


[About Us](#)
[Heritage Council](#)
[About Heritage](#)
[Working with the community to know, value and care for our heritage](#)
[Listings](#)
[Publications & Forms](#)
[Research](#)
[Development](#)
[Conservation](#)
[Funding](#)
[Home](#) ▶ [Listings](#) ▶ [Heritage Databases](#) ▶ [Heritage Database Search](#) ▶ [Heritage Item](#)

Click on the BACK button of your browser to return to the previous page.

Upper Canal System (Prospect Reservoir)

Item

Name of Item: Upper Canal System (Prospect Reservoir)

Other Name/s: includes the Southern Railway Aqueduct

Type of Item: Built

Group/Collection: Utilities - Water

Category: Water Supply Canal

Location: Lat:150.89260622 Long:-33.81361844

Primary Address: Prospect, NSW 2148

Local Govt. Area: Blacktown

Property Description:

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
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Boundary: The Upper Canal forms a major component of the Upper Nepean Scheme. The Upper Nepean Scheme supplies water from the Cataract River at Broughtons Pass to the Crown Street reservoir, a distance of 63.25 miles. The Upper Canal commences by tunnel from Pheasant's Nest Weir on the Nepean River and extends through the Local Government areas of Wollondilly, Liverpool, Holroyd, Fairfield, Campbelltown and Camden.

All Addresses

Street Address	Suburb/Town	LGA	Parish	County	Type
	Prospect	Blacktown			Primary
	Horsley Park	Fairfield			Alternate
	Cecil Park	Liverpool			Alternate
	West Hoxton	Liverpool			Alternate
	Denham Court	Campbelltown			Alternate
	Leppington	Camden			Alternate
	Catherine Field	Camden			Alternate
	Currans Hill	Camden			Alternate
	Mount Annan	Camden			Alternate
	Gilead	Campbelltown			Alternate
	Appin	Wollondilly			Alternate

Owner/s

Organisation Name	Owner Category	Date Ownership Updated
Sydney Catchment Authority	State Government	

The Upper Canal is significant as a major component of the Upper Nepean

Statement of Significance

Scheme. As an element of this Scheme, the Canal has functioned as part of Sydney's main water supply system for over 120 years. Apart from maintenance and other improvements, the Upper Canal has changed little.

As part of this System, the Canal is associated with Edward Moriarty, Head of the Harbours and Rivers Branch of the NSW Public Works Department.

The Canal is aesthetically significant, running in a serpentine route through a rural bushland setting as an impressive landscape element with sandstone and concrete-lined edges;

The Canal is significant as it demonstrates the techniques of canal building, and evidence of engineering practice. The Canal as a whole is an excellent example of 19th century hydraulic engineering, including the use of gravity to feed water along the canal (BCubed Sustainability, 2/2006).

The Upper Nepean Scheme is significant because:

- * In its scope and execution, it is a unique and excellent example of the ingenuity of late 19th century hydraulic engineering in Australia, in particular for its design as a gravity-fed water supply system.
- * It has functioned as a unique part of the main water supply system for Sydney for over 100 years, and has changed little in its basic principles since the day it was completed.
- * It represented the major engineering advance from depending on local water sources to harvesting water in upland catchment areas, storing it in major dams and transporting it the city by means of major canals and pipelines.
- * It provides detailed and varied evidence of the engineering construction techniques prior to the revolution inspired by reinforced concrete construction, of the evolution of these techniques (such as the replacement of timber flumes with wrought iron and then concrete flumes), and of the early use of concrete for many engineering purposes in the system.
- * The scheme possesses many elements of infrastructure which are of world and national renown in technological and engineering terms.
- * Many of the structural elements are unique to the Upper Nepean Scheme.

(Edward Higginbotham & Associates, SCA Heritage and Conservation Register, 18 December 2000)

Date Significance Updated: 17 Sep 03

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

Current Use: water supply
Former Use: water supply

History

Historical Notes: Aboriginal & European settler history:
 The area of Prospect Reservoir is an area of known Aboriginal occupation, with favourable camping locations along the Eastern Creek and Prospect Creek catchments, and in elevated landscapes to the south. There is also evidence to suggest that the occupation of these lands continued after European contact, through discovery of intermingled galss and stone flakes in archaeological surveys of the place. The area was settled by Europeans by 1789.

Prospect Hill, Sydney's largest body of igneous rock, lies centrally in the Cumberland Plain and dominates the landscape of the area (Ashton, 2000). Very early after first settlement, on 26 April 1788, an exploration party heading west led by Governor Phillip, climbed Prospect Hill. An account by Phillip states that the exploration party saw from Prospect Hill, 'for the first time since we landed Carmathen Hills (Blue Mountains) as likewise the hills to the southward'.

Phillip's 'Bellevue' (Prospect Hill) acquired considerable significance for the new settlers. Prospect Hill provided a point from which distances could be meaningfully calculated, and became a major reference point for other early explorers (Karskens 1991). When Watkin Tench made another official journey to the west in 1789, he began his journey with reference to Prospect Hill, which commanded a view of the great chain of mountains to the west. A runaway convict, George Bruce, used Prospect Hill as a hideaway from soldiers in the mid-1790's.

During the initial struggling years of European settlement in NSW, Governor Phillip began to settle time-expired convicts on the land as farmers, after the success of James Ruse at Rose Hill (Higginbotham 2000). On 18 July 1791 Phillip placed a number of men on the eastern and southern slopes of Prospect Hill, as the soils weathered from the basalt cap were richer than the sandstone derived soils of the Cumberland Plain. The grants, mostly 30 acres, encircled Prospect Hill (Ashton 2000). The settlers included William Butler, James Castle, Samuel Griffiths, John Herbert, George Lisk, Joseph Morley, John Nicols, William Parish and Edward Pugh (Higginbotham 2000).

The arrival of the first settlers prompted the first organised Aboriginal resistance to the spread of settlement, with the commencement of a violent frontier conflict in which Pemulwuy and his Bidjigal clan played a central role (Flynn 1997). On 1 May 1801 Governor King took drastic action, issuing a public order requiring that Aboriginal people around Parramatta, Prospect Hill and Georges River should be 'driven back from the settlers' habitations by firing at them'. Kings edicts appear to have encouraged a shoot-on-sight attitude whenever any Aboriginal men, women or children appeared (Flynn 1997).

With the death of Pemulwuy, the main resistance leader, in 1802, Aboriginal resistance gradually diminished near Parramatta, although outer areas were still subject to armed hostilities. Prompted by suggestions to the Reverend Marsden by local Prospect Aboriginal groups that a conference should take place 'with a view of opening the way to reconciliation', Marsden promptly organised a meeting near Prospect Hill. (ibid 1997). At the meeting, held on 3 May 1805, local Aboriginal representatives discussed with Marsden ways of ending the restrictions and indiscriminate reprisals inflicted on them by soldiers and settlers in response to atrocities committed by other Aboriginal clans (ibid 1997). The meeting was significant because a group of Aboriginal women and a young free settler at Prospect named John Kennedy acted as intermediaries. The conference led to the end of the conflict for the Aboriginal clans around Parramatta and Prospect (Karskens 1991). This conference at Prospect on Friday 3 May 1805 is a landmark in Aboriginal/European relations. Macquarie's 'Native Feasts' held at Parramatta from 1814 followed the precedent set in 1805. The Sydney Gazette report of the meeting is notable for the absence of the sneering tone that characterised its earlier coverage of Aboriginal matters (ibid 1997).

From its commencement in 1791 with the early settlement of the area, agricultural use of the land continued at Prospect Hill. Much of the land appears to have been cleared by the 1820s and pastoral use of the land was well established by then. When Governor Macquarie paid a visit to the area in 1810, he was favourably impressed by the comfortable conditions that had been created (Pollon & Healy, 1988, 210).

Nelson Lawson, third son of explorer William Lawson (1774-1850), married Honoria Mary Dickinson and before 1837 built "Greystanes House" as their future family home on the western side of Prospect Hill. Lawson had received the land from his father, who had been granted 500 acres here by the illegal government that followed the overthrow of Governor Bligh in 1808.

Governor Macquarie confirmed the grant, where William Lawson had built a house, which he called "Veteran Hall", because he had a commission in the NSW Veterans Company. The house was demolished in 1928 and the site is now partly covered by the waters of Prospect Reservoir. Greystanes was

approached by a long drive lined with an avenue of English trees - elms (*Ulmus procera*), hawthorns (*Crataegus* sp.), holly (*Ilex aquifolium*), and woodbine (*Clematis* sp.) mingling with jacarandas (*J. mimosifolia*). It had a wide, semi-circular front verandah supported by 4 pillars. The foundations were of stone, the roof of slate, and the doors and architraves of heavy red cedar. It was richly furnished with articles of the best quality available and was the scene of many glittering soirees attended by the elite of the colony. Honoria Lawson died in 1845, Nelson remarried a year later, but died in 1849, and the property reverted to his father. Greystanes house was demolished in the 1940s (Pollon, 1988, 116, amended Read, S., 2006 - the house can't have been 'on the crest' of Prospect Hill as Pollon states, if its site was covered by the Reservoir).

By the 1870s, with the collapse of the production of cereal grains across the Cumberland Plain, the Prospect Hill area appears to have largely been devoted to livestock. The dwellings of the earliest settlers largely appear to have been removed by this stage. By the time that any mapping was undertaken in this vicinity, most of these structures had disappeared, making their locations difficult to pinpoint (Higginbotham 2000).

The land was farmed from 1806-1888 when the Prospect Reservoir was built. In 1867, the Governor of NSW appointed a Commission to recommend a scheme for Sydney's water supply, and by 1869 it was recommended that construction commence on the Upper Nepean Scheme. This consisted of two diversion weirs, located at Pheasant's Nest and Broughton's Pass, in the Upper Nepean River catchment, with water feeding into a series of tunnels, canals and aqueducts known as the Upper Canal. It was intended that water be fed by gravity from the catchment into a reservoir at Prospect. This scheme was to be Sydney's fourth water supply system, following the Tank Stream, Busby's Bore and the Botany (Lachlan) Swamps.

Designed and constructed by the Public Works Department of NSW, Prospect Reservoir was built during the 1880s and completed in 1888. Credit for the Upper Nepean Scheme is largely given to Edward Orpen Moriarty, the Engineer in Chief of the Harbours and Rivers Branch of the Public Works Department from 1858-88 (B Cubed Sustainability, 2005, 7).

Upper Canal System:

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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	Providing drinking water -
7. Governing - Governing	Government and Administration - Activities associated with the governance of local areas, regions, the State and the	Building and operating public infrastructure -

	nation, and the administration of public programs - includes both principled and corrupt activities.	
7. Governing - Governing	Government and Administration - Activities associated with the governance of local areas, regions, the State and the nation, and the administration of public programs - includes both principled and corrupt activities.	Developing roles for government - public water supply -

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	Upper Canal CMP, Pheasant's Nest to Prospect Reservoir, Vols 1-3 (Aug 2002)		Jun 27 2003
57(2)	Exemption to allow work	Standard Exemptions	SCHEDULE OF STANDARD EXEMPTIONS HERITAGE ACT 1977 Notice of Order Under Section 57 (2) of the Heritage Act 1977 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: 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 2. grant standard exemptions from subsection 57(1) of the Heritage Act 1977, described in the Schedule attached. FRANK SARTOR Minister for Planning Sydney, 11 July 2008 To view the schedule click on the Standard Exemptions for Works Requiring Heritage Council Approval link below.	Sep 5 2008



Standard Exemptions for Works Requiring Heritage Council Approval

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
<i>Heritage Act - State Heritage Register</i>		01373	18 Nov 99		
<i>Heritage Act - s.170 NSW State agency heritage register</i>					
<i>Local Environmental Plan</i>	Wollondilly				
<i>National Trust of Australia register</i>					

Study Details

Title	Year	Number	Author	Inspected by	Guidelines Used
Sydney Water Section 170 Register	1996		Graham Brooks and Associates		No

References, Internet links & Images

Type	Author	Year	Title	Internet Links
Written	Lawrie Greenup	2009	Upper canal and infrastructures affected by LW409 mining :archival photographic recording	
Written	Australian Museum Business Services	2008	Statement of heritage impact: Pheasant's Nest and Broughton's Pass Weirs: Environmental Flow Releases for the Upper Hawkesbury-Nepean River	
Written	Martin James	2006	Upper Canal Aqueduct Scour Valves Upgrade Review of Environmental Factors	
Written	B Cubed Sustainability	2006	Upper Canal Aqueduct Scour Valves Upgrade Heritage Impact Statement (June 2006)	
Written	B Cubed Sustainability P/L	2005	Prospect (Reservoir) Scout/Outlet - Heritage Impact Statement	
Written	Sophy Townsend, URS	2003	Final Report - Review of Environmental Factors for the Proposed Maintenance and Preventative Works on the Upper Canal due to Impacts of Mining at Westcliff Colliery (March 2003)	
Written	Cardno MBK	2003	Effects of Mining of Longwalls 5A5, 5A6, 5A7 and 5A8 - Interim Report - Open Canals and Concrete Aqueducts C and D (August 2003)	
Written	Caitlin Allen, Conservation Archaeologist, NSW Government Architect's Office	2003	Southern Railway Aqueduct on the Upper Canal at Mount Annan Refurbishment and Repair Heritage Impact Assessment	
Written	RTA Operations	2003	Statement of Heritage Impact	
Written	Edward Higginbotham & Associates	2002	Conservation Management Plan for the Upper Canal, Pheasant's Nest to Prospect Reservoir	
Written	Edward Higginbotham, Terry Kass, Vince Murphy, John Collocott, Toby Flander, Siobhan Lavelle	1992	Heritage Study of the Upper Canal, Prospect Reservoir & Lower Canal (Upper Nepean Scheme): Volume 3 - Conservation Policy	

Note: Internet links may be to web pages, documents or images.



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Data Source

The information for this entry comes from the following source:

Name: Heritage Branch

Database Number: 5051481

File Number: H00/00238

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24/02/2010

HURLSTONE AGRICULTURAL HIGH SCHOOL

Lot 1 DP 175962 Roy Watts Road, Glenfield

Original two storey building, built 1926



HISTORY AND DESCRIPTION:

Hurlstone Agricultural School had been established by the government near Ashfield in 1907 to provide a practical education for boys who intended to follow rural careers. In March 1926, it moved to Glenfield. Built at a cost of almost 40, 000 pounds in grounds covering 100 acres (40 ha), the central building was a two-storey block with the principal's residence on the upper floor and students' dining room and assembly hall on the ground floor.

Nearby were four (4) classrooms, science rooms and a manual arts building with carpentry and metal works facilities. The dormitory block, designed for 72 boys, was already overcrowded with 92 boarders when the school was officially opened.

CONDITION AND USE:

Still in good condition inside and out and used as a multi-function building within the School.

HERITAGE SIGNIFICANCE:

- The building has Historical, Social and Architectural significance
- The School was the first agricultural high school established in Australia and the first in NSW to have boarding students.
- It includes elements of Art Deco Architecture
- It is a notable example of Twentieth century Architecture in Campbelltown.

HERITAGE LISTING:

LOCAL: LEP 2002

Appendix B

Table of Correspondence:

CHL Heritage Values and SHR Significance Criteria

Commonwealth Heritage criteria	State Heritage criteria (NSW)
(a) the place has significant heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history	a) an item is important in the course, or pattern, of NSW's (or the local area's) cultural or natural history
(b) the place has significant heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history	f) an item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history.
(c) the place has significant heritage value to the nation because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history	e) an item has potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history.
(d) the place has significant heritage value to the nation because of the place's importance in demonstrating the principal characteristics of: (i) a class of Australia's natural or cultural places; or (ii) a class of Australia's natural or cultural environments	g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or environments (or in the local area).
(e) the place has significant heritage value to the nation because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).
(f) the place has significant heritage value to the nation because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period	c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).
(g) the place has significant heritage value to the nation because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	d) an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.
(h) the place has significant heritage value to the nation because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history	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 (or the local area's) cultural or natural history.
(i) the place has significant heritage value to the nation because of the place's importance as part of Indigenous tradition.	