visual, aesthetic impact would be largely unperceivable unless it is specifically looked for, being located above normal eye level.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>Despite the proposed implementation of coping modifications and track slewing, the constraints of Faulconbridge Station are such that these two options alone would not result in adequate clearances to the canopy. However, the preferred option of the combination of both slewing and coping modifications removed the need for modifications of canopies at other stations along the Project route.</p>

8.2 Linden Station

Table 14 outlines the guidelines and discussion for the consideration of impacts of the Project on Linden Station.

Table 14 Statement of heritage impact for Linden Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Linden Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

8.3 Woodford Station

Table 15 outlines the guidelines and discussion for the consideration of impacts of the Project on Woodford Station.

Table 15 Statement of heritage impact for Woodford Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Woodford Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

8.4 Hazelbrook Station

Table 16 outlines the guidelines and discussion for the consideration of impacts of the Project on Hazelbrook Station.

Table 16 Statement of heritage impact for Hazelbrook Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Hazelbrook Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

8.5 Bullaburra Station

Table 17 outlines the guidelines and discussion for the consideration of impacts of the Project on Bullaburra Station.

Table 17 Statement of heritage impact for Bullaburra Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Bullaburra Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

8.6 Wentworth Falls Station

Table 18 outlines the guidelines and discussion for the consideration of impacts of the Project on Wentworth Falls Station.

Table 18 Statement of heritage impact for Wentworth Falls Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Wentworth Falls Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

8.7 Leura Station

Table 19 outlines the guidelines and discussion for the consideration of impacts of the Project on Leura Station.

Table 19 Statement of heritage impact for Leura Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Leura Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

8.8 Bell Station

Table 20 outlines the guidelines and discussion for the consideration of impacts of the Project on Bell Station.

Table 20 Statement of heritage impact for Bell Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Bell Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

8.9 Newnes Junction Station

Table 21 outlines the guidelines and discussion for the consideration of impacts of the Project on Newnes Junction Station.

Table 21 Statement of heritage impact for Newnes Junction Railway Station Group

Development	Discussion
<p>What aspects of the Proposal respect or enhance the heritage significance of the study area?</p>	<p>The impact of the Project on the heritage significance of Newnes Junction Station is negligible to minor. The option to use both track slewing and coping modifications to achieve the required width clearances is considered to respect the heritage significance of the study area in that it avoided potential additional impacts to the platform station building awnings.</p>
<p>What aspects of the Proposal could have a detrimental impact on the heritage significance of the study area?</p>	<p>The coping modifications would result in a patched appearance along the length of the coping. This has been mitigated by recommending the entire length of the coping be rendered to present a consistent appearance.</p>
<p>Have more sympathetic options been considered and discounted?</p>	<p>Due to the nature of platforms, they must be in close proximity to the carriage. TfNSW commissioned the development of a series of design reports for the early development of the Project. The outcomes of these assessments then informed the scope of works needed to allow for the safe operation of the New Intercity Fleet along the Blue Mountains Line. Options for enabling the safe and efficient operation of the New Intercity Fleet on the Blue Mountains Line were developed following a succession of workshops with TfNSW, relevant stakeholders (including Sydney Trains and NSW TrainLink) and the project team. The following options were considered to obtain the required width clearances:</p> <ul style="list-style-type: none"> • slewing only • coping modifications only • combination of both slewing and coping modifications (with ASA concessions) • do nothing. <p>The Project includes essential enabling works that would facilitate the safe and reliable operation of New Intercity Fleet between Springwood and Lithgow on the Blue Mountains Line. The Project would also allow the Blue Mountains Line to be compatible with the existing electrified rail network</p>

9 Conclusion and recommendations

An assessment of the Project against the heritage significance of the nine stations concluded that the Project would have a negligible to minor impact on their heritage significance, with the implementation of mitigation measures. The following mitigation measures are recommended to ensure the heritage significance of the stations is preserved during the works:

- Clause 14 of ISEPP 2007 requires consultation with the relevant local council if the development is likely to impact a local heritage item or heritage conservation area. Linden, Bullaburra, Hazelbrook, Leura, Wentworth Falls, Woodford and Bell stations are identified on the Blue Mountains LEP. While the impacts are anticipated to be minor, it is recommended that this report be forwarded to Blue Mountains City Council. Comments received within 21 days should be addressed.
- A heritage conservation architect should provide ongoing heritage and conservation advice throughout detailed design and any subsequent relevant design modifications. The nominated heritage conservation architect should provide advice regarding the scope of works and ensure that the final design adheres to the *Sydney Trains Heritage Platforms Conservation Management Strategy* (Australian Museum Business Services, 2015).
- It is recommended that the length of the corbelled brickwork coping be rendered, as appropriate and advised by the heritage conservation architect, to create a consistent presentation.
- For canopy modifications at Faulconbridge Station, it is recommended that the bolt heads used to attach the splice plates to the canopy rafters be matched in profile to those evident on the remainder of the canopy. They may be altered in diameter to ensure the new work is distinguishable from the original, in order to be consistent with Article 22.1 of *The Burra Charter*.
- The Construction Environmental Management Plan (CEMP) must include stop work procedures in accordance with TfNSW's *Unexpected Heritage Finds Guideline* (Transport for NSW, 2015) to manage activities in the unlikely event that intact archaeological relics or deposits are encountered.
- The materials used should be compatible with the heritage brickwork and concrete and not adversely impact the material. Consideration should be given during detailed design to an appropriate colour and texture for the new concrete render to ensure it blends into the broader landscape, as per Strategy 9 of the *Sydney Trains Heritage Platforms Conservation Management Strategy* (Australian Museum Business Services, 2015).
- A heritage induction should be provided to all on-site staff and contractors involved in the Project. The induction should clearly describe the heritage constraints of the site.

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Appendix A Heritage curtilage for stations



Figure 24 Faulconbridge Station heritage curtilage

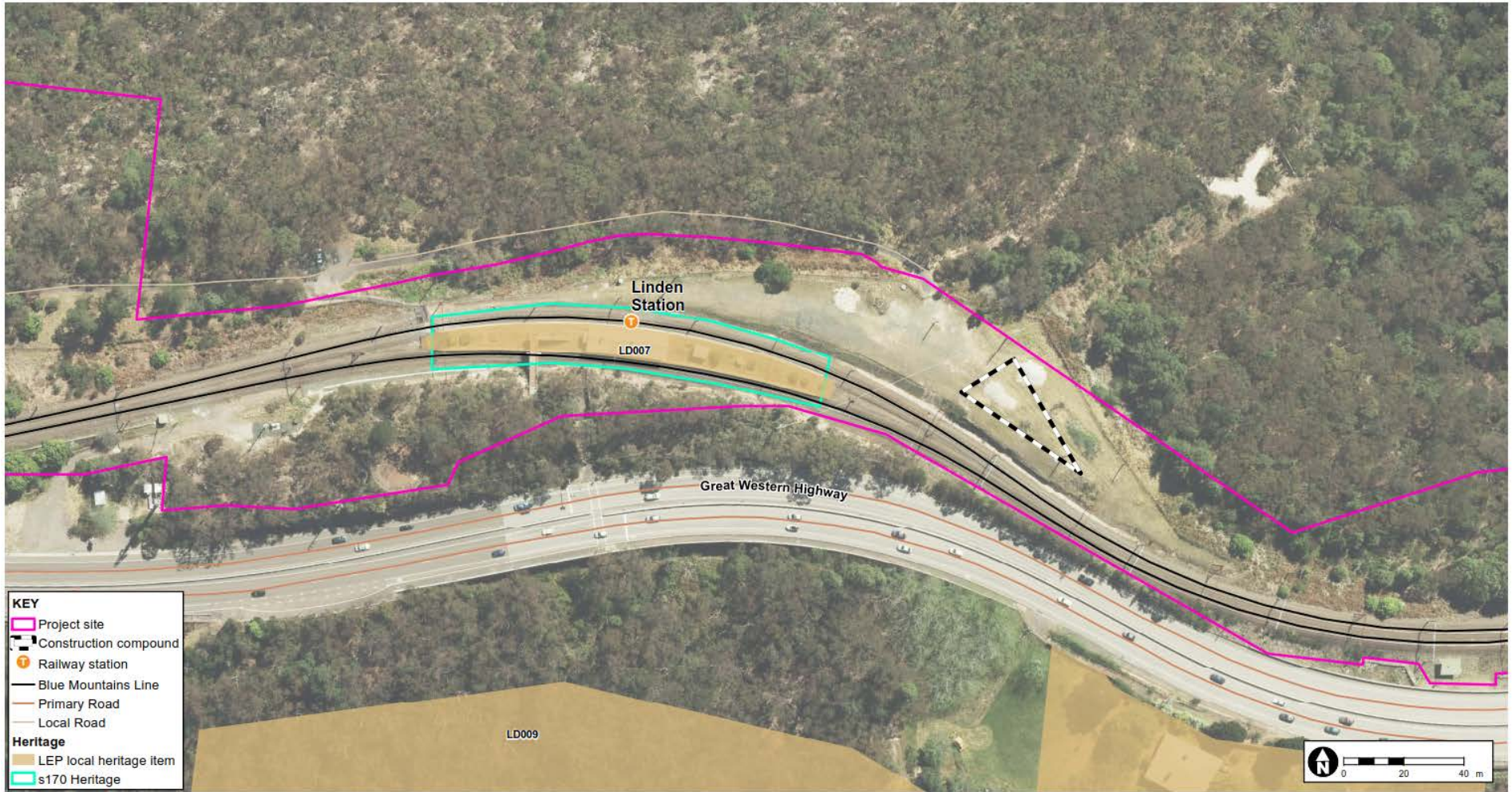


Figure 25 Linden Station heritage curtilage



Figure 26 Woodford Station heritage curtilage



Figure 27 Hazelbrook Station heritage curtilage

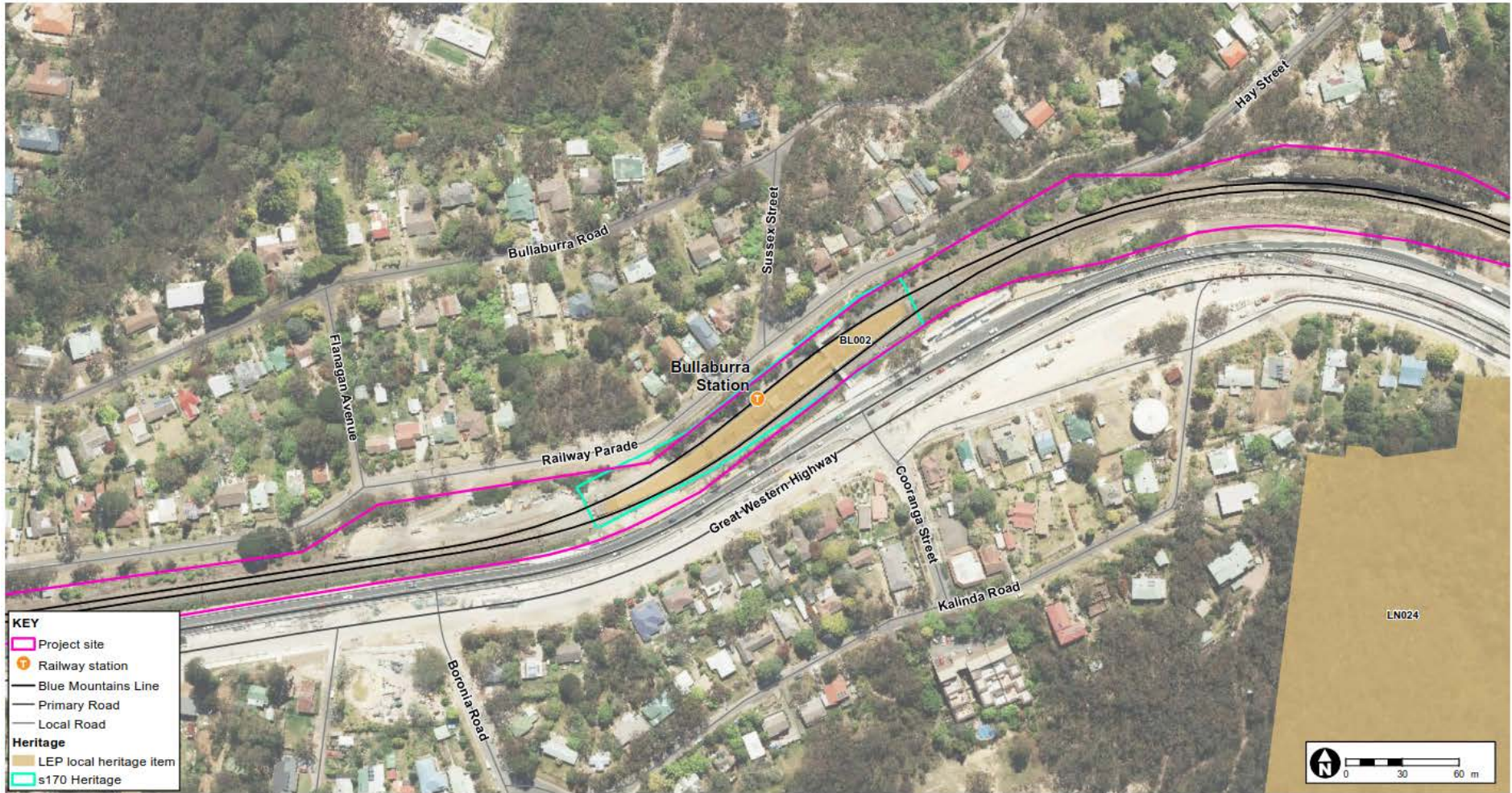


Figure 28 Bullaburra Station heritage curtilage



Figure 29 Wentworth Falls Station heritage curtilage

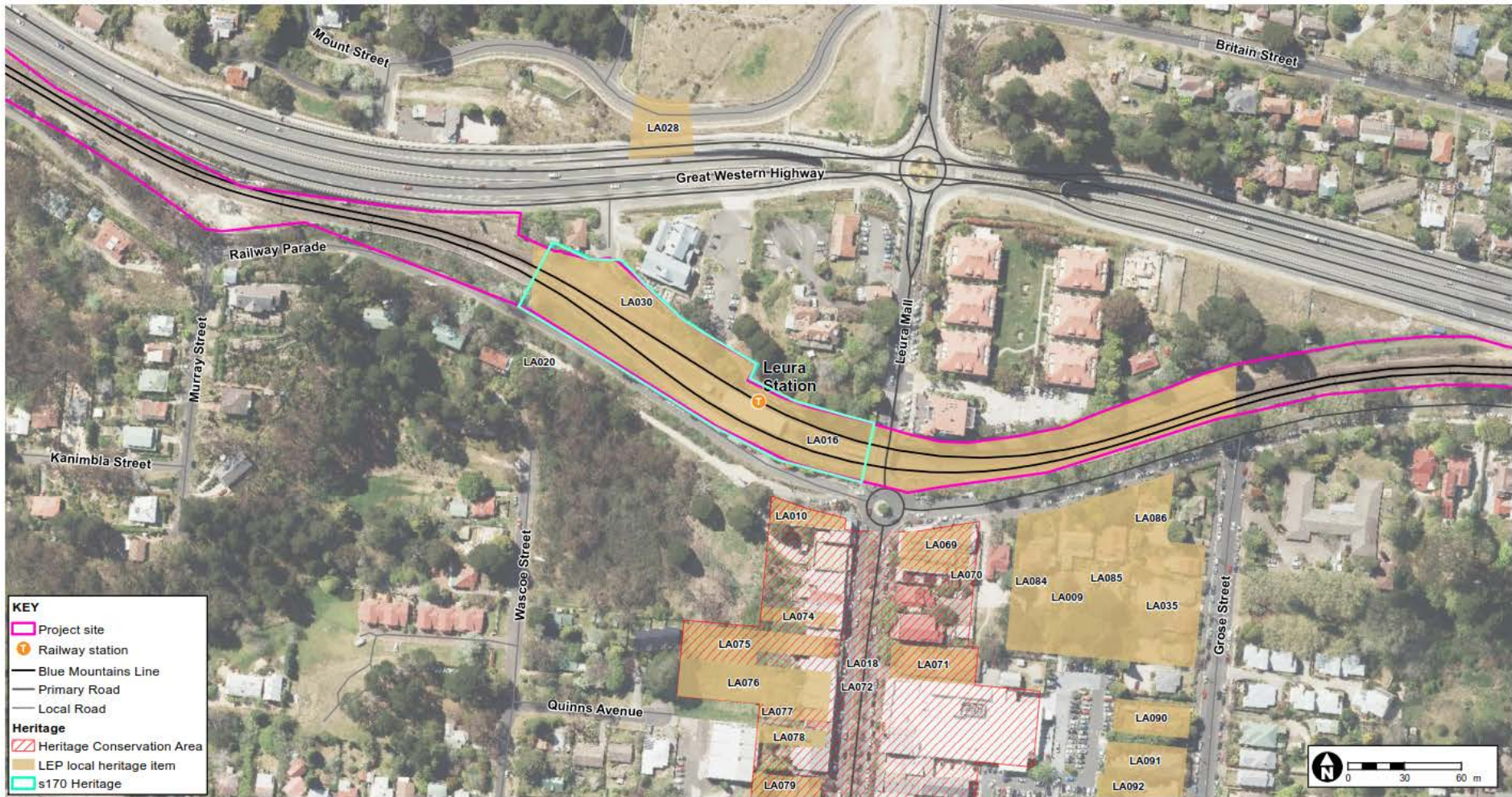


Figure 30 Leura Station heritage curtilage



Figure 31 Bell Station heritage curtilage

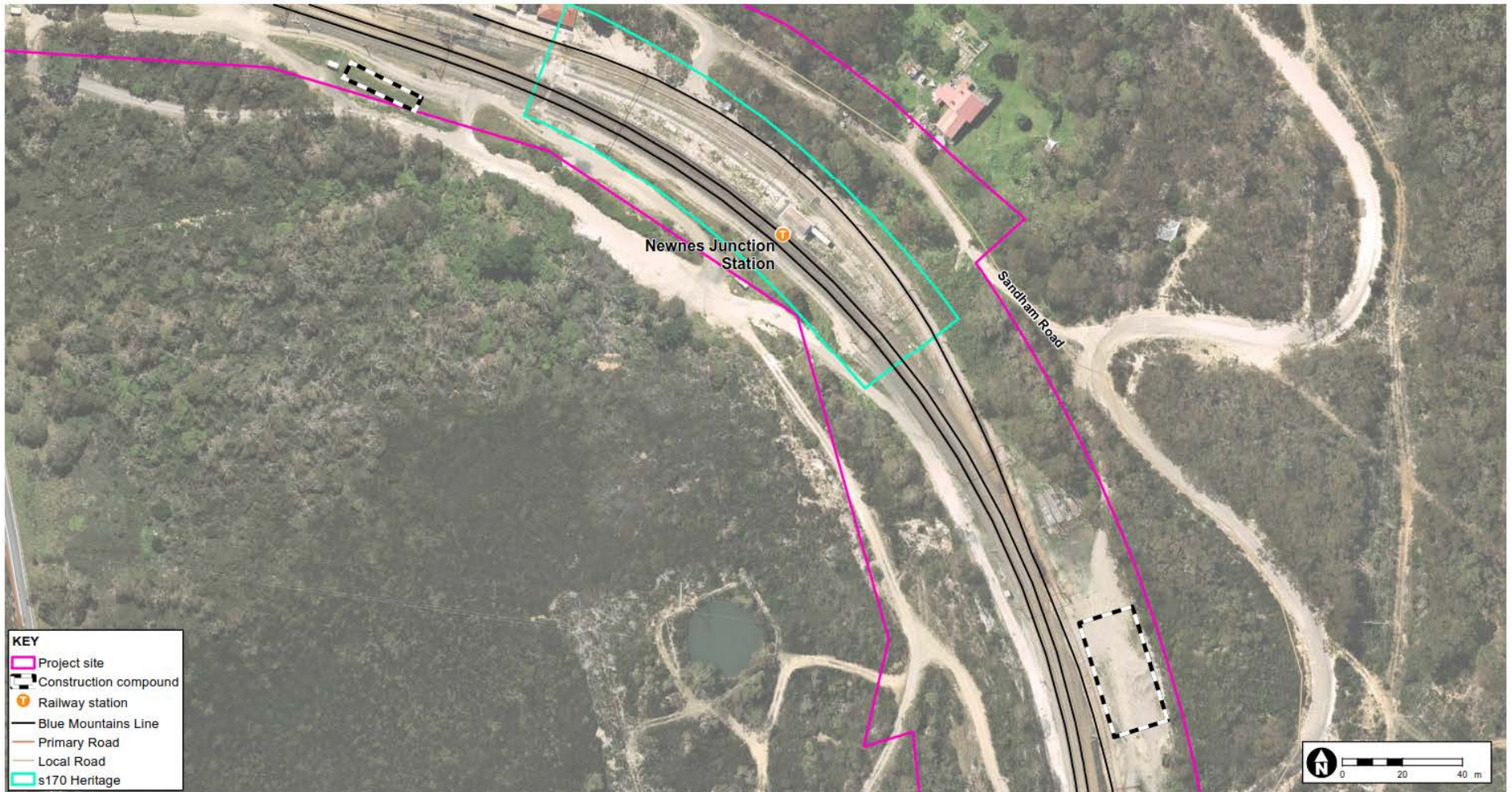


Figure 32 Newnes Junction Station heritage curtilage

Appendix B Significance assessment tables

Table 22 SHR significance assessment of the Falconbridge Railway Station Group

Criterion	Assessment
Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).	Falconbridge Railway Station is of historical significance as evidence of an early station that was built in direct association with the former Premier of NSW Sir Henry Parkes following his selection of the area for his residence. The station has provided railway services to the locality since its opening in 1887 and was updated as part of the Western line duplication in 1902. The station forms an important part of the Falconbridge historic precinct.
Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local area).	Falconbridge Railway Station has historic associations with the former Premier of NSW Sir Henry Parkes as it was built following his selection of the area for his residence.
Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	Falconbridge station building is aesthetically significant as a good and intact example of an island platform building demonstrating standard characteristic design elements of the style of railway building built commonly around the turn of the century (known as type 11). The building is a landmark within the landscape of Great Western Highway and the immediate townscape.
Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.	The place has the potential to contribute to the local community’s sense of place, and can provide a connection to the local community’s past.
Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.	No assessment provided against this criterion.
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).	No assessment provided against this criterion.
Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s): <ul style="list-style-type: none"> • cultural or natural places cultural; or • natural environments. 	Falconbridge station building is representative of the many (type 11) standard 'A8-A10' island platform station buildings built along the Western line and in particular the Blue Mountains section where many of the stations received this Federation design station building.

Table 23 SHR significance assessment of the Linden Railway Station Group

Criterion	Assessment
<p>Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).</p>	<p>Linden Station is of historical significance as part of the early construction phase of railway line duplication along the Blue Mountains demonstrating the technological and engineering achievements in railway construction at the beginning of the 1900s. Although dating from 1901, the footbridge has been upgraded and lost its trussed stair stringers. The rock cutting is historically significant as it provides evidence of an earlier form of pedestrian access to the station.</p>
<p>Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).</p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</p>	<p>Linden station building is a good example of the standard design island platform building and demonstrates typical architectural elements of Federation period 'A10' standard design buildings that were built between Penrith and Lithgow. The natural rock escarpment together with the platform plantings and the mature tree contribute to the aesthetic quality and setting of the station.</p>
<p>Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</p>	<p>The place has the potential to contribute to the local community's sense of place, and can provide a connection to the local community's past.</p>
<p>Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</p>	<p>Linden Station is of research potential due to its intact station buildings that have the ability to provide information on the construction techniques and architecture of larger size Type 11 island platform buildings that were built along the Blue Mountains in the early 1900s. However, the information can be found elsewhere as this type of station buildings were commonly used in the rail network. There is archaeological potential around the site due to the likely remnants of a water tank (visible on the aerial images in 2009), sidings and a Station Master’s residence.</p>
<p>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).</p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):</p> <ul style="list-style-type: none"> • cultural or natural places cultural; or • natural environments. 	<p>Linden Station is a representative example of a standard design station building demonstrating the construction techniques and characteristics of commonly used railway designs during the Federation period. The station building together with the Out of Shed is one of the early examples of standard railway designs that were used along the majority of the Blue Mountains stations. The 1901 superstructure of the footbridge is a typical example of standard steel beam structures supported on trestles with later concrete deck and steps.</p>

Table 24 SHR significance assessment of the Woodford Railway Station Group

Criterion	Assessment
<p>Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).</p>	<p>Woodford Railway Station is of historical significance as part of the early construction phase of railway line duplication along Blue Mountains line demonstrating the technological and engineering achievements in railway construction at the beginning of the 1900s as well as the growth in the development of Woodford as a historic town.</p>
<p>Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).</p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</p>	<p>Woodford station building together with the out-of-shed is a good example of a standard design island platform building and demonstrates typical architectural elements of this standard Federation style built at stations between Penrith and Lithgow in 1902. The brick pedestrian subway within the rock cutting has technical significance and adds to the aesthetic significance of the station. The platform plantings and elevated setting creates a landmark along the Great Western Highway.</p>
<p>Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</p>	<p>The place has the potential to contribute to the local community’s sense of place, and can provide a connection to the local community’s past.</p>
<p>Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</p>	<p>Woodford Station has research potential due to its intact station buildings and pedestrian subway that have the ability to provide information on the construction techniques and architecture of larger size ‘type 11’ island platform buildings that were built along the Blue Mountains in the early 1900s. These type of station buildings were commonly used later during 1910s and 1920s.</p>
<p>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).</p>	<p>Woodford station building and out-of-shed are early examples of a large number of standard railway designs that were commonly used in the 1910s-20s (a decade from the construction of Woodford station building). This evidence however, can be sourced at many other locations. The subway is a common example of such railway station structures in particular when considered in the topography of the Blue Mountains.</p>
<p>Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):</p> <ul style="list-style-type: none"> • cultural or natural places cultural; or • natural environments. 	<p>Woodford Railway Station is a good representative example of standard design railway station set within a rock cutting with a pedestrian subway that is typical to many Blue Mountains stations, demonstrating the construction techniques and characteristics of commonly used railway designs.</p>

Table 25 SHR significance assessment of the Hazelbrook Railway Station Group

Criterion	Assessment
<p>Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).</p>	<p>Hazelbrook Railway Station is of historical significance as part of the early construction phase of railway line duplication across the Blue Mountains demonstrating the technological and engineering achievements in the railway construction at the beginning of the 1900s.</p> <p>The sandstone culvert provides physical evidence of the construction of the railway from 1866 to 1867. It also marks the original rail alignment and demonstrates skill and workmanship of the railway engineers and stonemasons who built the Great Western</p>
<p>Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).</p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</p>	<p>Hazelbrook station building together with the matching out-of-shed is a good example of the standard design known as Type 11 island platform building and demonstrates typical architectural elements of Federation period 'A10' standard buildings that were built between Penrith and Lithgow in 1902-1913. The station with its platform gardens, although the plants are not significant, is a landmark within the townscape.</p>
<p>Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</p>	<p>The place has the potential to contribute to the local community's sense of place, and can provide a connection to the local community's past.</p>
<p>Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</p>	<p>Hazelbrook Railway Station has limited research potential due to its relatively intact station buildings that have ability to provide information on the construction techniques and architecture of larger size type 11 island platform buildings that were built along Blue Mountains in the early 1900s. However, this information can be found elsewhere as this type of station building was commonly used.</p>
<p>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).</p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):</p> <ul style="list-style-type: none"> • cultural or natural places cultural; or • natural environments. 	<p>Hazelbrook Railway Station is a representative example of standard design larger station buildings demonstrating the construction techniques and characteristics of commonly used railway design, and is representative of station buildings built on this line between Lithgow and Penrith for duplication works. The stone culvert is representative of similar culverts that have been constructed along the railway in the Blue Mountains.</p>

Table 26 SHR significance assessment of the Bullaburra Railway Station Group

Criterion	Assessment
Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).	Bullaburra Railway Station is of historical significance demonstrating direct a relationship between the township development and the provision of railway services. Bullaburra was the last town to be developed in the Blue Mountains and the station was built in association with the land subdivision in the area.
Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).	Bullaburra Railway Station has associations with the Sydney property developer; Arthur Rickard & Co. as the first shelter was constructed at Rickard’s cost. However, this association is not considered strong or significant.
Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	The Bullaburra Station buildings and structures are simple structures with limited aesthetic or architectural value. The overall landscaped setting of the Station however, contributes to the character of the townscape.
Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.	The place has the potential to contribute to the local community’s sense of place and can provide a connection to the local community’s history.
Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.	No assessment provided against this criterion.
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).	The station group includes structures dating from the opening of the station in 1924, and are unusual as they do not follow the standard railway designs used in NSW throughout the period.
Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s): <ul style="list-style-type: none"> • cultural or natural places cultural; or • natural environments. 	No assessment provided against this criterion.

Table 27 SHR significance assessment of the Wentworth Falls Railway Station Group

Criterion	Assessment
<p>Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).</p>	<p>Wentworth Falls Station Group is of historical significance demonstrating two major building construction phases on the upper Blue Mountains demonstrating the technological and engineering achievements in railway construction at the end of the 19th Century and early 20th Century. The station was the terminus of the Blue Mountains railway from July 1867 until the Mount Victoria section of the line opened in May 1868.</p>
<p>Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).</p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</p>	<p>Wentworth Falls Station Group is an excellent example of a Federation free classical railway station combining architectural features of two distinct standard railway designs in order to adapt a 'type 4' roadside building to a 'type 11' island platform building. It is a focal point within the Wentworth Falls village contributing to the urban character and setting of the town.</p>
<p>Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</p>	<p>The place has the potential to contribute to the local community's sense of place, and can provide a connection to the local community's past.</p>
<p>Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</p>	<p>No assessment provided against this criterion.</p>
<p>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).</p>	<p>The station buildings as a group are the only early example of a large scale standard railway design in Blue Mountains converted from a roadside station to an island platform station, which makes it relatively rare under this criterion.</p>
<p>Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):</p> <ul style="list-style-type: none"> • cultural or natural places cultural; or • natural environments. 	<p>The Station Group is a representative example of two major railway building construction phases in the Blue Mountains combining elements of two distinct standard designs at the end of the 19th Century.</p>

Table 28 SHR significance assessment of the Leura Railway Station Group

Criterion	Assessment
<p><i>Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).</i></p>	<p>Leura Railway Station Group is of historical significance as part of the early construction phase of railway line duplication on the upper Blue Mountains demonstrating the technological and engineering achievements in railway construction at the beginning of the 1900s. It was built in anticipation of a boom period in the mountains, particularly in connection with large holiday resorts in the area.</p>
<p><i>Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).</i></p>	<p>No assessment provided against this criterion.</p>
<p><i>Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</i></p>	<p>Leura Railway Station building is a good example of the standard A-type design known as 'type 11' island platform building and demonstrates typical architectural elements of Federation period standard buildings that were built between Penrith and Lithgow following the duplication of the railway line. The natural setting of the station within a rock cutting together with the mature tree adds to its aesthetic quality. The station maintains its overall architectural quality and setting, and contributes to the heritage character of the townscape of Leura.</p>
<p><i>Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</i></p>	<p>The place has the potential to contribute to the local community's sense of place and can provide a connection to the local community's history.</p>
<p><i>Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</i></p>	<p>No assessment provided against this criterion.</p>
<p><i>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).</i></p>	<p>No assessment provided against this criterion.</p>
<p><i>Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):</i></p> <ul style="list-style-type: none"> • <i>cultural or natural places cultural; or</i> • <i>natural environments.</i> 	<p>Leura Railway Station Group is a representative example of standard design larger station building combining a signal room with a detached Out of Shed demonstrating the construction techniques and characteristics of commonly used railway design in the early 1900s.</p>

Table 29 SHR significance assessment of the Bell Railway Station Group

Criterion	Assessment
<p>Criterion (a) – <i>an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).</i></p>	<p>Bell Railway Station is historical significance for its associations with the development of nearby Mt Wilson village, and the development of tourism in the Blue Mountains area throughout the late 19th and early 20th century being the starting point for horse-drawn coach tours to Mt Wilson.</p> <p>As part of the last construction works of railway line duplication along Blue Mountains, the station is significant for its ability to demonstrate the technological and engineering achievements in railway construction at the beginning of the 1900s.</p>
<p>Criterion (b) – <i>an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local to area).</i></p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (c) – <i>an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</i></p>	<p>Bell Railway Station Building is a good example of a 'type 11' design (standard A8-A10) island platform building and demonstrates typical architectural elements of the Federation period. It maintains its overall architectural quality and setting despite its poor condition internally.</p>
<p>Criterion (d) – <i>an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</i></p>	<p>The place has the potential to contribute to the local community's sense of place and can provide a connection to the local community's history.</p>
<p>Criterion (e) – <i>an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</i></p>	<p>No assessment provided against this criterion.</p>
<p>Criterion (f) – <i>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).</i></p>	<p>The level crossing is relatively rare in the context of Blue Mountains where the majority of the stations have subway access.</p>
<p>Criterion (g) – <i>an item is important in demonstrating the principal characteristics of a class of NSW's (or local area's):</i></p> <ul style="list-style-type: none"> • <i>cultural or natural places cultural; or</i> • <i>natural environments.</i> 	<p>Bell Railway Station is a good representative example of the standard 'type 11' station buildings that were built between Penrith and Lithgow following the duplication of the railway line in the early 1900s.</p>

Table 30 SHR significance assessment of the Newnes Junction Signal Box

Criterion	Assessment
<i>Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).</i>	The Newnes Junction Signal Box is of local significance for its historic relationship and ongoing operational connection to the adjacent colliery.
<i>Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local to area).</i>	No assessment provided against this criterion.
<i>Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</i>	No assessment provided against this criterion.
<i>Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</i>	No assessment provided against this criterion.
<i>Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</i>	No assessment provided against this criterion.
<i>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).</i>	No assessment provided against this criterion.
<i>Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):</i> <ul style="list-style-type: none"> • <i>cultural or natural places cultural; or</i> • <i>natural environments.</i> 	The Newnes Junction Signal Box is of local significance as a relatively intact and functioning example of a 'Type E' Signal Box.

Appendix C Proposed coping modifications

Falconbridge Station

To enable the passage of the New Intercity Fleet through Falconbridge Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 40 millimetres off the vertical face of the corbelled coping and the addition of up to 22 millimetres on platform 1. On platform 2, up to 19 millimetres is proposed for removal from the vertical face and the addition of 101 millimetres.

The proposed coping modifications are shown on drawing SK-H2202 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than five millimetres is identified, this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Linden Station

To enable the passage of the New Intercity Fleet through Linden Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 23 millimetres off the vertical face of the corbelled coping and the addition of up to 23 millimetres on Platform 1. On Platform 2, up to 22 millimetres is proposed for removal from the vertical face and the addition of four millimetres in one area.

The proposed coping modifications are shown on drawing SK-H2102 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified, this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Woodford Station

To enable the passage of the New Intercity Fleet through Woodford Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 12 millimetres off the vertical face of the corbelled coping and the addition of up to 78 millimetres on Platform 1. On Platform 2, up to 25 millimetres is proposed for removal from the vertical face and the addition of 49 millimetres in one area.

The proposed coping modifications are shown on drawing SK-H2002 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified; this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Hazelbrook Station

To enable the passage of the New Intercity Fleet through Hazelbrook Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 22 millimetres off the vertical face of the corbelled coping and the addition of up to 434 millimetres at the country end of the Down track. On the Up track, up to 3 millimetres is proposed for removal from the vertical face and the addition of 53 millimetres in one area.

The proposed coping modifications are shown on drawing SK-H1902 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified; this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Bullaburra Station

To enable the passage of the New Intercity Fleet through Bullaburra Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 45 millimetres off the vertical face of the corbelled coping and the addition of up to 1 millimetres on Platform 1. On Platform 2, up to 61 millimetres is proposed for removal from the vertical face and no additions.

The proposed coping modifications are shown on drawing SK-H1802 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified; this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Wentworth Falls Station

To enable the passage of the New Intercity Fleet through Wentworth Falls Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 25 millimetres off the vertical face of the corbelled coping and the addition of up to 213 millimetres on Platform 1. On Platform 2, up to 35 millimetres is proposed for removal from the vertical face and the addition of 56 millimetres in one area.

The proposed coping modifications are shown on drawing SK-H1702 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified; this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Leura Station

To enable the passage of the New Intercity Fleet through Leura Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 128 millimetres off the vertical face of the corbelled coping and the addition of up to 59 millimetres on Platform 1. On Platform 2, up to 110 millimetres is proposed for removal from the vertical face and the addition of 149 millimetres in one area.

The proposed coping modifications are shown on drawing SK-H1602 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified; this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Bell Station

To enable the passage of the New Intercity Fleet through Bell Station and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 80 millimetres off the vertical face of the corbelled coping

and the addition of up to 71 millimetres on Platform 1. On Platform 2, up to 83 millimetres is proposed for the addition in one area and no removal is required.

The proposed coping modifications are shown on drawing SK-H1502 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified; this work would not be completed. All values would be confirmed during detailed design and may be subject to change.

Newnes Junction Station

To enable the passage of the New Intercity Fleet through Newnes Junction and maintain a safe gap, modifications to the coping (the edge of the platform) have been identified as necessary. The works include the removal of up to 110 millimetres off the vertical face of the corbelled coping on Platform 1 and up to 234 millimetres is proposed for removal on Platform 2. No additions are required at Newnes Junction Station.

The proposed coping modifications are shown on drawing SK-H1402 (Rev.A) of the heritage design drawings. Negative values indicate where cutback is necessary, while positive values indicate the addition of concrete. There would be no addition to the coping to this site. There is no tolerance associated with negative values, however, where a positive value of less than 5 millimetres is identified; this work would not be completed. All values would be confirmed during detailed design and may be subject to change.