



# **WestConnex M4 East Dobroyd Stormwater Channel Heritage Impact Assessment**

Prepared by AMBS Ecology & Heritage  
for Sydney Motorway Corporation

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# 1 Introduction

The WestConnex M4 East project was approved as a State Significant Infrastructure development (SSI) under Section 115ZB of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 11 February 2016. The proposed modification of the M4 East Infrastructure Approval (SSI\_6307) SSI boundary comprises extending the approved construction footprint to encompass the installation of two stormwater outlets, including access and works areas for the construction and maintenance. The stormwater outlets would be installed into the wall of the Dobroyd Canal (also referred to as Iron Cove Creek). The *Dobroyd Canal Stormwater Channel No 53* (Dobroyd SWC No 53) is a local heritage item on the Sydney Water Heritage & Conservation (Section 170) Register (No. 4571056). The Canal is not listed on the Ashfield Local Environmental Plan 2013, nor any other heritage registers or lists.

As an approved SSI project, there are no requirements for permits or approvals under the *Heritage Act 1977*. However, consideration of heritage issues is a requirement of the project approval and in this instance Minister's Condition of Approval B23 is relevant:

*The Proponent must not destroy, modify or otherwise physically affect any heritage items, including human remains, outside of the SSI footprint. This approval does not allow the Proponent to harm, modify, or otherwise impact human remains uncovered during the construction and operation of the SSI.*

This Heritage Impact Assessment (HIA) has been prepared in support of a modification to SSI6307 to extend the construction footprint boundary to facilitate the connection of the two stormwater outlets into the wall of Dobroyd SWC 53.

## 1.1 Study Area

Dobroyd SWC No 53 is the canalised Iron Cove Creek that defines the western boundary of the suburb of Haberfield. The suburb of Haberfield, in its entirety, is a conservation area listed on the heritage schedule of the Ashfield LEP. Haberfield is approximately 7kms to the west of the Sydney CBD, within the Inner West (formerly Ashfield) Local Government Area (LGA) (Figure 1.1).

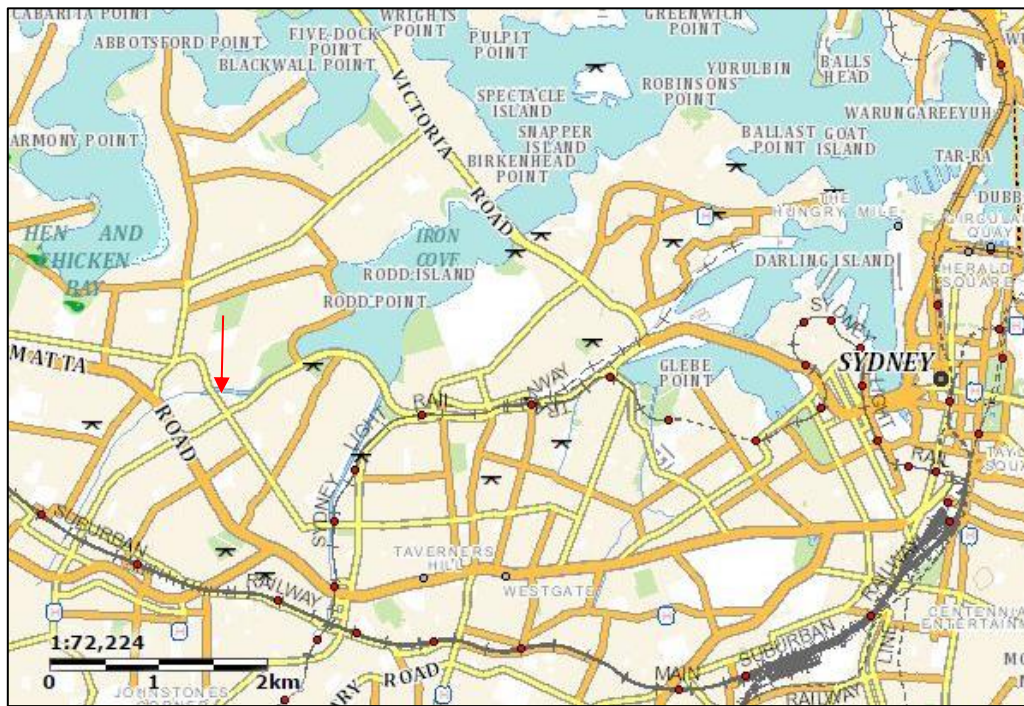


Figure 1.1 The location of the works at Dobroyd SWC No 53 is indicated (<https://maps.six.nsw.gov.au/>).

## 1.2 Methodology

The aim of this HIA is to assess the local environment of the Dobroyd SWC No 53 and to assess the potential for the installation of the two stormwater outlets to have an impact on the heritage significance of the canal. This report aims to provide an appropriate strategy for avoiding or mitigating impacts to heritage values.

This HIA is consistent with the principles and guidelines of the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013*. The report has been prepared in accordance with current best-practice guidelines as identified in the *NSW Heritage Manual (1996)*, published by the Heritage Office and Department of Urban Affairs and Planning, and associated supplementary publications, in particular, *Statement of Heritage Impact (revised 2002)*.

The report includes information contained in other reports prepared for the M4 East project.

## 1.3 Authorship

This report has been prepared by AMBS Director Historic Heritage, Jennie Lindbergh. Jennie inspected the site of the stormwater outlets and the canal on 5 October and all photographs used in this report were taken at the time, and/or on previous visits to the area for the M4 East project, unless indicated.

## 2 Historic Context

The suburb and conservation area of Haberfield is defined by the Dobroyd and Hawthorne Canals to west and east, and Parramatta Road to the south. The land is within Nicholas Bayly's original 480 acres Sunning Hill Farm estate, which he sold to Simeon Lord, the largest landholder in the Colony, in 1805. Lord named the estate Dobroyde after a property in England and gave the land to his daughter Sarah when she married Surgeon David Ramsay. David's and Sarah's children were all born at Dobroyd House, which had been built by their father. The Ramsay family established an extensive nursery with prize-winning fruit trees, vegetables and flower beds along Long Cove Creek. David and Sarah Ramsay's third son, Edward Pierson Ramsay, inherited the family garden and on 15 December 1867, opened the Dobroyd New Plant and Seed Nursery. Edward was a prominent member of the scientific community and was the first Australian-born Curator at the Australian Museum for twenty years (1874–1894).

In 1856, the eldest of the Ramsay children, Mary Louisa and her husband Alexander Learmonth built a new home, Yasmar, to the west of Dobroyd House on Parramatta Road. The house was designed by John Bibb, who had worked with Sydney's leading architect John Verge, who had designed grand colonial houses including Alexander Macleay's Elizabeth Bay House and Camden Park for William Macarthur. John Bibb succeeded Verge in 1837. Yasmar is a single storey Victorian Georgian sandstone house with the hallmarks of good design and restraint. The house still stands within a landscaped garden of dense plantings of mature trees reflecting the nurseries established by Louisa's father David Ramsay and brother, Edward Pearson. The property now houses the Yasmar Training Facility - Juvenile Justice at 185–187 Parramatta Road.

In 1883, the Dobroyd Estate was divided into large farm blocks for the Ramsay children and two years later, the estate began to be subdivided and offered for sale (Figure 4.23). However, sales were very slow and it was not until the early twentieth century that the land was developed by Richard Stanton and marketed as the 'Model Suburb'. The Haberfield Estate was to become Australia's first successfully planned suburb, with covenants controlling the form, size, position, and cost of houses on each block. The estate was marketed as a 'Garden Suburb,' with the model based upon the international City Beautiful Movement. The majority of houses were built within the first decades of the twentieth century in the prevailing Federation and Arts & Crafts architectural styles. The designs included individual detailing of the common themes of ornate timber detailing of verandahs, windows and doors as well as the distinctive tiled verandah and steps. Overall, it was to be a genteel, slum-less, lane-less, pub-less estate, in contrast to the so-called working class slums of inner Sydney, such as Leichhardt on the opposite side of the Long Cove Canal. The aesthetic appeal was enhanced by the establishment of tree-lined streets and careful landscaping of private gardens, which continue to characterise the suburb.

Construction of the Iron Cove Creek and Long Cove Creek Stormwater Channels began in 1890, and included large areas of land reclamation along each creek. Long Cove Creek /Hawthorne Canal was constructed as a navigable concrete lined canal as far as Parramatta Road, but only succeeded to be navigable as far as the Marion Street road bridge.

The canalisation of Iron Cove Creek, Dobroyd Canal, was as a stormwater channel and the canal is one of the first group of nine constructed by the Department of Public Works. Work on the canal began in 1892 into 1894, as a brick-lined stormwater channel south of Church Street Ashfield. The creek was canalised to carry overflow and stormwater from Ashfield, Croydon and Haberfield to Iron Cove. The canal was not extended north to Iron Cove until 1926, 1929 and 1934. The greater area of reclamation for the canal was on the western bank, along the northern reaches toward Iron Cove (Figure 2.1 – Figure 2.4). The reclamation comprises introduced fill, perhaps derived from landscaping and construction of the local urban environment of Haberfield.



The major U-shaped brick southern section of Dobroyd SWC 53 was replaced by concrete sections in 1989-1990, leaving only a section under the railway. As such, although construction of the canal commenced in 1892, it was not fully completed until the 1980's.

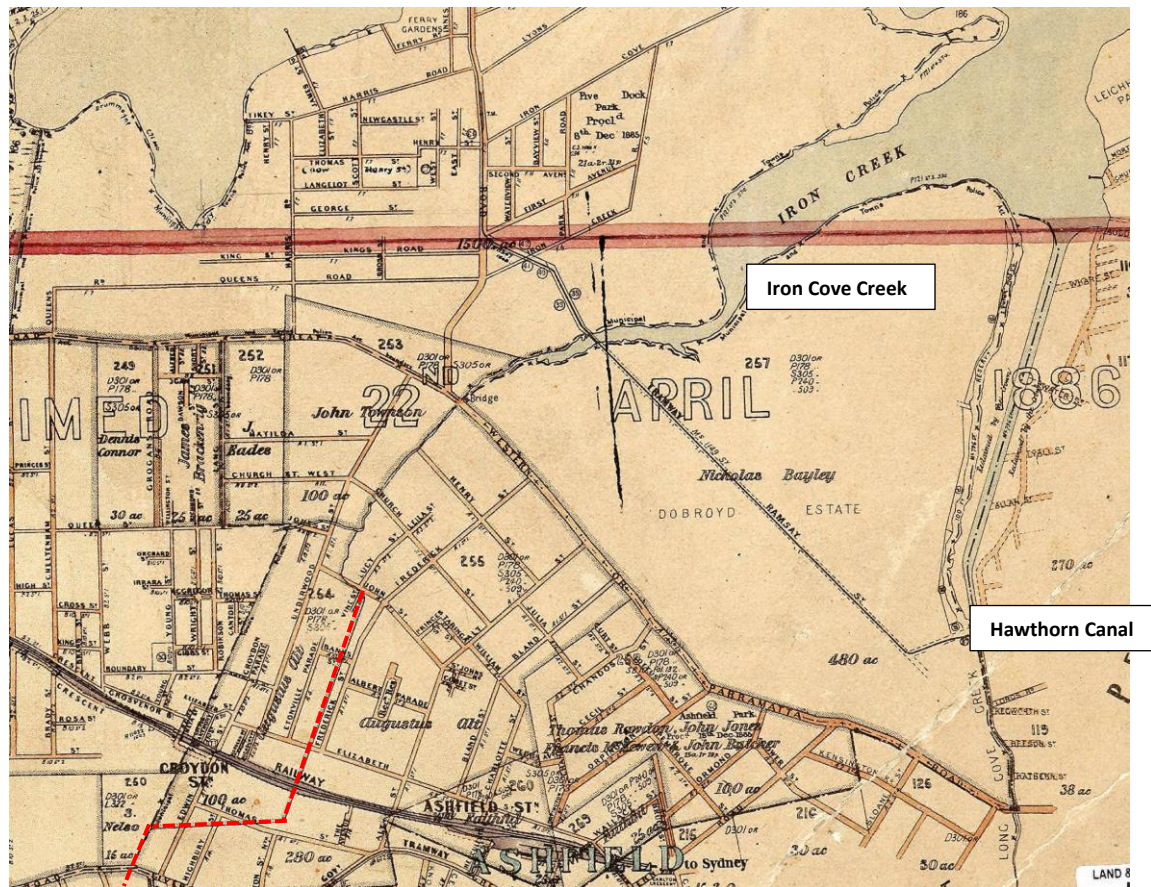


Figure 2.1 Detail from the 1913 Parish of Concord map. Hawthorn Canal has already been canalised and the first section of Iron Cove Creek to the south of Church Street only has been canalised (marked in red <http://images.maps.nsw.gov.au/pixel.htm#14095001.jp2>)



Figure 2.2 Detail from a Parish of Concord map showing the extent of land reclamation. Also note the more clearly defined Hawthorne Canal to the east (1923-63 Status Branch Charting maps [http://images.maps.nsw.gov.au/pixel.htm#phConcord-Sheet\\_1-Cumberland.jp2](http://images.maps.nsw.gov.au/pixel.htm#phConcord-Sheet_1-Cumberland.jp2)).





**Figure 2.3 Iron Cove Creek near the Church Street bridge in 1890, before it was canalised (<https://www.flickr.com/photos/14478672@N02/1474828527>).**



**Figure 2.4 Construction of the northern section of Dobroyd Canal, near Ramsay Street, in 1929 (<http://acmssearch.sl.nsw.gov.au/search/itemDetailPaged.cgi?itemID=945859> image a6945048r Box 77 No. 1049).**



### 3 Context of the Proposal

Dobroyd SWC No 53 is the canalised Iron Cove Creek, a process that began in 1890 but which did not extend into the suburb of Haberfield until the 1920s and 1930s. The section of the canal adjacent to Reg Coady Reserve is lined with concrete blocks and appears to be a later construction than the adjacent section to the south.



**Figure 3.1** View north-east along the canal.



**Figure 3.2** View of the east bank of the canal showing an earlier (right), and later (left).

The exact location of the two stormwater drainage outlets into Dobroyd Canal are to be confirmed following exposure of the canal wall and reinforcement; however, the approximate locations of works are shown in 3.3:

- Stormwater outlet 1 comprises two 900mm stormwater pipes connecting into the existing Dobroyd Canal wall, with a head wall and wing walls at the exit. The width of the opening is approximately 6m, with wingwalls, a head wall and a new base slab.
- Stormwater outlet 2 comprises two boxed culverts terminating at Dobroyd Canal, with the outlets themselves to be cast in situ. The width of the opening is approximately 12 m, with

the wingwalls extending out approximately 5m and mirroring the grade of the existing concreted banks, tying in to the canal base. A new base slab will be laid within the outlets (see Figure **Error! Reference source not found.**3.4 -Figure 3.55).

The aim of the proposed works is to mitigate the potential impacts of flooding on existing residential development located to the east (upstream) of Wattle Street.

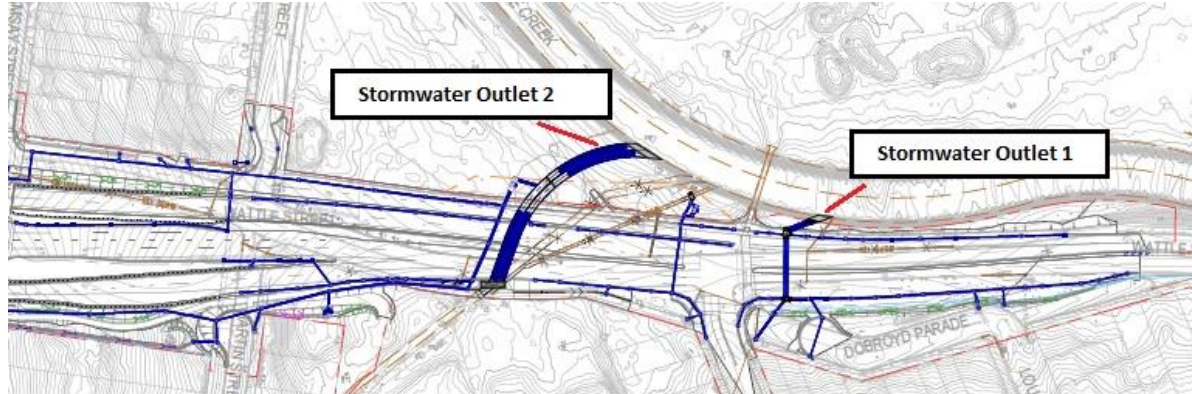


Figure 3.3 The approximate locations of Stormwater outlets 1 and 2.



Figure 3.4 Current large stormwater outlet to the north of the proposed works. Stormwater outlet 2 would be similar in scale.





**Figure 3.5 Detail of the east bank of the canal showing earlier (right) and later (left) sections of the wall. Stormwater Outlet 2 will pierce a section of canal wall that is likely earlier and in a poor condition.**

### **3.1 Discussion**

Reg Coady Reserve is largely built up of fill introduced when Iron Cove Creek was formed into Dobroyd stormwater canal. The walls along the northern section are concrete blocks and were likely built in 1934, while the rougher concrete section of the wall to the south may be earlier, dating to 1929. Trenching for the new stormwater drainage channels will be through the reclaimed fill, which is likely to include material possibly derived from the construction of houses in Haberfield and has no archaeological value.

Inserting the two Stormwater outlets (1 and 2) is consistent with its function as a canal channelling stormwater from Ashfield, Croydon and Haberfield into Iron Cove. Although the canal wall likely dates to the late 1920s or early 1930s, it has historic and aesthetic integrity and makes a contribution to the local heritage significance of the canal.



## 4 Assessment of Heritage Impact

*Dobroyd Canal Stormwater Channel No 53* is an identified local heritage item listed on the Sydney Water Heritage & Conservation (Section 170) Register as one of the first group of nine constructed stormwater canals. The canal has historical, aesthetic, social and technical (research potential) significance, rarity and representativeness but *has been substantially altered* affecting its integrity (S170 Inventory). The insertion of two stormwater outlets into the canal wall represent a change to the fabric, the impact of which is assessed below.

***The following aspects of the proposal respect or enhance the heritage significance of the item or conservation area for the following reasons:***

The function of Dobroyd SWC No 53 is to channel overflow and stormwater from Ashfield, Croydon and Haberfield to Iron Cove. The insertion of two stormwater outlets is consistent with the historic and technical function of the Dobroyd Canal and as such represents a new phase in its history. The heritage significance of the canal is respected.

The aim of the works is to mitigate the impacts of flooding on existing residential development located to the east (upstream) of Wattle Street, thus ensuring the protection of the houses and heritage value of the Haberfield conservation area.

***The following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:***

Inserting the two stormwater outlets into the canal wall will remove large sections of fabric associated with the 1920s and 1930s phases of the construction of the canal. This represents a loss of original fabric; however, the loss is mitigated by the compatibility of the continuity of function. Care will be taken to minimise damage during works, which will be undertaken in consultation with a heritage consultant and Sydney Water.

***The following sympathetic solutions have been considered and discounted for the following reasons:***

The operational and functional requirements of inserting the two stormwater outlets into the wall of the Dobroyd SWC No 53 are such that no alternate solutions have been considered.

### 4.1 Statement of Heritage Impact

Dobroyd SWC No 53 was one of the earliest creeks formed as a canal to carry overflow and stormwater from Ashfield, Croydon and Haberfield to Iron Cove. The sections of wall that will be affected by the insertion of the two stormwater outlet were likely part of the canalisation works of 1929 and 1934. Although there will be an impact on sections of the canal wall with a loss of fabric, the integrity of the canal's function will continue. There will be a minor effect on the heritage significance of the Dobroyd SWC No 53 in its entirety.

The aim of the stormwater outlets is to mitigate the impacts of flooding on existing residential areas to the east of Wattle Street, thus protecting the heritage value of the Haberfield conservation area.

## 4.2 Conclusion

The two stormwater outlets are essential to the long-term maintenance of the PW290 and flood mitigation. There will be loss of fabric; however, any unnecessary damage to the fabric can be avoided:

### ***Recommendation 1***

*When the final design and locations for the two stormwater outlets have been determined, works should be undertaken in consultation with a heritage consultant and the Sydney Water Heritage Manager.*

### ***Recommendation 2***

*A copy of this report should be submitted to the Sydney Water Heritage Manager for review and approval.*

There will not be an adverse effect on the historic, aesthetic and social significance of Dobroyd SWC No 53, nor will there be an adverse effect on the rarity and representativeness of the canal. The integrity of the fabric has been altered such that the two stormwater outlets represent an additional, though compatible, alteration and as such, the project complies with the requirements of Minister's CoA B23.

## Bibliography

AMBS Ecology & Heritage (2016) *WestConnex M4 East: Heritage Interpretation Plan*. Consultancy report to CPB Samsung John Holland Joint Venture.

Australia ICOMOS (2013) *The Burra Charter: The Australia ICOMOS charter for places of cultural significance 2013*. Burwood.

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

(rev. 2002) *Statements of Heritage Impact*.

Sydney Water (2016) Dobroyd Stormwater Channel No 53. Heritage & Conservation Register  
<https://www.sydneywater.com.au/SW/water-the-environment/what-we-re-doing/Heritage-search/heritage-detail/index.htm?heritageid=4571056&FromPage=searchresults>