

# Croydon Station Easy Access Upgrade Project

## Statement of Heritage Impact

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## Statement of Heritage Impact

Client: Transport for New South Wales

ABN: 18 804 239 602

Prepared by

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			Name/Position	Signature
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## Table of Contents

Executive Summary		i
1.0	Introduction	1
	1.1 Project Background	1
	1.2 Site Identification	1
	1.3 Project Methodology	3
	1.4 Report Limitations	3
	1.5 Authorship and Acknowledgements	3
2.0	Statutory Context	4
	2.1 Introduction	4
	2.2 Commonwealth Legislation	4
	2.2.1 Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)	4
	2.2.2 Disability Discrimination Act 1992 (Cwlth)	4
	2.3 State Legislation	4
	2.3.1 Environmental Planning and Assessment Act 1979 (NSW)	4
	2.3.2 Infrastructure SEPP State Environmental Planning Policy (Infrastructure) 2007 (NSW)	4
	2.3.3 Heritage Act 1977 (NSW)	5
	2.4 Local Government	5
	2.4.1 Ashfield Local Environmental Plan 2013	5
	2.4.2 Burwood Local Environmental Plan 2012	6
	2.4.3 Summary of statutory controls	7
3.0	Historical Context	8
	3.1 Introduction	8
	3.2 Early Settlement	8
	3.3 Development of Rail	9
	3.4 Early Development of Croydon Railway Station	9
	3.5 Station alterations in the 1920s	11
	3.6 Later alterations	15
	3.7 Discussion	15
4.0	Physical Description	16
	4.1 Introduction	16
	4.2 Croydon Railway Station Group	16
	4.2.1 Location	16
	4.2.2 General Overview	16
	4.2.3 Overhead Booking Office (1995)	16
	4.2.4 Platform 1/2 Building (1941)	17
	4.2.5 Platform 3/4 Building (1926)	17
	4.2.6 Platform 5 Building (1891)	20
	4.2.7 Footbridge (1922/3)	21
	4.2.8 Meta Street Overbridge (1892)	25
	4.2.9 Moveable Items	25
	4.2.10 Grading of Significant Elements	25
	4.3 Edwin Street North Conservation Area (C28)	26
	4.4 Presbyterian Ladies' College (I156)	26
	4.5 Malvern Hill Conservation Area (C13)	26
	4.6 Cintra Estate Conservation Area (C6)	27
	4.7 Croydon Sewer Vent (SHR 01639, Ashfield LEP I158)	27
5.0	Significance Assessment	28
	5.1 Introduction	28
	5.2 Croydon Railway Station	29
	5.3 Surrounding Heritage Items	30
6.0	Project Outline	31
	6.1 Introduction	31
	6.2 Project Drivers	31
	6.3 Design Options	31

6.4	Materials and Finishes	33
6.5	Project Impacts	35
	6.5.1 Demolition	35
	6.5.2 Construction	35
6.6	Interpretation Strategy	41
6.7	Impacts to Heritage Significance – Croydon Railway Station	42
6.8	Impacts to Heritage Significance – Surrounding Heritage Items	47
	6.8.1 Edwin Street North Conservation Area	47
	6.8.2 Presbyterian Ladies' College	47
	6.8.3 Malvern Hill Conservation Area	47
	6.8.4 Cintra Estate Conservation Area	47
	6.8.5 Croydon Sewer Vent	47
7.0	Statement of Heritage Impact	48
	7.1 Introduction	48
	7.2 Demolition – Process Questions	48
	7.3 Major Additions – Process Questions	49
8.0	Recommendations and Conclusions	51
9.0	References	53
Appendix A		
	Bridge Investigations	
Appendix B		
	Interpretation Strategy	

### List of Tables

Table 1	Listed heritage items within the Project Area	7
Table 2	Grading of significance criteria (from NSW Heritage Office, 2001:11)	26
Table 3	Croydon Railway Station grading of fabric	26
Table 4	Significance assessment criteria	28
Table 5	Significance assessment – Croydon Railway Station Group	29
Table 6	Assessment of impacts to the heritage significance of the Croydon Railway Station Group	43

### List of Figures

Figure 1	Project location context	2
Figure 2	Excerpt from an undated Parish of Concord plan. Pre-dates the railway line opened in 1855. (Source: NSW Property & Information). Approximate location of Croydon Railway Station marked.	8
Figure 3	Excerpt from an undated Parish of Concord plan. Post-dates the railway line opened in 1855. (Source: NSW Property & Information). Approximate location of Croydon Railway Station marked.	9
Figure 4	Croydon Railway Station showing eastern end of platforms c. 1885 with original footbridge. (Source: Dunlop, 1969)	10
Figure 5	Excerpt of “Subway at Croydon Station”, showing plan of the subway. Annotated with north arrow and current platform numbers. Source: Sydney Trains Plan Room CV0023588	11
Figure 6	Arrangement of the Croydon Railway Station proposed in 1921. Source: Sydney Trains Plan Room No. CV0054658	13
Figure 7	NSWR Ticket Collectors Cabin. Ashfield and Croydon Stations. Source: Sydney Trains Plan Room EDMS CV0359595/	14
Figure 8	Current layout of the footbridge and associated stairs. Source: Mott MacDonald Australia, 2014:2	22
Figure 9	Overlay of approximate location of proposed temporary works on 1943 aerial. (Source: NSW Property and Information)	37
Figure 10	Platform 3/4 Station Building plans, 1926, showing the building as built. Areas of existing modification highlighted. Modified from Sydney Trains Plan CV0053158	39

Figure 11	Proposed service locations (refer to Drawing TAP-C897-CD-MA-3808.B.TB)	40
Figure 12	Potential interpretation locations (Source: Caldis Cook Group 2015:8)	41

### List of Plates

Plate 1	Meta Street after a thunderstorm, no date. View north from Paisley Street. Source: Historic Photographs Australia.	14
Plate 2	Undated image of Croydon Railway Station showing the centralised overhead booking office and structure at the Paisley Road entrance (Source: Sydney Trains Section 170 listing)	15
Plate 3	Overhead booking office from Meta Street – view south	16
Plate 4	Overhead booking office – view north west from platform 3/4	16
Plate 5	Platform Building 1/2 – view north	17
Plate 6	Platform Building 1/2 – view south east from platform 3/4	17
Plate 7	Platform Building 1/2 – attachment of existing canopy, electrical services and wayfinding/information signs.	17
Plate 8	Platform Building 1/2 – interior	17
Plate 9	Platform Building 3/4 – view south	18
Plate 10	Platform Building 3/4 from platform 2. View south west	18
Plate 11	Platform Building 3/4 – view of western elevation showing arrangement of doors and windows	18
Plate 12	Platform Building 3/4 – detail of concrete corbel and metal bracket for awning.	18
Plate 13	Platform Building 3/4 – interior of store room at northern end of building.	19
Plate 14	Platform Building 3/4 – ceiling of store room showing modifications to mini orb corrugated iron.	19
Plate 15	Platform Building 3/4 – interior of second store room.	19
Plate 16	Platform Building 3/4 – interior of existing communications room.	19
Plate 17	Platform Building 3/4 – interior of recently renovated restroom.	20
Plate 18	Platform Building 3/4 – interior of recently renovated family accessible/disabled toilet.	20
Plate 19	Platform Building 5 – view north west	20
Plate 20	Platform Building 5 – view north west from platform 3/4	20
Plate 21	Platform Building 5 awning – view south.	21
Plate 22	Platform Building 5 – detailing of cast iron work and timber curtain fascia.	21
Plate 23	Platform Building 5 – interior showing ceiling detail.	21
Plate 24	Platform Building 5 – interior showing original seating.	21
Plate 25	Footbridge showing arrangement of stairs 1, 2 and 3. View north from platform 5.	23
Plate 26	Footbridge span across track 4 and 5 and trestles 2A and 2B on platform 3/4.	23
Plate 27	Trestle 4 on platform 5 showing comparative condition. Note insertion of concrete pier for 1995 overhead booking office. View north.	24
Plate 28	Trestle 1B showing extensive spalling and lack of cross bracing.	24
Plate 29	Trestle 1A and stair 1. Note extensive spalling and deteriorated steel superstructure members. View north east.	24
Plate 30	Stair 3 showing original newel post and concrete stepway.	24
Plate 31	Original balustrade cast iron spiked capping over platform 2 (c.1923).	25
Plate 32	Stairway steel beams and balustrades on stair 3 showing general condition and form. View south.	25
Plate 33	Detail of original hand rail on stair 3.	25
Plate 34	Detail of trestle 2A showing reinforced steel exposed for the height of the member.	25
Plate 35	Example of a temporary footbridge used during the Sydenham Station upgrade.	36

## 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 Croydon Station Easy Access Upgrade (the Proposal).

The Proposal is part of the Transport Access Program which is a NSW Government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure.

This Heritage Assessment has been prepared in support of an Review of Environmental Factors (REF), which has been prepared to assess the environmental impacts associated with the construction and operation of the Proposal under the provisions of Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The station consists of one wayside platform and two island platforms, numbered from one in the north to five in the south. There are buildings on each of the platforms, which relate to the different developmental stages of the station. The station is currently accessed via an overhead booking office, located just below the Meta Street level, with the footbridge accessed via a covered breezeway. The station also had a subway at the eastern end, which was filled in the late 1980s. The station is listed on the State Heritage Register (SHR), Sydney Trains Section 170 Heritage and Conservation Register, Ashfield Local Environmental Plan (LEP) and Burwood LEP as an item of State significance, fulfilling criterion a (historical), criterion c (aesthetic/technical), criterion d (social), criterion e (research potential), criterion f (rarity) and criterion g (representativeness). The station was established in 1875 and has been subsequently modified to meet the changing needs of staff and patrons.

The key features of the Proposal are summarised as follows:

- Replacement of the existing station footbridge with a new raised and wider pedestrian bridge that would extend north to a new station entrance at Hennessy Street;
- Installation of new stairs to each platform and three lifts to provide access to the station platforms;
- New canopies installed at both station entrances and along the new pedestrian bridge, stairs, lift landings and platforms;
- New station operations building at concourse level of the Paisley Road station entrance;
- Widening of a section of the Paisley Road footpath and upgrade of the Paisley Road station entry plaza;
- Provision of two accessible parking spaces and up to three kiss and ride spaces in Paisley Road;
- Installation of new undercover bicycle racks installed on both sides of the station; and
- Ancillary works including platform resurfacing/re-grading, services diversion and/or relocation, station power supply upgrade (including new substation), minor drainage works, adjustments to lighting, new ticketing facilities including additional Opal card readers, modifications to station communication and security systems with new or relocated infrastructure (including CCTV cameras and Passenger Information Displays) and wayfinding signage.

In summary, the demolition of the footbridge will result in impacts to the historical (criterion a), technical (criterion c), social (criterion d), research (criterion e) and rarity (criterion f) significance. The construction of the proposed footbridge and lifts will impact on the aesthetic (criterion c) significance, however, this has been minimised through sympathetic design and the selection of materials and finishes. The construction has the potential to have a positive impact on the social (criterion d) significance through increased access and the potential for interpretation of the station's history to be integrated into the upgrade. The temporary enabling works will have no long-term impacts on the assessed significance. The installation of service trenches through the eastern end of the platform have the potential to impact on relics associated with the historic subway. It is recommended that impacts be avoided during detailed design. Should impacts be anticipated following detailed design, a review of the approvals will be undertaken and a modification sought, if necessary.

The following mitigation measures are recommended:

- An application under Section 60 of the *Heritage Act 1977* should be submitted to the Heritage Council of NSW for approval prior to works commencing. This Statement of Heritage Impact should be submitted with the supporting documentation for the approval.

- The Interpretation Strategy should be developed into an Interpretation Plan and implemented during construction;
- Archival recording of the station as a whole prior to the commencement of construction following NSW Heritage Division guidelines *Photographic recording of heritage items using film or digital capture* (NSW Heritage Office, 2006) and *How to prepare archival records* (NSW Heritage Office, 1998). Copies should be provided to the NSW Heritage Division, Ashfield Council, Burwood Council and Sydney Trains for future reference. In particular the following elements the following elements should be concentrated on:
  - Existing footbridge and stairs;
  - The 1995 overhead booking office;
  - Disused platform, including the stairs along Hennessy Street cutting (it is recommended that vegetation removal be undertaken prior to the archival recording)
  - Northern rooms of platform 3/4 station building prior to removal of the weatherboard wall;
- Inclusion of stop work procedures in the construction and environmental management plan in the unlikely event that intact archaeological relics or deposits are encountered in accordance with Transport for NSW's (TfNSW's) *Unexpected Heritage Finds Guideline*;
- Submit a colour and finishes sample board prior to construction for approval by the Manager of Conservation, Heritage Division (OEH);
- Submit details of the proposed heritage consultant for approval by the Manager of Conservation, Heritage Division (OEH);
- A heritage induction should be provided to all on-site staff and contractors involved in the project. The induction should clearly layout the statutory obligations associated with State significant sites, the heritage constraints of the site, areas of archaeological potential and the management and mitigation measures in place to protect the significance of the station;
- During construction, suitable measures should be put in place to ensure the retained heritage elements are protected from damage. Measures may include hoardings, use of spotters during the movement of equipment and other measures as necessary;
- It is recommended that, where possible, existing openings be reused for the installation of the GPOs in platform 3/4 building ceiling (if required);
- It is recommended that the depth and/or path of the service trenches be modified during detailed design to avoid impacting the historic subway. Should impacts be anticipated following detailed design, a review of the approvals will be undertaken and a modification sought, which should include an Archaeological Research Design and Methodology and nominate an Excavation Director with a demonstrated track record of working with SHR listed items; and
- Following completion of works, the State Heritage Register listing description and historical context should be updated to reflect the new works.



## 1.0 Introduction

### 1.1 Project Background

The NSW Government is committed to facilitating and encouraging use of public transport, such as trains, by upgrading stations to make them more accessible, and improving interchanges around stations with other modes of transport such as bicycles and cars.

Croydon Station and the interchange area do not currently meet key requirements of the *Disability Standards for Accessible Public Transport 2002* (DSAPT) or the Commonwealth *Disability Discrimination Act 1992* (DDA). Currently there is no ramp or lift access to station platforms and there are non-compliant paths of travel from the surrounding footpath and roads. In addition, the station entrance is narrow and there is no weather protection over the existing footbridge and stairs.

The Croydon Station Easy Access Upgrade is required to provide safe and equitable access to the station and across the railway to the surrounding pedestrian network and would also improve customer facilities and amenity. The improvements would in turn assist in supporting the growth in public transport use and would provide an improved customer experience for existing and future users of the station.

The expected increase in customers has been taken into consideration during the design development. The 2014 barrier counts indicated a daily patronage of 4,750 trips which is expected to increase by approximately 27 per cent to 6,055 in 2036. The Proposal has been designed to cater for a minimum daily patronage forecast of 6,963 (which is the 2036 daily patronage + 15 per cent).

The key features of the Proposal are summarised as follows:

- Replacement of the existing station footbridge with a new raised and wider pedestrian bridge that would extend north to a new station entrance at Hennessy Street;
- Installation of new stairs to each platform and three lifts to provide access to the station platforms;
- New canopies installed at both station entrances and along the new pedestrian bridge, stairs, lift landings and platforms;
- New station operations building at concourse level of the Paisley Road station entrance;
- Widening of a section of the Paisley Road footpath and upgrade of the Paisley Road station entry plaza;
- Provision of two accessible parking spaces and up to three kiss and ride spaces in Paisley Road;
- Installation of new undercover bicycle racks installed on both sides of the station; and
- Ancillary works including platform resurfacing/re-grading, services diversion and/or relocation, station power supply upgrade (including new substation), minor drainage works, adjustments to lighting, new ticketing facilities including additional Opal card readers, modifications to station communication and security systems with new or relocated infrastructure (including CCTV cameras and Passenger Information Displays) and wayfinding signage.

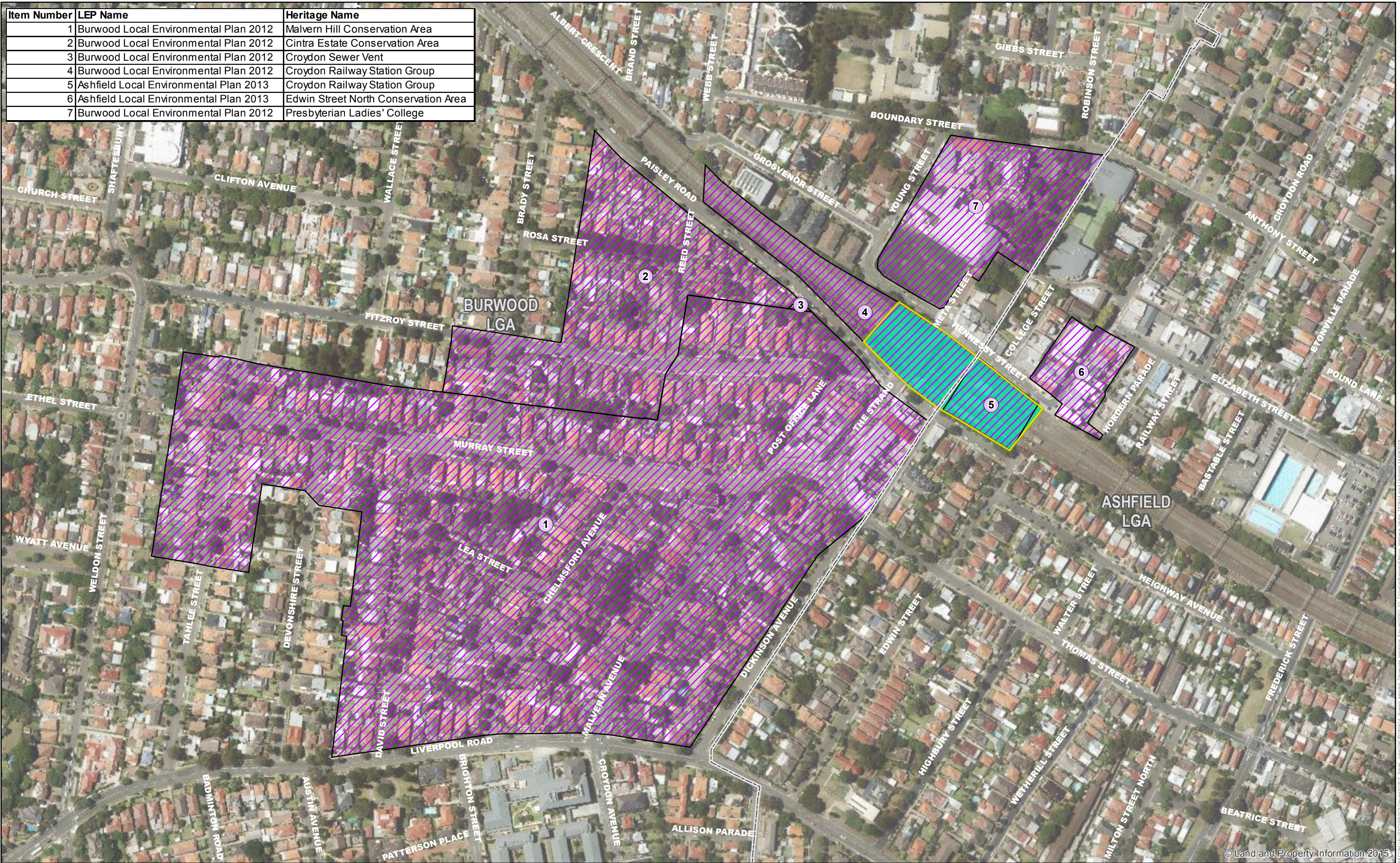
Subject to planning approval, construction is expected to commence in 2015 and is anticipated to take up to two years to complete.

### 1.2 Site Identification

The station is located in the suburb of Croydon, Sydney, NSW, on the T2 Airport and Inner West lines at a distance of nine km from Central Station. The station is bound to the north by Hennessy Street and Paisley Road to the south. The site is dissected by the Meta Street overbridge, which currently provides access to the booking office and from there to the footbridge and platforms. The station straddles the boundary between the Ashfield and Burwood LGAs, and is located in the parish of Concord in County of Cumberland. The location of the station is indicated in Figure 1.



Item Number	LEP Name	Heritage Name
1	Burwood Local Environmental Plan 2012	Malvern Hill Conservation Area
2	Burwood Local Environmental Plan 2012	Cintra Estate Conservation Area
3	Burwood Local Environmental Plan 2012	Croydon Sewer Vent
4	Burwood Local Environmental Plan 2012	Croydon Railway Station Group
5	Ashfield Local Environmental Plan 2013	Croydon Railway Station Group
6	Ashfield Local Environmental Plan 2013	Edwin Street North Conservation Area
7	Burwood Local Environmental Plan 2012	Presbyterian Ladies' College

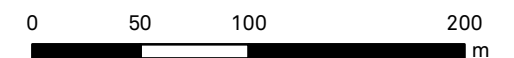


**Legend**

- SHR Heritage Listing - Croydon Railway station
- LEP Heritage Listing
- LGA Boundary

**CROYDON RAILWAY STATION  
HERITAGE CURTILAGES**

SEP 2015  
60438668





### 1.3 Project Methodology

Heritage assessment in this report has been undertaken in accordance with the NSW Heritage Division *Assessing Heritage Significance* (NSW Heritage Office, 2001) and *Statements of Heritage Impact* (NSW Heritage Office, 2002).

The heritage assessment methodology undertaken as part of this assessment included:

- Desktop searches of relevant heritage registers;
- Review of the project proposal.
- Review of the following key documents
  - Heritage register listings for identified sites;
  - Historic plans for the station held by the Sydney Trains Plans Room;
- Background research into the historical development of the station using the historic plans, historical aerials, newspapers and other primary and secondary historical sources as relevant and referenced in Section 9.0;
- Site inspections by AECOM staff assessing the existing character of the project area and surrounding land uses; and
- Attendance and input to the heritage design co-ordination meetings.

### 1.4 Report Limitations

The purpose of this report is to identify and assess historic heritage and archaeological potential within the project area.

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 will be addressed in accordance with Transport for NSW's (TfNSW's) *Unexpected Heritage Finds Guideline*.

A summary of the statutory requirements regarding historical heritage is provided in Section 2.0. 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.

### 1.5 Authorship and Acknowledgements

This report has been prepared by Dr Susan Lampard, Senior Historic Heritage Specialist of AECOM. Luke Kirkwood, Principal Heritage Specialist of AECOM, undertook the technical and quality assurance review.

## 2.0 Statutory Context

### 2.1 Introduction

A number of planning and legislative documents govern how heritage is managed in New South Wales and Australia. The following section provides an overview of the requirements under each as they apply to the Project.

### 2.2 Commonwealth Legislation

#### 2.2.1 Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)

The Commonwealth *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 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. Croydon Railway Station has not been identified on the NHL, CHL or 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 Act), may only progress with approval of the Commonwealth Minister for the Department of the Environment (DotE). An action is defined as a project, development, undertaking, activity (or series of activities), or alteration. An action will also require approval if:

- It is undertaken on Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land; and
- It is undertaken by the Commonwealth and will have or is likely to have a significant impact.

#### 2.2.2 Disability Discrimination Act 1992 (Cwlth)

The Commonwealth *Disability Discrimination Act 1992* (DDA) aims to reduce, to the level possible, discrimination against people with a disability. The DDA requires that people are given equal opportunity to access public transport and buildings, including those with heritage significance. The project is being undertaken, in part, to comply with the requirements of the DDA.

### 2.3 State Legislation

#### 2.3.1 Environmental Planning and Assessment Act 1979 (NSW)

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) allows for the preparation of planning instruments to direct development within 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 Ashfield LEP 2013 and Burwood LEP 2012 applies to the Project and is discussed below. The EP&A Act also allows for the gazettal of State Environmental Planning Policies (SEPP). The Infrastructure SEPP is discussed below.

#### 2.3.2 Infrastructure SEPP State Environmental Planning Policy (Infrastructure) 2007 (NSW)

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. The ISEPP 2007 specifies in Part 2, Division 2, Section 14(2) that:

- 'A public authority, or a person acting on behalf of a public authority, must not carry out development to which this clause applies unless the authority or the person has:
  - had an assessment of the impact prepared, and
  - given written notice of the intention to carry out the development, with a copy of the assessment, to the council for the area in which the heritage item or heritage conservation area (or the relevant part of such an area) is located, and

- taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.'

Section 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. Given that the Croydon Railway Station is on the Ashfield and Burwood LEPs (refer below), it is recommended that both Councils are consulted.

### 2.3.3 Heritage Act 1977 (NSW)

The *Heritage Act 1977* (as amended) was enacted to conserve the environmental heritage of New South Wales. Under Section 32, places, buildings, works, relics, moveable 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 (SHR). Items that are assessed as having State heritage significance can be listed on the SHR by the Minister on the recommendation of the NSW Heritage Council. Croydon Railway Station Group has been identified as of State heritage significance and is listed on the SHR as item number #01125.

Proposals to alter, damage, move or destroy places, buildings, works, relics, moveable objects or precincts protected by an IHO or listed on the SHR require an approval under Section 60. Demolition of whole buildings will not normally be approved except under certain conditions (Section 63). Some of the sites listed on the SHR or on LEPs may either be 'relics' or have relics associated with them. In such cases, a Section 60 approval is also required for any disturbance to relics associated with a listed item.

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 Croydon Railway Station has been identified on the RailCorp Section 170 Heritage and Conservation Register under database number 4801110.

## 2.4 Local Government

Meta Street forms the boundary between the Ashfield and Burwood local government areas (LGA). The majority of the site, including the present station buildings and existing footbridge and booking office sit within the Ashfield LGA, however, the platform extends under the Meta Street overbridge and into the Burwood LGA. Section 2.4.1 outlines the relevance of the Ashfield LEP to the project, while Section 2.4.2 discusses the Burwood LEP.

### 2.4.1 Ashfield Local Environmental Plan 2013

Part 5 Section 5.10 of the Ashfield LEP 2013 deals with heritage conservation within the area covered by this LEP. All items listed on the LEP are included in Schedule 5 of the document. The LEP states:

The objectives of this clause are as follows:

- a) to conserve the environmental heritage of Ashfield,
- 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.

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 will 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.

Schedule 5 of the LEP provides a list of identified heritage items, heritage conservation areas and archaeological sites. The Croydon Railway Station Group is identified as Item 363.

#### **2.4.2 Burwood Local Environmental Plan 2012**

Part 5 Section 5.10 of the Burwood LEP 2012 deals with heritage conservation within the area covered by this LEP. All items listed on the LEP are included in Schedule 5 of the document. The LEP states:

The objectives of this clause are as follows:

- a) to conserve the environmental heritage of Burwood,
- 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.

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 will 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:
  - iii. on which a heritage item is located or that is within a heritage conservation area, or
  - iv. on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

Schedule 5 of the LEP provides a list of identified heritage items, heritage conservation areas and archaeological sites. The Croydon Railway Station Group is identified as Item I149.

### 2.4.3 Summary of statutory controls

The Croydon Railway Station Group has been identified as holding State significance and is listed on the SHR, RailCorp S170 Heritage and Conservation Register and the heritage schedules of the Ashfield and Burwood LEPs, as summarised in Table 1. The register search was extended to establish if there were surrounding registered items or conservation areas that may be affected by the project. Listed on the Ashfield LEP is the Edwin Street North Conservation Area, which borders the station on the north western side. The Burwood LEP contains four items that front the station. The listings include two conservation areas – the Malvern Hill and Cintra Estate Conservation Areas, as well as two individual items, being the Presbyterian Ladies' College and the Croydon Sewer Vent. The physical characteristics of the station and the surrounding environment and heritage items are described in Section 3.0.

Table 1 Listed heritage items within the Project Area

Heritage List	Sites within Project Area	Level of significance	Sites adjacent to the Project Area	Level of Significance
World Heritage List	None	n/a	None	n/a
National Heritage List	None	n/a	None	n/a
Commonwealth Heritage List	None	n/a	None	n/a
Register of the National Estate (non-statutory)	None	n/a	None	n/a
State Heritage Register	Croydon Railway Station Group (#01125)	State	Croydon Sewer Vent (#01639)	State
Sydney Trains Section 170 Register	Croydon Railway Station Group (#4801110)	State	None	n/a
Ashfield LEP 2013	Croydon Railway Station Group (363)	State	- Edwin Street North Conservation Area (C28)	Local
Burwood LEP 2012	Croydon Railway Station Group (I149)	State	- Presbyterian Ladies' College (I156) - Malvern Hill Conservation Area (C13) - Cintra Estate Conservation Area (C6) - Croydon Sewer Vent (I158)	Local Local Local State

## 3.0 Historical Context

### 3.1 Introduction

In order to appreciate the heritage significance of an item, it is important to understand the historical context in which it was constructed and the subsequent factors that have influenced its development. The following sections outline the development of the Croydon Railway Station.

### 3.2 Early Settlement

The station is located within 100 acres of land initially granted to Augustus Alt in 1794 (Ashfield City Council, 2002:2) (Figure 2). Alt named his grant Hermitage Farm, building a house, which burnt down in 1798. The land was sold in 1802 to John Palmer, at which time it does not appear to have been extensively cultivated, although an orchard is noted on the site of the present railway station. By 1820, Palmer's land had been incorporated into Ashfield Park Estate, owned by Joseph Underwood. The Estate remained intact until the death of Joseph's wife Elizabeth in 1858, at which time it was subdivided. Anthony Horden purchased a section on which he built Shubra Hall, now part of the Presbyterian Ladies' College. The other sections of Ashfield Park Estate were purchased by other wealth colonists on which they established country seats.

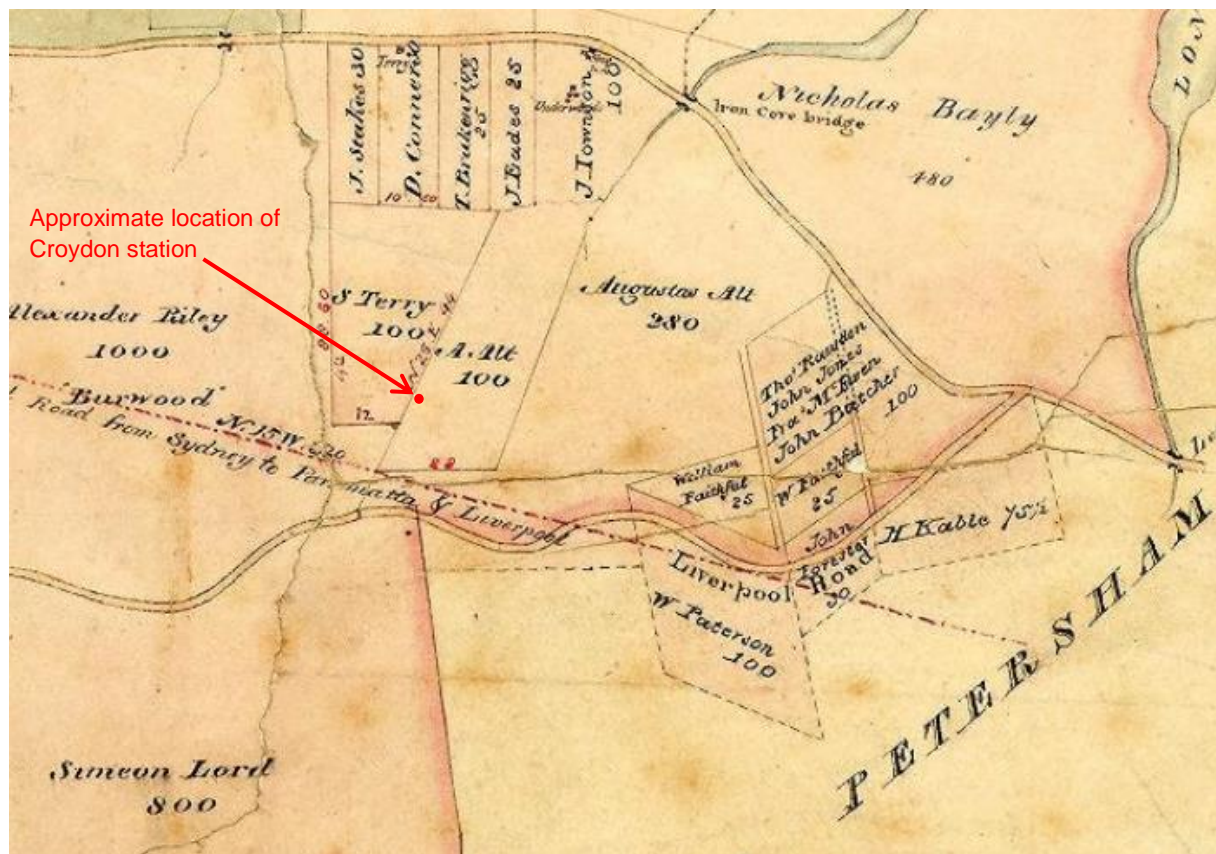


Figure 2 Excerpt from an undated Parish of Concord plan. Pre-dates the railway line opened in 1855. (Source: NSW Property & Information). Approximate location of Croydon Railway Station marked.



### 3.3 Development of Rail

The first railway line in the Colony of New South Wales was the Main Western Line, which opened on 26 September 1855. The line ran from in the vicinity of present day Redfern Railway Station to Granville (then known as Parramatta Junction) and was a double track from Sydney to Newtown and a single track onward to Granville. The purpose of the line was to connect Sydney with the rural railways that were under construction across the Blue Mountains to Bathurst and across the Southern Highlands to Goulburn. The original intention of the line was not to serve the suburban population and, as a consequence, there were few stations along the route (NSW Heritage Division, 2010), Burwood and Ashfield being two of these (Figure 3). The first intermediary station to be commissioned following the opening of the line was Petersham in 1857, followed by Lidcombe (originally Haslams Creek) in 1858.

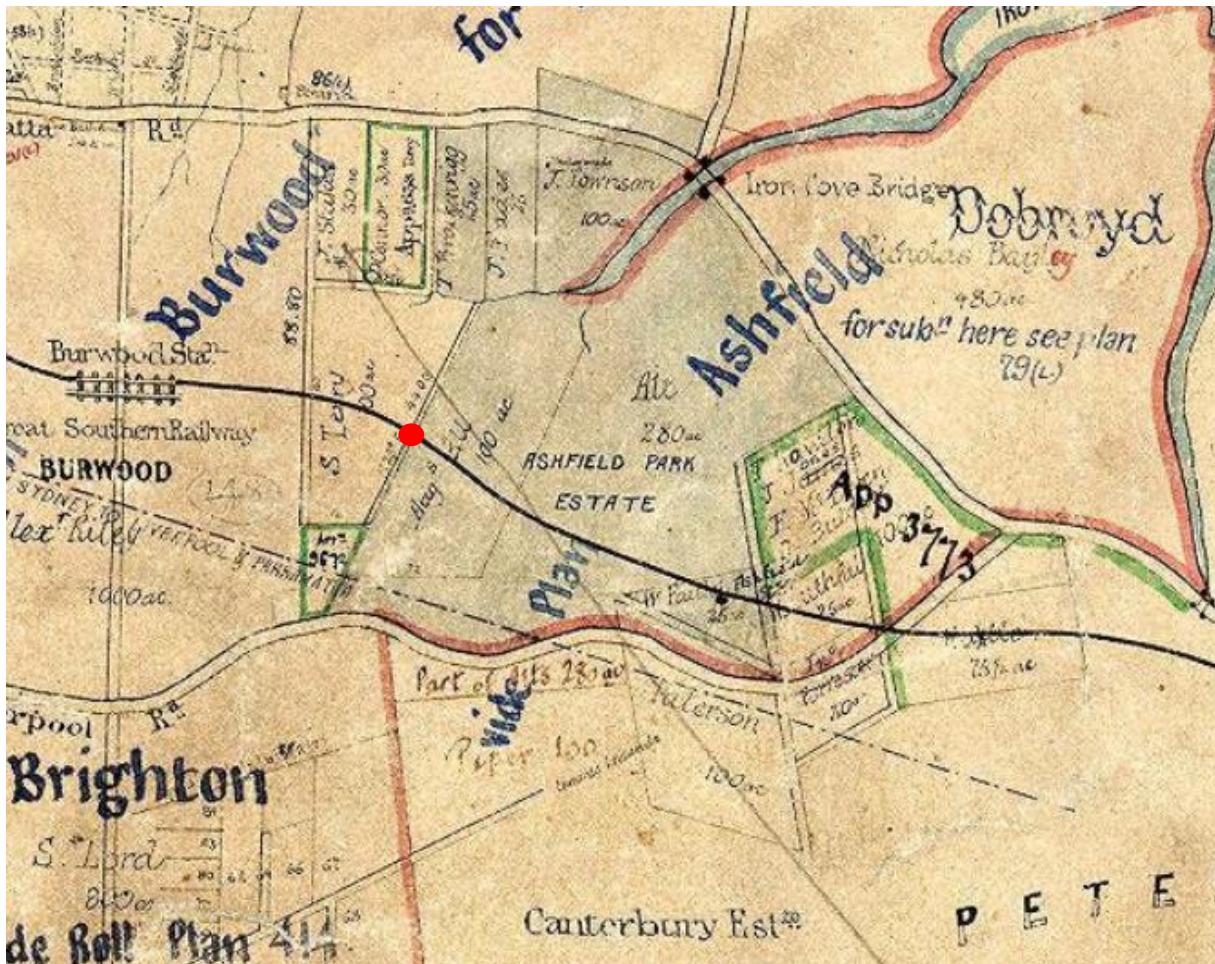


Figure 3 Excerpt from an undated Parish of Concord plan. Post-dates the railway line opened in 1855. (Source: NSW Property & Information). Approximate location of Croydon Railway Station marked.

### 3.4 Early Development of Croydon Railway Station

It became evident that the rail was appealing to commuting passengers and local petitions were raised for additional stations along the line. Croydon was successful in securing a platform in 1875, opening on 7 January under the name Five Dock (NSW Heritage Division, 2010). The platform was located 100 metres to the west of the current station, near Webb Street (Sharp, 2013). Sharp (2013:2-3) indicates that, following a 17 year break, Croydon was the first locality to successfully petition for a station due to its wealthy inhabitants. Croydon was home to the country seats of Anthony Horden, Edward Lloyd Jones and Mayor of Ashfield Daniel Holborow, all wealthy merchants.

A deputation of prominent local residents to the Minister for Public Works in July 1876 requested “The substitution of a name in place of that of Five Dock to distinguish the locality, such name to be printed in the railway time-table”, reduction in fares, lengthening the platform” (*The Sydney Morning Herald*, 27 July 1876:3e). Settlement

was increasing and land values rising, the deputation recommended a fully serviced Station be erected, a piece of land being offered “at reasonable terms”. The Minister stated he had anticipated that the deputation’s requests would include the elongation of the platform, and the works, together with the erection of a residence for the man in charge of the platform, had been ordered. The new name selected for the station, Croydon, came into use in August 1876 (NSW Heritage Division, 2010). The name was reputedly selected as the distance between Croydon and the Homebush racecourse was the same as that between the suburb of Croydon in England and a nearby racecourse (Sharp, 2013:2).

The work may have been ordered by the Minister for Works in 1876, but it was not carried out until 1880, when a new waiting shed and ticket office was erected, the platforms lengthened and a cottage constructed for the Porter-in-Charge. A “vertically curved” footbridge was constructed at the eastern end of the platforms in 1883 (NSW Heritage Division, 2010) (refer Figure 4). It appears by 1886 that the population of Croydon had outgrown the 1880 renovations, as another deputation to the Minister for Works requested additional station accommodation, a railway siding, swinging gates and a subway under the railway line (*The Sydney Morning Herald*, 26 June 1886:7e). The article revealed that the patronage of the Croydon station in the previous 12 months had been 130,385 tickets, compared to 224,232 at Ashfield, a major junction. The Minister said there was no need for a siding, but did agree that better accommodation was warranted. He promised to visit the station at an early date and see what should be done.



Figure 4 Croydon Railway Station showing eastern end of platforms c. 1885 with original footbridge. (Source: Dunlop, 1969)

The SHR listing indicates that a mortuary shed was erected in 1890 at the Sydney end of the station, although no other details are provided. A Post Office was added at the same time (NSW Heritage Division, 2010). Sharp (2013:2) indicates that the Post Office had been located “on one of the station’s platforms” since 1877. The Station Master acted as the Post Master from 1877 until 1883 when the Station Master’s daughter was appointed to the role. The Post Office appears to have moved outside the station precinct in 1883 (Sharp, 2013) and is shown on an 1891 plan for the station (Figure 5).

The quadruplication of the lines in 1892 led to a reorganisation of the arrangements at Croydon. The *Sydney Morning Herald* reported in January 1891 that:

*“To Croydon the line is widened on both sides, and at Croydon there are to be two additional lines laid along the south side of the station. The present up platform will remain, while the down platform will be transformed into an island platform. It was originally proposed to build an overhead station at Meta-street beyond the level crossing, but that idea has been abandoned. At the level crossing a subway will be made under the line in the same manner as at the other stations. There will be a booking office on the low level in the centre of the island platform immediately adjoining the subway.”*



(The Sydney Morning Herald, 1891:4g)

Plans for the pedestrian subway were drawn up in September 1891, which show a booking office on the island platform being created as part of the quadruplication (Figure 5). The subway was located at the eastern end of the platforms and appears to have replaced the curved footbridge. Sharp (2013:5) indicates the subway was constructed of blonde bricks, an unusual colour choice for NSW Railways.

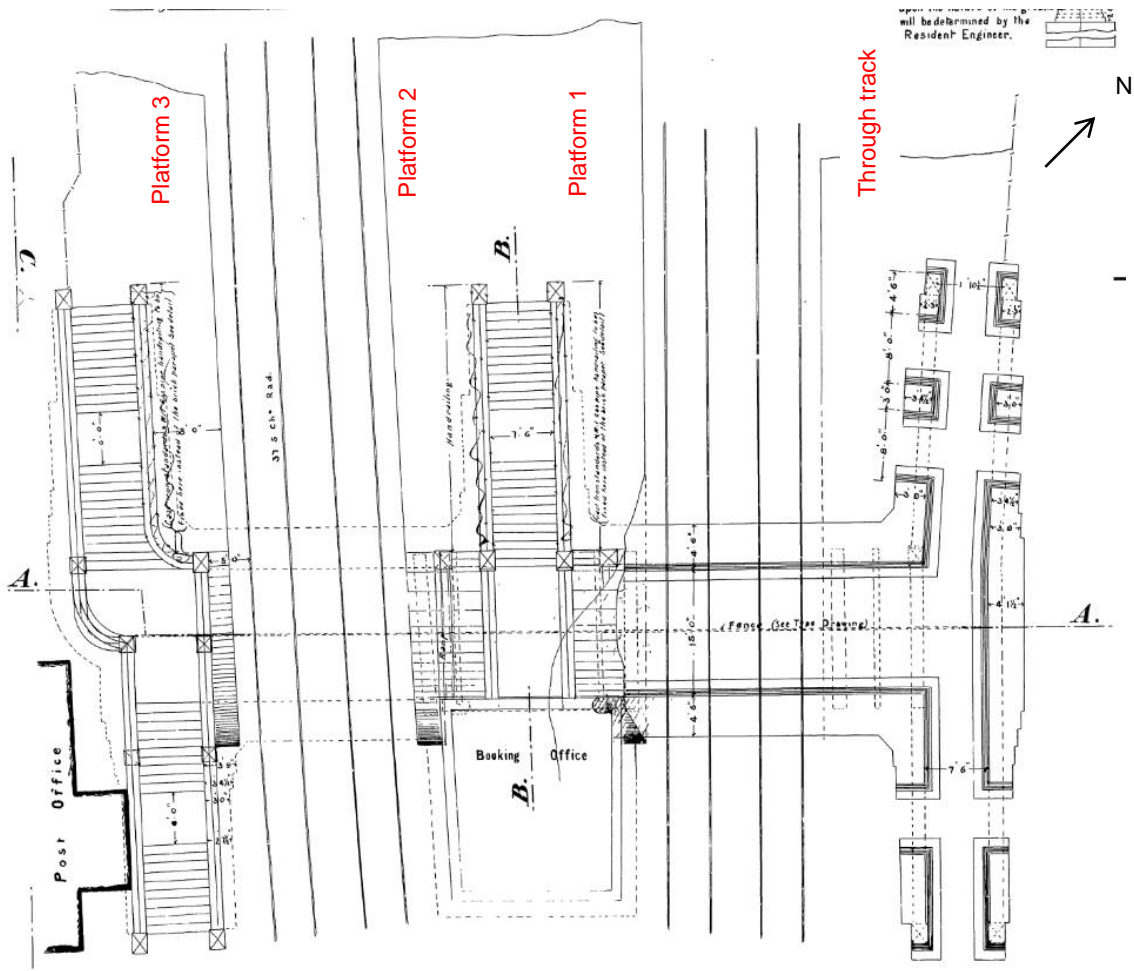


Figure 5 Excerpt of “Subway at Croydon Station”, showing plan of the subway. Annotated with north arrow and current platform numbers. Source: Sydney Trains Plan Room CV0023588

### 3.5 Station alterations in the 1920s

Figure 6 shows the configuration of the Station following the 1892 duplication works and prior to the amplification of the line that occurred in 1927. The article from 1891 indicates that there is no overhead booking office adjacent to Meta Street and the plans for one had been scrapped. However, an image from 1902 (Plate 1) of the station shows stairs and a ticket collectors cabin projecting from the Meta Street overbridge (Figure 7). This arrangement of stairs is additionally shown on the 1921 plan, with the note “to be demolished”. The SHR listing indicates this structure was built in around 1890 (NSW Heritage Division, 2010).

The Sydney Morning Herald wrote in 1922:

*“The Railway Commissioners are about to erect a new overhead bridge at Croydon station to replace that at present in use for giving access to the platforms at the western end of the station. The new bridge will have the booking office in the centre, as at Petersham, Homebush and other stations. When the bridge is completed it is proposed to close the subway at the eastern end of the platforms so far as it gives access to the station, but it will still be available for pedestrians crossing from one side of the railway to the other.”*

(The Sydney Morning Herald, 1922:16a)

The 1921 plan indicated the layout of the Station at the time, with the proposal for the new footbridge and booking office as announced by *The Sydney Morning Herald* (1922:16a), superimposed. This is significant, as the SHR listing indicates the extant footbridge was constructed in 1892 during the duplication works. However, plans held by Sydney Trains indicate that this structure was first designed in 1921. The 1921 plan was deemed too costly and was simplified in plans dated to 1923 and executed in 1924. Sharp (2013:7) reports that the concrete trestles were poured in situ. Sharp (2013:8-9) goes on to say:

*In 1923, planning for the six tracks took an extremely unusual twist. A second plan was prepared for an overhead booking office but, this time, the selected material was to be pre-cast concrete units. At the Pre-cast Concrete Works at Auburn, the Engineer-in-Chief for Existing Lines, Robert Ranken, had expanded the number of products to be made in conjunction with the electrification of the suburban railway network... Upon reflection, the use of concrete for the overhead booking office and the footbridge seem to fit into a much wider phase of railway history between 1917 and 1923 in which there was much experimentation as to how and where concrete was to be used.*

The use of pre-cast concrete units for platform or booking offices, however, did not seem to find any traction, the only other example being a platform building at Toongabbie.

In 1927 the line through Croydon was sextuplicated, with the two new lines been added on the Paisley Street side. The subway and the footbridge were extended south to accommodate the new lines. This extension to the footbridge may have included the provision of a building at the Paisley Street the station entrance. This structure can be seen at the left of an un-dated image of the station showing the centralised overhead booking office (Plate 2).

The Standard Eddy shelter (1891) was relocated from Platform 3/4 to the newly formed Platform 5, with a new shelter (still extant) being constructed in its place.

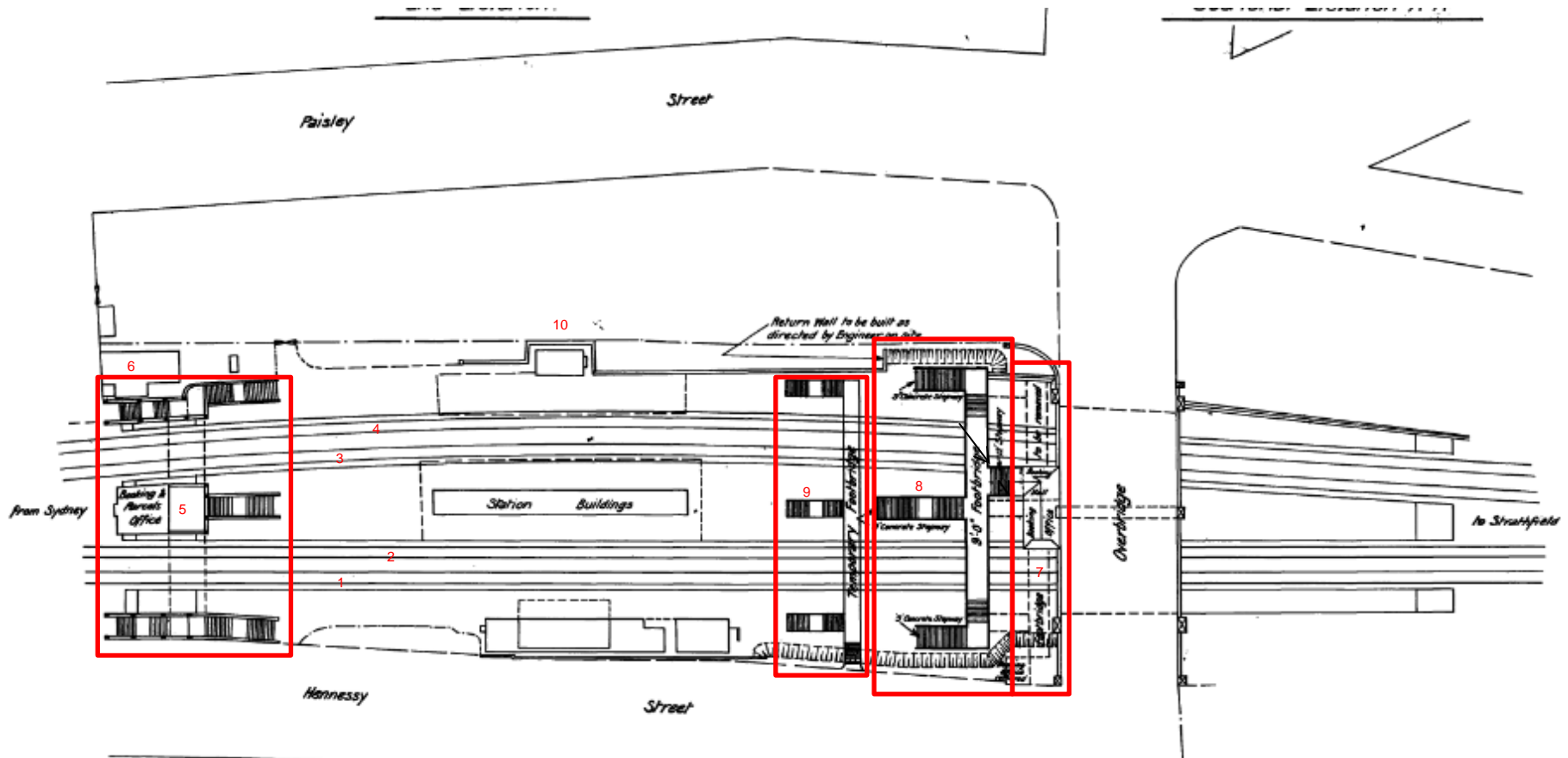


Figure 6 Arrangement of the Croydon Railway Station proposed in 1921. Source: Sydney Trains Plan Room No. CV0054658

- 1. Original Up track, now through track with no platform (1855, track only, 1870s platform building)
- 2. Original Down track, now platform 1
- 3. 1892 quadruplication, now platform 2
- 4. 1892 quadruplication, now platform 3
- 5. Subway, associated stairs and bookings and parcels office (now demolished)
- 6. pre-1890 post office
- 7. c. 1890 footbridge and booking office "to be removed"
- 8. Proposed footbridge and overhead booking office. Constructed 1922/23
- 9. Temporary footbridge of unknown date/longevity
- 10. Future location of platforms 1 and 2 following 1926/27 sextuplication



Plate 1 'Meta Street after a thunderstorm, 3<sup>rd</sup> June 1902'. Note ticket collectors cabin in foreground. View north from Paisley Street. Source: Historic Photographs Australia A525.

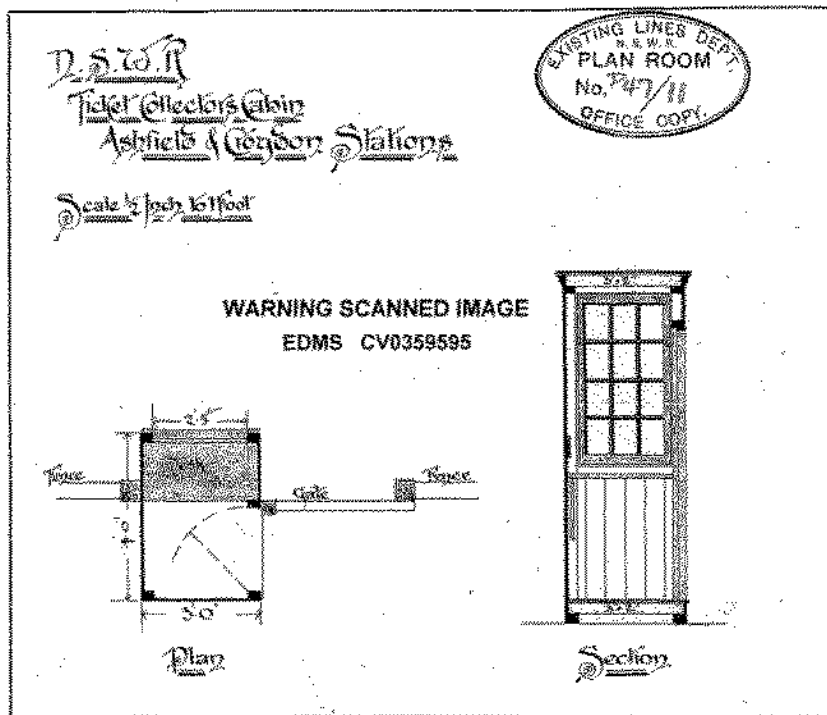


Figure 7 NSW Ticket Collectors Cabin. Ashfield and Croydon Stations. Source: Sydney Trains Plan Room EDMS CV0359595/



**Plate 2** Undated image of Croydon Railway Station showing the centralised overhead booking office and structure at the Paisley Road entrance (Source: Sydney Trains Section 170 listing)

### 3.6 Later alterations

In 1933, the Chief Civil Engineer approved the demolition of the brick building on the Hennessy Street cutting. The platform had been removed as part of the 1927 works, but the building had remained as a load bearing wall.

In 1941 the extant platform building was erected on platform 1/2. This necessitated the demolition of the previous timber structure that had been on this platform and removed the space formerly used by the porters.

Accommodation for the porters was created under the stairs on platform 3/4, reusing materials salvaged from the demolition of the platform 1/2 building as a war-time austerity measure (Sharp 2013:12). This accounts for why the trestle on that platform has had its arches blocked in, while the rest remain open (Plate 2).

In 1947 approval was given for the construction of a new Parcels Office on the northern side of the centralised Overhead Booking Office. Sharp (2013:10) reports that the subway was closed and filled with earth in 1987.

In 1994 approval was given for major alterations to the station, including the construction of canopies on the stairs and platforms and a new booking office on the southern side. The 1920s overhead booking office was demolished during the 1995 construction works.

### 3.7 Discussion

An examination of the historical documentation and plans indicates that the current footbridge was initially constructed in 1922/3 and altered in 1926/7 to allow for the sextuplication of the lines through Croydon. It would appear that the assertion in the SHR and Sydney Trains S170 listings that the footbridge was constructed in 1892 is incorrect. The technical significance assessment of the footbridge under criterion c (refer Section 5.0) is based on the footbridge being one of the earliest, if not the earliest, uses of reinforced concrete within the metropolitan rail network. A consideration of an excerpt of the Sydney Trains S170 register of records relating to footbridges indicates that the 1922/3 Croydon footbridge is still an early example of reinforced concrete being used for an entire footbridge. Sharp (2013:8) additionally states that the Croydon footbridge remains the only one of its type. The technical significance therefore still stands.



## 4.0 Physical Description

### 4.1 Introduction

This section provides a physical description of the station to provide an understanding of the physical elements that contribute to the station's State significance. This is followed by a description of the surrounding heritage items, as noted in Table 1, this context will be used to determine whether the project has any secondary impacts to these items.

### 4.2 Croydon Railway Station Group

#### 4.2.1 Location

The station is located in the suburb of Croydon, on the T2 Airport and Inner West lines at a distance of nine km from Central Station. The station is bound to the north by Hennessy Street and Paisley Road to the south. The site is dissected by the Meta Street overbridge, which currently provides access to the booking office and from there to the footbridge and platforms. The station straddles the boundary between the Ashfield and Burwood LGAs, but is located in the parish of Concord in County of Cumberland. The location of the station is indicated in Figure 1.

#### 4.2.2 General Overview

The station consists of one wayside platform and two island platforms, numbered from one in the north to five in the south. There are buildings on each of the platforms, as described below. The station is currently accessed via an overhead booking office, located just below the Meta Street level, with the footbridge accessed via a covered breezeway. The individual elements are described in depth below.

#### 4.2.3 Overhead Booking Office (1995)

The overhead booking office is located on Meta Street at the intersection with Edwin Street, adjacent to the overbridge. The booking office can be accessed from the north west via a ramp adjacent to The Strand Café or via half a flight of stairs directly from Meta Street (Plate 3). It was constructed in 1995 of weatherboard with a hipped corrugated iron roof, which extends to the west to provide weather protection over the breezeway that provides access to the footbridge (Plate 4). The overhead booking office is supported on a series of new concrete piers, which have been inserted around the concrete trestle associated with the footbridge in the east, while the western portion adjacent to the cutting is supported on cross-braced steel piers.

The internal configuration consists of a ticket window addressing Meta Street, behind which is the Station Masters office. Restroom facilities, accessed via the breezeway take up the eastern portion of the office. On the eastern side of the breezeway is space for a convenience shop/newsagent that is currently vacant. The rear (southern) roof elevation contains a chimney, but this is for aesthetic purposes rather than practical.



Plate 3 Overhead booking office from Meta Street – view south



Plate 4 Overhead booking office – view north west from platform 3/4



#### 4.2.4 Platform 1/2 Building (1941)

The building on platform 1/2 has been categorised by Sydney Trains as belonging to Type 13. Constructed in 1941, it conforms to the Railway Stripped Functionalist style (Plate 5, Plate 6). Constructed of red brick laid in stretcher bond, the brickwork displays the attention to detail typical of the Railway Stripped Functionalist style, displaying chamfered corners. The building displays windows on the northern and southern elevations, with a wide openings in the western and eastern elevations addressing the platform. A canopy has been installed around the building, which has involved some intervention into the brickwork at the roof line to allow for the insertion of the supporting members. The modern canopy has been constructed using long-line profiled corrugated iron. Various electrical service routes have been fitted to the exterior of the building and square profiled downpipes and box gutters are also evident on the exterior, together with wayfinding and amenity signs (Plate 7).

The interior consists of a single space, with a tiled floor and timber benches around the periphery (Plate 8).



Plate 5 Platform Building 1/2 – view north



Plate 6 Platform Building 1/2 – view south east from platform 3/4



Plate 7 Platform Building 1/2 – attachment of existing canopy, electrical services and wayfinding/information signs.



Plate 8 Platform Building 1/2 – interior

#### 4.2.5 Platform 3/4 Building (1926)

The building on platform 3/4 is also constructed in red brick, but has been laid in Flemish bond (each course consists of alternate headers and stretchers). Sydney Trains have categorised the building as belonging to Type 11 (Plate 9, Plate 10). Rectangular in shape, it consists of six bays defined by engaged brick piers, which are decorated with concrete corbels to which standard double bowed steel brackets are attached to support the awnings (Plate 12). The awnings are integrated into the corrugated iron roof, which has a gable form.

On the interior, the space is divided into six spaces, including two store rooms (Plate 13, Plate 14, Plate 15), a communications room (Plate 14) that includes an annex that appears to have formerly been used as a cleaners

room, a male restroom (Plate 17), female restroom and family accessible toilet (FAT) (Plate 18). The toilets have been recently renovated. These three spaces have been extensively modified and contain no historical/original fabric or features. The two store rooms at the northern end of the building retain original or very early mini-orb corrugated iron ceiling (Plate 14). The partition between the two stores is of board and is not be original. The communications room appears to be the amalgamation of two rooms, with an opening being created through to a former cleaner’s annex, which is now used for storage of disused technology.



Plate 9 Platform Building 3/4 – view south



Plate 10 Platform Building 3/4 from platform 2. View south west



Plate 11 Platform Building 3/4 – view of western elevation showing arrangement of doors and windows



Plate 12 Platform Building 3/4 – detail of concrete corbel and metal bracket for awning.



**Plate 13** Platform Building 3/4 – interior of store room at northern end of building.



**Plate 14** Platform Building 3/4 – ceiling of store room showing modifications to mini orb corrugated iron.



**Plate 15** Platform Building 3/4 – interior of second store room.



**Plate 16** Platform Building 3/4 – interior of existing communications room.





**Plate 17** Platform Building 3/4 – interior of recently renovated restroom.



**Plate 18** Platform Building 3/4 – interior of recently renovated family accessible/disabled toilet.

#### 4.2.6 Platform 5 Building (1891)

The shelter on platform 5 is the oldest surviving structure at the station, however has been moved from its original location on platform 3/4 in 1926 (NSW Heritage Division, 2010). It consists of a weatherboard building, designated as Type 10 by Sydney Trains, colloquially known as a ‘Standard Eddy’. It is open on the eastern side, addressing the platform. The northern and southern ends have no openings, while two double hung sash window in the western elevation provides natural light (Plate 19, Plate 20).

The building is attached to a canopy on the same trajectory as the building’s skillion roof (Plate 21). The canopy is supported on iron posts cast by a local Clyde company with decorative fan and scroll work detailing on the upper brackets. The ceiling is lined with plasterboard and edged with timber curtain board fascia (Plate 22).

The interior consists of a single space, clad in timber boards arranged horizontally. The ceiling is also of timber and contains a single central decorative ceiling rose around a light fitting. The timber bench seating appears to be original (Plate 24).



**Plate 19** Platform Building 5 – view north west



**Plate 20** Platform Building 5 – view north west from platform 3/4



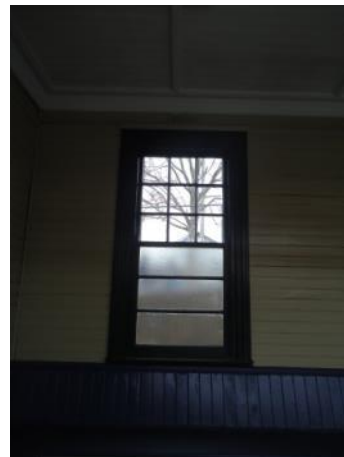
**Plate 21** Platform Building 5 awning – view south.



**Plate 22** Platform Building 5 – detailing of cast iron work and timber curtain fascia.



**Plate 23** Platform Building 5 – interior showing ceiling detail.



**Plate 24** Platform Building 5 – interior showing original seating.

#### 4.2.7 Footbridge (1922/3)

Mott MacDonald (2014, refer Appendix A) have prepared a structural assessment of the footbridge, using the layout definitions defined in Figure 8 and used throughout the following description. The footbridge in general consists of a series of reinforced concrete trestles comprising four columns connected by double arches at the top. The spans are cantilevered rolled steel joists (RSJ) with a concrete deck.

The footbridge can be divided into two parts: the western portion, consisting of TR 1, 3 and 2A together with stairs 2, 3 and 4 (Plate 25, Plate 26, Plate 27), which is still in active use; and the eastern portion, being TR 1A, 1B and 2B and stair 1 that are no longer in active use (Plate 28, Plate 29). The use of these elements has been disabled through the removal of the span between TR 1A and 2A in 1995 and the earlier demolition of a previous overhead booking office and unpaid passenger concourse supported by TR 2B and 1B. The historical evolution of the footbridge has been more fully discussed in Section 3.0. Trestle 1B consists of a single arch, rather than the four columned trestles represented by the other trestles. As such, it lacks cross-bracing and in addition exhibits significant spalling (Plate 28).

The stairs are supported on concrete piers with steel beams and stringers, the steps are of reinforced concrete. The balustrades on the footbridge and stairs are a mixture of timber intermediate posts with vertical steel railings. Some original sections remain, including the cast iron newel posts at the bottom of stair 2, 3 and 4 (c.1923) (Plate 30), together with the safety balustrades and guards over tracks 2 and 3 (c.1926) and a small section of original cast iron spiked capping over platform 2 (c.1923) (Hyder Consulting, 2015:3).

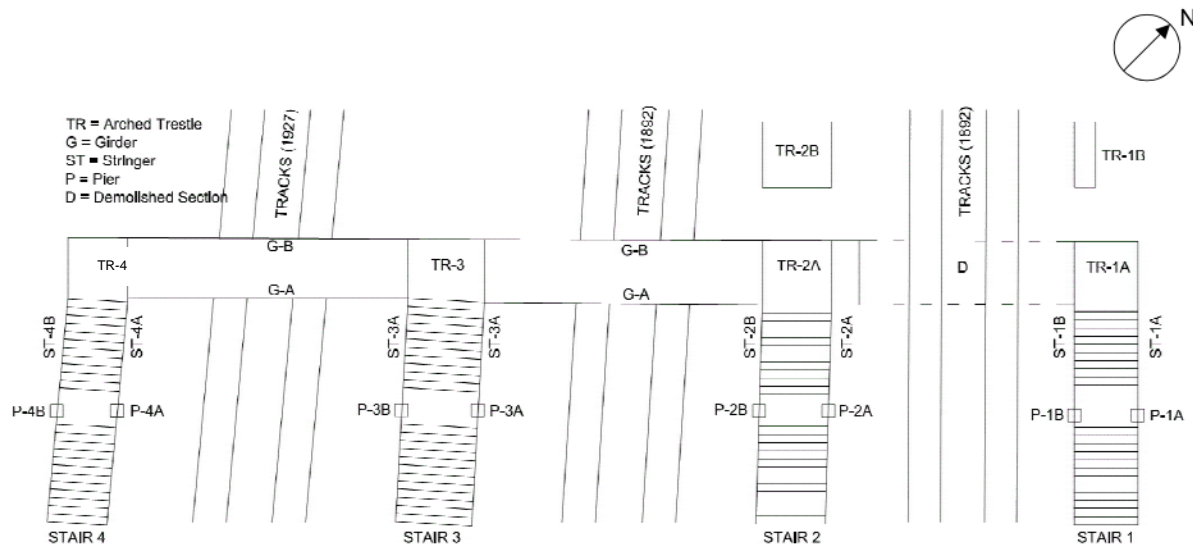


Figure 8 Current layout of the footbridge and associated stairs. Source: Mott MacDonald Australia, 2014:2

The structural assessment of the footbridge prepared by Mott MacDonald (Mott MacDonald Australia, 2014a) noted that the trestles vary in their condition, with TR 4 under the overhead booking office being in reasonably good condition, probably having undergone conservation when the present overhead booking office was constructed in 1995. The concrete columns supporting the 1995 overhead booking office have been inserted within the existing trestle (Plate 27). Trestles 2A, 2B and 3 are in visibly poor condition with concrete spalling and rusted exposed reinforced steel sections (Plate 34). Trestles 1A and 1B appear in worse condition, with larger sections having come away as a result of spalling and further exposed reinforced steel sections (Plate 28, Plate 29). The initial report noted that the condition of the footbridge was potentially indicative of problematic concrete chemistry. Mott MacDonald provide the following description of what may occur over time:

*Concrete provides an alkaline environment which protects the reinforcement from corroding. Over time by reacting with carbon dioxide in the air, the concrete becomes more acidic. This process is known as carbonation. In dense, sound concrete this carbonation is limited to near [the] surface (i.e. less than 10mm in depth). The problem arises when carbonation reaches to the depth of the reinforcement. When this happens there is no alkaline protective environment and the reinforcement begins to corrode. The rust build up is an expansive reaction and spalls the concrete.*

(Mott MacDonald Australia, 2014:4)

Subsequent chemical evaluations of the bridge were undertaken (Mott MacDonald Australia, 2014b). The finding of the report was that the footbridge was structurally unsound, based on the results of tests to determine the concrete chemistry. Twenty three core samples were taken and tested, which indicate that the concrete is highly carbonated, with the carbonation extending the full depth of the concrete at 18 of these locations. The testing demonstrated full carbonation in the stair soffit, trestles 2A and 3 and the deck. Given the extensive carbonation within the trestle structure, Mott MacDonald re-examined the options available to remediate the footbridge:

- Patch repair – repairing the sections where reinforcement is visible. This does not reduce the acidity of the concrete and the reinforcement will continue to rust and create further spalling of the concrete;
- Cathodic protection with a permanent electric current imparted to the reinforcement - This option requires a continual electrical circuit through the reinforcement cage, which is usually unachievable unless built in during construction;
- Sacrificial anodes - This method is ineffective once concrete has become highly carbonated, such as the Croydon footbridge. It can also not guarantee further spalling material will not become dislodged onto platforms or the tracks;
- Re-alkalisation - This process requires the concrete to be soaked in a solution of chemicals to re-alkalise the fabric. It is not practicable within the context of the footbridge;



- Anti-carbonation coatings - This method cannot be used where the carbonation has extended the full thickness of the concrete and is therefore not useful in this situation.

Mott MacDonald went on to consider three options in relation to the footbridge:

- Retain and repair all – based on the above, there are no repair methods that will adequately repair the footbridge components to ensure their long-term structural viability;
- Retain and repair steelwork only – this option would involve the removal of the concrete, the steel reinforcement would be taken off-site for stabilisation and protective coating and the reconstruction of a new footbridge using the repaired girders and stringers, augmented by new structural supports as required. This option would remove the most aesthetically distinct and significant heritage fabric. The heritage value of the reinforced steel and other steel components is seen as not warranting this level of intervention;
- Demolition of the footbridge and construction of a replacement.

Based on the lack of feasible and long-term remediation measures to ensure the stability of the footbridge, Mott MacDonald recommended demolition (Mott MacDonald Australia, 2014:6). TfNSW subsequently engaged Hyder Consulting to undertake a peer review of the findings. Hyder Consulting concurred with the findings of the report and also recommended that the footbridge be demolished (Hyder Consulting, 2015:9). TfNSW also sought advice from heritage architects Orwell & Peter Phillips, who advised that they considered the replacement of the footbridge a reasonable solution, so long as there was adequate interpretation and an archival recording prior to demolition. The Mott MacDonald and Hyder advice can be found in full in Appendix A.



**Plate 25** Footbridge showing arrangement of stairs 1, 2 and 3. View north from platform 5.



**Plate 26** Footbridge span across track 4 and 5 and trestles 2A and 2B on platform 3/4.



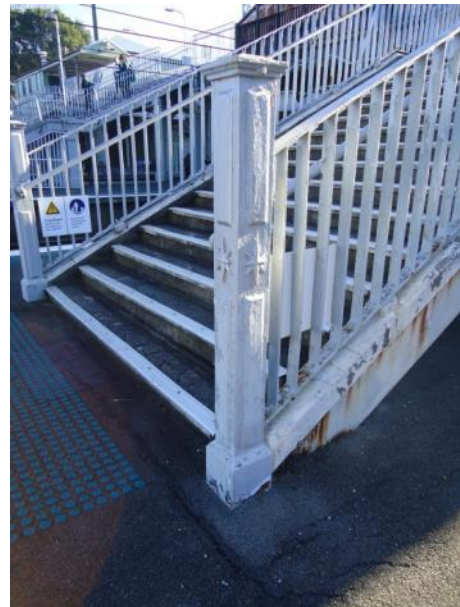
**Plate 27** Trestle 4 on platform 5 showing comparative condition. Note insertion of concrete pier for 1995 overhead booking office. View north.



**Plate 28** Trestle 1B showing extensive spalling and lack of cross bracing.



**Plate 29** Trestle 1A and stair 1. Note extensive spalling and deteriorated steel superstructure members. View north east.



**Plate 30** Stair 3 showing original newel post and concrete stepway.





**Plate 31** Original balustrade cast iron spiked capping over platform 2 (c.1923).



**Plate 32** Stairway steel beams and balustrades on stair 3 showing general condition and form. View south.



**Plate 33** Detail of original hand rail on stair 3.



**Plate 34** Detail of trestle 2A showing reinforced steel exposed for the height of the member.

#### 4.2.8 Meta Street Overbridge (1892)

The Meta Street overbridge spans the station platforms at the western end and runs parallel to the footbridge. The structure is of iron and steel girders supported on a brick jack-arch bridge with a concrete deck. The brick piers have been painted. The balustrades on Meta Street are also of brick.

#### 4.2.9 Moveable Items

The SHR listing indicates that the waiting room in Platform Building 3/4 contains the original bench seating in a modified form. This building no longer contains a waiting room, it having been converted into a family accessible toilet and other facilities. There are no known items of moveable heritage remaining.

#### 4.2.10 Grading of Significant Elements

As different elements of an item can have a different contribution to its heritage significance, it is sometimes useful to define which elements are of significance and which may detract from its significance. The NSW Heritage Division (NSW Heritage Office, 2001:11) use the grading criteria provided in Table 2.

**Table 2** Grading of significance criteria (from NSW Heritage Office, 2001:11)

Grading	Justification	Status
Exceptional	Rare or outstanding element directly contributing to an item's local and State significance.	Fulfils criteria for local or State listing.
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.	Fulfils criteria for local or State listing.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfils criteria for local or State listing.
Little	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or State listing.
Intrusive	Damaging to the item's heritage significance	Does not fulfil criteria for local or State listing.

An examination of the fabric of the Croydon station, in light of the significance assessment above, has graded the various elements of the Station. The results are provided in Table 3.

**Table 3** Croydon Railway Station grading of fabric

Grading	Element meeting criteria
Exceptional	<ul style="list-style-type: none"> <li>– Platform 1/2 building;</li> <li>– Platform 3/4 building;</li> <li>– Platform 5 building;</li> <li>– Footbridge;</li> <li>– Meta Street overbridge</li> </ul>
High	– Disused Hennessy Street platform
Moderate	–
Little	– Overhead booking office
Intrusive	–

### 4.3 Edwin Street North Conservation Area (C28)

The Edwin Street North conservation area contains retail/commercial premises integrated with residential houses, including some ground floor shops with dwellings upstairs. The Victorian Free Classical architectural style is consistently applied throughout the conservation area, despite construction having been commissioned by a number of different individuals.

### 4.4 Presbyterian Ladies' College (I156)

The College contains three elements of heritage significance: Shubra Hall and associated stable and the original school building. These items are located in the northern section of the College grounds and there are no view lines to or from the station. Shubra Hall is listed on the SHR (#01939), however the curtilage does not extend to Hennessy Street and there are no conceivable impacts arising from the project. The College was not inspected for this project. The grounds are surrounded by tree plantings, which the listing indicate are important to the significance of the item and also serve to ensure the College's aesthetic significance is protected.

### 4.5 Malvern Hill Conservation Area (C13)

The Malvern Hill Conservation Area is bound by Edwin Street, Thomas Street and Walter Street on the east; Paisley Road, Reed Street and the railway line to the north; David Street to the west and Liverpool Road to the south. It was subdivided around 1909, the majority of development occurring between 1913 and 1920. The Strand shopping strip forms a nucleus around which the mainly Federation and Interwar houses are arranged.

#### **4.6 Cintra Estate Conservation Area (C6)**

Cintra Estate Conservation Area was subdivided shortly after Malvern Hill, however, it is mainly residential, but also in the Federation and early Interwar style.

#### **4.7 Croydon Sewer Vent (SHR 01639, Ashfield LEP I158)**

The sewer vent was constructed in 1922 and is an integral part of Sydney's sewerage system. Constructed on reinforced concrete, it has a pedestal, which is octagonal in plan to a height of approximately six metres. Atop the pedestal, the shaft is tapered, circular in section with radiating support ribs tied together by octagonal concrete bands. A door is located on the eastern elevation and is protected by a moulded rendered hood. The manhole to the sewer main is contained within a corrugated iron shed located adjacent to the stack.

## 5.0 Significance Assessment

### 5.1 Introduction

In order to understand how a development will 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. Cultural significance is defined in *The Australia ICOMOS Charter for Places of Cultural Significance 2013* (the Australian ICOMOS Burra Charter, 2013) as meaning "aesthetic, historic, scientific, social or spiritual value for past, present or future generations" (Article 1.2). Cultural significance may be derived from a place's fabric, association with a person or event, or for its research potential. The significance of a place is not fixed for all time, and what is of significance to us now may change as similar items are located, more historical research is undertaken and community tastes change.

The process of linking this assessment with an item's historical context has been developed through the NSW Heritage Management System and is outlined in the guideline *Assessing Heritage Significance*, 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) under which a place can be evaluated in the context of State or local historical themes. Similarly, a heritage item can be 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 in the guideline *Assessing Heritage Significance* (NSW Heritage Office, 2001), an item will be considered to be of State significance if it meets two or more criteria at a State level or local heritage significance if it meets one or more of the criteria outlined in Table 4. 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 4 Significance assessment criteria

Criterion	Inclusions/Exclusions
<b>Criterion (a)</b> – 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).	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.
<b>Criterion (b)</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).	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.
<b>Criterion (c)</b> – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).	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.
<b>Criterion (d)</b> – 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.	This criterion does not cover importance for reasons of amenity or retention in preference to proposed alternative.
<b>Criterion (e)</b> – 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.	Under the guideline, an item can be excluded if the information would be irrelevant or only contains information available in other sources.
<b>Criterion (f)</b> – an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural	An item is excluded if it is not rare or if it is numerous, but under threat. The item must demonstrate a

Criterion	Inclusions/Exclusions
<i>history (or the cultural or natural history of the local area).</i>	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.
<p><b>Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's (or local area's):</b></p> <ul style="list-style-type: none"> <li>- Cultural or natural places; or</li> <li>- Cultural or natural environments.</li> </ul>	An item is excluded under this criterion if it is a poor example or has lost the range of characteristics of a type.

## 5.2 Croydon Railway Station

The heritage significance of the station has been assessed against the criteria in the SHR and Sydney Trains S170 Heritage Register listings. The assessed significance is provided in Table 5 provides the significance assessment from the SHR listing.

Table 5 Significance assessment – Croydon Railway Station Group

Significance Criteria	Application of Criteria
<b>Historical significance SHR criteria (a)</b>	Croydon Railway Station is historically significant as the existing station arrangement with extant railway structures dating from the 1892 quadruplication and 1927 sextuplication of the line is able to clearly illustrate the expansion of the railways in the late 19th and early 20th century undertaken to accommodate suburban development along the line and to the west. The extant 19th and 20th century platforms, buildings, footbridge and overbridge are collectively able to demonstrate a former era of travel.
<b>Historical association significance SHR criteria (b)</b>	No assessment provided against this criterion.
<b>Aesthetic significance SHR criteria (c)</b>	<p>Croydon Railway Station has aesthetic significance with its 1890s 'Standard Eddy' building which has been altered in terms of its relocation from a typical island platform to a wayside platform, but still retains characteristic features of this type of station building namely the cantilevered awnings with wide fascia. The 1920s 'initial island' platform building has been altered internally but it retains a linear form, gable roof and integrated awnings. The 1940s 'Railway Stripped Functionalist' building with its cantilevered awnings and steel-framed windows has typical features of this type of station building and is aesthetically significant as it demonstrates a shift in the style from earlier 'initial island' platform buildings. The overhead booking office has been altered internally but it retains characteristic features of such buildings, namely the pre-cast concrete panels with weatherboard construction appearance and its location on the footbridge.</p> <p>The Croydon Station footbridge has technical significance as it was the first time within the Sydney metropolitan area that reinforced concrete was used for the piers and columns of a footbridge.</p>
<b>Social significance SHR criteria (d)</b>	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.
<b>Technical/Research significance SHR criteria (e)</b>	Croydon Railway Station has moderate archaeological potential. The dilapidated north-eastern platform, bordering Hennessy Street along with the discontinued and highly dilapidated section of the existing footbridge provide useful knowledge about the previous patterns of use and scale of the station complex.
<b>Rarity SHR criteria (f)</b>	The items at Croydon Railway Station which have aesthetic and technical rarity include the 'Standard Eddy' platform building, the footbridge. Croydon Station is one



Significance Criteria	Application of Criteria
	<p>of the three stations including Homebush and Summer Hill, in the Metropolitan area which have extant 'Standard Eddy' platform buildings. Another extant 'Standard Eddy' platform building within NSW is at Katoomba station which is unique in terms of its curved form along the platform. The 1890s footbridge with its system of double arches and piers is relatively uncommon in the Sydney Metro region and it was the first footbridge in the Sydney area which used reinforced concrete for the arches and piers and is in terms of its style and techniques a rare example.</p> <p>The initial island platform building, 'Railway Stripped Functionalist' building and overhead booking office and overbridge are common types of standard railway structures.</p>
<p><b>Representativeness SHR criteria (g)</b></p>	<p>The platform building at Croydon Railway Station is in a largely intact condition externally and it is a good representation of the 'Standard Eddy' design. The other platform buildings are representative of standard types of railway platform buildings and are reasonably well preserved examples. The overbridge with most of its original fabric intact is also a good representative of jack-arch bridge construction.</p>

#### Statement of Significance:

*Croydon Railway Station has State significance as the existing station arrangement with railway structures dating from the 1892 quadruplication and 1927 sextuplication of the line is illustrative of the expansion of the railways in the late 19th and early 20th century undertaken to accommodate suburban development along the line and to the west. Designed under the direction of Commissioner Edward Eddy, the extant 1890s platform building is largely intact and it demonstrates the first use of island platforms in NSW and is one of four extant examples of this type of station building design, known as the 'Standard Eddy'. The 1920s 'initial island' building and 1940s 'Railway Stripped Functionalist' building have aesthetic significance and together are able to demonstrate the shift in the architectural styles employed by the railways during the first half of the 20th century.*

*The 1890s footbridge is significant and relatively uncommon in terms of its overall form and construction technique as it was one of the first footbridges in the Sydney Metropolitan region which has reinforced concrete employed for its piers and columns. The 1920s palm tree is significant as it provides insight into the landscaping patterns that existed at Croydon station and others stations along the line during the early 20th century.*

(NSW Heritage Division, 2010)

Despite the listing being in error regarding the date of construction of the footbridge, research having confirmed that it was not constructed in the 1890s, but rather in the 1920s (refer to Section 3.0), it remains one of the earliest examples of a reinforced concrete footbridge in the Sydney Metropolitan rail network. Therefore, while the dates in the listing are incorrect, the significance assessment is upheld in relation to the technical and rarity values ascribed to it.

Likewise, the listing is in error with regard to the overhead booking office. The earlier 1923 booking office was replaced in 1995. This element of the significance assessment has not been used in the impact assessment.

### 5.3 Surrounding Heritage Items

Section 4.0 provided a description of surrounding heritage items, the listings for which do not provide an assessment of significance against the criteria. It is beyond the scope of this Statement of Heritage Impact to prepare these assessments. It has therefore been assumed that views towards these items, particularly the conservation areas, contribute to their heritage significance.

## 6.0 Project Outline

### 6.1 Introduction

The following sections provide a detailed description of the proposed works associated with the project. Following on from this is an outline of the interpretation strategy, which has been identified as a means of mitigating some of the impacts, including removal of the footbridge. A detailed assessed of the potential impacts to heritage significance is then presented.

### 6.2 Project Drivers

Improving transport customer experience is the focus of the NSW Government transport initiatives. Transport interchanges, train stations and commuter car parks are important gateways to the transport system and as such play a critical role in shaping the customer experience and perception of public transport.

The upgrades are designed to drive a stronger customer experience outcome, to deliver improved travel to and between modes, encourage greater public transport use and better integrate interchanges with the role and function of town centres. The Proposal would also assist in responding to forecasted growth in the region and as such would support growth in commercial and residential development.

The Proposal fulfils the Transport Access Program objectives and would provide:

- Improved accessibility for customers at Croydon Station by providing an accessible route to station platforms through the provision of accessible parking, upgraded footpaths, a new pedestrian bridge and lifts/stairs;
- Improved connections to the surrounding pedestrian networks through the new pedestrian bridge that would provide an alternate access route across the railway and connect to Hennessy Street, along with a new wider station entrance at Paisley Road to improve passenger circulation and to support growth in patronage;
- Improved customer amenity and facilities at the station with canopies for weather protection, a new Customer Information Window and Family Accessible Toilet at concourse level, Passenger Information Displays and wayfinding signage; and
- Improved transport interchange facilities with a new formalised kiss and ride area in Paisley Road and additional undercover bicycle parking facilities on both sides of the station.

The Proposal is also consistent with planning strategies in NSW, including *NSW 2021 – Making NSW Number One* (Department of Premier and Cabinet, 2011) and the *NSW Long Term Transport Master Plan* (TfNSW, 2012a). The Proposal would also ensure that Croydon Station would meet legislative requirements under the *Disability Standards for Accessible Public Transport 2002* (DSAPT).

### 6.3 Design Options

Options for improving the access to, and amenity of, Croydon Station were developed following a succession of workshops between TfNSW, relevant stakeholders and the project design team.

Three concept design options were initially developed to address accessibility and customer experience needs and other design principles, while a fourth option was added at a later stage during the process. Improvements which were common to all options included new accessible parking and kiss and ride spaces, upgraded footpaths to the station, additional bicycle parking facilities, new ticketing facilities, platform works and ancillary activities like power supply upgrade, wayfinding signage, adjustment to lighting and CCTV cameras. The key differences focused on an alternate station entrance and platform access arrangements and are summarised below:

- Option 1 proposed the retention of the existing footbridge, refurbishment of existing stairs (along with new canopies) and new lifts, a new station operations building at concourse level, and a new widened station entry at Paisley Road;
- Option 2 proposed the replacement of the existing footbridge with a new wider and longer pedestrian bridge that would also be raised to create level access from both sides of the station and Meta Street along with new canopies and new lifts. This option also proposed new stairs and a new station operations building at concourse level;

- Option 2b was similar to Option 2 except that the new pedestrian bridge would be located further to the east; and
- Option 3 proposed the replacement of the existing footbridge with a new, longer pedestrian bridge raised to street level and connected to the Meta Street road bridge to create a single consolidated bridge which would accommodate one entrance from the south side (from Meta Street) and a new northern station entrance along with new canopies and new lifts. This option also proposed new stairs and a new station operations building at concourse level.

Option 2 was selected as the preferred option to progress to the next phase of design and planning, as it provided the benefit of creating a new station entrance at Hennessy Street. The new entrance would provide a safer and more convenient entrance/exit addressing major pedestrian desire lines between the station and the school, and would also relieve congestion on the footpath of the road bridge and the station entrance off Meta Street by providing an alternate route for pedestrians travelling to or from the north. The option also meets Sydney Trains operational requirements. More information on the options assessment and justification for the preferred option is provided in Section 2.3 and Section 2.4 of the Review of Environmental Factors.

Since the selection of option 2, further heritage advice has been sought to minimise the potential impacts to the heritage significance of the station. This heritage advice has taken the form of input from the architect's (Caldis Cook Group) heritage architect Brian MacDonald and, on behalf of TfNSW, Dr Susan Lampard (AECOM Senior Historic Heritage Specialist). This advice has sought to ensure the design of the new pedestrian footbridge and the selected materials minimises the impact to the heritage significance of the station. For example, the heritage advice resulted in the following alterations to the design:

- A reduction of the angle for the butterfly roof form over the Meta and Hennessy Street entrances to reduce the height and dominance of these structures, while still enabling them to be clearly identified by the public;
- Reduction in the height of the lifts from the concept to reduce the visual impacts;
- The introduction of a glass canopy interface adjacent to the platform buildings on platform 3/4 and 5 to allow for the retention of views of these heritage structures;
- A shortened canopy on platform 1/2 that does not approach the platform building and does not impact on the 1920s heritage palm located between the existing stairs and the station building; and
- Removal of provision for a temporary booking office within the platform 3/4 building.

Consideration was given to the retention and incorporation of all or some of the footbridge trestles into the design. Earlier alliterations of the design incorporated the retention of trestles 1A (removal of the steel balustrade required due to clearance of new pedestrian bridge) 1B, 3 and 4. After lengthy and detailed consideration it was determined that structure could not be retained for the following reasons:

- The condition of the footbridge, particularly the unpredictable nature of spalling concrete sections, makes the structure a safety hazard, as detailed in Section 4.2.6 and Appendix A;
- It was unclear if trestles 1A and 1B would withstand construction in the vicinity due to their condition;
- The removal of the footbridge would allow for clearer interpretation of the structure as a whole;
- No feasible conservation or restoration option has been identified to stabilise the structure and/or halt or reverse the carbonation of the concrete (refer Section 4.2.6 and Appendix A for detailed discussion);
- Retention of part of the footbridge, for example, Trestle 4 would be possible, but has been discounted for the following reasons:
  - The trestle/s would have no context and would therefore be difficult for the public to appreciate;
  - The on-going maintenance and safety issues remain unresolved.

Consideration was also given to the relocation and retention of one or more of the footbridge trestles within the station. This is not considered to be a viable option as:

- There is still no feasible conservation or restoration option identified to stabilise the structure and reverse or at least halt the carbonation of the concrete and the trestles would therefore remain a safety hazard;
- The footbridge would be removed from its original context and therefore create confusion with regard to the interpretation of the station; and



- There is limited space within the station curtilage that could house the relocated trestles without creating an operational or safety hazard.

Further refinements of the design were undertaken in late October 2015 in response to feedback from the public and the Heritage Division. These included:

- Further reduction of length and pitch of entry awnings to reduce visual impact
- Installation of glazing rather than metal louvres on the western façade of the lift shaft to reduce visual impact while providing sufficient ventilation for lift operation
- Alterations to the height and pitch of the stair canopies and reduction and reversal of the pitch of the footbridge canopy to provide a visual break between the roof lines and reduce visual impact
- Reduction in the length of the platform canopies to reduce visual impact
- Simplification of eastern elevation of footbridge, reducing horizontal lines and increasing glazed areas to reduce visual impact
- Installation of cladding rather than glazing on the Station Operation Building to reduce visual impact. This can be reversed once retail requirements established.

Other modifications also considered at this time included the development of a more detailed heritage interpretation strategy, and the reopening of the 1890s subway at the eastern end of the station. However, it was found that:

- The details of heritage interpretation scheme was best finalised during the preparation and implementation phases, although it was confirmed that it would include station signage similar to that currently in place
- It is not practical to re-open the subway given the:
  - Condition of the structure, and the investment required to make it structurally sound
  - Inability to make the structure DDA compliant within the current station arrangement
  - Lack of connectivity with major pedestrian thoroughfares
  - Difficulty of meeting public safety and crime prevention requirements.

## 6.4 Materials and Finishes

The indicative materials and finishes are provided in detail in Document TAP-C3897-CD-AR-3701, but are subject to review as part of the detailed design process.

For the new station operations building the following is proposed:

- Exposed structural columns and framing of galvanized steel in 'Oyster' (grey);
- External walls of ceramic tiles in a straight tile pattern in 'Heifer P14B2' (grey/brown) and cement rendered masonry in Dulux 'Calf Skin P14B3' (brown);
- Zinalume roof sheeting in Colorbond 'Jasper' (brown);
- External soffit of white painted villaboard;
- Aluminium framed windows in Colorbond 'Jasper' (brown).

The design of the new pedestrian bridge consists of anti-throw glass screens on the western (Meta Street) elevation to approximately 2,694 mm with louvers above to provide ventilation. For the eastern (platform facing) elevation, the proposed anti-throw mesh and parapet of aluminium panels are to be replaced with anti-throw glass screens. This will allow view lines in both directions and pedestrians will be able to appreciate the heritage significance of the platform buildings from the new pedestrian bridge. The proposed finishes for new pedestrian bridge are;

- Exposed structural columns and framing of galvanized steel in 'Oyster' (grey);
- 'Mist Gray' (blue/grey) aluminium cladding panels;
- Zinalume roof sheeting in Colorbond 'Jasper' (brown);

- Aluminium framed glass anti-throw screens in Colorbond (colour to be determined during detailed design);
- Perforated metal panel on eastern façade with heritage interpretation; and
- Exposed concrete.

The lift components have the following proposed finishes:

- Exposed structural columns and framing of galvanized steel in 'Oyster' (grey);
- External walls of ceramic tiles in a straight tile pattern in 'Heifer P14B2' (grey/brown) and cement rendered masonry in Dulux 'Calf Skin P14B3' (brown);
- Zinalume roof sheeting in Colorbond 'Jasper' (brown); and
- Ventilation louvres in in 'Oyster' (grey) at top of northern and southern elevations
- Glazing at top of eastern and western elevations .

The stairs to the platforms have the following proposed finishes:

- Exposed structural columns and framing of galvanized steel in 'Oyster' (grey);
- Anti-throw screens of mesh no. 358; and
- Exposed concrete.

The platform canopies will be supported on exposed structural columns and framing of galvanized steel in 'Oyster' (grey) with Zinalume roof sheeting in Colorbond 'Jasper' (brown) for the roof. A minimum of 2400 mm between the platform building and the proposed canopies will be glazed.

## 6.5 Project Impacts

### 6.5.1 Demolition

The project proposes the demolition of the existing overhead booking office, footbridge and all trestles as shown in Drawing TAP-C3897-CD-AR-3681.C. As discussed in Section 4.2.7, a structural assessment and chemical analysis of the concrete of the footbridge and trestles by Mott MacDonald (Mott MacDonald Australia, 2014a, 2014b) and peer reviewed by Hyder Consulting (Hyder Consulting, 2015) has determined that there is no feasible conservation options for the structure.

### 6.5.2 Construction

The project includes the construction of the following key structures and facilities:

- Replacement of the existing station footbridge with a new raised and wider pedestrian bridge that would extend north to a new station entrance at Hennessy Street;
- Installation of new stairs to each platform and three lifts to provide access to the station platforms;
- New canopies installed at both station entrances and along the new pedestrian bridge, stairs, lift landings and platforms; and
- New station operations building at concourse level of the Paisley Road station entrance.

The complete package of plans and renders, together with the proposed finishes, can be found in the attached supporting documentation.

The design intent for the proposed structure is to provide accessibility to the station in a manner that harmonises with the local context and with respect to the heritage precinct. The station sits between two small shopping precincts: The Strand to the south and Hennessy Street to the south. The scale, bulk and massing of the proposed design has been designed in response to the surrounding context, which is low scale and recessive. The roof of the proposed booking office has a similar building form, including a hipped roof form, as the structure it replaces. The roof does not dominate the Meta Street plaza, retains solar access and the colour selection of Jasper brown Colorbond limits glare. The materials, in shades of grey and brown, have also been selected for their visually recessive nature.

The latest round of design refinements have been implemented to further reduce the visual impact of the upgrades, and to increase appreciation of the station's heritage values. This includes, for example, replacing several solid or opaque elements on the footbridge façade to increase transparency and thus improve the visual connection between heritage elements on the platform, the new works, and surrounding pedestrian thoroughfares. Similar provisions have been made to further reduce visual impact of the lift towers by replacing metal louvres with glass so that the structures are less of a barrier to the station beyond, and also to reduce the pitch and uniformity of the stair canopies to provide better visual connectivity.

Efforts have also been made to reduce the scale and bulk of the station entrances to ensure that they do not dominate the surrounding low-rise streetscape. At the same time, the visually distinctive skillion and butterfly roofs provide obvious entry points to the station while referencing the flat and skillion roof forms of the heritage platform buildings. These two sets structures are, in turn, linked by the skillion roof of the footbridge.

The latest designs have also reduced the extent of the proposed platform canopies, providing a break between the new work and the existing heritage structures. This ensures that the immediate heritage setting of the platform buildings is maintained, and that site lines, particularly from the footbridge and adjacent pathways, are preserved.

#### 6.5.2.1 Temporary Enabling Works

To enable the construction of the proposed project, temporary works are required during construction in order to maintain existing 'level of service' such as installation of a temporary pedestrian bridge at the eastern end of the station platforms, temporary booking office and ticketing facilities.

The proposed location of the temporary pedestrian footbridge is shown in Drawing TAP-C3897-CD-AR-3613.Fa and Plate 35 provides an example of what the temporary structure will look like. The temporary footbridge will require the driving of six screw piles, two on each of Platform 1/2 and 3/4 adjacent to Platform 5 (which are off the platform), as shown in the above referenced drawing. The piles will extend to a depth of approximately 3 m and be approximately 450 mm in diameter. Figure 9 indicates the proposed location of the temporary footbridge in relation to the historical subway. This overlay indicates the proposed location will not impact on any sub-surface

relics that may be extant. Temporary ticketing facilities and passenger information displays would be located adjacent to the temporary booking office and would have no additional impacts.

The temporary footbridge does not extend to the disused platform against the Hennessey Street cutting and the archaeological potential identified in the SHR listing associated with this platform is also not impacted by the temporary footbridge.

The temporary booking office and ticketing facilities will be located in a demountable building located at the foot of the temporary footbridge, as shown on Drawing TAP-C3897-CD-AR-3613.Fa and in relation to the historic arrangement of the station in Figure 9. The booking office is not located in an area of known archaeological potential. The ticketing facilities will be located within the booking office and on the temporary footbridge concourse and will therefore have no additional impacts.

The proposed location of the temporary crane pads can be seen in relation to the historic arrangement of the station in Figure 9. The pads are located in areas that have historically been road reserve, with no structures or features being identified prior to the construction of the road. It is not anticipated that these pads will impact on archaeological deposits or relics. Similarly, the site compound is located in an area that was formerly part of Paisley Road. This area has been made a no through road more recently and is paved and landscaped, but it is not anticipated that the compound will impact on archaeological features.



**Plate 35** Example of a temporary footbridge used during the Sydenham Station upgrade.





**Figure 9** Overlay of approximate location of proposed temporary works on 1943 aerial. (Source: NSW Property and Information)

### 6.5.2.2 Services and Landscaping

The following alterations to services are proposed as part of the project:

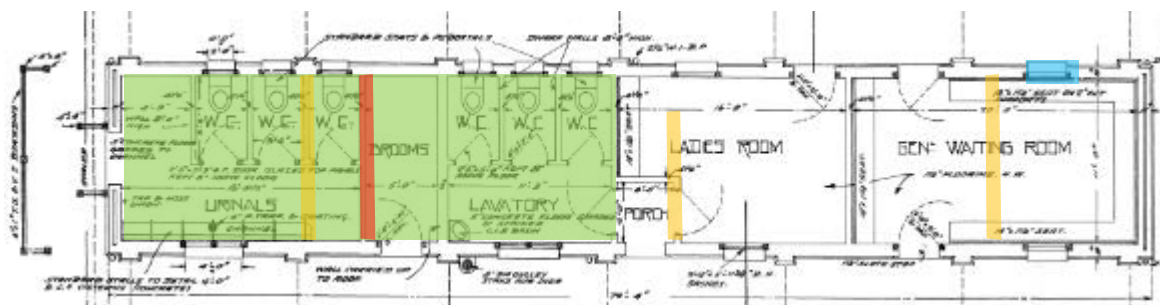
- Service relocation including relocating the existing overhead wiring attached to the existing footbridge to new supports and the undergrounding of a section of High Voltage electrical cables on the southern side of the station;
- Upgrade of the communications equipment room in the existing station building on Platform 3/4 (including demolition of an internal wall);
- Station power supply upgrade works including a new substation installed in the southern part of the rail corridor in the vicinity of the existing substation (to be removed) and earthing/bonding provisions (specific requirements to be determined during detailed design);
- Services adjustments including for drainage, lighting and communications systems (e.g. Passenger Information Display boards and CCTV);
- Existing platforms would be re-graded to provide compliant crossfalls (i.e. transverse slope) of maximum 1 in 40 (where required);
- Other platform modifications including resurfacing, new tactiles (where required) and relocation/replacement of seats etc. to ensure compliant accessible paths of travel
- Adjustment to station ticketing facilities including new Opal card readers and ticketing machines at both station entrances; and
- Adjustment to boundary fencing and landscaping works for areas affected by the works.

The proposed alterations to the station building on Platform 3/4 are shown in Drawing TAP-C3897-CD-AR-3613.Fa, the location of the proposed services in Drawing TAP-C3897-CD-MA-3808.B, the landscaping in Drawing TAP-C3897-CD-AR-3611.Fa and the platform re-grading in Drawing TAP-C3897-CD-3050.A.

The establishment of the communications room will involve the following works:

- Removal of the weatherboard wall shown in Plate 13;
- Installation of an internally mounted air conditioning unit. It is proposed that the condenser unit will be located under the stairs off the new pedestrian bridge to reduce the aesthetic impacts to the station platform building. The connection to the unit will require four 50 mm diameter holes at ground level to take the conduit out of the building. From there it will run under the asphalt to the condenser unit;
- Lining of the floor with non-static linoleum-like material. The existing floorboards will remain in place;
- Creation of General Powerpoint Outlets (GPO) in the ceiling to provide power to the three new communications racks.

The current communications room contains one rack and does not have sufficient space to allow for the insertion of a further two racks – three racks having been identified as the number necessary to meet the existing and future needs of the station. The interior of the Platform 3/4 station building has already been extensively modified to suite the changing needs of the station, as shown in Figure 10. The proposed establishment of the communications room proposes the removal of a weatherboard wall that has been inserted into the previous general waiting room. This wall is not original and is not of historical significance beyond demonstrating the evolving use of the platform building to meet the needs of station staff and patrons. However, the ceiling in the two rooms that formerly comprised the general waiting room consists of mini orb corrugated iron and is potentially original or very early. It has been impacted by the previous installation and removal of services (Plate 14). It is recommended that, where possible, existing openings be reused for the installation of the GPOs.



**Figure 10 Platform 3/4 Station Building plans, 1926, showing the building as built. Areas of existing modification highlighted. Modified from Sydney Trains Plan CV0053158**

The location of the proposed electrical substation is shown on Figure 11 (refer to Drawing TAP-C3897-CD-MA-3808.B for detail) and on the historical 1943 aerial in Figure 9, indicating that the location is unlikely to impact on archaeological relics or deposits. In any event, the substation is to be pad mounted and will require minimal excavation. The existing substation, located just to the west of the proposed location, will be removed to reduce visual clutter.

The proposed indicative locations for the service runs are shown in Figure 11 and are subject to detailed design. The service trenches will likely be up to 500 mm in width and 1000 mm in depth. The areas where the service trenches have potential to encounter relics associated with the historic subway have been highlighted. It is recommended that the depth and/or path of the service trenches be modified during detailed design to avoid impacting the historic subway.

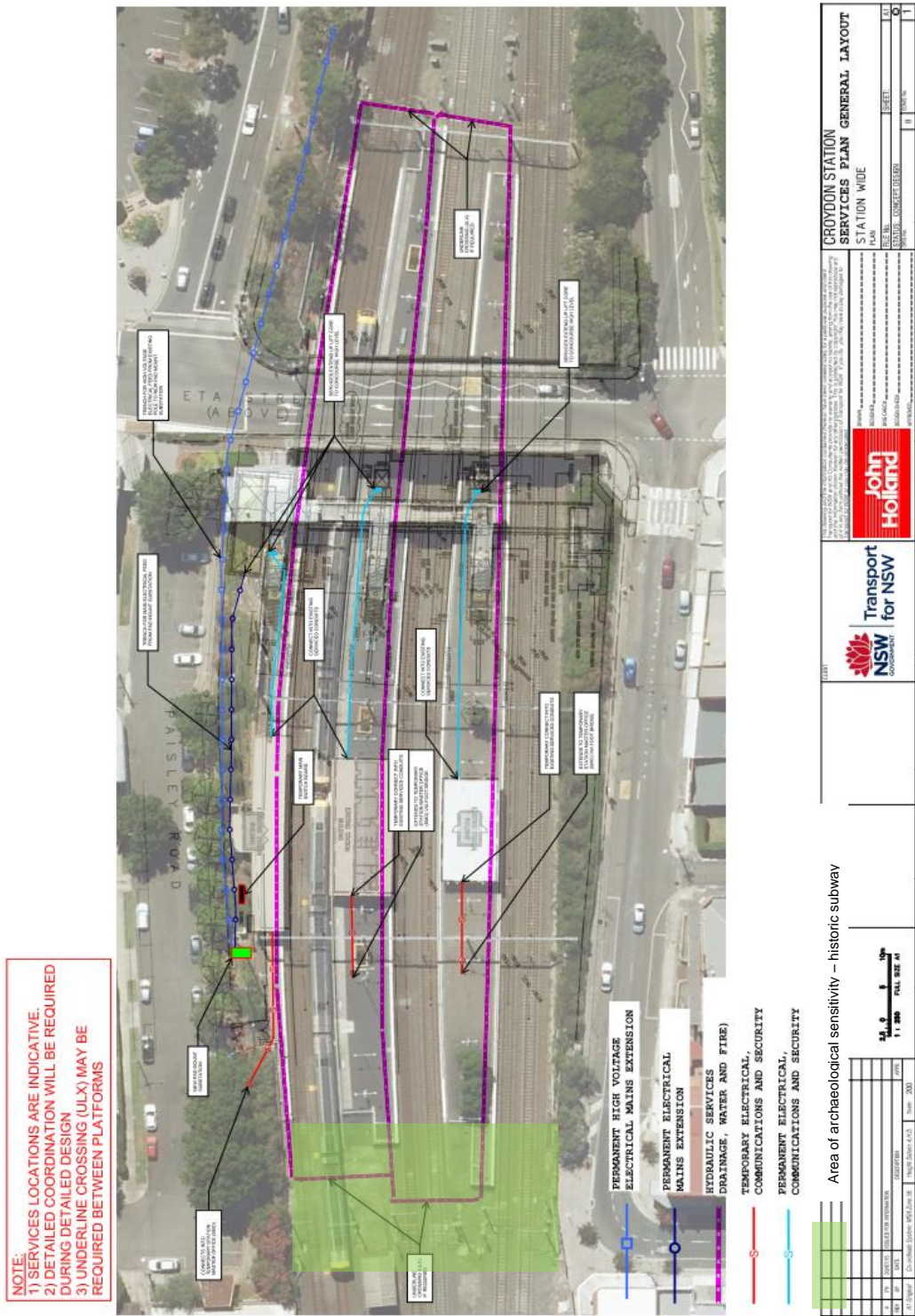


Figure 11 Proposed service locations (refer to Drawing TAP-C897-CD-MA-3808.B



## 6.6 Interpretation Strategy

Caldis Cook Group has developed an Interpretation Strategy to ensure that interpretation of the station's heritage significance is integrated into the design and plan, and is a key mitigation for the demolition of the existing footbridge which is of heritage value. The strategy is included in Appendix B. In summary, the strategy proposes the following concepts:

- An effective device would be to place an historic image with some text at each approach location showing the station at an earlier stage - Meta Street approach and The Strand approach;
- Interpretation through design – the anti-throw screen along the east side of the pedestrian overbridge creates an excellent opportunity for graphic presentation integrated into the new fabric. It is currently proposed to employ a perforated screen material called Pic Perf (by Locker Group) to serve as the screen. This material lends itself to reproduction of graphic images;
- Markers of removed elements – different pavement material recording the footprints of the removed concrete support structures; and
- Retention of elements – e.g: retain and re-use the existing cast Newell posts and position at base of stair balustrades.

The strategy proposes that suitable locations for interpretation could include, as shown on Figure 12:

- In the station forecourts off Hennessy and Paisley Streets (designated A on the following site plan);
- Along the new pedestrian overbridge (designated B on the following site plan);
- On the platforms recording locations of removed elements (designated C on the following site plan);
- Retention of the Newel posts on the platforms; and
- On plain walls – concourse building façade, blade wall supporting Meta Street/Hennessy Street entrance to the overbridge (designated E on the following site plan).

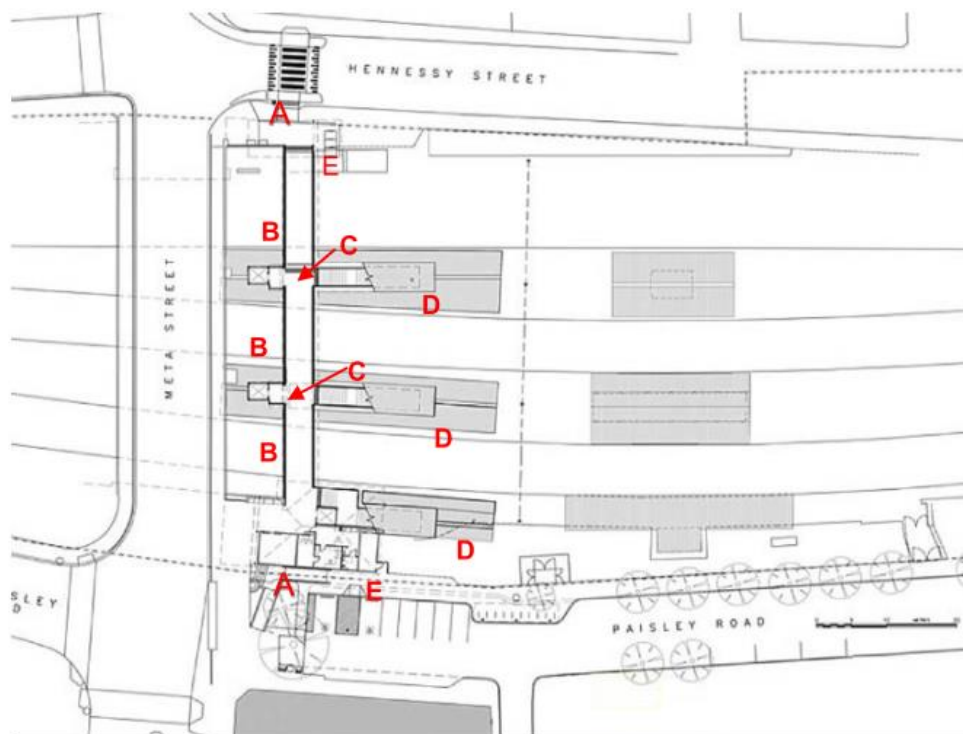


Figure 12 Potential interpretation locations (Source: Caldís Cook Group 2015:8)

## **6.7 Impacts to Heritage Significance – Croydon Railway Station**

Table 6 summarises the potential impacts to the heritage significance of the station arising from the project. Section 4.0 provided a description of surrounding heritage items.

Table 6 Assessment of impacts to the heritage significance of the Croydon Railway Station Group

Action	Impact to Heritage Significance
<b>Historical significance SHR criteria (a)</b>	<b>Croydon Railway Station is historically significant as the existing station arrangement with extant railway structures dating from the 1892 quadruplication and 1927 sextuplication of the line is able to clearly illustrate the expansion of the railways in the late 19th and early 20th century undertaken to accommodate suburban development along the line and to the west. The extant 19th and 20th century platforms, buildings, footbridge and overbridge are collectively able to demonstrate a former era of travel.</b>
<b>Demolition</b>	<p>The demolition of the current booking office will have no heritage impact as this structure was constructed in 1995 and is not of heritage significance.</p> <p>The demolition of the footbridge and trestles will remove an element identified as contributing to the significance of the station. This significance has been attributed as the elements of the station demonstrates “the continual pattern of human use and occupation” (NSW Heritage Office, 2001:12). The removal of the 1922/3 footbridge will reduce the stations ability to demonstrate the alterations made to the station, and by extension similar stations, during the 1920s, particularly those associated with the 1926/7 sextuplication of the line. However, the station building on Platform 3/4 will be retained to indicate this phase of construction works.</p>
<b>Construction</b>	The construction of the proposed footbridge, station operations building, lifts and canopies will contribute to Croydon Station’s ability to demonstrate the evolution of a medium sized railway station to the changing expectations and requirements of rail passengers. It will effectively be the next layer in the pattern of human use. Within this, however, the design, materials and finishes selected have endeavoured to be as sensitive to the historical context to ensure the new layer does not obscure the existing layers. The height of the design has been kept to a minimum so that it does not overwhelm the Station and surrounding buildings and glazing has been used extensively to ensure visual connectivity between old and new parts of the station. Platform canopies have also been reduced to preserve the setting of heritage platform buildings, and maintain site lines.
<b>Temporary Enabling Works</b>	The temporary footbridge, booking office and other associated works will not impact on the historical significance of the station.
<b>Services &amp; Landscaping</b>	The landscaping will not impact on the historical significance of the station. The creation of the communications room in the former general waiting room of the platform 3/4 station building proposes the removal of a later weatherboard wall and impacts to the original or early mini orb corrugated iron ceiling. This will remove a later modification to the building, which contributes to an understanding of the manner in which the building has been used to meet the evolving needs of staff and patrons. These impacts can be mitigated through an archival recording prior to construction commencing and by attempting to reuse existing openings in the ceiling during the creation of the GPOs.
<b>Historical association significance SHR criteria (b)</b>	<b>No assessment provided against this criterion.</b>
<b>Demolition</b>	n/a

Action	Impact to Heritage Significance
Construction	
Temporary Enabling Works	
Services & Landscaping	
Aesthetic significance SHR criteria (c)	<p>Croydon Railway Station has aesthetic significance with its 1890s 'Standard Eddy' building which has been altered in terms of its relocation from a typical island platform to a wayside platform, but still retains characteristic features of this type of station building namely the cantilevered awnings with wide fascia. The 1920s 'initial island' platform building has been altered internally but it retains a linear form, gable roof and integrated awnings. The 1940s 'Railway Stripped Functionalist' building with its cantilevered awnings and steel-framed windows has typical features of this type of station building and is aesthetically significant as it demonstrates a shift in the style from earlier 'initial island' platform buildings. The overhead booking office has been altered internally but it retains characteristic features of such buildings, namely the pre-cast concrete panels with weatherboard construction appearance and its location on the footbridge.</p> <p>The Croydon Station footbridge has technical significance as it was the first time within the Sydney metropolitan area that reinforced concrete was used for the piers and columns of a footbridge.</p>
Demolition	The demolition will not impact on the aesthetic significance in that it will not involve the removal of any of the platform buildings mentioned in the listing. The demolition of the footbridge will remove the technical significance, with the footbridge being an early example of the use of reinforced concrete piers and columns within the metropolitan network. It is proposed that the impact to the technical significance will be mitigated through interpretation - refer to Appendix B for the Interpretation Strategy.
Construction	The construction of the proposed station operations building and footbridge will introduce a new element into the station precinct, however, the design, together with the materials and finishes have been selected to minimise the intrusion into the heritage precinct. The design plays a fine balance between the traditional hipped roof form selected for the proposed station operations building with the more modern, but restrained, butterfly form of entrance awnings and skillion footbridge awning, which in turn reference the flat and skillion roof forms of the heritage station buildings.
Temporary Enabling Works	The temporary footbridge will intrude on the heritage precinct during construction, but as it is not a lasting form, it will have no long-term aesthetic impacts. As the bridge will be sited near the location of the 1892 footbridge, it may provide an opportunity to interpret the previous form of the station while it is in use.
Services & Landscaping	The installation of the services will have an impact on the station during construction, but will not have a long-term impact.
Social significance SHR criteria (d)	<b>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.</b>
Demolition	It is unknown whether the footbridge holds esteem within the local community. However, it is considered that there is likely to be some sense of loss associated with its removal, particularly trestles 1A and 1B and stair 1 as these are evocative and highly identifiable landmarks within



Action	Impact to Heritage Significance
	the rail corridor. The impact to the social significance will be mitigated through interpretation of the footbridge, as outlined in Appendix B.
<b>Construction</b>	The construction of the proposed lifts will enable the elderly and those requiring equitable access to use and therefore appreciate the heritage significance of the station platform buildings. It is anticipated that the construction will have a positive impact on the local community's identification with the station.
<b>Temporary Enabling Works</b>	While the rearrangement of the facilities may temporarily inconvenience some local users, this will not, in the long-term, effect the social significance of the station to the community.
<b>Services &amp; Landscaping</b>	The proposed services and landscaping will not impact on the social significance.
<b>Technical/Research significance SHR criteria (e)</b>	<b>Croydon Railway Station has moderate archaeological potential. The dilapidated north-eastern platform, bordering Hennessy Street along with the discontinued and highly dilapidated section of the existing footbridge provide useful knowledge about the previous patterns of use and scale of the station complex.</b>
<b>Demolition</b>	The removal of trestles 1A and 1B and stair 1 will directly impact on the significance of the station under this criterion by demolishing the elements of the footbridge that demonstrate its previous pattern. However, this will be mitigated to some extent by the historical interpretation strategy (Appendix B).
<b>Construction</b>	The construction of the replacement footbridge and new lifts will be off-set from the demolished footbridge trestle locations with the exception of the lift to Platform 1/2, which will be within the footprint of trestle 2B. This allows the former location of the footbridge elements to be interpreted through the use of pavement markers and perforated panels displaying an image of the footbridge along the Hennessy Street cutting face, as discussed in the interpretation strategy (Appendix B).
<b>Temporary Enabling Works</b>	The temporary works are not located in areas of archaeological potential.
<b>Services &amp; Landscaping</b>	The proposed locations for the insertion of service trenches through the eastern section of the platforms and the possible underline crossing currently dissect the location of the historic subway. It is unclear what, if anything, remains of the subway, however, it is recommended that this area be avoided during detail design.
<b>Rarity SHR criteria (f)</b>	<b>The items at Croydon Railway Station which have aesthetic and technical rarity include the 'Standard Eddy' platform building, the footbridge. Croydon Station is one of the three stations including Homebush and Summer Hill, in the Metropolitan area which have extant 'Standard Eddy' platform buildings. Another extant 'Standard Eddy' platform building within NSW is at Katoomba station which is unique in terms of its curved form along the platform. The 1890s footbridge with its system of double arches and piers is relatively uncommon in the Sydney Metro region and it was the first footbridge in the Sydney area which used reinforced concrete for the arches and piers and is in terms of its style and techniques a rare example.</b>  <b>The initial island platform building, 'Railway Stripped Functionalist' building and overhead booking office and overbridge are</b>

Action	Impact to Heritage Significance
	<b>common types of standard railway structures.</b>
<b>Demolition</b>	The demolition of the footbridge will directly impact on the assessed rarity of the item. As discussed in Section 4.2.7, however, the footbridge has been determined to be highly carbonised and as such there is no viable means of conservation. The spalling of sections of concrete from the footbridge elements on to the platforms, tracks or trains poses a real threat to rail safety. It is not possible to retain the footbridge. The rarity of the station, as it relates to the 'Standard Eddy' platform building on Platform 5 and the 'Railway Stripped Functionalist' building on Platform 3/4 will not be impacted by the demolition of the proposed elements.
<b>Construction</b>	The proposed construction works will not impact on the rarity of the 'Standard Eddy' platform building on Platform 5 and the 'Railway Stripped Functionalist' building on Platform 3/4. There are no proposed works to these items that will impact on their rarity, integrity or intactness.
<b>Temporary Enabling Works</b>	The temporary works will not directly or indirectly impact on the elements of the station identified as being rare.
<b>Services &amp; Landscaping</b>	The services and landscaping will not impact on the rarity of the station.
<b>Representativeness SHR criteria (g)</b>	<b>The platform building at Croydon Railway Station is in a largely intact condition externally and it is a good representation of the 'Standard Eddy' design. The other platform buildings are representative of standard types of railway platform buildings and are reasonably well preserved examples. The overbridge with most of its original fabric intact is also a good representative of jack-arch bridge construction.</b>
<b>Demolition</b>	The proposed demolition works will not impact on items identified as contributing to the representative significance of the station, namely the station platform buildings and the Meta Street overbridge.
<b>Construction</b>	The proposed construction will not impact on items identified as contributing to the representative significance of the station, namely the station platform buildings and the Meta Street overbridge.
<b>Temporary Enabling Works</b>	The temporary enabling works will not impact on the representativeness of the station while they are in place, but will have no long-term impact.
<b>Services &amp; Landscaping</b>	The services and landscaping will not impact on the representativeness of the station while they are in place, but will have no long-term impact.

In summary, there are components of the station that will not be impacted by the project. These include the Meta Street overbridge, platform 1/2 building and the 1920s palm tree on platform 1/2. The demolition of the footbridge will result in impacts to the historical (criterion a), technical (criterion c), social (criterion d), research (criterion e) and rarity (criterion f) significance. It is proposed to mitigate some of this impact through heritage interpretation, as outlined in the Interpretation Strategy, which will include pavement treatments showing the outline of the existing footbridge, together with pit perf images and traditional text-based interpretation panels.

The construction of the proposed footbridge and lifts will impact on the aesthetic (criterion c) significance, however, this has been minimised through sympathetic design and the selection of materials and finishes (refer to Section 6.4) and interpretation as outlined above. The construction has the potential to have a positive impact on the social (criterion d) significance through increased access and the interpretation strategy (refer Section 6.6). The temporary enabling works will have no long-term impacts on the assessed significance. The installation of service trenches through the eastern end of the platform have the potential to impact on relics associated with the historic subway. It is recommended that impacts be avoided during detailed design.

## **6.8 Impacts to Heritage Significance – Surrounding Heritage Items**

Two heritage items and three heritage conservation areas have been identified as bordering the Croydon Railway Station. This section examines the potential impacts to these items.

### **6.8.1 Edwin Street North Conservation Area**

The new pedestrian bridge will be visible from the Hennessy Street section of the conservation area. The conservation area is focused on the conservation of Edwin Street and the return onto Hennessy Street provides a buffer to the properties in Edwin Street. The glimpses of the proposal from the Hennessy Street boundary of the conservation area will not impact on the heritage significance as laid out in *Edwin Street North Conservation Area* (Ashfield City Council, 2002).

### **6.8.2 Presbyterian Ladies' College**

The significant elements of the College are Shubra Hall and the first school building constructed in 1890. These items are located at the far extent of the College and there are no views to or from these items to the Station. The project will therefore not impact on the heritage significance of this item.

### **6.8.3 Malvern Hill Conservation Area**

The project will be visible from the Paisley Street portion of the conservation area. Views from the conservation area towards the project will be largely confined to the new station operations building, which will screen views of the new pedestrian bridge and lifts. As the new station operations building has been designed to largely reflect the scale, bulk, massing and roof line of the existing overhead booking office, it is anticipated that the project will not alter views from the conservation area to any large degree. Views towards the conservation area along Meta Street will also not be altered by the project. It is therefore concluded that the project will not impact on the heritage significance of this item.

### **6.8.4 Cintra Estate Conservation Area**

The Cintra Estate conservation area is located at the western extent of the station. There are no views from the southernmost point of the conservation area back towards the station. The project will therefore not impact on the heritage significance of this item.

### **6.8.5 Croydon Sewer Vent**

Similarly, the sewer vent is located adjacent to the western extent of the station and there are no view lines between the proposed area of works and the vent. The project will therefore not impact on the heritage significance of this item.

## 7.0 Statement of Heritage Impact

### 7.1 Introduction

The objective of a Statement of Heritage Impact (SOHI) is to evaluate and explain how the proposed development, rehabilitation or land use change will affect the heritage value of the site and/or place. A SOHI should also address how the heritage value of the site/place can be conserved or maintained, or preferably enhanced by the proposed works. 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 due to the Project, based on the type of proposed works. The project involves the demolition of a building or structure as well as major additions to the station. The guideline suggests the following questions be used to direct discussion in relation to these two modification types:

Demolition:

- Have all options for retention and adaptive re-use been explored?
- Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site?
- Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible?
- Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?

Major additions:

- How is the impact of the addition on the heritage significance of the item to be minimised?
- Can the additional area be located within an existing structure? If no, why not?
- Will the additions visually dominate the heritage item?
- Is the addition sited on any known, or potentially significant archaeological deposits? If so, have alternative positions for the additions been considered?
- Are the additions sympathetic to the heritage item? In what way (eg. Form, proportions, design?)

These questions will be addressed, based on the impacts to the heritage significance of the station, as outlined in Section 6.0.

### 7.2 Demolition – Process Questions

#### **Have all options for retention and adaptive re-use been explored?**

As discussed in Section 6.3, retention and conservation of the footbridge was explored. However, the results of the structural assessment and chemical testing of the concrete (Hyder Consulting, 2015; Mott MacDonald Australia, 2014a) has identified that there is no feasible method to reverse or halt the extensive carbonation of the concrete. Mott MacDonald and Hyder considered the possibility of conserving and stabilising the steel reinforcements (refer Section 4.2.7), however this is not considered to be warranted. The steel in its self is not of heritage significance – only as a means of holding together the form of the footbridge as a whole. Without the concrete, there is no heritage justification to the conservation of the steel reinforcements, particularly as they cannot be seen or appreciated. It is not possible to retain the footbridge.

#### **Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site?**

The replacement footbridge could be located at the western end of the platforms, however, this does not remove the necessity for the demolition of the footbridge. Over time, the spalling of concrete will continue and creates a severe safety hazard as portions of the footbridge elements could fall onto the platforms, tracks or a train. There is no method to identify when or where in the structure this may occur (Mott MacDonald Australia, 2014b) and it is therefore necessary from a safety perspective that the footbridge and associated elements be removed.



**Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible?**

It is possible that a new conservation technique for reversing carbonation may become available, however, as discussed above, the footbridge poses a safety threat now with no stabilisation options available. There is no potential to retain the item.

**Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?**

TfNSW has sought advice from a number of sources, including the structural advice and investigations provided by Mott MacDonald and Hyder as discussed in Section 4.2.7 and provided in full in Appendix A, and heritage advice provided by Orwell and Peter Phillips, Caldis Cook Group and AECOM. The input of these heritage consultants has been incorporated into the discussion and is specifically addressed in Section 6.3. The advice of the heritage consultants has been addressed and incorporated into the design.

### 7.3 Major Additions – Process Questions

**How is the impact of the addition on the heritage significance of the item to be minimised? Are the additions sympathetic to the heritage item? In what way (eg. Form, proportions, design?)**

The impact of the new footbridge and station operations building will be minimised through design and interpretation. Caldis Cook Group has developed an Interpretation Strategy, provided in Appendix B and outlined in Section 6.6. This strategy has been developed to reduce the heritage impact.

The intent of the design has been to minimise the visual impact of the works by:

- Keeping the roof form of the replacement booking office (i.e. new station operations building) similar, ie hipped in form;
- Reducing the height of the footbridge and lift shafts to the minimum possible;
- Minimising opaque finishes and materials and maximising glazing on the footbridge and lift shafts to reduce visual impact ;
- Selection of a simple, slim butterfly form for the awnings over the entrance portals at the Meta Street and Hennessy Street entrances that reference existing heritage roof forms;
- Reducing the size and bulk of the entrance portal awnings to ensure they do not dominate the surrounding streetscape;
- Selection of visually recessive materials and colours;
- Reducing the extent of the platform canopies to maintain setting and site lines to heritage platform buildings;
- Reducing the pitch and uniformity of stair canopies to limit their visual impact;
- The design of the footbridge retains views out over the historic platform buildings and maintains users ability to appreciate the historical development of the station over time.

**Can the additional area be located within an existing structure? If no, why not?**

As previously noted, the existing footbridge cannot be retained as no feasible and long-term conservation methods have been identified. The existing booking office, constructed in 1995 is located below the Meta Street level and creates problematic access for those using mobility aids or prams. The proposal involves the construction of a new wider pedestrian bridge that would be raised approximately 1.2 metres from the existing to allow for at-grade access from Meta Street and Hennessy where such access does not currently exist. The removal of the existing booking office is required to allow for the construction of the new raised pedestrian bridge, stairs and lifts to provide an accessible path of travel and the required vertical clearance above the track (in accordance with Sydney Trains operational requirements). There would be major cost and constructability issues to retain the existing booking office, in addition, the existing configuration of the booking office does not meet Sydney Trains proposed requirements with respect to access and customer service.

**Will the additions visually dominate the heritage item?**

The design has been carefully developed to minimise the visual impact of the new elements on the heritage station precinct, without becoming a pastiche of a heritage building. This has been achieved through the use of a

traditional hipped roof for the booking office and juxtaposed with a modern butterfly form for the canopies at the Meta/Paisley Street and Hennessy Street entrances, which in turn references the skillion roofs on heritage platform buildings. Efforts have been made to reduce the height and bulk of the awnings to ensure that they are also in keeping with the surrounding low-rise streetscape.

**Is the addition sited on any known, or potentially significant archaeological deposits? If so, have alternative positions for the additions been considered?**

The footbridge will sit adjacent to the footbridge trestles, with the exception of trestle 2B on platform 1/2, allowing the demolished footbridge to be interpreted through pavement treatments. The remnants of the disused platform against the Hennessy Street cutting will be impacted through the insertion of nine approximately 1200 mm in diameter piles to a depth of five to six metres to support the proposed replacement footbridge and entrance plaza areas. On platforms 1/2, 3/4 and 5, the new pedestrian footbridge column will be pinned to four piles up to 900 mm in diameter and between four and five metres deep, as shown on Drawing TAP-C3897-CD-ST-3020-A.

The location of the temporary footbridge does not coincide with an area of known archaeological sensitivity. The proposed service trenches in the eastern end of the platform and tracks may encounter relics associated with the historic subway. It is recommended that detailed design be undertaken to avoid these impacts by modifying the route and/or depth of the trenches.

## 8.0 Recommendations and Conclusions

The NSW Government is committed to facilitating and encouraging use of public transport, such as trains, by upgrading stations to make them more accessible, and improving interchanges around stations with other modes of transport such as bicycles and cars.

Croydon Station and the interchange area do not currently meet key requirements of the *Disability Standards for Accessible Public Transport 2002* (DSAPT) or the Commonwealth *Disability Discrimination Act 1992* (DDA). Currently there is no ramp or lift access to station platforms and there are non-compliant paths of travel from the surrounding footpath and roads. In addition, the station entrance is narrow and there is no weather protection over the existing footbridge and stairs.

The Croydon Station Easy Access Upgrade is required to provide safe and equitable access to the station and across the railway to the surrounding pedestrian network and would also improve customer facilities and amenity. The improvements would in turn assist in supporting the growth in public transport use and would provide an improved customer experience for existing and future users of the station. TfNSW acknowledges the heritage significance of Croydon Station and has sought to develop a solution that is sensitive to that significance. The detailed design and construction of the proposal would be undertaken with regard to the assessed significance.

The expected increase in customers has been taken into consideration during the design development. The 2014 barrier counts indicated a daily patronage of 4,750 trips which is expected to increase by approximately 27 per cent to 6,055 in 2036. The Proposal has been designed to cater for a minimum daily patronage forecast of 6,963 (which is the 2036 daily patronage + 15 per cent).

The key features of the Proposal are summarised as follows:

- Replacement of the existing station footbridge with a new raised and wider pedestrian bridge that would extend north to a new station entrance at Hennessy Street;
- Installation of new stairs to each platform and three lifts to provide access to the station platforms;
- New canopies installed at both station entrances and along the new pedestrian bridge, stairs, lift landings and platforms;
- New station operations building at concourse level of the Paisley Road station entrance;
- Widening of a section of the Paisley Road footpath and upgrade of the Paisley Road station entry plaza;
- Provision of two accessible parking spaces and up to three kiss and ride spaces in Paisley Road;
- Installation of new undercover bicycle racks installed on both sides of the station; and
- Ancillary works including platform resurfacing/re-grading, services diversion and/or relocation, station power supply upgrade (including new substation), minor drainage works, adjustments to lighting, new ticketing facilities including additional Opal card readers, modifications to station communication and security systems with new or relocated infrastructure (including CCTV cameras and Passenger Information Displays) and wayfinding signage.

In summary, there are components of the station that will not be impacted by the project. These include the Meta Street overbridge, platform 1/2 building and the 1920s palm tree on platform 1/2. The demolition of the footbridge will result in impacts to the historical (criterion a), technical (criterion c), social (criterion d), research (criterion e) and rarity (criterion f) significance. It is proposed to mitigate some of this impact through heritage interpretation, as outlined in the Interpretation Strategy, which will include pavement treatments showing the outline of the existing footbridge, together with pit perf images and traditional text-based interpretation panels.

The construction of the proposed footbridge and lifts will impact on the aesthetic (criterion c) significance, however, this has been minimised through sympathetic design and the selection of materials and finishes (refer to Section 6.3) and interpretation as outlined above. The construction has the potential to have a positive impact on the social (criterion d) significance through increased access and the interpretation strategy (refer Section 6.6). The temporary enabling works will have no long-term impacts on the assessed significance. The installation of service trenches through the eastern end of the platform have the potential to impact on relics associated with the historic subway. It is recommended that impacts be avoided during detailed design.

The following mitigation measures are recommended:

- An application under Section 60 of the *Heritage Act 1977* should be submitted to the Heritage Council of NSW for approval prior to works commencing. This Statement of Heritage Impact should be submitted with the supporting documentation for the approval.
- The Interpretation Strategy should be developed into an Interpretation Plan and implemented during construction;
- Archival recording of the station as a whole prior to the commencement of construction following NSW Heritage Division guidelines *Photographic recording of heritage items using film or digital capture* (NSW Heritage Office, 2006) and *How to prepare archival records* (NSW Heritage Office, 1998). Copies should be provided to the NSW Heritage Division, Ashfield Council, Burwood Council and Sydney Trains for future reference. In particular the following elements the following elements should be concentrated on:
  - Existing footbridge and stairs;
  - The 1995 overhead booking office;
  - Disused platform, including the stairs along Hennessy Street cutting (it is recommended that vegetation removal be undertaken prior to the archival recording)
  - Northern rooms of platform 3/4 station building prior to removal of the weatherboard wall;
- Inclusion of stop work procedures in the construction and environmental management plan in the unlikely event that intact archaeological relics or deposits are encountered in accordance with Transport for NSW's *Unexpected Heritage Finds Guideline*;
- Submit a colour and finishes sample board prior to construction for approval by the Manager of Conservation, Heritage Division (OEH);
- Submit details of the proposed heritage consultant for approval by the Manager of Conservation, Heritage Division (OEH);
- A heritage induction should be provided to all on-site staff and contractors involved in the project. The induction should clearly layout the statutory obligations associated with State significant sites, the heritage constraints of the site, areas of archaeological potential and the management and mitigation measures in place to protect the significance of the station;
- During construction, suitable measures should be put in place to ensure the retained heritage elements are protected from damage. Measures may include hoardings, use of spotters during the movement of equipment and other measures as necessary;
- It is recommended that, where possible, existing openings be reused for the installation of the GPOs in platform 3/4 building ceiling (if required);
- It is recommended that the depth and/or path of the service trenches be modified during detailed design to avoid impacting the historic subway. Should impacts be anticipated following detailed design, a review of the approvals will be undertaken and a modification sought, which should include an Archaeological Research Design and Methodology and nominate an Excavation Director with a demonstrated track record of working with SHR listed items; and
- Following completion of works, the State Heritage Register listing description and historical context should be updated to reflect the new works.



## 9.0 References

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## Appendix A

# Bridge Investigations

**REPORT AVAILABLE ON REQUEST**

## Appendix B

# Interpretation Strategy



**REPORT AVAILABLE ON REQUEST**