

Uncovering the Hidden History of the Wollie Creek Valley

Archaeological Investigations in the Wollie Creek Valley
(Updated and Revised Survey)

Graham Craig Wilson



Prepared for the Wollie Creek Preservation Society Inc, April 2015



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Archaeological Investigations in the Wollie Creek Valley (Updated and Revised Survey) April 2015

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1 INTRODUCTION

1.1 Background

The following report is an update of an archaeological survey undertaken in 1991-1992 by the Wolli Creek Preservation Society Inc. (WCPS) within the Wolli Creek Valley. This initial assessment was restricted to the area between Bexley Road in the west and the confluence of Wolli Creek and Cook's River in the east. The southern limit was formed by the East Hills Railway line while the northern limit was formed by the built-up areas north of Johnstone Street, Forest Street, Bray Avenue, Sutton Avenue, Minnamurra Avenue, Finlays Avenue, Wavell Parade, Highcliff Road and Unwin Street. The study area includes parts of the suburbs of Earlwood, Turrella, Undercliffe, Bexley and Wolli Creek. The sites are located within the LGAs of Canterbury and Rockdale.

The original survey was undertaken at a time when the Wolli Creek Valley was threatened by the construction of a major surface motorway (M5E). The potential remains associated with the post-1788 development of the valley were at that time largely unknown. The information gathered was subsequently used in the preparation of environmental impact assessments for the proposed motorway. The original M5E proposal did not proceed, and in 1998 the NSW Government declared that the valley would become a regional park. A recommendation of the original report (*Wolli Creek Valley Heritage Assessment Report - Archaeological Investigations in the Wolli Creek Valley*, Graham Wilson, 1992) was that a revision of the findings should be undertaken at some later date.

The original survey identified seventeen sites on the ground (WC1-WC17) with the locations of a further eight sites identified but not located (A1-A8). All sites were subject to re-examination where access permitted.

It should be noted that the study area consists of a number of separate properties under separate titles, and therefore separate controls. During the survey no fenced properties were entered and no identified private property was entered. The survey was conducted on either public lands or land that was accessible from designated walking tracks or from tracks that have customary use and may predate some of the existing land divisions.

It should also be noted that both the survey of 1992 and the current re-survey are not formal surveys. The purpose of this work is to identify sites at an informal level so that if there is a future requirement for formal management of these areas, the Wolli Creek Preservation Society has a body of data that may be used to make formal representations regarding requirements for survey and assessment.

1.2 Site Location

Wolli Creek is a tributary of the Cooks River and forms the boundary between the Canterbury and Rockdale Local Government Areas. The creek is bordered on the north by the suburbs of Earlwood and Undercliffe, and in the south by Wolli Creek, Turrella, Bardwell Park and Bexley North. (See Figures 1 and 2). The northern portion of the study area consists of river-flats bordering a sandstone ridge. At Bexley North (the western margin of the study area) the lithology changes to shales resulting in a landscape consisting of low rolling hills. The eastern margin of the study area (Waterworth Park) was formerly a swamp. The southern portion of the study area consists of a floodplain that borders rising ground at Arncliffe in the south.

The study area is composed of a large number of properties – this includes freehold land and land owned and controlled by a number of State government bodies – as well as a number of parks and reserves. The latter includes Wolli Creek Regional Park, Turrella Reserve, Waterworth Park, Girrahween Park and S. J. Harrison Park.

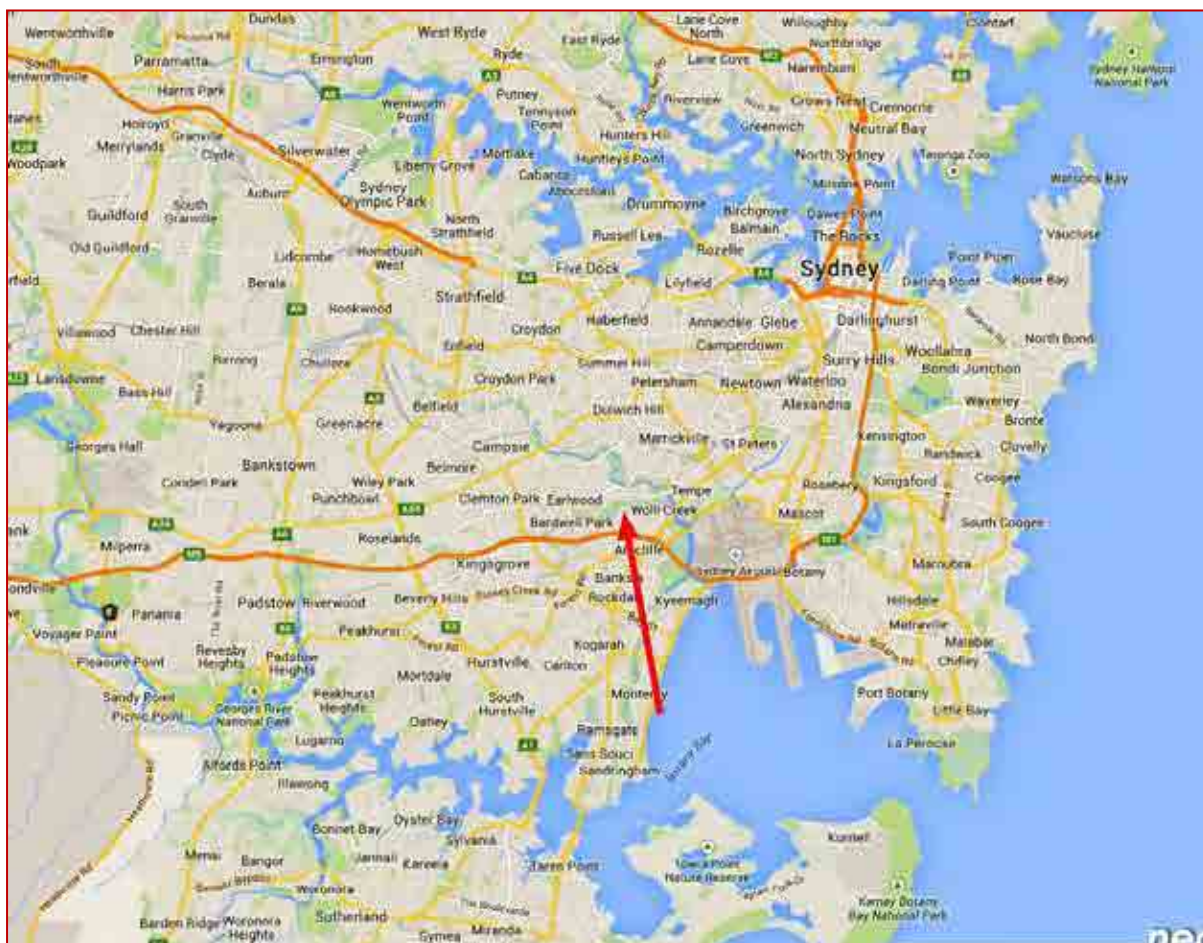


Figure 1 Map showing location of the study area. (Source: NearMap).

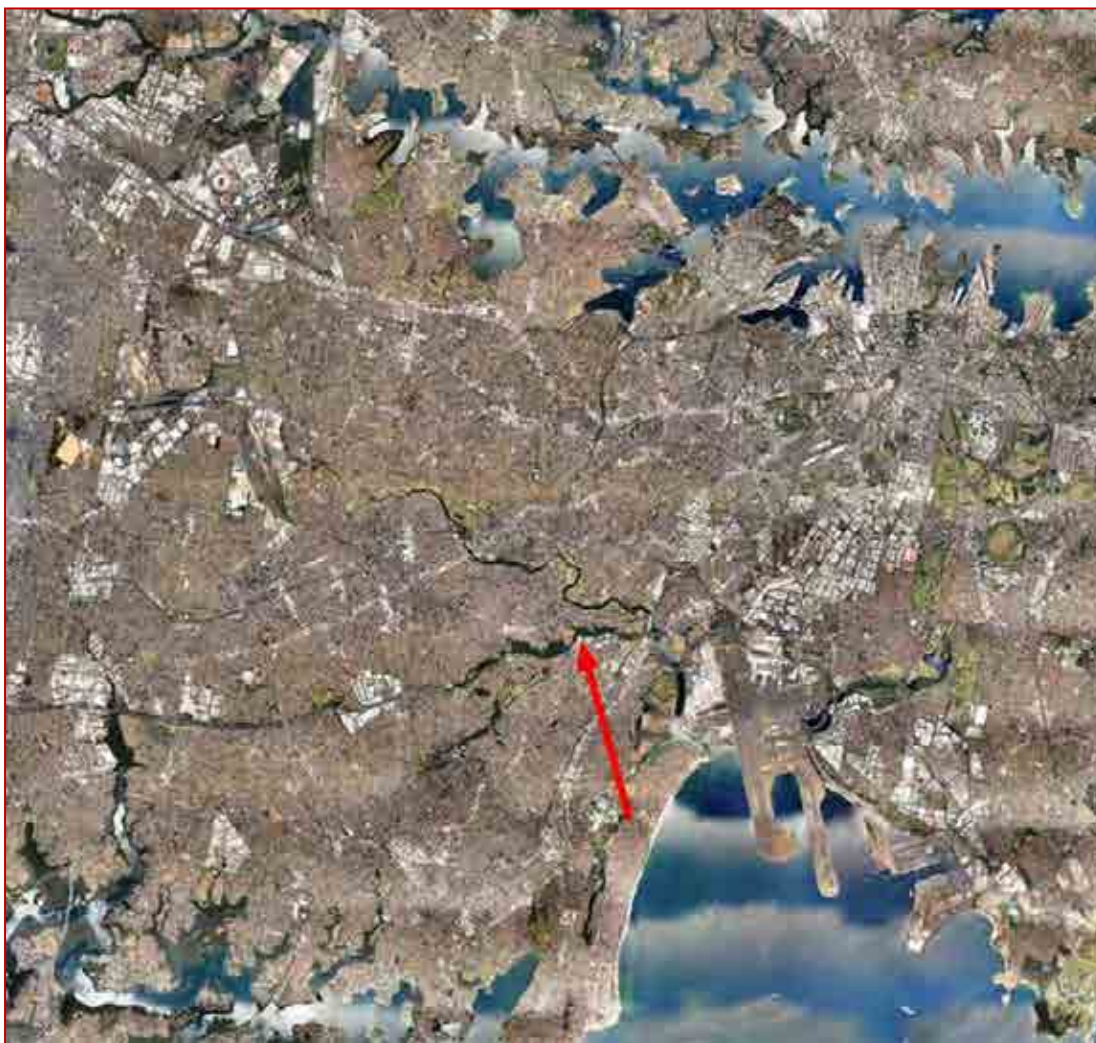


Figure 2 Aerial photograph showing study area (arrowed). (Source: NearMap 2014).

1.3 Objectives

The principal aims of the current project were to:

- Update the existing site records
- Review historical information made available since the time of the first survey
- Survey areas that were not accessible during the first survey
- Review any listings made since the first survey
- Upgrade the mapping for existing sites.

1.4 Limitations

Two main limitations were faced by the current investigation. Firstly, access to some properties was not possible. This included the railway corridor and private properties, as well as portions of the site that could not be accessed except by trespass. A significant factor that inhibited the survey was vegetation growth. Since 1992 some areas that were previously accessible are now heavily overgrown. This is particularly the case in the areas to the east and west of Turrella Reserve. Large stretches of both the northern and southern shores could not be surveyed.

No assessment of Aboriginal heritage or archaeology was undertaken as part of this study.

1.5 Investigator and Contributors

This report was written by Graham Craig Wilson (Senior Heritage Advisor – *Archaeological and Heritage Management Solutions Pty Ltd*). Judy Finlason of the Wolli Creek Preservation Society (WCPS) managed the project, assisted by WCPS members, Ute Foster and Judi Rossi.

1.6 Acknowledgements

This study was made possible by assistance through a grant provided by the Royal Australian Historical Society. The Wolli Creek Preservation Society provided access to their records, including a large body of material collected in the period since the initial survey.

The work of the late Lesley Muir and Brian Madden is also acknowledged. Their works form the standard historical corpus for Wolli Creek and the adjoining suburbs. In preparing this report extensive use was made of this body of work.

1.7 Methodology

The approach to the survey was a combination of documentary research and walking the ground. Since 1992 a significant body of documentary material has become more readily accessible. This includes maps, plans, newspaper files and aerial photographs. The current report is restricted to an examination of the sites identified during the survey program of 1991-1992 but during the course of this investigation a number of other potential sites or locations were identified both within the designated survey area and in its immediate environs. These may be subject to further investigation.

2 HISTORICAL DEVELOPMENT

2.1 Historical Background

The valley was in the range of the Bidjigal people who had close contacts with groups on the Botany Bay foreshores and Cook's River. In the period after 1788 the valley may have provided refuge for the broken clans that combined into new groups in the 1790s following an outbreak of smallpox. The Aboriginal occupation of the valley is not well understood but there is physical evidence in the form of middens, rock shelters and a significant art site within the valley. There is also the landscape with elements like Nannygoat Hill that may have been significant to the Aboriginal people both before, and after 1788.

By the 1830s most of the valley had been granted to a number of British settlers but development was slow. The flat land on the southern side of the creek, and the open country at the western end of the valley saw the creation of small farms by the middle of the nineteenth century. Many of the smaller properties on the northern shore do not appear to have been modified to any significant extent.

In the late 1830s and early 1840s many of the original grants were combined to form larger properties. This was aided to some extent by the creation of roads such as Unwin's Bridge Road (Bayview Avenue) and a road that connected Canterbury with the Illawarra Road (now the Princes Highway). The most significant of the properties located within the survey area was 'Ballater'. This was a property formed in the late 1830s through the break-up and reconsolidation of the original allotments. These lots came into the possession of Leslie Duguid, a Scottish banker, merchant and speculator who worked closely with other Scots including James Mudie and Alexander Brodie Spark.

'Ballater' Estate contained a ten-room weatherboard house, stone kitchen, two 10 acre paddocks, gardens, and an orchard containing a variety of fruit trees. Duguid had drained the low-lying land and had undertaken irrigation. This is one of the earliest records of this farming technique in New South Wales. The location of this irrigated land may have been the site later used by Chinese market gardeners in what is now Turrella Reserve (WC6). The various notices for the sale of the property refer to a landing place on the river that allowed communication by water between 'Ballater' and the dam at Tempe. The 'Ballater' homestead was destroyed by fire in 1875. The property was subsequently subdivided with Joseph Carruthers owning the greater portion of the former 'Ballater' Estate. The precise location of the homestead has not been located but it is likely to have been located close to Bayview Avenue rather than on the river flats.

During the later nineteenth century much of the southern shoreline was occupied by industries such as tanning, wool washing and boiling-down works. Waste was drained directly into Wolli Creek giving it the reputation as one of the most polluted waterways in Sydney. On the northern side of the creek a number of small-holdings such as the King and Burrell farms were formed in areas where there was sufficient soil to allow small-scale vegetable growing. The main activities undertaken on these farms were pig and poultry raising.

During the 1920s and 1930s the river flats on both sides of the creek were farmed intensively by Chinese market gardeners. The depression years of the 1920s and 1930s also saw parts of the valley used as temporary shelter by the homeless. These temporary dwellings varied in scale from modified rock shelters to complexes with associated gardens and paths.

From the 1940s onwards the southern side of the creek was intensively developed for both housing and light industry. The former Chinese market gardens were gradually abandoned as a result of both flooding and economic changes.

2.2 Modifications to the Valley

Since the 1950s large portions of the valley have been subject to both regrowth of the remnant native vegetation and by weed infestation. The valley has also been subject to the dumping of refuse and fill. This has varied from localised dumping of domestic refuse to large scale landscape modification. This is most evident in the area south and southeast of Jackson Place where most of the extant slope is composed of building rubble. Fill, composed mostly of crushed building rubble has been used for landscaping purposes in Turrella Reserve. The northern and north eastern portions of the Reserve have been covered by fill that has been subsequently covered by turf. Rock fill has also been deposited along the Wolli Creek shoreline at Turrella Reserve. These appear to be ongoing activities.

The construction of a local sewer main on the northern side of the Creek, extending from the western portion of the study area to the eastern margin was undertaken in the 1920s. The line was cut through sandstone bedrock in a number of locations resulting in the creation of low scarps. Sandstone spoil associated with this works program is evident along the line of the sewer main.

There is also photographic evidence to suggest that soil or silt was excavated on both sides of the Creek, particularly in the west. A number of small borrow-pits appear on aerial photographs of the 1940s and 1950s. It is likely that construction material such as sand or gravel was taken from these pits to use as fill at other locations.

The construction of the East Hills Railway in 1930 also affected the southern shoreline of the Creek in a number of locations. This included the construction of the railway embankment close to the Creek at Bexley and the bisecting of market gardens in the east. The line effectively isolated large tracts of land between the railway reserve and the creek itself. Where such land lacked road access it generally became wasteland.

The course of the Creek itself has also been modified in a number of locations. The southern shore of Waterworth Park was subject to uncontrolled reclamation during the early ?? and early-1950s. The site was the location of a municipal tip and refuse was progressively dumped into both Wolli Creek and the Cooks River. During the mid-1950s and early-1960s the reclamation work was formalised with the use of rubble and dredged fill associated with the modification of both waterways in association with the expansion of Sydney Airport. This process is discussed under site item WC 17 below.

The course of the Creek itself was also modified in the 1940s with the construction of the Hartill-Law Avenue Bridge. A bend in the course of the creek was replaced by a straight channel beneath the centre of the new bridge. The embankment forming the northern approach to the bridge effectively dammed the old course of the Creek.



Figure 3 Parish of St George (undated – 1830s?) The map shows the original land grants. The only crossing of Wolli Creek is in the location of site WC7, between the properties of Brierly and Hannam. (Source: NLA MAP F 361)



Figure 4 *'Ballater' Estate, at its fullest extent in the late 1830s, overlaid on a current aerial photograph. Turrella Railway Station is at the bottom of the image.*

(Base image: NearMap)



Figure 5 *View from the northern bank of Cook's River looking south. The site of Waterworth Park is in the centre of the image with the mouth of the Wolli Creek in the middle distance at the extreme right. 'Botany Heads' (c.1860) SLNSW SPF / 744*



Figure 6 *The Wolli Creek Valley 1881. The first stage of the Sydney to Kiama Rail Line is shown crossing the Cook's River in the top right-hand corner of the map. (Source: T S Parrott. Map of the Country around Sydney 1881 NLA Map RM 903)*



Figure 7 *'Unwin's Hill' Estate 1905 viewed from the same location as the preceding illustration. A number of built structures can be seen in the right middle distance, in the Wolli Creek Valley. (Source: NLA)*

2.3 Survival of landscape elements

The pre-European vegetation cover within the valley is likely to have varied according to soils and topography. It is likely that the area was covered by open forest and scrub on the flats and dense forest and thick scrub on the scarps and slopes. By the late nineteenth century most of the native vegetation had been cleared on the southern side of the valley where grazing and intensive agriculture were undertaken. On the northern side of the creek the vegetation was described in 1881 as thinly timbered and scrubby (see Figure 6). Regrowth of the remnant vegetation occurred along the lower reaches of the valley in areas that were not actively farmed.

Evidence for the location of former market gardens survives in a number of locations, particularly in Turrella Reserve and the flats located to the southeast of Jackson Place. Turrella Reserve has been

progressively landscaped since 1992 and the physical evidence of the market gardens has been obscured to a considerable extent. The former market gardens east of Turrella Reserve have been partly covered by fill. The bund that surrounded the gardens has also been breached and much of the area has reverted to tidal flat. Mangrove growth has developed within the southern section of the gardens.

3 SURVEY RESULTS

3.1 Sites Identified in 1992

The sites identified in 1992 are listed below

| | |
|-------------|---|
| WC1 | 'Bowen's Camp' (the "western complex") |
| WC2 | 'King's Farm' |
| WC3 | 'King's Farm' – subsidiary site |
| WC4 | 'Burrell's Farm' |
| WC5 | 'Russell's Pool' |
| WC6 | Turrella Reserve market garden remains. |
| WC7 | Weir |
| WC8 | 'Jackson's Quarry' |
| WC9 | Jackson Place cottages |
| WC10 | Dry stone wall |
| WC11 | Eastern bund of WC12 |
| WC12 | Former market garden |
| WC13 | Rock shelter |
| WC14 | Tunnel associated with the construction of WC15 |
| WC15 | Wolli Creek Sewage Aqueduct |
| WC16 | Cottage, No. 12 Unwin Street, Undercliffe |
| WC17 | Weir |

The following eight supplementary areas were identified in 1992 but no physical evidence was recorded, or the sites could not be accessed.

| | |
|-----------|---|
| A1 | Agricultural area |
| A2 | Market gardens |
| A3 | Market gardens |
| A4 | Small farm with associated outbuildings |
| A5 | 'Valencia' |
| A6 | Small farm |
| A7 | Site of dam across Bardwell Creek |
| A8 | Site of dam across Wolli Creek |

These localities are shown in Figure 8.



Figure 8 Site locations 2015.

Location co-ordinates are according to GDA94-MGA56

WC1 'BOWEN'S CAMP'

Location: 325840.409 6243317.367

Real Property Description: Lot 21 DP1070237

Description:

The "western complex" ('Bowen's Camp') is located on the northern bank of the creek approximately 200 metres east of Bexley North Railway Station. It occupies a hill slope between Johnstone Street and the creek and consists of a series of terraces revetted (faced) with stone. There are also building foundations, steps, a large enclosure, former garden beds and a ramp. The complex is likely to have been constructed and occupied in the late 1920s and early 1930s as shelter during the 'Great Depression'. Some structures may have been occupied into the 1940s. The complex is similar to temporary housing constructed unofficially during this period in locations that were on the margins of Sydney. The site was identified by local historian Arthur Ellis as 'Bowen's Camp'. Much of the site is covered by scrub and the full extent of the complex has yet to be determined. The sequence of aerial photographs below shows the transformation of the site from scrub land in 1930 to a heavily forested section of the valley. Immediately adjacent to the creek, below the main site is an area that has remained clear of heavy timber. The aerial photograph sequence suggests that this may have been cleared for use as a garden during the 1930s. This area would however, have been subject to flooding.

There is also evidence of drilled rock faces in this part of the valley. A number of stretches of cut sandstone scarp were identified during the re-survey. These appear to be related to the insertion of a sewer main and its feeder lines undertaken in the 1920s.



Figure 9 1930 aerial photograph showing 'Bowen's Camp' (arrowed). Source: Canterbury Council.



Figure 10 1947 aerial photograph showing 'Bowen's Camp' (arrowed). Source: Canterbury Council.

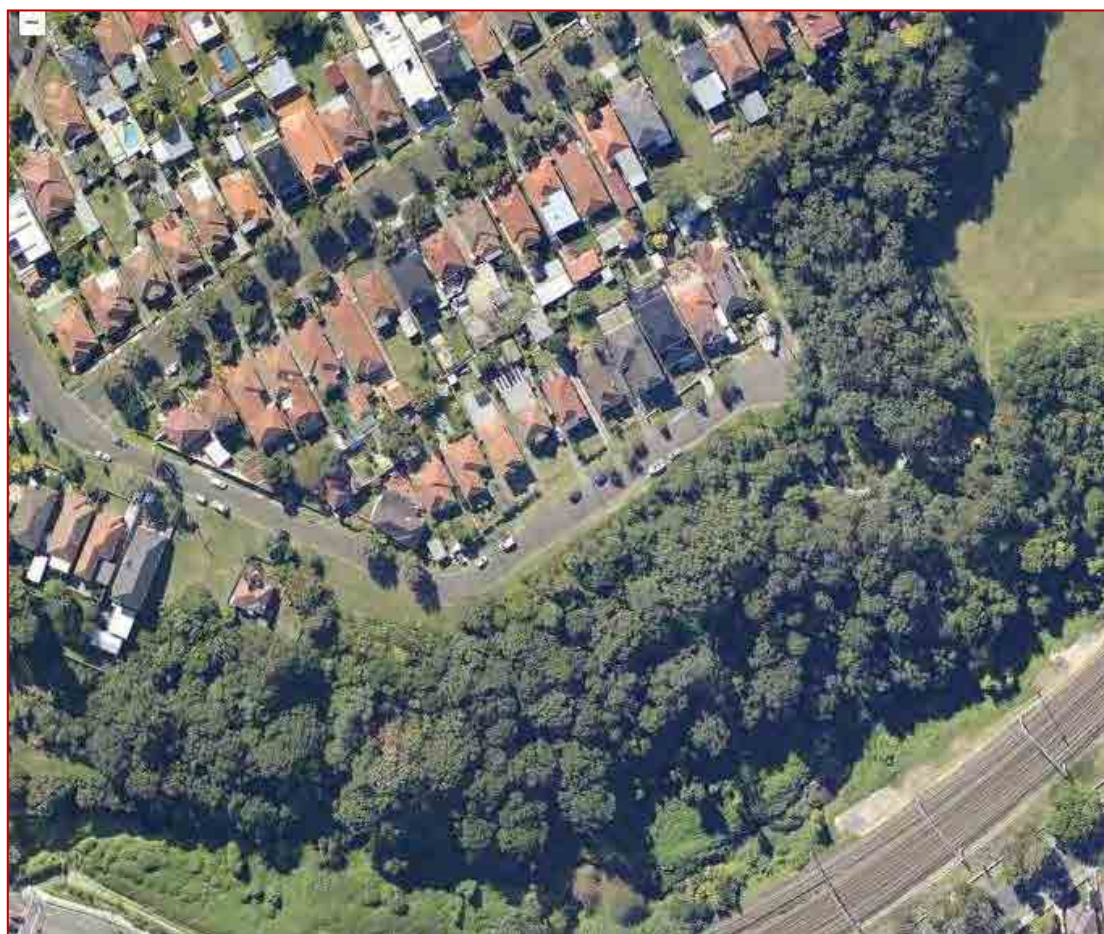


Figure 11 2014 aerial photograph showing the heavily timbered location of 'Bowen's Camp' in the right foreground. Source: NearMap.



Figure 12 1992 'Bowen's Camp', drystone wall



Figure 13 1992 'Bowen's Camp', stone enclosure



Figure 14 2015 'Bowen's Camp', stone garden borders.



Figure 15 2015 'Bowen's Camp', stone path borders (?).

WC2 THE KING FAMILY'S FARM

Location: 326081.407 6243719.772

Real Property Description: Lot 2 DP2597056

Description: This site was located north of Wolli Creek and extended to Bray Avenue. WC 2 was a building foundation with associated rubble scattered over a wide area that occupied the site of a property known as 'King's Farm'. This was in operation prior to World War I and had ceased to exist by the 1950s. Poultry-raising, pig-raising and a boiling down works are likely to have been the principal occupations carried out at the farm. The property was also used for vegetable growing. The main residence was located adjacent to Wolli Avenue and a range of outbuildings extended down the slope towards the Creek. Much of the site identified in 1992 is now occupied by housing in part and by S. J. Harrison Reserve. There has also been considerable regrowth of scrub since 1992 in the remaining portion of the site. As the scrub is being progressively removed more evidence of the extent of the site has been revealed. This includes the recent exposure of areas of brick paving and stone flagging.

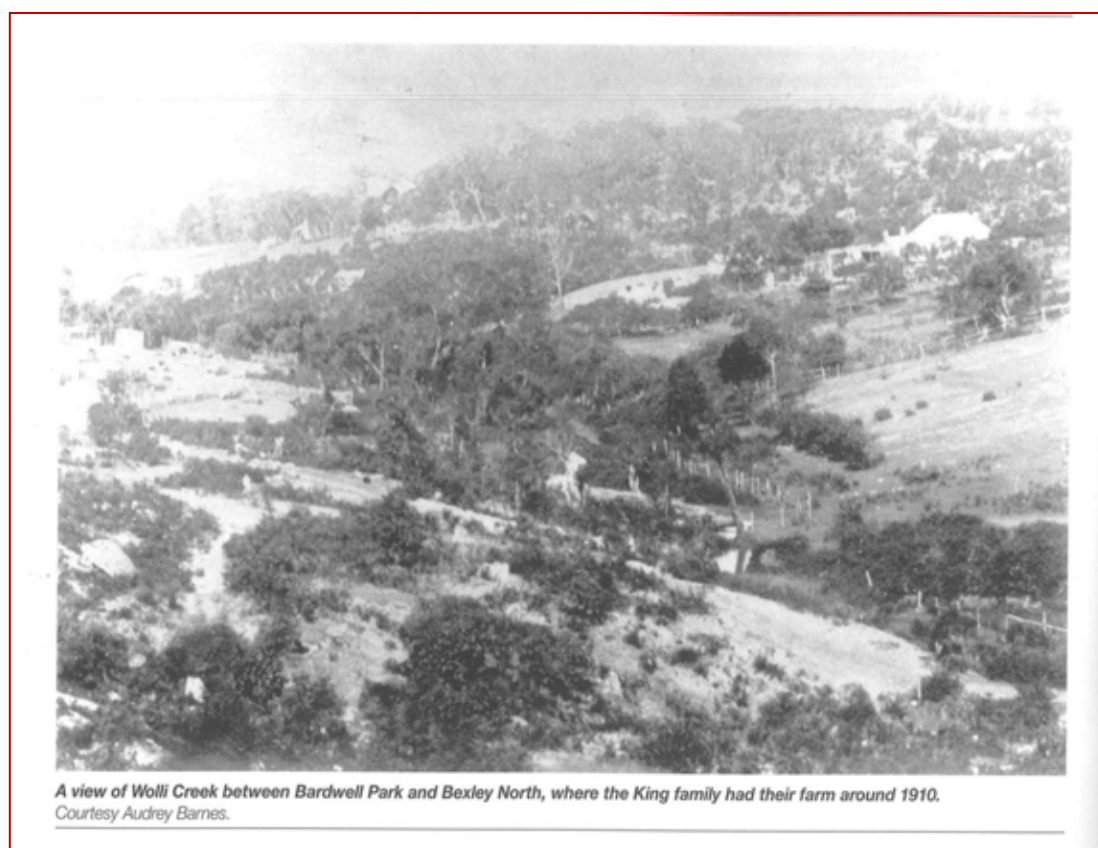


Figure 16 *The King Family's Farm c.1910 (Source: Madden 1989)*



Figure 17 *The King Family's pig farm, Wolli Creek 1896, adjacent to the current S J Harrison Reserve, Earlwood. (Source: Madden 1989)*



Figure 18 *1953, the King Family's farm (arrowed). Aerial photograph: Canterbury Council.*



Figure 19 1992 footing remains, the King Family's Farm



Figure 20 2014 WC2 Brick rubble and flagging (WCPS)

WC3 ITEMS ASSOCIATED WITH THE KING FAMILY'S FARM

Location: 326049.377 6243779.968

Real Property Description: Lots 1-2 and 8 DP259706 and Lot 2 DP1142452

Description: In 1992 two tanks and troughs associated with the King Farm were recognised. These elements were located on the slope above the creek. They were not located during the 2015 survey.



Figure 21 2015 WC3 looking south

WC4 'BURRELL'S FARM'

Location: 326529.791 6243924.088

Real Property Description: Lot 1 DP511048

Description: 'Burrell's Farm'. This is described as the Bray Avenue complex and contains three major elements that are not necessarily related in terms of function or age. The first may be the remains of a small cottage, the second that of a tennis court and the third that of a dam. The complex appears to have developed after 1900. Between 1930 and 1943 additional buildings were constructed on the site. The construction of Hartill-Law Avenue bridge in the early 1940s effectively dammed the section of Wolli Creek immediately adjacent to the farm. The elements recognised in 1992 were not present in 2015 except for a swampy area in the location of the dam. The road reserve and grounds immediately adjacent to Bray Avenue have been cleared and turfed. Elsewhere the site is heavily overgrown. Brick and cement rubble is scattered across the site.



Figure 22 WC4, 'Burrell's Farm' 1918 (WCPS)



Figure 23 WC4, 'Burrell's Farm' 1918 (WCPS)



Figure 24 WC4, 'Burrell's Farm' 1918 (WCPS)



Figure 25 1943 aerial photograph showing 'Burrell's Farm', with small cottage?, tennis court and dam (centre), and construction of the Hartill-Law Avenue bridge
(Source: NSW Land and Property Information)



Figure 26 1950 aerial photograph showing the new course of Wolli Creek and the newly constructed Hartill-Law Avenue bridge (left). The tennis court at 'Burrell's Farm' is visible in the middle distance, at the extreme left.
(Source: Canterbury Council)



Figure 27 2015 WC4 with dam in distance

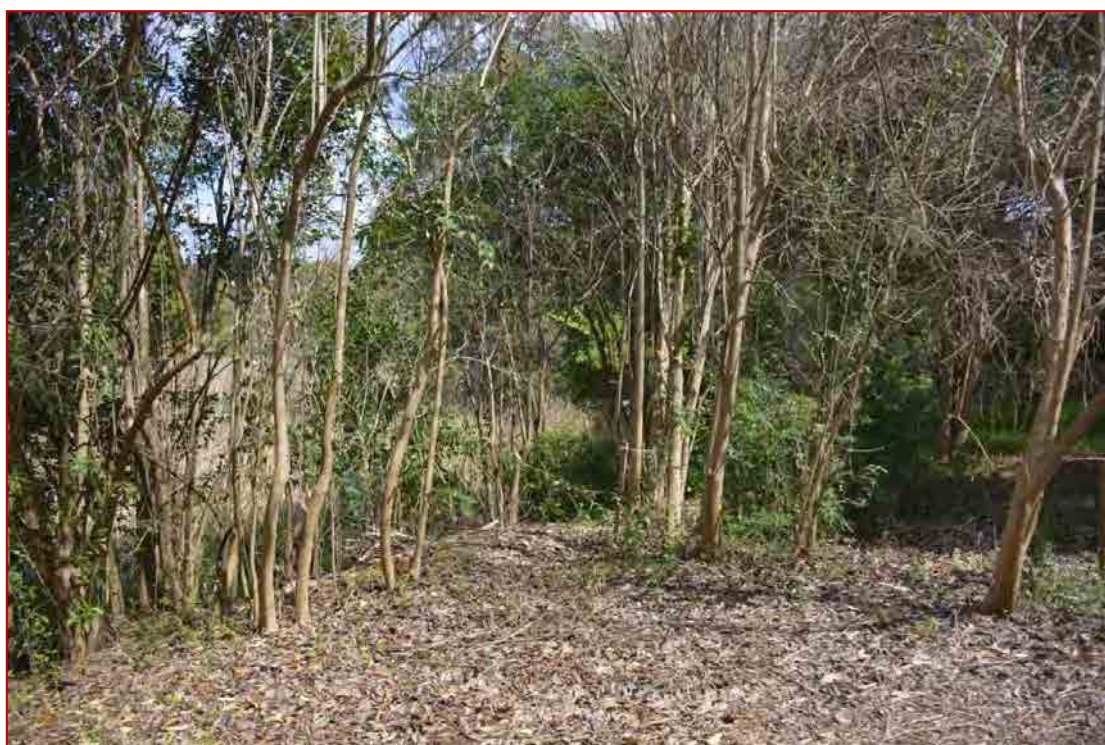


Figure 28 2015 WC4 cleared area partly covered by fill, looking southwest.

WC5 'RUSSELL'S POOL'

Location: 327386.457 6243968.136

Real Property Description: Lot3 DP1129705

Description: This site, known as 'Russell's Pool' is located near March Place, Earlwood. It is a cement-lined pool set beneath a sandstone overhang. The pool is fed by drip water. The pool was reputedly constructed in the 1920s by a local resident as a swimming pool. The pool is not well-adapted for swimming or bathing. Stonework that was not visible in 1992, located to the south of the pool formed a cascade when the pool overflowed. These details suggest that the pool was a landscape element. Materials used in its construction suggest a twentieth century date. The pool is cracked and does not achieve full capacity. Much of the surrounding stonework is obscured by soil.

It is currently unclear if the cascade discharged into another water feature at the base of the scarp located on the southern side of the pool.

Despite research and a public appeal for assistance, the identity of 'Russell' remains unknown.



Figure 29 2015 WC5, 'Russell's Pool', looking northeast.



Figure 30 2015 WC5, looking north. Stone cascade in foreground and the pool in the distance.



Figure 31 2015, WC5, cascade looking southwest.

WC6 EVIDENCE OF MARKET GARDENS AND, 'DIPPING WELL', TURRELLA RESERVE

Location: 327853.698 6244163.078

Real Property Description: Lot 1 DP430994

Description: This is a collection of features in Turrella Reserve. In 1992 these consisted of a well, Coral Tree planting and relict field divisions. They occupied the southern portion of the reserve adjacent to the path and footbridge leading to Turrella Railway Station. There are no structural remains visible on the surface although sub-surface evidence may exist in the area. This was the site of a Chinese market garden dating from at least the 1920s. The well (identified as the 'dipping well') was formed between 1930 and 1943. The Coral Tree (*Erythrina x sykesii*), was removed between 2007 and 2009. The well survives but rock spoil was dumped around it in 2009.

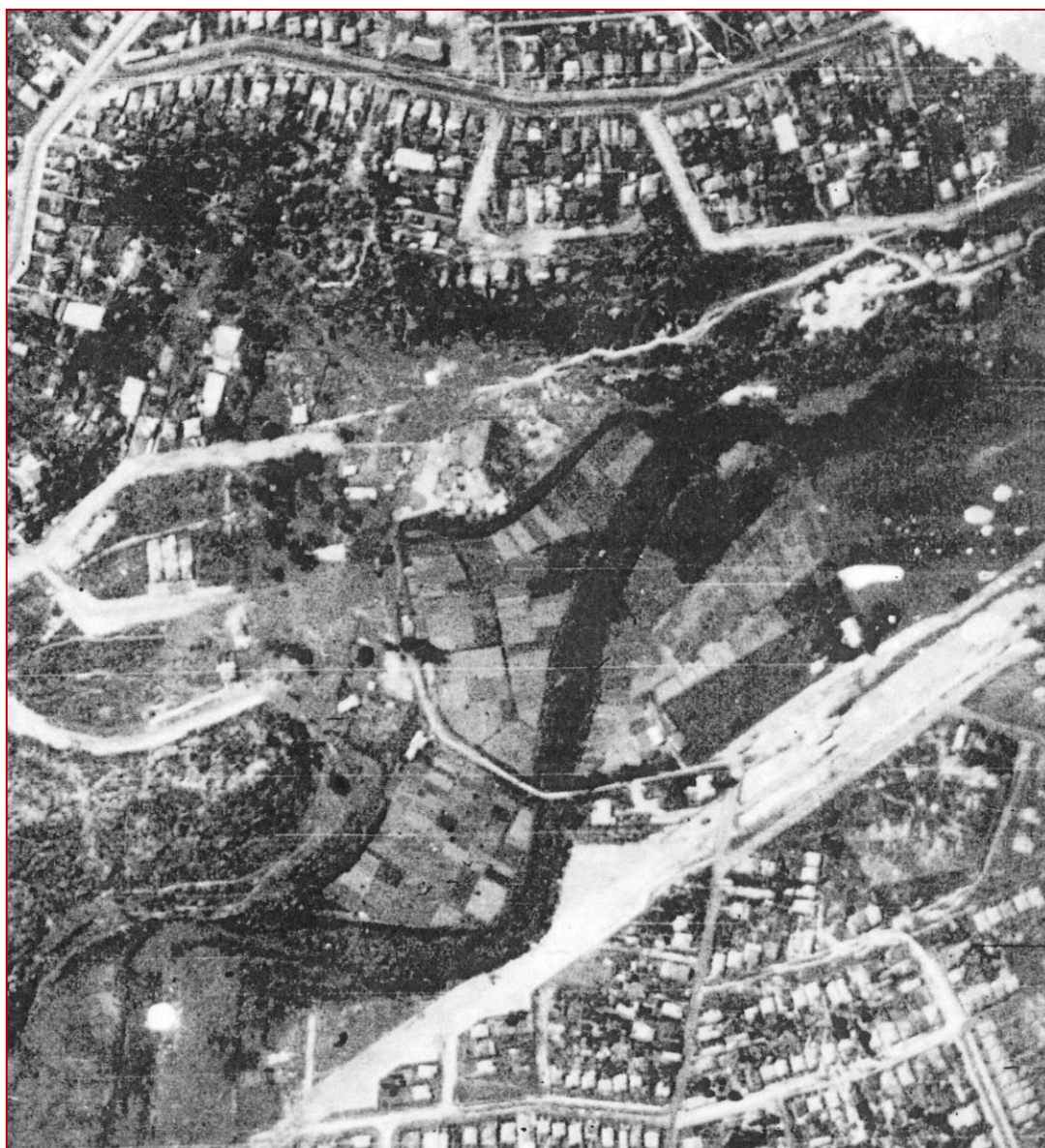


Figure 32 Aerial photograph 1930 showing the full extent of the market gardens (WC6).
(Source: Canterbury Council)

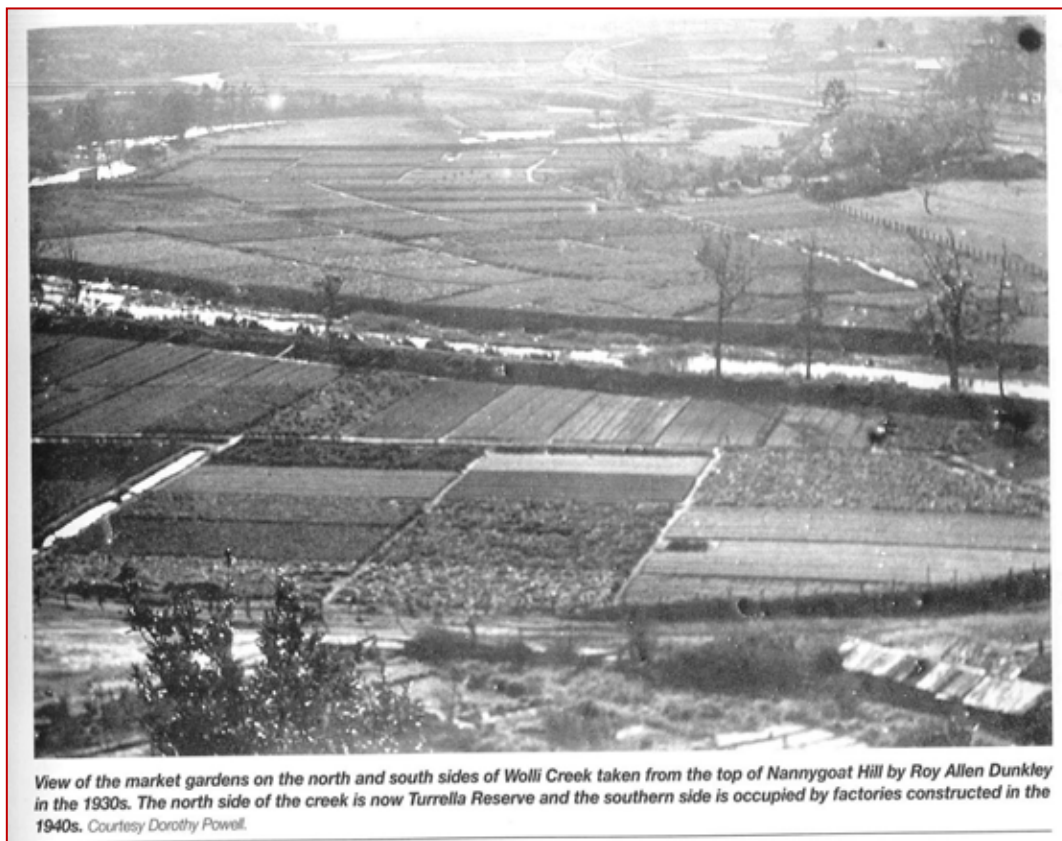


Figure 33 View across WC6 in the 1930s showing field and channel system. (Source: Madden 2006)



Figure 34 Sketch of the Chinese market gardeners' houses formerly located in Turrella Reserve, looking southeast towards Arncliffe. Gifford Eardley (undated)



Figure 35 1992 view over Turrella Reserve (WC6) from 'Nannygoat Hill'. The former field boundary lines are clearly visible as dark lines in the grass.



Figure 36 2015 view to the southeast, over Turrella Reserve (WC6) from 'Nannygoat Hill'.



Figure 37 2015 Western section of Turrella Reserve showing fill mounds in the foreground and distance, created after 1992.



Figure 38 2014 aerial photograph showing WC6 (north, at left).

WC7 WOLLI CREEK WEIR

Location: 327916.727 6244093.295

Real Property Description:

Description: This is a weir over Wolli Creek located at the end of Henderson Street. The weir has been substantially modified and it is difficult to separate early *in situ* fabric from re-used material. It is likely that this location was the site of a ford across Wolli Creek that was reformed at a later date as a weir.

In 1928, Chinese market gardeners and other locals built a bridge over the creek so that the Chinese market gardeners could take their produce to market. In other parts of Australia, the Chinese used barrows (as reported in the *Singleton Argus*), and it is very likely they did the same here.

The crossing may have been in use from the 1830s, providing access from Canterbury to the Illawarra Road. Fish ladders have been constructed over the weir in the period after 1992.

A footbridge was constructed in 2014 on the eastern side of the weir, to replace a footbridge damaged by floods. The creek floods regularly and there have been numerous washaways of these footbridges across the creek.



Figure 39 1943 aerial photograph showing the weir (WC7. Turrella Station is at lower right.
Wolli Creek is a series of ponds.
(Source: NSW Land and Property Information)



Figure 40 WC7 weir looking south

WC8 'JACKSON'S QUARRY'

Location: 328210.012 6244417.983

Real Property Description: Lot2 DP124866

Description: WC8 is located southwest of Jackson Place and was a quarry operated by William Jackson. Historian, George Morgan, in his research for *The Story of Stone in the Wolli Creek Valley*, states that, '...the name William Jackson, Unwin's Bridge Road, occupation, quarryman, first appears on the electoral roll of 1894...the *Sands Directory* lists the Jackson quarry, in Unwin's Bridge Road (now Bayview Avenue), as operating from 1905-1908, although the actual operational period probably extended beyond this date...'



Figure 41 2015 WC8 quarry face looking north

WC9 SANDSTONE COTTAGES, JACKSON PLACE

Location: 328330.493 644421.646

Real Property Description: Lots1-6 DP11103

Description: WC9 consists of a row of six sandstone cottages in Jackson Place. The valley was the site of a number of sandstone quarries, the most notable being those of William Jackson whose six cottages built between 1907 and 1912 stand within the former quarry complex. The northern boundary of the lots is formed by the former quarry face. A series of paths extended from Jackson Place to the creek crossing in the southwest (WC7) and east to Unwin's Hill and the Cook's River bridge (Bayview Avenue).



Figure 42 *One of the Jackson Place cottages, looking northwest*



Figure 43 *Jackson Place cottages looking east*

WC10 DRYSTONE WALL

Location: 328726.599 6244432.528

Real Property Description: Lot 2 DP881739

Description: This is a dry stone wall running north-south from the eastern limit of Highcliffe Road towards the creek. The date of construction is unknown. Clearance of part of the site since 1992 has revealed rock cut steps and an emu carved into rock. This may have been part of a larger complex. A second dry stone wall located in thick scrub to the east was observed during the survey of 2015. It has not been established if this wall is associated with the features encountered in the immediate vicinity of WC10.



Figure 44 2015 WC10 looking northeast



Figure 45 2015 WC10 looking west



Figure 46 Wall located to the east of WC10, looking west.

WC11 BUND FOR MARKET GARDEN

Location: 328503.57 6244366.282

Real Property Description: Lot 1 DP173586

Description: This feature consists of an earthen mound with a sandstone rubble core extending into the intertidal zone of the creek for a distance of approximately 40m with a return to the west along the face of the creek. In 1992 this was identified as a jetty. But an examination of aerial photographs from the 1930s to the 1950s indicates that this was the eastern and southern bund of a market garden complex (WC12). The southern margin may have been extended across the creek to allow communication with the southern shore. At some point the bund was breached and a small timber bridge was constructed across the breach. Since 1992 the bund has deteriorated to a considerable extent.



Figure 47 WC11, eastern bund looking south, 1992



Figure 48 WC11, eastern bund looking south, 2015



Figure 49 WC11, eastern bund looking north, 2015



Figure 50 *WC11, eroded southern bund, 2015*

WC12 EVIDENCE OF FORMER MARKET GARDEN

Location: 326444.346 6244349.41

Real Property Description: Lot 1 DP552248

Description: This site is of a market garden now occupied by a saltmarsh in a bend of the creek below Jackson Place. It comprises a partly eroded ditch and dyke boundary with post and rail fencing. The garden may have survived into the 1950s.

The northern section of the site has been compromised by the dumping of several metres of fill that extends from the scarp near Jackson Place. The precise date at which the garden was formed is unknown. It pre-dates 1930 and may be as early as 1920.



Figure 51 2014 aerial view of WC12 (Source: NearMap)



Figure 52 2015. WC12 looking southeast



Figure 53 2015. WC12 looking west from the eastern bund (WC11)

WC13 SANDSTONE OVERHANG. POSSIBLE SHELTER

Location: 328718.119 6244407.688

Real Property Description: Lot 2 DP813629

Description: This site is of a small overhang in the sandstone ledges bordering the northern bank of the creek at the eastern limit of the mangroves. A small retaining wall was added to the western side to form a shelter. A line of stones along the southern margin may indicate that the southern side of the overhang was also enclosed. It was considered that the structure may have been used as a shelter during the 1930s Depression. The structure is much the same as it was in 1992, however there is a considerable amount of fallen timber around the site and timber has been stacked inside the shelter.



Figure 54 1992. WC13 looking north



Figure 55 2015. WC13 looking northwest

WC14 ADIT (HORIZONTAL ENTRANCE) ASSOCIATED WITH THE SEWAGE AQUEDUCT

Location: 328276.01 6244422.928

Real Property Description: Lot 1 DP557246

Description: This is a tunnel or adit cut into the sandstone on the western side of the sewage pumping station near Unwin Street. It is an open channel 7.5 metres in length and two metres wide that enters the bedrock for a further 11.5 metres. The tunnel varies in height from 1.5 to 2.0 metres.

The tunnel maintains the line of the northern section of WC15 that emerges on the northern side of the Undercliffe ridge before crossing Cook's River. Construction was undertaken using drilling and blasting. The northern limit of the tunnel is blocked by rubble bonded with cement.

During the 1992 survey the tunnel was in good condition. At the time of the present survey the area was fenced-off for works associated with WC15 (see below).



Figure 56 1992 adit entrance looking north

WC15 WOLLI CREEK SEWAGE AQUEDUCT

Location: 328809.741 6244364.634

Real Property Description: DP986661

Description: This site is the Wolli Creek Sewage Aqueduct completed in 1895. This formed part of an integrated system of sewer lines that served Sydney and suburbs. It was part of the original Western Main Carrier and now forms part of the Southern and Western Suburbs Ocean Outfall Sewer System. This item was one of the Water Board's major construction programs and forms a significant element in the landscape. The structure is well-maintained. A full description is to be found in Appendix 1.

As part of the construction program stone spoil was dumped across the creek to form a ford immediately adjacent to the eastern side of the aqueduct. This ford was either removed or was washed away at the completion of the project: it did not become a permanent creek crossing.



Figure 57 Construction of the aqueduct c.1896 (Source: Madden 2006)

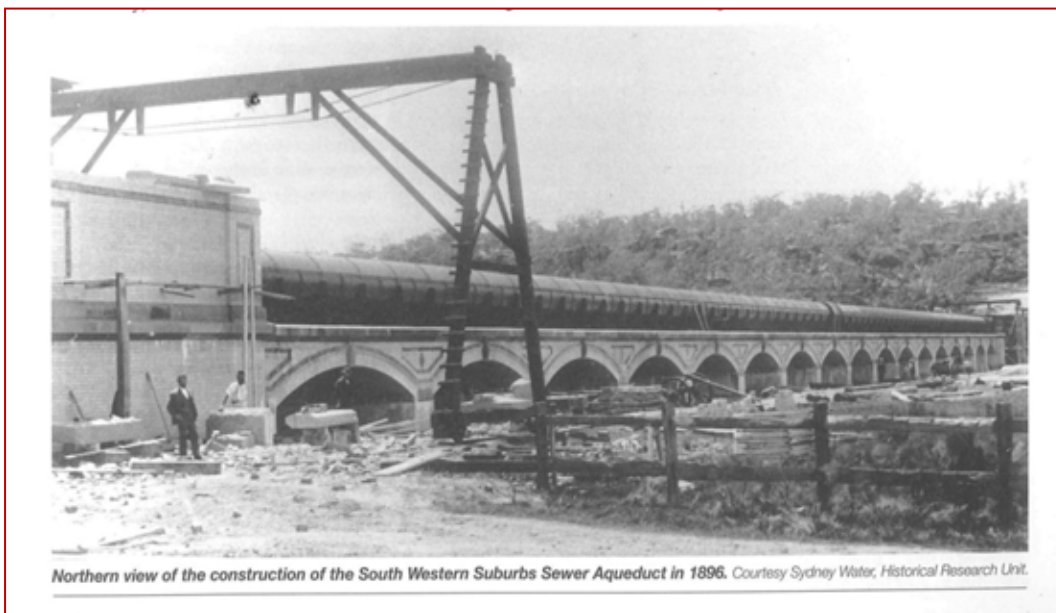


Figure 58 Construction of the aqueduct c.1896 The temporary ford is visible in the foreground (Source: Madden 2006)

WC16 BRICK COTTAGE SITE, 12 UNWIN STREET, UNDERCLIFFE

Location: 328891.466 6244427.821

Real Property Description: SP71053

Description: This item, identified in 1992, was a brick cottage located at No. 12 Unwin Street, Undercliffe. It was identified in the initial survey and given an estimated construction date between c.1870 and c.1910. It was thought that it may have been associated with the construction of the sewerage system (WC15). The cottage was removed between November 2001 and March 2003 (*Google Earth* imagery). Only the eastern sandstone rubble boundary wall survives – all other built elements have been removed. This item had not been listed in any conservation documents.



Figure 59 1992 Cottage site WC16, looking southwest



Figure 60 Site of W16 2015 looking west.

WC17 WEIR ASSOCIATED WITH FLOOD MITIGATION WORKS, 1920s

Location: 329084.558 6244298.343

Real Property Description: Lot 310 DP1164873

Description: This feature was originally identified as a weir constructed as part of flood mitigation works of the 1920s. The evidence consisted of timbers set in the mangrove margin on the southern side of the Creek. No traces were observed on the northern shore. It was generally believed that this structure was a weir and crossing point. Further research has indicated that this was a temporary crossing and lock on Wolli Creek.

In 1946, the Cook's River Improvement Act was passed. The Act was to provide the Department of Public Works with power to undertake a series of measures to control the flow of the Cook's River and Wolli Creek, and to prevent erosion of the banks. The works entailed dredging, filling and sheet-piling that had the effect of causing flooding in the lower reaches of both watercourses. In order to solve this problem the Cook's River was diverted, allowing for the expansion of Sydney Airport.

The weir identified as WC17 was part of this program. It was constructed between 1951 and 1952 and was still intact in 1953. The following aerial photographs provide an indication of the modifications undertaken as part of this program of works.



Figure 61 *Aerial photograph of works associated with Sydney Airport, 6 January 1950. Waterworth Park is shown with its oval in place. The weir WC17 is not present (Source: Madeline and Warren Ide Collection through Adastra Aerial Surveys)*



Figure 62 *Aerial photograph of works associated with Sydney Airport, 9 February 1951.
The weir WC17 is not present
(Source: Madeline and Warren Ide Collection through Aadastra Aerial Surveys)*



Figure 63 *Aerial photograph of works associated with Sydney Airport, 18 April 1952.
The weir WC17 is clearly visible to the right of the aqueduct
(Source: Madeline and Warren Ide Collection through Adastra Aerial Surveys)*



Figure 64 *Detail of 1952 image showing the weir (centre)*



Figure 65 *Aerial photograph of works associated with Sydney Airport, 23 June 1953.
The weir WC17 is still present.
(Source: Madeline and Warren Ide Collection through Adastra Aerial Surveys)*

3.2 Plans

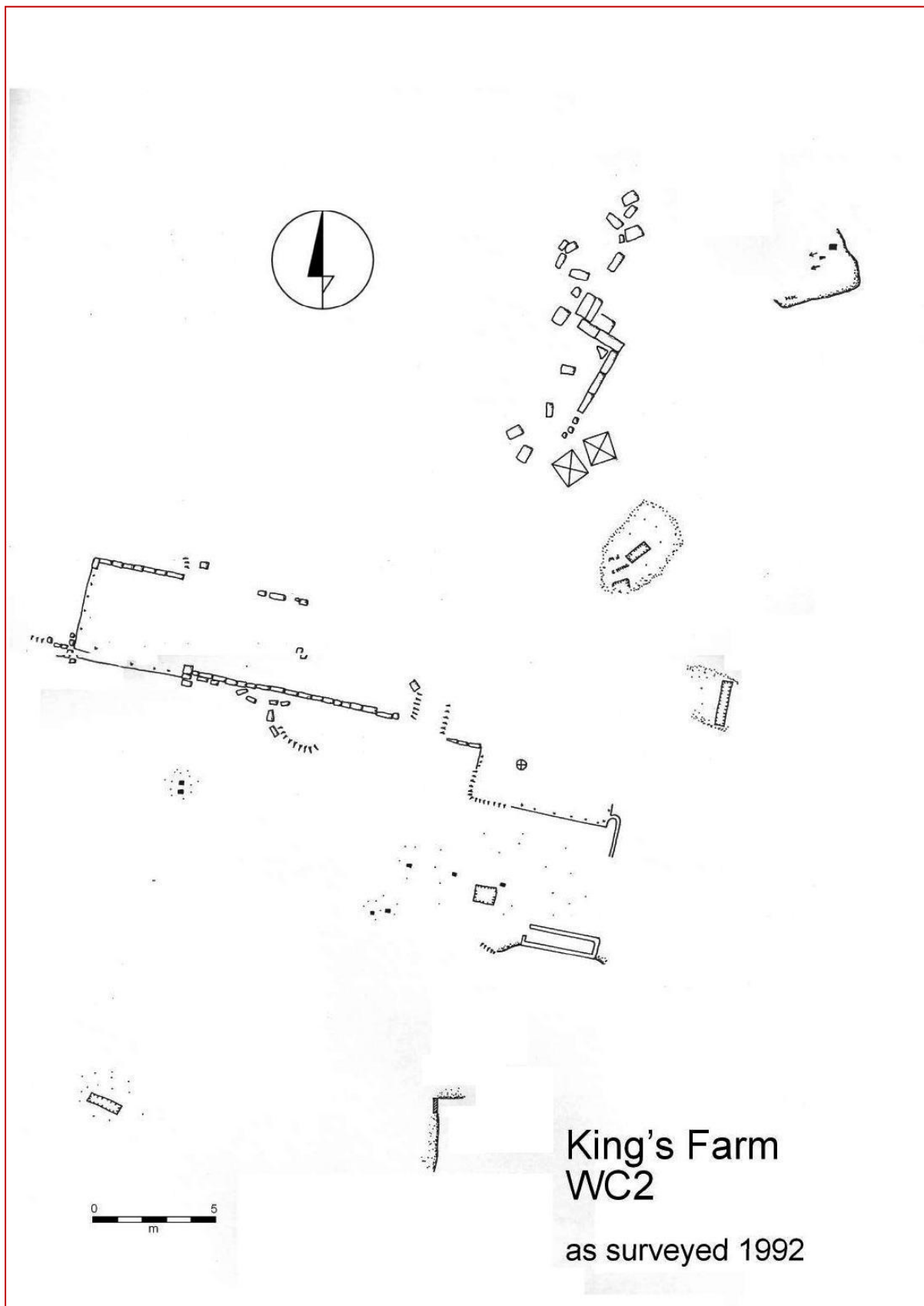


Figure 66 The King Family's Farm features, Site WC2

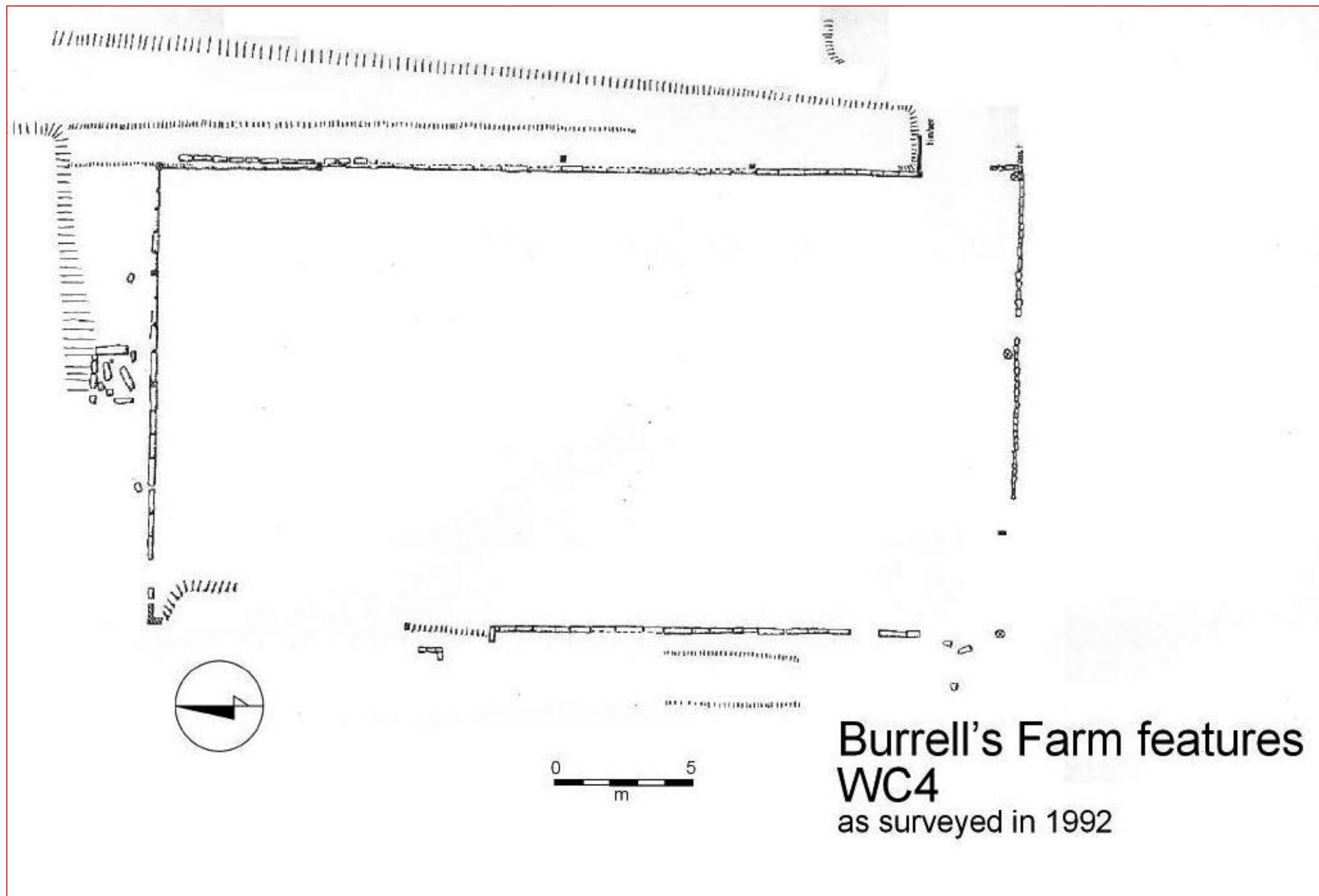


Figure 67 'Burrell's Farm' features (1992), site WC4

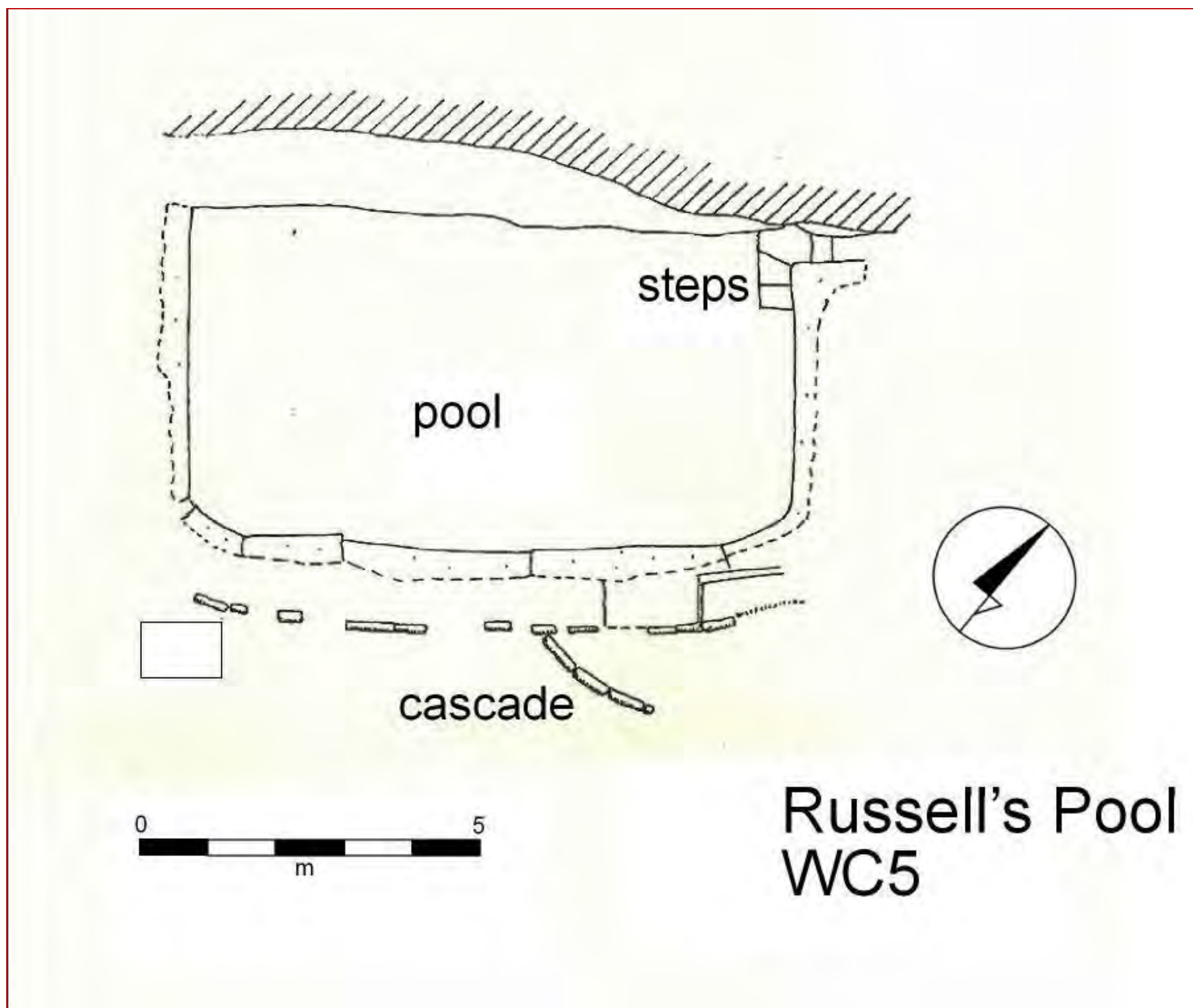


Figure 68 'Russell's Pool', Site WC5

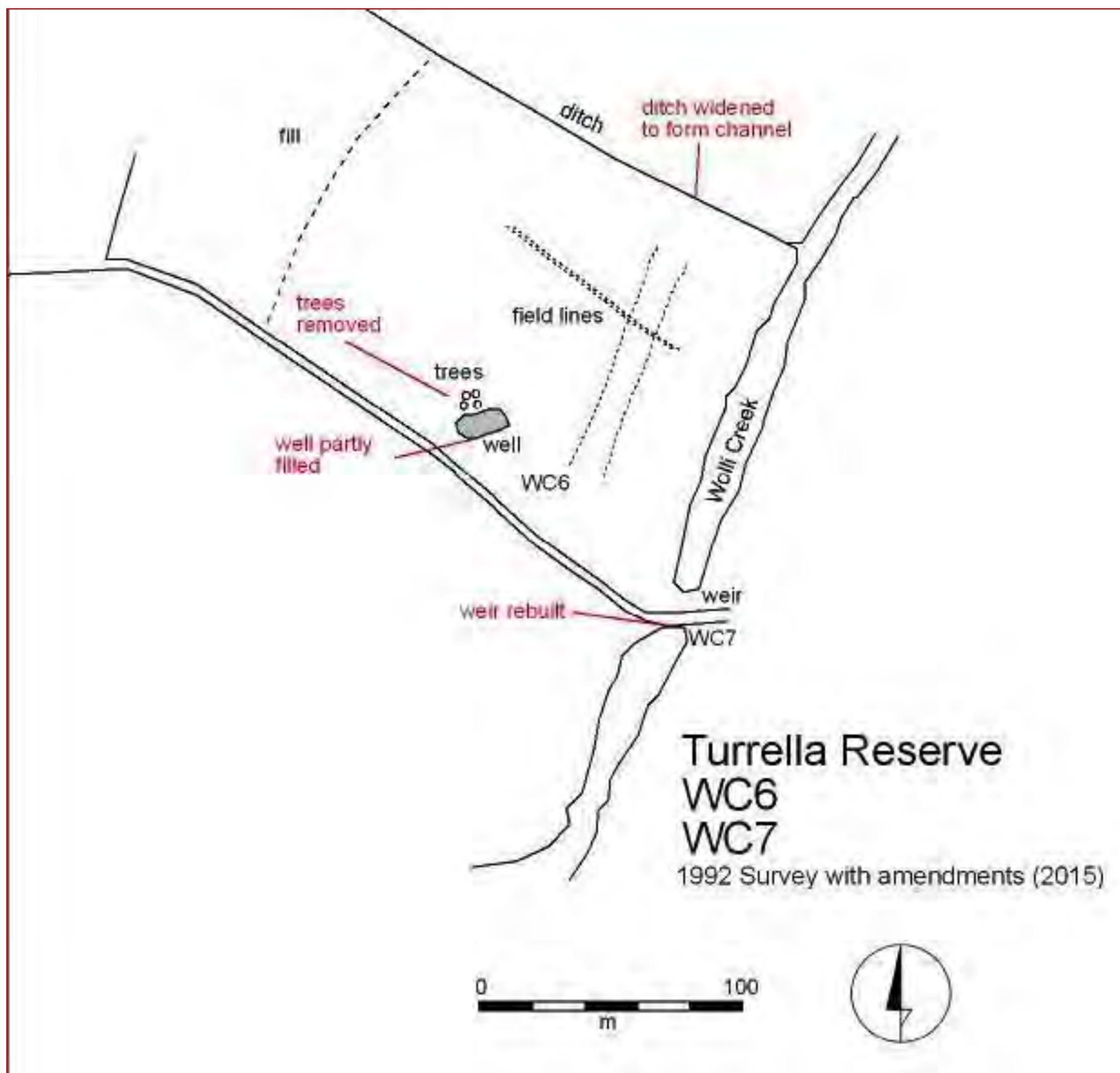


Figure 69 Turrella Reserve, Sites WC6 and WC7

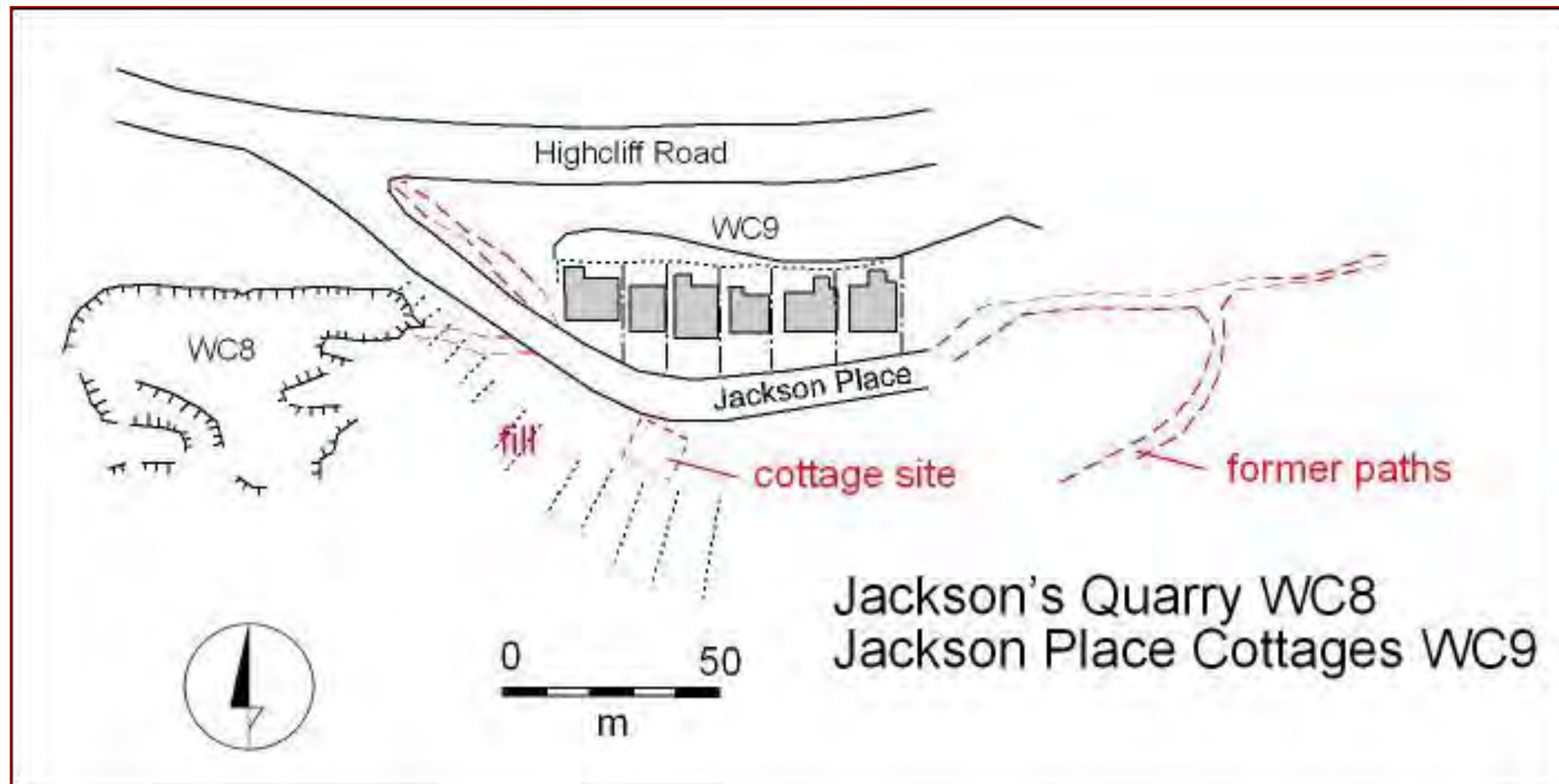


Figure 70 Jackson Place, Earlowd, Sites WC8 and WC9

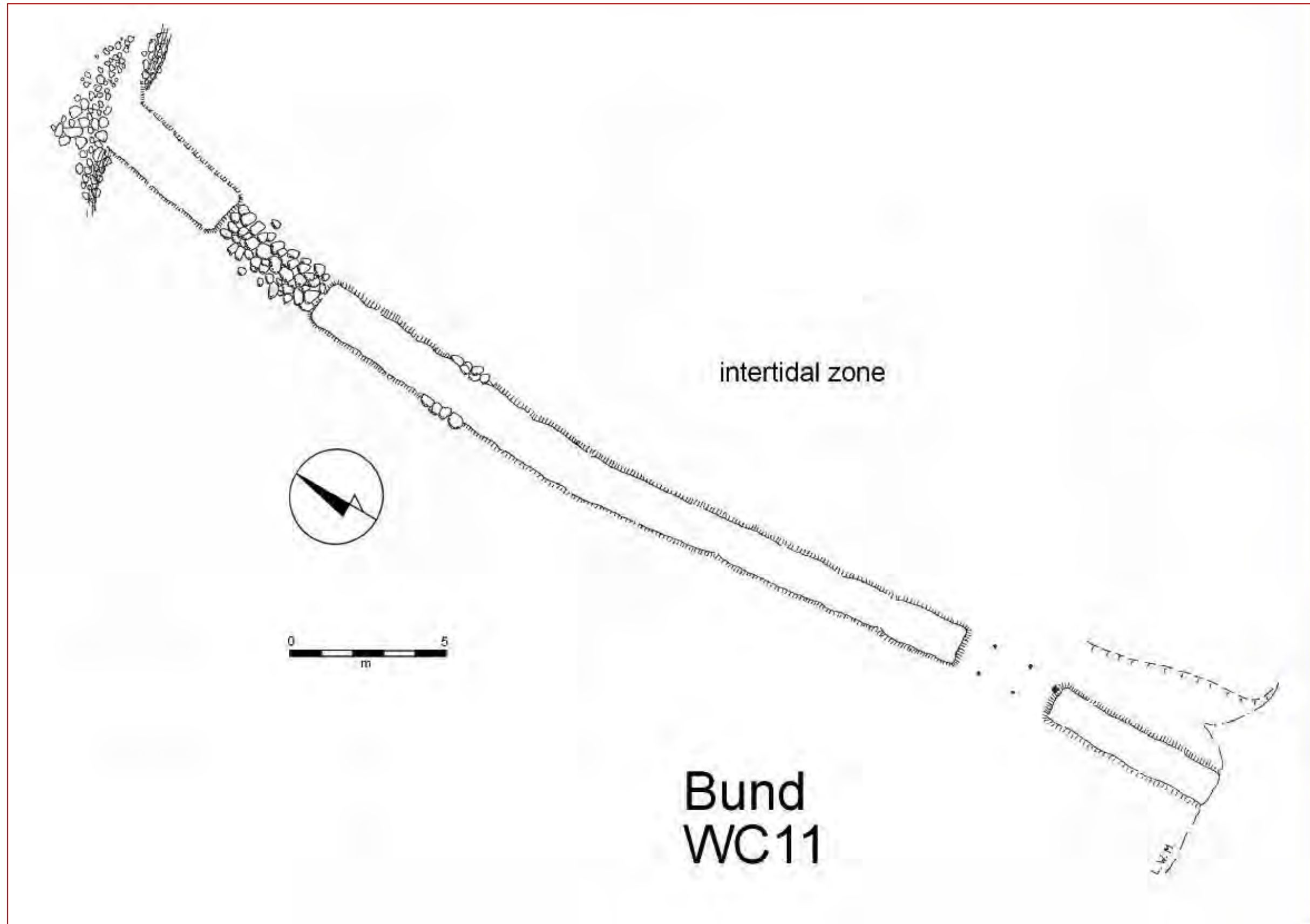


Figure 71 Garden bund, Site WC11

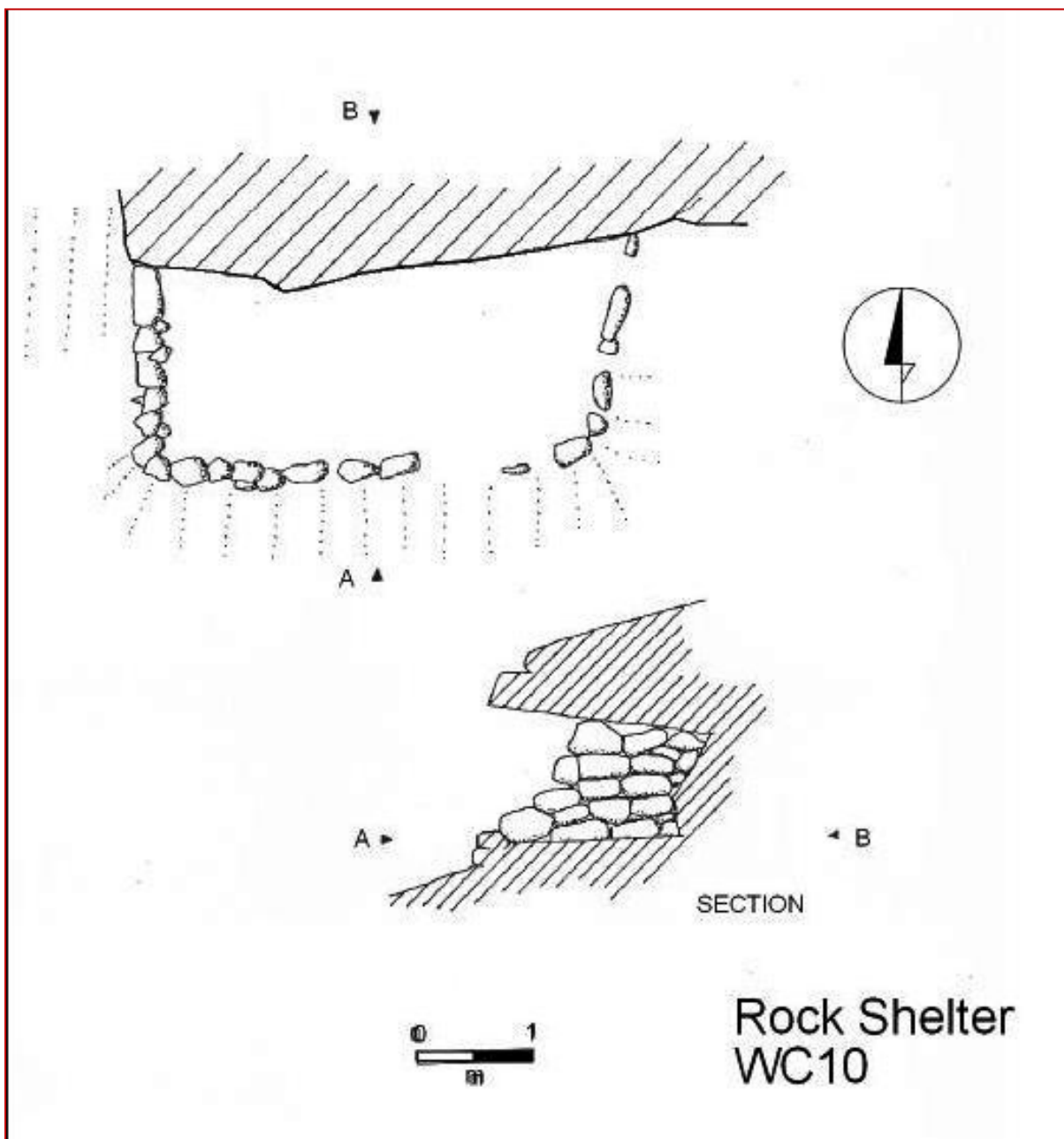


Figure 72 Rock shelter, Site WC10

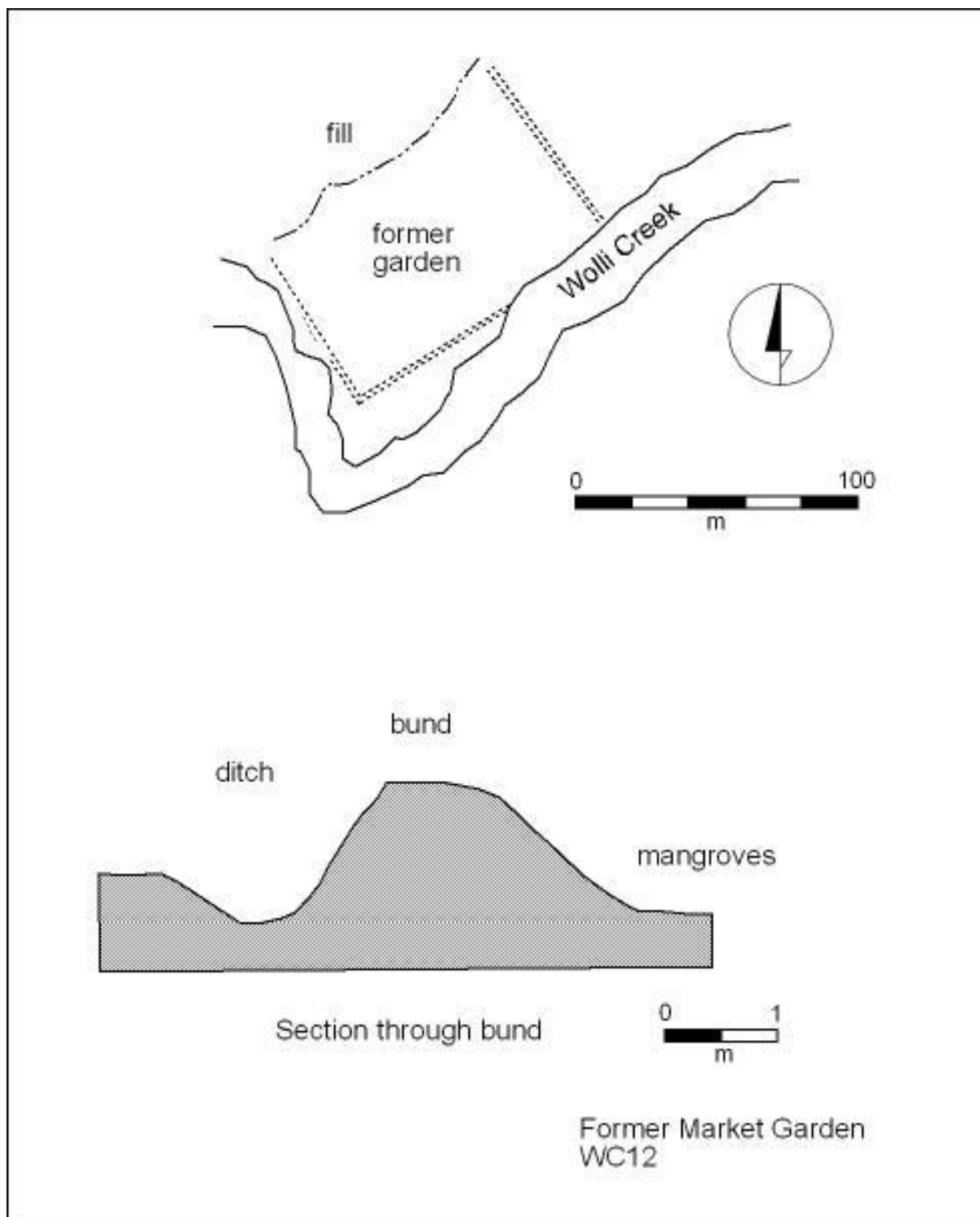


Figure 73 Former market garden, Site WC12

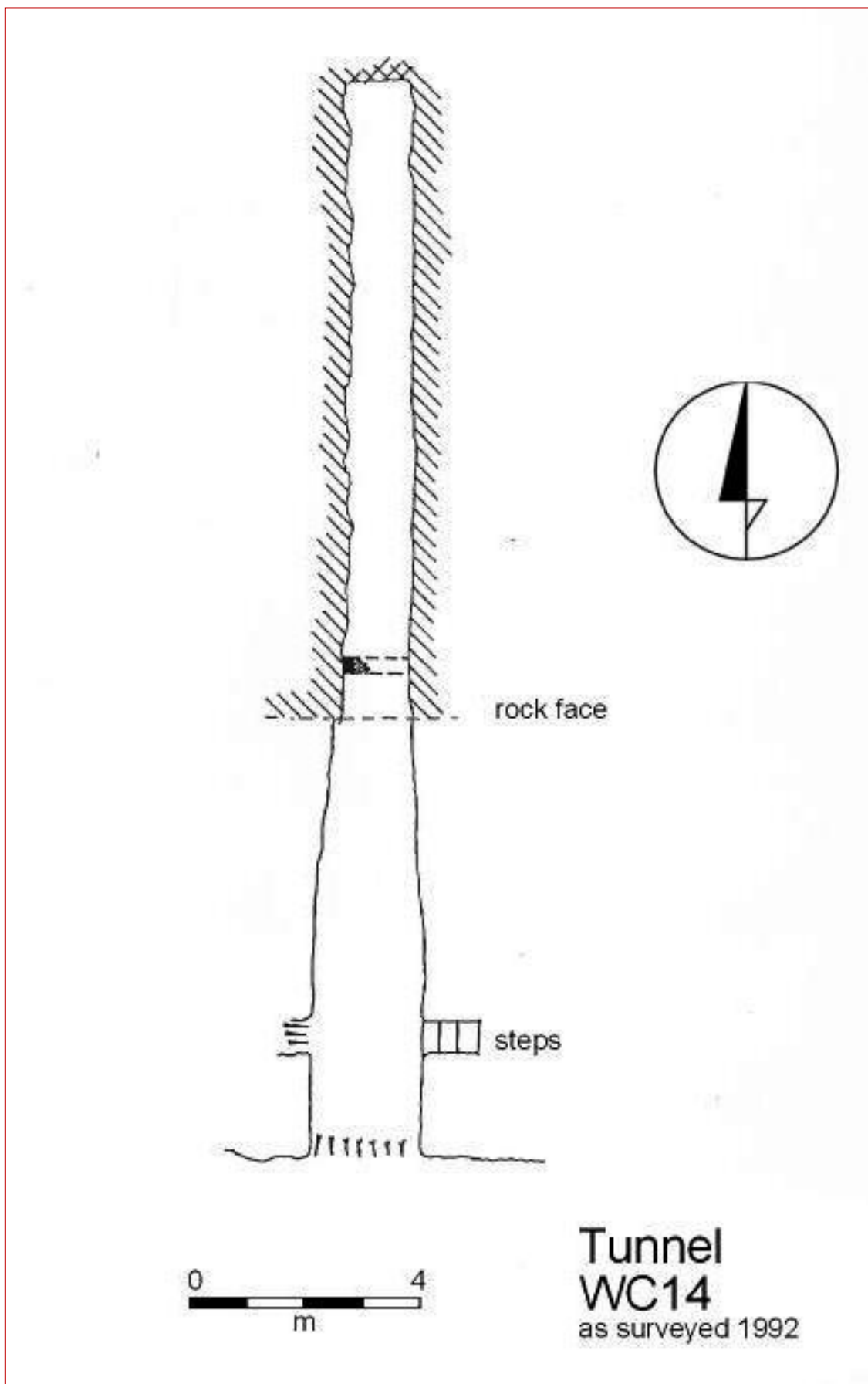


Figure 74 Aqueduct tunnel, Site WC14

3.3 Subsidiary Sites

The following localities were flagged during the 1992 survey as having the potential to contain physical evidence of past activities.

A1 FORMER BOUNDARY OF UNDERCLIFFE ESTATE

This was the site of a drainage channel forming part of the boundary of the Undercliffe Estate. This was constructed prior to 1885 and subsequently formed part of an area dedicated as Wolli Park in 1911. A cricket ground was in place by 1923, this was replaced by an improved oval in 1929 (*Sunday Times* 22 September 1929: 9).

In 1941 the park was re-dedicated as Waterworth Park.

In 1955 the park was used as a garbage tip with dumping of refuse extending to the Cook's River and Wolli Creek shorelines.

In the period after 1960 the land reverted to parkland however there was little formal development of the site as a park until the 1980s. The park became the site of the Canterbury Velodrome in 1982.

All physical traces of the drainage line and associated field divisions have been removed.

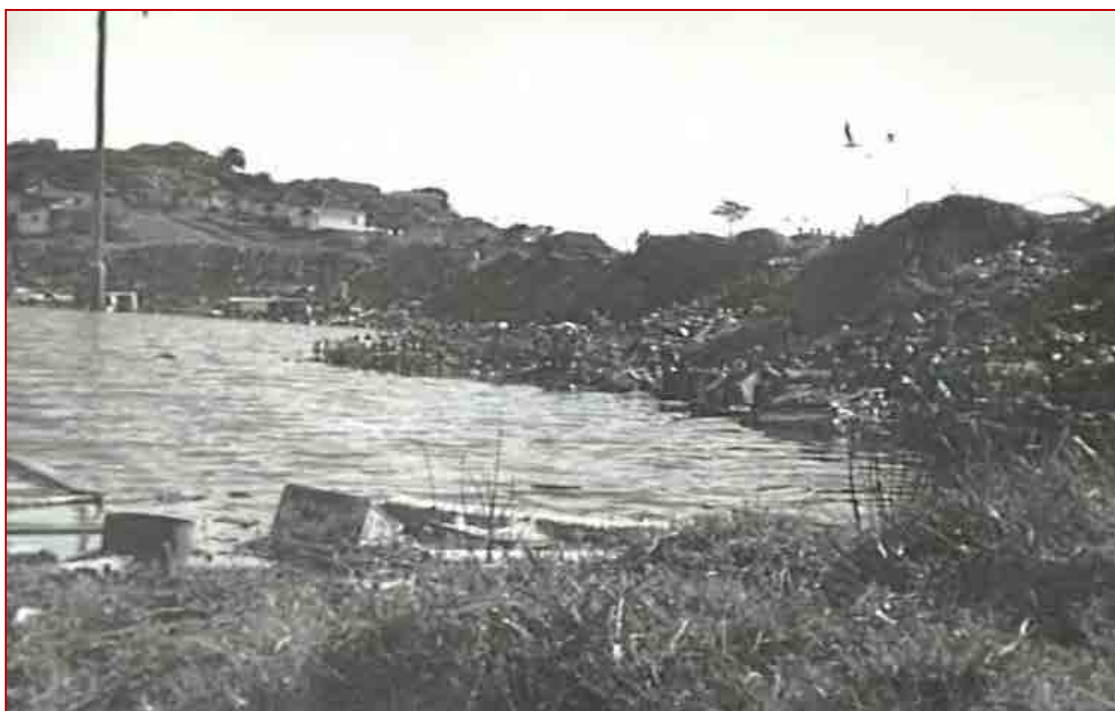


Figure 75 Waterworth Park Garbage Tip 1958, looking northwest
Courtesy: City of Canterbury Local History Photograph Collection 201/201253



Figure 76 *Waterworth Park Garbage Tip 1958, looking northwest*
Courtesy: City of Canterbury Local History Photograph Collection 201/201254



Figure 77 *Waterworth Park Garbage Tip 1958, looking northwest*
Courtesy: City of Canterbury Local History Photograph Collection 201/201256

A2 SITE OF FORMER MARKET GARDEN

Market garden dating to the early-twentieth century. The locality is now covered by landfill.

A3 SITE OF TWO FORMER MARKET GARDENS

Two market gardens, dating to the early-twentieth century. The locality is now covered by landfill.

A4 SITE OF SMALL FARM

Small farm with outbuildings. The buildings survived into the 1950s. The site is now covered by an industrial estate.

A5 SITE OF 'VALENCIA' COTTAGE

'Valencia' – cottage occupied by the Grigg's family. Removed during construction of the East Hills railway.



Figure 78 'Valencia' undated sketch (Source: Eardley)

A6 SITE OF SMALL FARM

Small farm covered by landfill.

A7 SITE OF DAM ACROSS BARDWELL CREEK

Site of a dam across Bardwell Creek. Beneath East Hills Railway. Area could not be accessed.

A8 SITE OF DAM ACROSS WOLLI CREEK

Site of a dam across Wolli Creek. No visible remains, partly covered by East Hills Railway embankment.

4 STATUTORY CONSIDERATIONS AND HERITAGE STATUS

Historic heritage and archaeology in New South Wales are protected by Commonwealth and State legislation and regulations provided by Local government. Of relevance to the study area are the following:

- *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
- *Environmental Planning and Assessment Act 1979* (NSW)
- *Heritage Act 1977* (NSW)
- *Canterbury Local Environmental Plan 2012*
- *Rockdale Local Environmental Plan 2011*.

4.1 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The *Environment Protection and Biodiversity Conservation Act 1999* provides a statutory framework for protecting and managing significant environmental and cultural heritage places, flora, fauna and environmental communities. The Act establishes the National Heritage List (NHL) and the Commonwealth Heritage List (CHL) and provides protection for places included in the two lists.

The Act also provides protection for those Australian places on the World Heritage List (WHL).

The study area does not include any places of identified historical heritage value that are listed on the WHL, CHL or the NHL.

4.2 Environmental Planning and Assessment Act 1979 (NSW)

The *Environmental Planning and Assessment Act 1979*, together with the *Heritage Act 1977* and the *National Parks and Wildlife Act 1974*, forms an integrated system for managing environmental heritage in NSW. The EPA Act 1979 allows for the preparation and implementation of Local Environmental Plans (see Section 2.4) through which local government manages planning and development of the Local Government Area.

4.3 Heritage Act 1977 (NSW)

The *Heritage Act 1977* is designed to conserve the cultural heritage of New South Wales and regulate development impacts on the State's heritage assets. The Heritage Act protects and promotes the conservation of the State's heritage. The Act defines two levels of heritage significance; State or local; specifically Section 4A (1) of the Act states that:

State heritage significance, in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

Local heritage significance, in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

In addition, significant historical archaeological features are afforded automatic statutory protection by the relics provisions of the Act.

A 'relic' is defined as:

any deposit, artefact, object or material evidence that:

a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and

b) is of State or local heritage significance.

It is an offence to disturb or excavate land, where this may affect a relic, without the approval of the Heritage Council of NSW, or where an endorsed 'Exemption' or 'Exception' applies.

The *Heritage Act 1977* also establishes the State Heritage Register (SHR) that comprises a list of places and items of State heritage significance. The Act provides statutory protection for items included on the SHR. Approval from the Heritage Council of NSW is required prior to undertaking work that results in the alteration or modification of a SHR-listed item.

One item within the study area is listed on the SHR. This is the 'Wolli Creek Aqueduct' (SHR 01355). The site was gazetted on 2 April 1999. The SHR curtilage is shown in Figure 4.

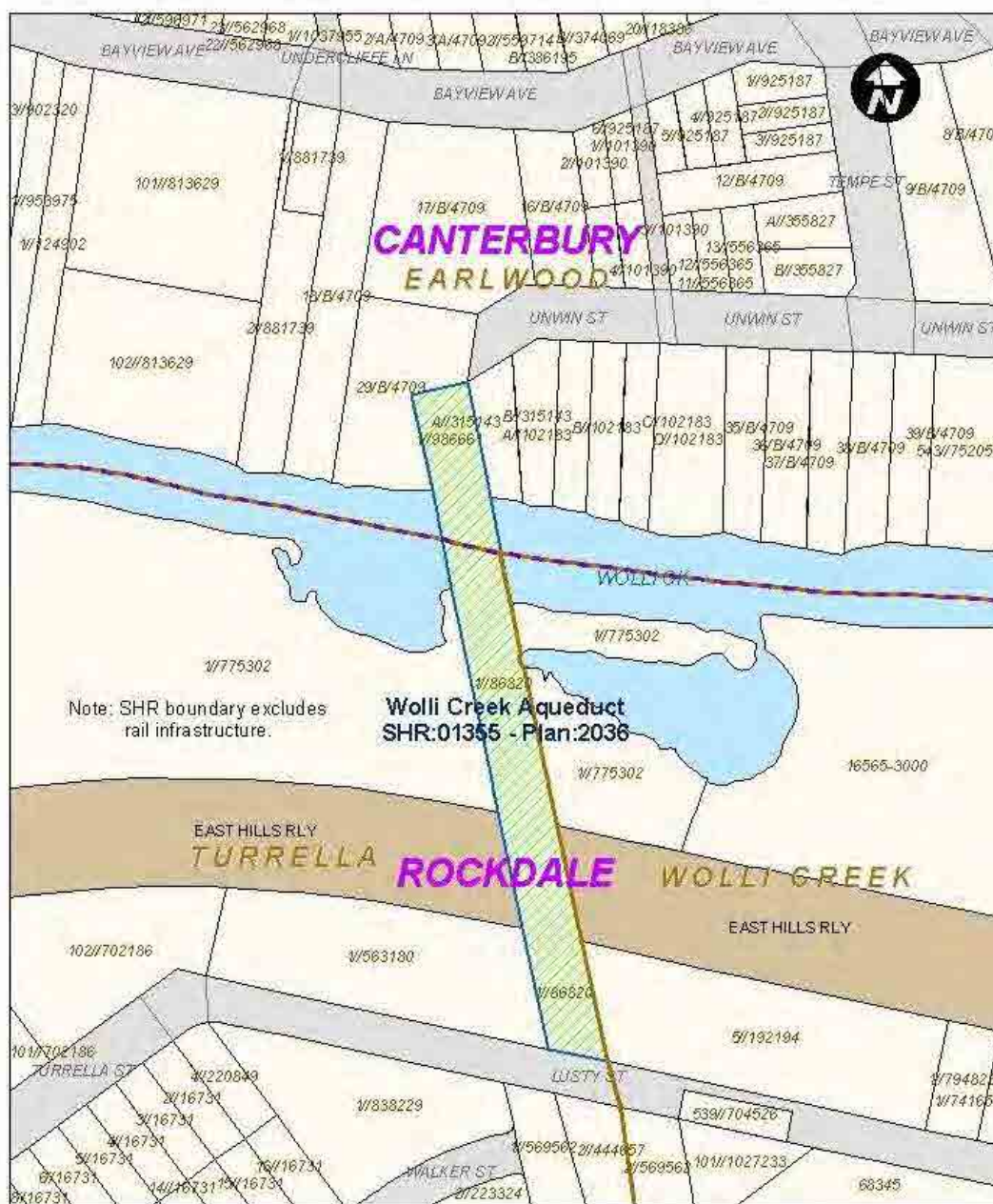
The full listing is reproduced as Appendix 1.

In addition to the SHR, the *Heritage Act 1977* requires that State government agencies maintain registers of heritage assets within land that they own and/or manage. These listings form a Section 170 Heritage Conservation Register.

There are no relevant s170 listings for the subject site except for the item listed above as part of the SHR listing, that also forms part of the Sydney Water s170 register.

Heritage Council of New South Wales

Plan under the Heritage Act, 1977



State Heritage Register

Gazettal Date: 18 November 1999



Scale: 1:2,000

Produced by: S. Watters

Legend

- SHR Curtilage
- Land Parcels
- Water
- LGAs
- Roads
- Railways
- Suburbs
- NSW Reserves

Figure 79 Plan showing SHR curtilage of the Wolli Creek Aqueduct.
(Source: NSW Department of Planning and Environment)

4.4 Canterbury Local Environmental Plan 2012

The *Canterbury Local Environmental Plan (LEP) 2012* makes local environmental planning provisions for land in the Canterbury Local Government Area (LGA) in accordance with the relevant standard environmental planning instrument under section 33A of the EPA Act. The Heritage Conservation provisions of the Canterbury LEP are set out in Clause 5.10 (see below).

5.10 Heritage conservation

(1) Objectives

The objectives of this clause are as follows:

- (a) to conserve the environmental heritage of Sydney,
- (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.

Schedule 5 of the Canterbury LEP 2012 lists items of environmental heritage within the local government area. These items (that may include archaeological sites, buildings and conservation areas) may be of National, State or local heritage significance.

Eight items within the study area are listed in Schedule 5 of the Canterbury LEP (see Figure 80). One item, the Wolli Creek Aqueduct is listed as State significant, the remaining seven items are listed as of Local significance.

| Location | Description | Address | Title | Significance | Item No. |
|----------|---|--|---------------------|--------------|----------|
| Earlwood | Federation house | stone 2 Jackson Place | Lot 6, DP 11103 | Local | I100 |
| Earlwood | Federation house | stone 4 Jackson Place | Lot 5, DP 11103 | Local | I101 |
| Earlwood | Federation house | stone 6 Jackson Place | Lot 4, DP 11103 | Local | I102 |
| Earlwood | Federation house | stone 8 Jackson Place | Lot 3, DP 11103 | Local | I103 |
| Earlwood | Federation house | stone 10 Jackson Place | Lot 2, DP 11103 | Local | I104 |
| Earlwood | Federation house | stone 12 Jackson Place | Lot 1, DP 11103 | Local | I105 |
| Earlwood | Girrahween Park gates | Sutton Avenue (opposite View Street) | | Local | I109 |
| Earlwood | Victorian aqueduct—Wolli Creek Aqueduct | sewage 24 Unwin Street | Lot 1, DP 986661 | State | I113 |

4.5 Rockdale Local Environmental Plan 2011

The *Rockdale Local Environmental Plan (LEP) 2011* makes local environmental planning provisions for land in the Rockdale Local Government Area (LGA) in accordance with the relevant standard environmental planning instrument under section 33A of the EPA Act. The Heritage Conservation provisions of the Rockdale LEP are set out in Clause 5.10 (see below).

5.10 Heritage conservation

(1) Objectives

The objectives of this clause are as follows:

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- (c) to conserve archaeological sites,
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

Schedule 5 of the Rockdale LEP 2011 lists items of environmental heritage within the local government area. These items (that may include archaeological sites, buildings and conservation areas) may be of National, State or local heritage significance.

Three sites located within the study area are listed on the LEP. The listings are shown in Figure 81. Item I36 is listed as being of State significance - this is the Wolli Creek Aqueduct.

| Location | Description | Address | Title | Significance | Item No. |
|-----------------------|----------------------|---|--|--------------|----------|
| Arncliffe | Wolli Creek Aqueduct | 27 and 27A Lusty Street, Part 74 1 Bonar Street | Part Lot 1, DP 8682; Lot 2, DP 444657; Lot 3, DP 86820 (part roadway between Turrella Street and Lusty Street and part bed of Wolli Creek) | State | I36 |
| Turrella, Wolli Creek | Wolli Creek Wetlands | Part 75 Henderson Street, part Railway lands | Part Lot 1, DP 775302 (MS 16565 3000 SY); Lot 5, DP 431083; Lots 12 and 13, DP 1149053; part bed of Wolli Creek | Local | I232 |
| Wolli Creek | Wolli Creek Valley | Wolli Creek | | Local | I237 |



Figure 80 Plan showing curtilages of Items listed in the Canterbury LEP – shaded brown (Source: Canterbury LEP 2012 Schedule 5 map HER 03)

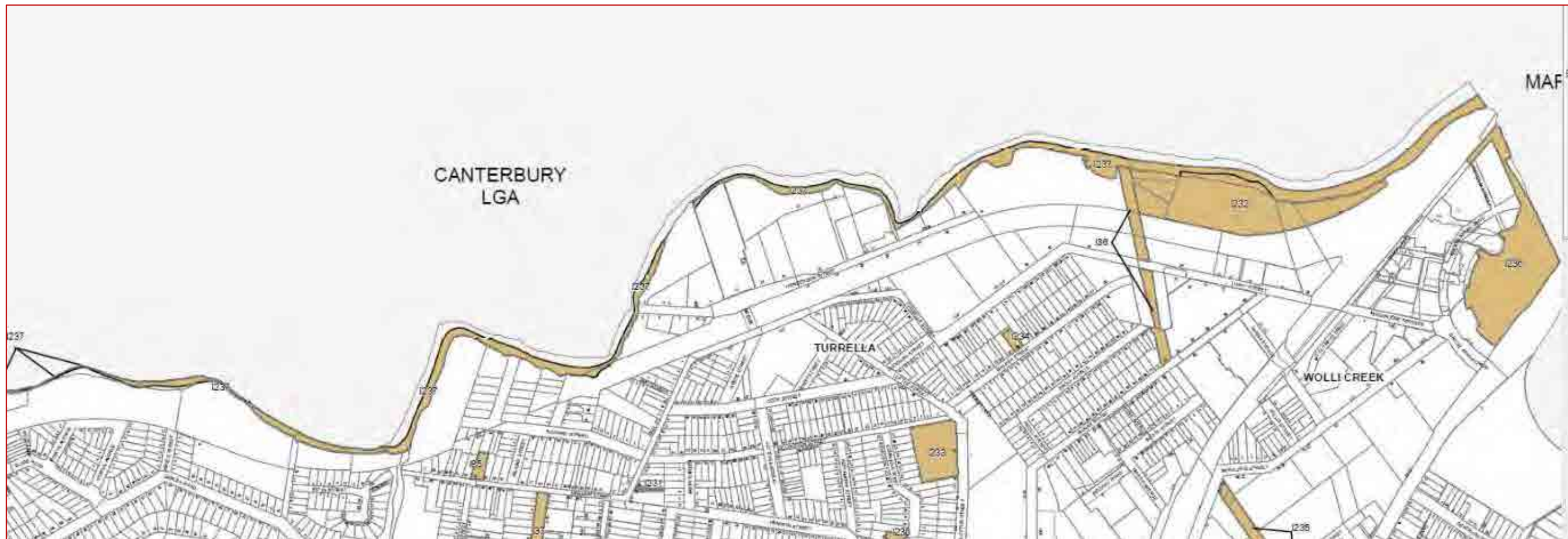


Figure 81 Plan showing curtilages of Items listed in the Rockdale LEP - shaded brown (Source: Rockdale LEP 2011 Schedule 5 map HER 03)

4.6 National Parks & Wildlife Act 1974

Aboriginal objects in New South Wales are afforded automatic statutory protection by the *National Parks and Wildlife Act 1974* (as amended; hereafter NP&W Act), whereby it is an offence to “damage, deface or destroy Aboriginal objects without the prior consent of the Director of the National Parks and Wildlife Service”.

"Aboriginal object" means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

4.7 Summary of Listings

| Site number | Description | Listing | Significance |
|-------------|---|----------------|--------------|
| WC1 | ‘Bowen’s Camp’ (the "western complex") | - | - |
| WC2 | ‘King’s Farm’ | - | - |
| WC3 | ‘King’s Farm’ – subsidiary site | - | - |
| WC4 | ‘Burrell’s Farm’ | - | - |
| WC5 | ‘Russell’s Pool’ | - | - |
| WC6 | Turrella Reserve market garden remains | - | - |
| WC7 | Weir | - | - |
| WC8 | ‘Jackson’s Quarry’ | - | - |
| WC9 | Jackson Place cottages | Canterbury LEP | Local |
| WC10 | Dry stone wall | - | - |
| WC11 | Eastern bund of WC12 | - | - |
| WC12 | Former market garden | - | - |
| WC13 | Rock shelter | - | - |
| WC14 | Tunnel associated with the construction of WC15 | - | - |
| WC15 | Wolli Creek Sewage Aqueduct | SHR | State |
| WC16 | Cottage, No. 12 Unwin Street, Undercliffe | - | - |
| WC17 | Weir | - | - |

5 SUPPLEMENTARY SITES

During the course of the current exercise a number of other sites and potential sites were recognised. A number of these locations lie outside the survey boundary. These locations are worthy of further detailed research.

| | |
|----|---|
| 1 | Unidentified structure shown on 1881 map – possibly a farmhouse. |
| 2 | Cottage, formerly in the centre of a small farming property |
| 3 | Cottage constructed prior to 1881 |
| 4 | 'Hillside' Cottage occupied in 1848 by William and Eleanor Cavell – the family cultivated the land on both sides of Bardwell Creek – church services were held in the building – demolished 1965 (p.19) |
| 5 | Woolwash |
| 6 | Three cottages – no.s 63, 65 and 67 Hannam Street, west of Forsyth. Cement-rendered brick – housed employees of woolwash – no. 67 used as 'Dame' school (p. 19) |
| 7 | 'Forsyth', built by Samuel Jeeves, operator of the wool scour, included a small cottage that faced Martin Street (now Rickard Street) (pp. 18-19) |
| 8 | Possibly a shed or hut associated with an area of cultivation that occupied the north bank of Wolli Creek in this location. |
| 9 | Small cottage possibly occupied c.1900 by F W Hughes manager of <i>Sydney Wool Scouring Company</i> |
| 10 | Boiling down works. Formerly a tannery then occupied as boiling down works by Henry McNamara |
| 11 | Farmhouse? |
| 12 | Chinese hut |
| 13 | Small cottage |
| 14 | 'Willowdene'. Site of Hannam's original cottage. Estate named 'Avondale' |
| 15 | 'Chappelow's Dairy' |
| 16 | Reuben Hannam's cottage |
| 17 | J Woods pig farm |
| 18 | 'Wollville' belonging to the Brickwood family |
| 19 | Former West Botany Primitive Methodist Church |
| 20 | 'Ferngrove'. Four-room brick cottage occupied ??? |
| 21 | unid ("have no idea") cottage ?? |

| | |
|----|--|
| 22 | Bridge over Bardwell Creek (p. 19) |
| 23 | Otto Smith's pig farm |
| 24 | Curtin Bros boiling-down establishment – formerly occupied by Grigg's poultry farm |
| 25 | Possibly a small residence |
| 26 | Quarry or loam pit |
| 27 | Small residence |
| 28 | Farm |
| 29 | Commercial/industrial structure |
| 30 | Quarry |
| 31 | Chinese hut |
| 32 | Cutting for former line of road |
| 33 | Possibly a farmhouse |
| 34 | Possibly a farm building |
| 35 | Farm complex |
| 36 | Cottage |
| 37 | Quarry platform? |
| 38 | Weatherboard 'Hudson' pre-fab hut |
| 39 | 'Grieve's Farm' |
| 40 | Quarry or loam pit |
| 41 | Barn? |
| 42 | 'Hillsdon's Nursery'. Nursery with stone cottage 112 Slade Street |
| 43 | House site |
| 44 | Agricultural area |
| 45 | Cricket ground |
| 46 | Farmhouse and associated market gardens |

6 CONCLUSIONS

The Wolli Creek valley contains physical evidence of non-Indigenous occupation from the 1840s. The physical remains include structural remains such as walls and garden borders as well as larger landscape elements. These latter elements include relict market gardens and quarries. One unusual landscape element is 'Russell's Pool' that appears to be an example of early twentieth century landscaping. Its precise purpose and its historical associations are currently unclear.

Evidence of the valley's farming past is scattered through the western portion of the valley. King's Farm and Burrell's Farm provide evidence of this important early twentieth century aspect of the valley's history. Since 1992 a number of sites have been lost or compromised. One activity that has had a significant impact on the valley has been land-filling. This is both controlled and uncontrolled filling. This process of landscape modification is most evident south and east of Jackson Place.

Turrella Reserve has also been subject to filling and sculpting since 1992. Elements associated with the former market gardens are increasingly difficult to discern. Elements such as the bunds associated with these former gardens are likely to disappear through erosion and as a result of mangrove growth.

Only one site identified during the survey is afforded statutory protection (WC15 – the Wolli Creek Aqueduct). Development controls at a local level are extended to the Jackson Place cottages (WC9).

The remaining sites identified by this survey are not protected except by the standard conditions of the *Heritage Act 1977*. Consideration should be given to LEP listing for the following features:

- WC1 'Bowen's Camp' (archaeological potential)
- WC5 'Russell's Pool' (landscape values)
- WC6 Turrella Reserve (landscape values and archaeological potential)
- WC8 'Jackson's Quarry' (landscape values)
- WC11 Market garden bund (landscape values)
- WC12 Market garden (landscape values).

In addition WC14 (tunnel) should be incorporated into the listing for the Wolli Creek Aqueduct (WC15) if it can be determined that the tunnel falls within control of Sydney Water. If not, it should be listed as a separate but related item.

The shelter WC13 should be assessed for potential Aboriginal archaeological values.

The stone wall WC10 and associated features as well as the surrounding scrub should be subject to a detailed survey to determine if the identified features are part of a single complex.

These actions should however be preceded by discussion with the appropriate land owners before formal survey, recording and listing assessment takes place.

During the preparation of this report a number of other sites were recognised outside the study area. These sites have values that may contribute to our understanding of the historical development of the Valley.

Although outside the scope of the present investigation, a number of locations within the study area may have Aboriginal archaeological potential. A number of sites have been previously identified by informal survey but not formally registered. One significant art site has been listed on the SHR and is a registered site. Its precise location is not publicly available – this may be a measure to protect the site.

7 REFERENCES

Eardley, Gifford (undated), *The Early History. The Wolli Creek Valley*, Book No. 1, St George Historical Society

Finlason, Judy 1999, *The place that Jackson built: the story behind six stone cottages*, WCPS

Madden, Brian and Muir, Lesley 1989, *Earlwood's past: a history of Earlwood, Undercliffe and Clepton Park, NSW*, Canterbury Municipal Council

Madden, Brian and Muir, Lesley 2006, *The Wolli Creek Valley. A history of survival*, WCPS

Morgan, George 1994, *The Story of Stone in the Wolli Creek Valley*, WCPS

APPENDIX 1 STATE HERITAGE REGISTER LISTING

Wolli Creek Aqueduct

Item details

| | |
|--------------------------|--|
| Name of item: | Wolli Creek Aqueduct |
| Type of item: | Built |
| Group/Collection: | Utilities - Sewerage |
| Category: | Sewage Aqueduct |
| Location: | Lat: -33.9272132461 Long: 151.1479265530 |
| Primary address: | Unwin Street, Undercliffe, NSW 2206 |
| Local govt. area: | Canterbury |

Property description

| Lot/Volume Code | Lot/Volume Number | Section Number | Plan/Folio Code | Plan/Folio Number |
|-----------------|-------------------|----------------|-----------------|-------------------|
| LOT | 2 | | DP | 86820 |
| LOT | 1 | | DP | 986661 |

Boundary: The curtilage is the whole aqueduct structure inclusive of supporting structure in embankment. Includes the 1929 pipe. The curtilage does not include the rail infrastructure.

All addresses

| Street Address | Suburb/town | LGA | Parish | County | Type |
|----------------|-------------|------------|--------|--------|-------------------|
| Unwin Street | Undercliffe | Canterbury | | | Primary Address |
| Lusty Street | Turrella | Rockdale | | | Alternate Address |

Owner/s

| Organisation Name | Owner Category | Date Ownership Updated |
|-------------------|------------------|------------------------|
| Sydney Water | State Government | 27 Nov 98 |

Statement of significance:

The Wolli Creek Valley sewage aqueduct, completed in 1895, is an integral and visibly strong component of the original Western Main Carrier (now part of Southern and Western Suburbs Ocean Outfall Sewer System), which was one of the Board's major early sewerage schemes. The aqueduct being a combination of brick arches and steel bridges, is an excellent and rare example of a late-nineteenth century steel truss bridge (in non-railway construction) and decorative face brick work in NSW. The two original sewer carriers are likely to be rare examples of large diameter, long run wrought iron pipes used for such a purpose. Elements of significance are its past and ongoing use, technologies of construction, and setting within the valley of Wolli Creek.

Date significance updated: 22 Jun 05

Note: There are incomplete details for a number of items listed in NSW. The Heritage Branch intends to develop or upgrade statements of significance and other information for these items as resources become available.

Description

Designer/Maker: Public Works Department

Builder/Maker: Public Works Department

Construction years: 1895-1895

Physical description: The aqueduct comprises the sewer carrier of three 1.8 m diameter wrought iron and steel pipes supported on a series of brick arches, and steel bridges. The brick arches are particularly decorative, being white glazed face bricks laid in English bond with decorative motifs picked out in a red coloured brick. The springing points of the arch and cornice are in dressed sandstone. Access to this viaduct in general is difficult, and the exact configuration of the structure not easy to determine, but the carrier emerges from a brick northern abutment below Unwin Street, Undercliffe (known as Unwin's Hill) crossing the creek by the steel trusses and then continuing by the brick arches, passing under the East Hills railway to arches and embankment at Turrella and Knoll Streets, Turrella. The aqueduct is a large and impressive built structure situated across the expanse of the Wolli Creek valley.

Modifications and dates: The barrels were overhauled between 1981 and 1984, and the surface of the cast iron pipes was coated with a modern fibre-glass lining. The steelwork on the two bridge spans has been replaced where necessary. There is fencing at either end of the carrier to prevent trespass.

Further information: Johnstone's Creek Aqueduct; White's Creek Aqueduct

History

Historical notes: The Wolli Creek sewage aqueduct was completed in 1895. The aqueduct was constructed for the Western Main Sewer, later known as the Western Suburbs Ocean Outfall Sewer and Southern and Western Suburbs Ocean Outfall Sewer No. 1 (SWSOOS). The aqueduct was designed and built by the Sewerage Branch of the Public Works Department (Contract No. 64). The design work was completed by late 1890. The engineer-in-chief of this department at the time was Robert Hickson. The Western Suburbs Ocean Outfall Sewer was designed to serve the western suburbs of Sydney. The line extended from the Rockdale end of the Arncliffe sewerage farm (enlarged for the scheme) to the sewer penstock at Premier Street, Marrickville. The contract necessitated the construction of aqueducts over the Cook's River, Wolli Creek and at Arncliffe between Rocky Point Road (Princes Highway) and Illawarra Road (Arncliffe Street) and extensive tunnelling. The work was undertaken in two contracts relating to the different construction types. The contract for the aqueducts was let to J. F. Carson. The design details of the aqueduct are the same for that of the aqueduct at Cook's River, except for the amendment to include a subway for pedestrians at the southern terminus of the arches at Arncliffe Road (now Turrella Street). Also constructed here was brick semi-circular abutment to the embankment.

The original design of the aqueduct provided for a triplicate 6-ft (1.8 m) diameter wrought iron sewer (although only two pipes were initially laid), carried on 560-ft (171 m) of segmental 17 brick arches of approximately 32-ft (10m) span, two 80-ft. (24 m.) by 25ft (7.6 m.) steel lattice girder bridge spans, and 80-ft (24 m.) of a series of mass concrete arches within embankment. The total length of the aqueduct is approximately 720-ft (220m). The bridge spans are of mild steel riveted construction, the sewer carrier pipes being carried on cross beams on two simple lattice girders (on trusses), with a series of small cross lattice girders for wind bracing. The bridge spans are supported on two metal circular piers. The piers of the brick arches are constructed from mass concrete, faced in decorative brick and dressed sandstone and seated on mass concrete foundations founded on a raft of timber

piles. The arches are a combination of brick and mass concrete construction. The two original sewer carrier pipes were fabricated from wrought iron and riveted. Expansion joints of 6ft sections were installed at the junction of the brick arches and the steel lattice bridge and, at the Turrella Street terminus, and above the ninth arch south of the bridge. The third (western) pipe of welded mild steel was laid in 1929. The original pipes have been maintained over the years to present, with selective replacement of defective sections. The Wolli Creek aqueduct is one of six sewage aqueducts in Sydney completed in the period 1895-1901. Others include the reinforced concrete 'Monier' arches at White's Creek and Johnston's Creek (1897), the mass concrete/brick arches and iron pipe at Cook's River (1895), the Mosman Bay steel arch (1901), and the stone/concrete and steel pipe at Lewisham (1900).

Historic themes

| Australian theme (abbrev) | New South Wales theme | Local theme |
|--|--|-------------|
| 4. Settlement-Building settlements, towns and cities | Utilities-Activities associated with the provision of services, especially on a communal basis | (none)- |

Assessment of significance

SHR Criteria a)
[Historical significance] The Wolli Creek sewage aqueduct, completed in 1895, is an integral and visible component of the Western Main Carrier system which subsequently evolved into the Southern and Western Suburbs Ocean Outfall Sewer System. The aqueduct was designed by Robert Hickson, who was a foundation Board member of Sydney Water.


SHR Criteria c)
[Aesthetic significance] The arches of the aqueduct are excellent examples of decorative face brick (in a basically utilitarian structure), which are unlikely to be built again. The setting of the lattice girder bridge is now particularly notable in the Wolli Creek basin.

SHR Criteria d)
[Social significance] The aqueduct is a major element of the historic built environment of the local government area of Hurstville and provides a focus for an understanding to the contemporary community of the historical development of the local area.

SHR Criteria e)
[Research potential] The aqueduct is an excellent example of a late-nineteenth steel truss bridge (in non-railway construction). The wrought pipes are likely to be a rare example of a large diameter, long run of wrought iron pipe fabricated in 1895. The welded steel pipe of 1929 may also be of significance in consideration of the application of this technology at this early date on a pipe of this length. The face brickwork is a textbook example of the trade in a basically utilitarian structure.

SHR Criteria f)
[Rarity] Rare in consideration of its scale, siting and mixed use of materials and construction techniques.

SHR Criteria g)
[Representativeness] Representative in its function which is widespread across Sydney.

Assessment criteria: Items are assessed against the  [State Heritage Register \(SHR\) Criteria](#) to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Procedures /Exemptions

| Section of Act | Description | Title | Comments | Action date |
|-----------------------|---|---|---|--------------------|
| 21(1)(b) | Conservation Plan submitted for endorsement | Wolli Creek Sewage Aqueduct CMP, by Sydney Water for Sydney Water, dated January 2004 | CMP endorsed by Heritage Council 20 October 2005 for a period of five years, expires 20 October 2010 | Oct 20 2005 |
| 57(2) | Exemption to allow work | Standard Exemptions | <p>SCHEDULE OF STANDARD EXEMPTIONS HERITAGE ACT 1977 Notice of Order Under Section 57 (2) of the Heritage Act 1977</p> <p>I, the Minister for Planning, pursuant to subsection 57(2) of the Heritage Act 1977, on the recommendation of the Heritage Council of New South Wales, do by this Order:</p> <p>1. revoke the Schedule of Exemptions to subsection 57(1) of the Heritage Act made under subsection 57(2) and published in the Government Gazette on 22 February 2008; and</p> <p>2. grant standard exemptions from subsection 57(1) of the Heritage Act 1977, described in the Schedule attached.</p> <p>FRANK SARTOR Minister for Planning Sydney, 11 July 2008</p> <p>To view the schedule click on the Standard Exemptions for Works Requiring Heritage Council Approval link below.</p> | Sep 5 2008 |



[Standard exemptions](#) for works requiring Heritage Council approval

Listings

| Heritage Listing | Listing Title | Listing Number | Gazette Date | Gazette Number | Gazette Page |
|---|----------------------|-----------------------|---------------------|-----------------------|---------------------|
| Heritage Act - State Heritage Register | | 01355 | 18 Nov 99 | | |
| Heritage Act - s.170 NSW State agency heritage register | | 215184 | | | |
| National Trust of Australia register | | | | | |

Study details

| Title | Year | Number | Author | Inspected by | Guidelines used |
|-----------------------------|------|--------|--------------------------------------|--|-----------------|
| Sydney Water Heritage Study | 1996 | 215184 | Graham Brooks and Associates Pty Ltd | GRAHAM BROOKS AND ASSOCIATES 1 July 1996 | Yes |

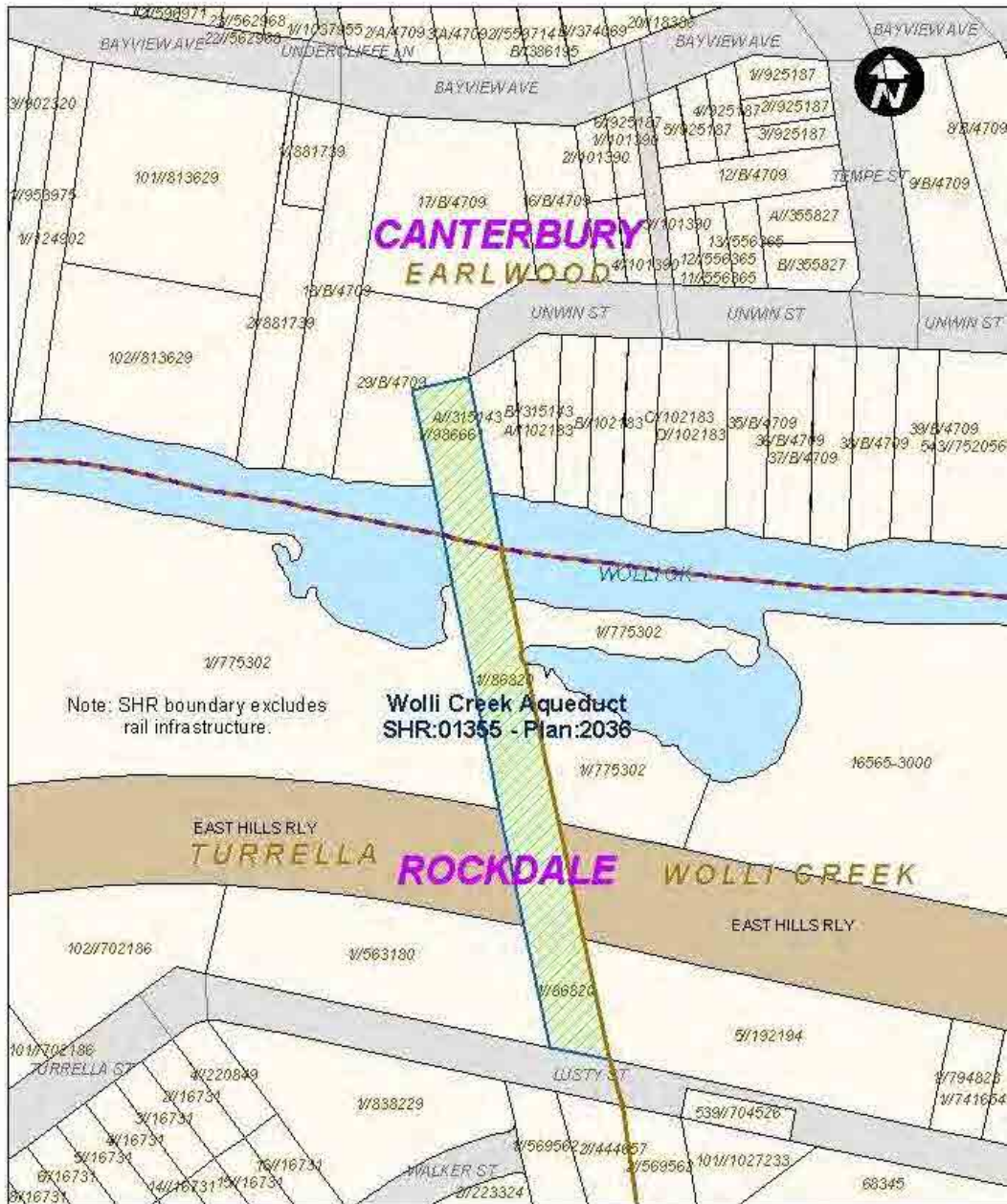
References, Internet links & images

| Type | Author | Year | Title | Internet Links |
|-------------------------------|--------------------------|------|--|----------------|
| Management Plan (HC endorsed) | Sydney Water Corporation | 2005 | Wolli Creek Sewage Aqueduct : conservation management plan | |



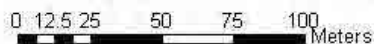
Heritage Council of New South Wales

Plan under the Heritage Act, 1977



State Heritage Register

Gazettal Date: 18 November 1999



Scale: 1:2,000

Produced by: S. Waters

Legend

- SHR Curtilage
- Land Parcels
- LGAs
- Water
- Suburbs
- Roads
- Railways
- NSW Reserves