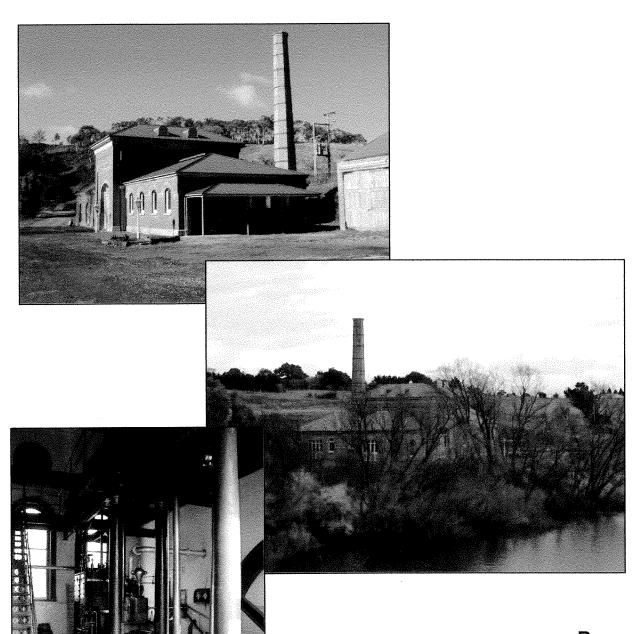
Proposal to Nominate

GOULBURN WATERWORKS

as a

Historic Engineering Marker



Glenn Rigden Engineering Heritage Committee Sydney Division IEA January 2003

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Introduction

Located on the banks of the Wollondilly River, on the Northwestern outskirts of Goulburn, the **GOULBURN WATERWORKS**, which includes the steam pumping station and weir, is virtually fully intact after its construction in the 1880s and use up to 1977. It is an excellent representation of the municipal water supply stations installed through out New South Wales during that period and displays the development of these systems over the past century.

The Goulburn Waterworks was originally installed with a compound beam pumping engine. It was upgraded a number of times with additional steam pumping engines and finally electric pumps, most of which are still intact in the original building. The original beam pumping engine is still operational and is most probably the only remaining beam engine still intact in its original location in the Southern hemisphere.

The site has excellent heritage preservation potential in that the original buildings including pump house, boiler house and engineer's residence are intact. The original weir, Marsden Weir, which supplied the city's water is still standing, and the engine and boilers are still in place with the engine being operational off an alternate vertical steam boiler.

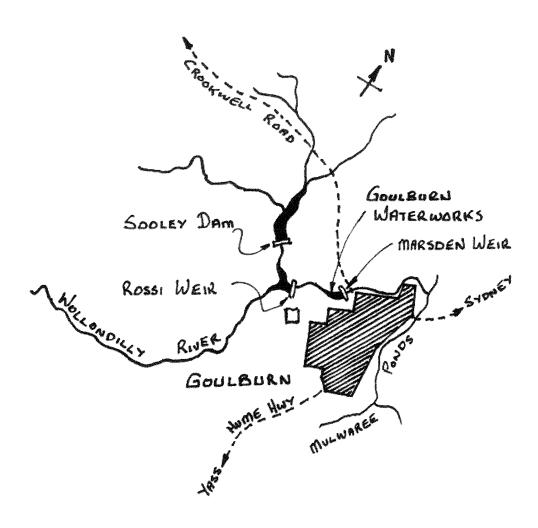
The Goulburn City Council took control after the Steam Museum that occupied the site since the 1950s closed down with the death of the proprietor. The aim of the council is to develop the site into a heritage precinct and park preserving as much of the original waterworks infrastructure as possible. A 'Friends of the Waterworks' preservation group maintains the engine and organises running days for public exhibition.



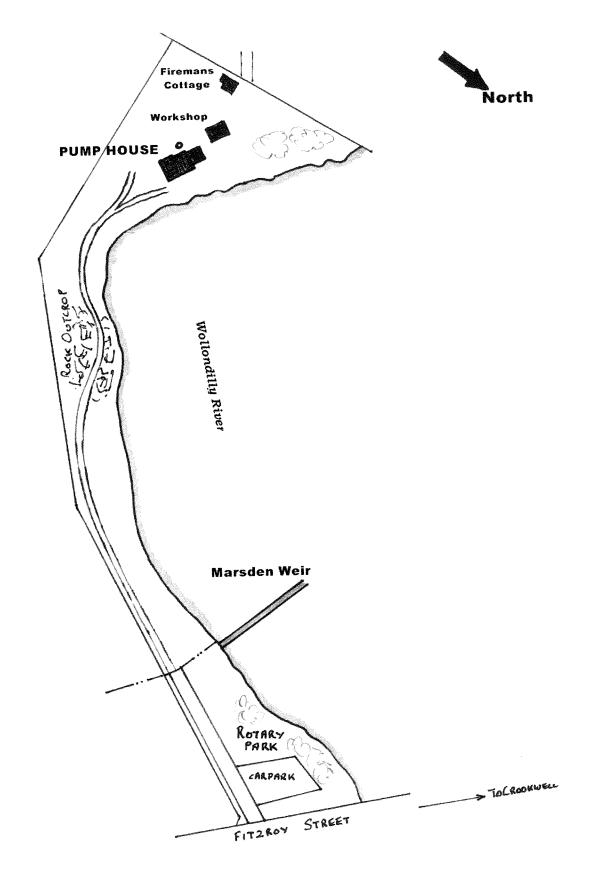
Marsden Weir looking back at the Waterworks

Location & Site Map

Location of Goulburn Waterworks



GOULBURN WATERWORKS SITE



Basic History

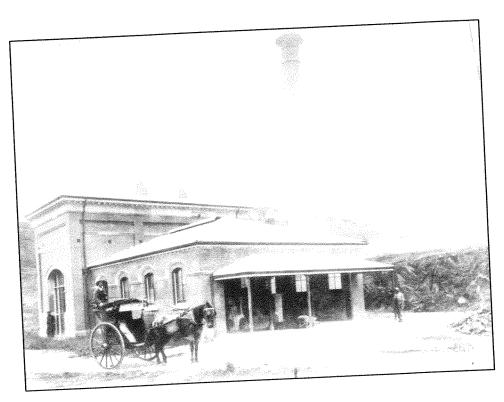
"In 1876 the Past President of the Institution of Civil Engineers, Mr (William) Clark was selected by the Colonial Office and appointed by the Government of New South Wales, to advise and report upon the water supply and drainage of Sydney. During a residence of two gears (sic) in the Australasian colonies, he prepared several schemes of a like description, embracing the towns of Port Adelaide, Newcastle, Bathurst, Goulburn, Orange, Maitland, Brisbane³ ...

The Goulburn Waterworks were commenced in about 1883, at about the same time as 3 other waterworks at Bathurst, Albury & Wagga Wagga following a legislative change to the supply of town water in NSW. The Waterworks were built on the Wollondilly River to supply fresh water to the City of Goulburn, 1.3 kilometres away.

The waterworks were designed / specified by E.O. Moriartry, Engineer in Chief of the Harbours & Rivers Branch of the NSW Public Works Department. The supply and construction was undertaken by contractors to the Public Works, completed in 1886 and handed over in 1887 to the Goulburn Council with Mr. Edward Jacob Woodhart being the first residing engineer. He held office for 27 years until his death at work on the Waterworks site.

The pump and compound beam engine were supplied and installed by Appleby Brothers of London complete with Lancashire boilers with Galloway's Patent tubes.

In 1897, a US made Blake horizontal steam engine and supplementary pumping system. were installed in an annex to the original building of 1883.



Early Photo of Pump House Building Date unknown prior to 1997

In 1918, an electric pumping system was installed on the site, being one of the first water reticulation systems to be electrically driven . Up to 1932 both the Appleby Beam Engine and electric pumps supplied water to Goulburn, until additional electric pumps were installed and the beam engine was decommissioned. The waterworks continued to operate up to 1977 when it was decommissioned after a new pumping station was built at Rossi Weir upstream from the Marsden Weir at this site.

The pumphouse, site and waterworks machinery were nominated and listed on the register of the National Estate (AHC) in 1978.

Today the complete brick pump house building, boiler house, Lancashire boilers, beam engine, electric pumps, brick chimney and pump wells still exist. The beam engine is still operable.

³ Vide State Papers. New South Wales and South Australia, 1877, 1878". (Quote from The Institution of Civil Engineers Memoirs [1880-1881]).

Nomination Form

Australian Historic Engineering Plaquing

The Administrator
Engineering Heritage Australia
The Institution of Engineers, Australia
Engineering House
11 National Circuit
BARTON ACT 2600

Name of work: Goulburn Waterworks

The above-mentioned work is nominated to be awarded a:

- National Engineering Landmark
- . Historic Engineering Marker

Location: Crookwell Road (Fitzroy Street)

GOULBURN NSW (1.3 km from city centre)

Owner: Goulburn City Council

The owner has been advised of this nomination, and a letter of agreement is attached.

Access to site: Road access to site and parkland off Crookwell Road.

Site is currently open on nominated open days to the public or by appointment with the Council.

Nominating Body: IEAust Heritage Committee Sydney Division

Glenn R i Chair	igden		
Date:		 	

Engineering Heritage Australia Plaquing Nomination Assessment Form

BASIC DATA

Item Name:

GOULBURN WATERWORKS

Other/Former Names: Goulburn Steam Museum

Location: Wollondilly River GOULBURN NSW

Address: Crookwell Road (Fitzroy St) Goulburn

Suburb/Nearest Town: (Marsden) GOULBURN

State: NSW

Local Govt. Area: Goulburn City Council

Owner: Goulburn City Council

Current Use: Heritage Precinct

Former Use: Water Supply Pumping Station then Steam Museum

Designer: E. O. Moriarty

Maker/Builder: Contractors to the Public Works Department of NSW

Were :-

- H G Evans & Sons of Wagga; - Ball & Stubbs of Goulburn; and

- Appleby Brothers, London supplied and installed the

mechanical plant.

Year Started: 1883

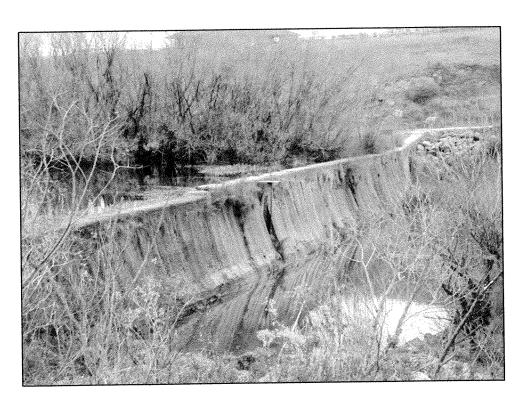
Year Completed: 1886

Physical Description

Goulburn Waterworks is a steam driven (converted to electric) municipal water pumping station and weir located adjacent to the Wollondilly River. The Waterworks supplied water to the city of Goulburn.

Marsden Weir

The site consists of the Marsden Weir situated on the Wollondilly River a few hundred metres upstream from the Crookwell Road (Fitzroy St) crossing of the river at a site known as Rocky Falls. The weir holds 273 Ml (Megalitres) which was equivalent to 6 months supply of water for a town's population of 11,000. The weir is of concrete (Portland Cement) construction standing about 7 metres (24 ft) high and 121 metres (400 ft) in length with a top width of one metre (3'6").



Marsden Weir

The Pumping Station

The pumping station is located about 500 metres upstream (west) from the Marsden Weir at Rocky Point on the southern bank of the river. The single pump house building is of brick and stone construction, consisting of a double height section flanked by single storey wings, the Eastern wing being the 1897 additional annex. Roofs are corrugated iron. The double height section has pilasters and an arched entrance, together with bracketed eaves below which is a course of plain stonework. The roof has arched louvered vents. The single storey sections also have bracketed eaves and iron roof with a vent running along the ridge line. Windows are arched and above them is a most unusual arched extra skin of brickwork with plain stone dressing. A verandah

stands on the western end of the building covering the open boiler house. A tall slender stone and brick chimney stands behind the building.

All four pumping stations including Bathurst, Albury, and Wagga had similar pump house buildings.

The pumps draw water through a lined tunnel which connects the pump house well located within the building to the Marsden Weir reservoir over a distance of about 100 metres. The original pumping engine is a Woolf type compound beam engine driving a single stage reciprocating pump connected to the engine beam. This engine is powered by two Lancashire boilers fitted with Galloways patent tubes. Both the engine and boilers were supplied and installed by Messrs. Appleby Bros. of London.

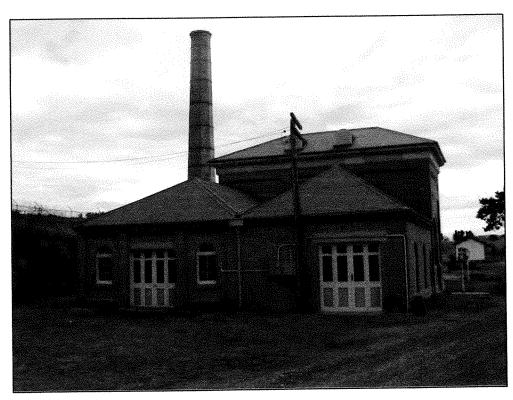
A second semi dry well in the eastern annex houses the electric pumps while a stationary horizontal mill engine most likely covers another well at the rear of the building.

The pumps transferred the water from the river reservoir to the water treatment works and storage reservoir located closer to town in River Street. From here the water was gravity fed to the town of Goulburn.

The site encompasses the Marsden Weir, the pump house, engineer's residence and parkland adjacent to the Weir.



Pump & Boiler House Looking into Boilers



Main Building Looking West At Later Annexes



Appleby Beam Pumping Engine Fly Wheel End

The Beam Engine

The beam-pumping engine is one of the most significant parts of this heritage site.

Notes On The 'Appleby' Beam Pumping Engine as supplied by the International Stationary Steam Engine Society - ISSES.

The engine bears a nameplate that reads APPLEBY BROS, ENGINEERS, 1883, LONDON. The engine is a Woolf type compound beam engine of medium size that would have been classed as "Best Waterworks Practice" at the time. Technically the engine is not remarkable but aesthetically it has elements of the best quality engineering from an era when public utilities were built by communities and were a source of great pride and prestige.

Basic data for the engine as follows:

Bore HP 9" Bore LP 18"

Engine configuration Woolf compound

Stroke 5 feet (HP cylinder and crankshaft)

Steam Pressure 60 psi

Valve gear slide valves with Myer cutoff gear

Flywheel diameter 17 feet Flywheel weight 25 tonnes Depth of Pump Well 42 feet

Beam length (hp centreline to crankshaft centreline) 20 feet

Pump single stage (two stage at Wagga, Albury and Bathurst)

Build date 1883 Commissioned 1886 Retired 1932 Restored 1958 Air pump overhaul 1992

Boilers Lancashire type with 16 Galloway tubes (2 off)

The engine is now a rare survivor in a country that has lost much of its engineering heritage from the Steam Age. Even in recent times there was reason to have concern about its continued preservation despite the fact that it is now the only beam engine of any size still in its original setting in Australia and one of only a handful of beam engines in any setting in the country.

The engine was part of an order by the New South Wales Public Works Department for four apparently identical engines, pumps, boiler plant and some associated equipment such as cranes for the engine houses. Similar engine and boiler houses and civil works were built to house the engines and boiler plant at the other three sites. At Goulburn, the local contractors were H G Evans & Sons of Wagga and Ball & Stubbs of Goulburn. There is nothing known of the other tenderers but a contract was awarded to Appleby Brothers, London for the supply of the mechanical plant.

The four engines were to go into water supply service at Wagga Wagga, Albury, Bathurst and Goulburn. The above sequence being the sequence of construction. The engines were identical as far as records indicate but there were some minor differences

between the reciprocating pumps to suit the hydraulic situations at each site. The pumps were of two-stage type except at Goulburn where the pump was single stage.

At all four locations buildings remain intact and in one case, Albury, the buildings still contain vertical shaft electric driven centrifugal pumping plant. At the other three sites the old plant has gone, however at Goulburn the installation is almost complete with the engine and pumps still installed and operational and the boilers still installed but not serviceable.

The Goulburn site (Marsden Weir) has had a colourful recent history. Although the site has been owned by the Goulburn City Council for a long time, it was for many years after the steam plant went out of service, leased to steam enthusiasts to operate a steam museum. This arrangement started in about 1957 at the instigation of a Mr. Bruce McDonald. Over the years this expanded to include railway equipment, other steam engines including a large heritage significant winding engine and a great deal of derelict equipment and memorabilia. In the last couple of years the Goulburn City Council has taken back the site and restored it to something resembling its original status as a steam pumping station.

The role of Appleby Brothers as the suppliers of the equipment is clouded in mystery. Appleby Brothers were not renowned suppliers of steam engines however they had a catalogue containing mechanical plants for many industries including utilities, mining and manufacturing. The company no longer exists and it is unclear how it manufactured its products. There are only one or two other engines known internationally that bear the name Appleby. A small mill engine at Sarsons Malt Vinegar Works, London was in service up until 1985. It was an 8" bore by 14" stoke horizontal single cylinder engine. (Refer SERG Bulletin Vol 8 No.1.) However the Forncett Industrial Steam Museum has a small horizontal mill engine bearing the nameplate Jessop & Appleby, Leicester built in 1897. No connection has been established to date between Appleby Brothers and Jessop & Appleby but they may be connected. The Sarsons engine and the Forncett engine appear nearly identical except that they are opposite hand.

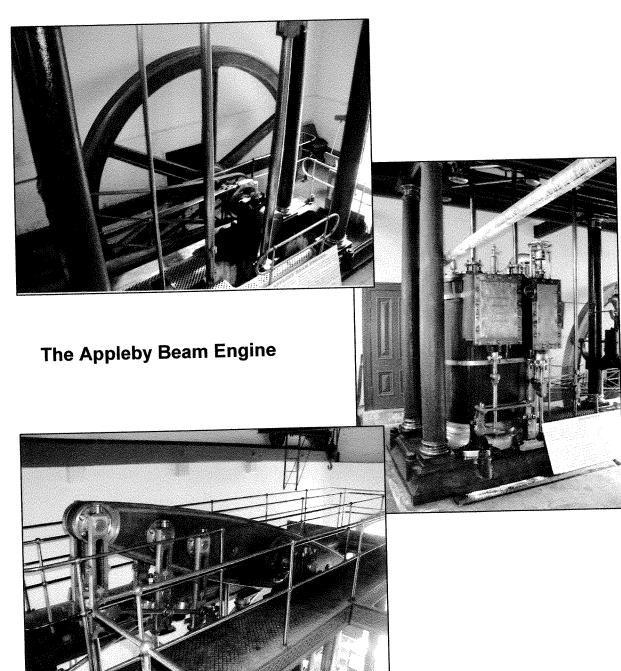
It is unclear how Appleby manufactured its products and why there are so few examples of the engines. The answer may lie in the specialisation of Appleby Brothers. If they mainly supplied to the mining industry for example they might have had quite large production volumes whilst not making many steam engines. How they produced such a refined and elegant engine in these circumstances is harder to fathom. There is no doubt that the designer of the Goulburn engine was schooled in the very best steam engine design practice of the day. Perhaps their Chief Engineer had come from a steam engine builder and he only seldom had the opportunity to design a steam engine. The motion, the proportions and details of the parallel linkage that connects the piston rods to the beam and the valve operating linkages around the cylinders are impressive. A single eccentric drove the motion from the crankshaft in the conventional way. The detailing of the bearing blocks, links and rods in this system is particularly grand.

The NSW Public Works Department clearly had good engineering skills at that time to have accommodated, installed and commissioned so expertly, the four engines. The involvement of engineer H.A. Moriarty, one of several renowned engineers of the same family in that era, is sufficient evidence that the work would have been carried out to a

high standard. (H A Moriarty, the nephew of E O Moriarty [the designer of the works] was the PWD's District Engineer, Goulburn).

The Public Works Department also had a hand in the design and building of the much larger Botany Pumping Station that contained three larger beam pumping engines commissioned in 1858. The Harbours & Rivers Branch of the Public Works headed up by Mr E.O Moriarty as Engineer in Chief, supervised the construction of the £67,000 plant and initially operated it up to 1887

How the Goulburn pumping station was saved at the end of its operational life is a mystery. The other three engines in the Appleby order were scrapped without trace as were the engines from the Botany plant.



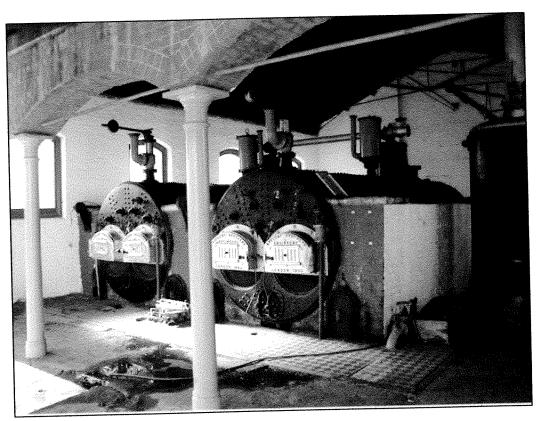
Physical Condition

Virtually all of the fabric of the original installation is intact and in excellent condition. The original building is brick with timber roof trusses and corrugated iron roof. The building also includes the later extensions to the plant which were to house the second pumping engine installed in 1897, and the electric pumps that were installed in 1918. The original brick boiler chimney is still standing and in fair condition.

The Goulburn City Council has renovated the main building and engineer's residence, which is a separate building on the site.

The original Appleby compound beam pumping engine appears to be "fully" intact and is operational. The two Lancashire boilers are intact and still standing in their original locations but are visual only. An additional vertical boiler, located in the boiler house adjacent to the original boilers, supplies steam to the beam engine and the horizontal mill engine.

The weir is intact and appears to be in fair condition. The associated grounds are currently being developed by the Goulburn City Council.



Boiler House 2 off Lancashire Boilers & Vertical Boiler

Associated Engineers

The construction and development of the Goulburn Waterworks was managed by the NSW Public Works Department, Harbours & Rivers Branch. This Branch was headed up from 1858 to 1889 by its first Engineer in Chief, **Edward Orpen Moriarty**, well known for his work in water supply and coastal development in NSW.

Moriarty's achievements include the design of Morts Dock at Balmain, Sutherland Dock on Cockatoo Island, the first Pyrmont Bridge, the Upper Nepean Water Supply Scheme, Lake Parramatta Dam and Newcastle Harbour. The last two have been proclaimed National Engineering Landmarks.

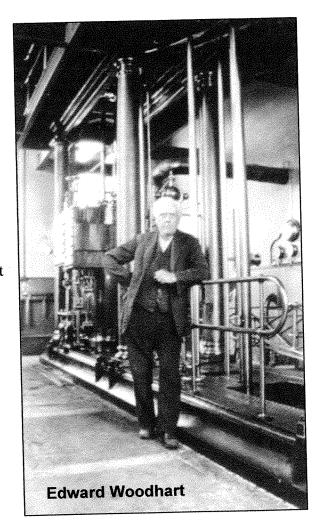
The specifications and design were developed by E O Moriarty and the work on site appears to have been directed by his nephew **Henry Allaster Moriarty** (1864-1928), who was the Public Works Department's District Engineer for Goulburn.

The design and supply of plant was most likely done by the in house engineers of **Appleby Brothers of London** who would have also supplied erection supervisors for their equipment, especially considering that there were four of these plants being constructed over a five year period. (This would need to be confirmed.)

The plant consisting of engine and boilers was installed by **Ball & Stubbs** of Goulburn.

The pump house was designed by the Colonial Architects Office and was built by H.G. Evans and Son of Wagga. The renowned architect James Barnet, was the Acting Colonial Architect from 1862 to 1865 and Colonial Architect from 1865 to 1890.

After commissioning the Goulburn Council took over the operation of the waterworks in 1887 and appointed its first engineer, **Edward Woodhart** who managed the plant for 27 years until his death on site at work.



Modifications and Dates

<i>y</i>		1883
• (Original construction -	1886
	Plant commissioned -	1880
	Supplementary pumps & steam	
	engine installed in annex to original building -	1897
•	New dam constructed upstream at Rossiville -	1915
•	First electric pumps installed and modifications to building annex -	1918
•	More electric pumps installed and modifications to building annex -	1932
•	Ream engine decommissioned -	1932
•	Steam Museum commenced and beam engine restored -	1957 1977
•	Waterworks ceased operation - Steam Museum ceased operation	1777
•	and site cleared of excess steam memorabilia -	2001



Electric Pumps in well – East Annex

Heritage Listings

Name: Australian Heritage Places Inventory

Title: Marsden Steam Museum

Number: 1807

Date:

Location: Crookwell Rd, Goulburn
Local Government: Goulburn City

State: NSW

Statement of Significance: Dating from the 1880s, the former pumping station provided water to the city over a long period; consequently it has an important association with Goulburn's history and the development of local services which in turn improved the quality of life of Goulburn's inhabitants. (Criterion A.4) The station still has its original beam steam engine, the only surviving beam engine in New South Wales still in working order on its original site. Of additional importance is the way in which the place reflects forms of technology, which are now obsolete. (Criterion B.2) Standing on a pleasant bend of the Wollondilly River, the place with its historic character has considerable amenity value. (Criterion E.1)

Name: NSW State Heritage Register

Title: Goulburn Pumping Station, Marsden Weir & Appleby Steam Engine

Name of Item: Goulburn Pumping Station, Marsden Weir & Appleby Steam

Engine

Other Name/s: Goulburn Steam Museum Pump House

Type of Item: Built

Group/Collection: Utilities - Water

Category: Water Pump House/Pumping Station

Primary Address: Wollondilly River, Goulburn, NSW 2580

Local Govt. Area: Goulburn City

Property Description:

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
LOT	21	-	DP	750015
LOT	22.	_	DP	750015
LOT	1	_	DP	951293

All Addresses:

Street Address	Suburb/Town	LGA	Parish	County	Туре
	Goulburn	Goulburn	Goulburn	Cumberland	Primary
Wollondilly River	Gouloum	City	Godao Mari		
off Fitzroy Street	Goulburn	Goulburn	Goulburn	Argyle	Alternate
Off I fizzioy Scient		City			
off River Street	Goulburn	Goulburn			Alternate
OH ICITOR BROOK		City			

Owner/s:

Organisation Name: Goulburn City Council

Owner Category: Local Government Date Ownership Updated: 19 Mar 99

Listings:

Heritage Listing: Heritage Act - State Heritage Register

Listing Number: 00356 Gazette Date: 02 Apr 99 Gazette Number: 27 Gazette Page: 1546

Heritage Listing: Heritage Act - Permanent Conservation Order - former

Listing Number: 00356 Gazette Date 29 Jun 87 Gazette Number: 109 Gazette Page: 3639

ASSESSMENT OF SIGNIFICANCE

Historic Phase:

The Goulburn water works were constructed during the early period of utilities improvement around the state (mid 1880s) and is representative of the technology and work for that period in this industry.

The original Waterworks was the first water utility in Goulburn and as subsequently modified provided water to Goulburn from 1886 to 1977; consequently it has an important association with Goulburn's history and development.

Historic Individuals or Association:

E.O. Moriarty (1825-96) was the first Engineer-in-Chief of the Harbours & Rivers Branchof the NSW Public Works Department, holding the position from 1858 to 1889. He is renowned for his work in water supply and coastal development in NSW. Moriarty's achievements include the design of Morts Dock at Balmain, Sutherland Dock on Cockatoo Island, the first Pyrmont Bridge, the Upper Nepean Water Supply Scheme, Lake Parramatta Dam and Newcastle Harbour. The last two have been proclaimed National Engineering Landmarks.

James Barnet (1827-1904) was appointed Acting Colonial Architect in 1862 and Colonial Architect in 1865. Barnet's works include 169 post and telegraph offices, 130 courthouses, 155 police stations,110 lock-ups and 20 lighthouses. His major works include the General Post Office, Sydney, Callan Park Asylum, the Australian Museum, the Chief Secretary's Building, the Lands Department Building, the Garden Palace and the Anderson Building at Sydney University. Barnet, who was the last Colonial Architect, resigned in 1890.

Creative or Technical Achievement:

The Beam engine as displayed at the Waterworks demonstrates the culmination of a drive power technology, which started with Thomas Newcomen and James Watt and their development of steam engines of the same beam format. The steam engine was initially developed with a beam and a steam cylinder for driving mine pumps and James Watt incorporated the fly wheel to this pattern. The engine at Goulburn is about at the height of this technology and before steam engines took completely different formats capable of higher speeds.

The site also demonstrates the development of water supply systems through the changing technologies over the past 120 years.

Research Potential:

The specific details of history of the Goulburn Waterworks and its three (3) sister plants has numerous gaps in the delivery of the projects. The part played

by Appleby in the supply of the engines is unclear since this firm was not known for this kind of work.

Information on the Goulburn works and sister projects is scattered, and dedicated time would be required to search for numerous facts from numerous sources.

Social:

The Waterworks has a strong association with Goulburn and its development; Goulburn being the first inland city in NSW. The technology as demonstrated here took water supply for such towns away from the water cart era to one of "on tap" supply. This plant is typical of some of the first installations in NSW to supply water to country towns.

Rarity:

The Goulburn Waterworks' beam engine is one of a handful of beam engines still in existence in Australia. More importantly, it is the only one still in its original location and setting.

Representativeness:

The 'Appleby' beam pumping engine and its associated Lancashire boilers at the Goulburn Waterworks, is the last remaining of four very similar sets of pumping equipment purchased at the same time and installed in large regional towns in NSW,.. They are representative and typical of the technology and style of works that were built for many other town water supplies such as the Maitland Walka Water Works (commissioned 1887) and the Botany Pumping Station (commissioned 1859) for the Sydney supply.

Integrity/ Intactness:

The Goulburn Waterworks including the building housing all the plant and the wells, is substantially intact, and the original beam engine is still in operable condition.

The engineer's residence on the site is also intact, as is the weir that supplied the water to the pumping station.

Other Points of Significance

- Goulburn was the first inland city in NSW and the Waterworks is one of Goulburn's most significant historic sites.
- The site demonstrates the development of the supply of water to a city over the past 120 years.
- The site demonstrates the development of past steam technologies.

- In 1918 Goulburn Waterworks was one of the first reticulated systems to install electric pumps.
- The site is listed on the Register of the National Estate as a significant site.
- The pump house is listed as a significant Industrial Archaeology Site
- The National Trust has classified the site as significant.
- The site is presently covered by a permanent conservation order under the Heritage Act 1977

Statement of Significance

The Goulburn Waterworks is of high social, technical and representative significance for an engineered work from the steam era. It is an extremely rare example in Australia of a beam engine in operable condition that demonstrates the culmination of this form of steam engine as originally developed by Thomas Newcomen and James Watt. It is the remaining example of a series of water pumping stations that were installed through out NSW to supply water to the growing populous. This technology in water supply took town utilities away from the water cart era and into 'on tap' supply state. The water works has a strong association with Goulburn as a growing inland city. Its possession in good order, of all the equipment installed during its upgradings to keep pace with the city's demands and growth up to 1977, provides evidence of the development of water supply technology from steam driven beam engine pumps to electrically driven centrifugal pumps. It is an excellent example of steam era technology and is a significant landmark in industrial archaeological and historical terms. The Goulburn Waterworks has associations with two major public servants of the Colonial era: Edward Orpen Moriarty, the first Engineerin-Chief Harbours and Rivers of the Public Works Department, and James Barnet, Colonial Architect.

Assessed Significance: STATE

Plaque Wording

Historic Engineering Marker

Goulburn Waterworks

The original water works comprising Marsden Weir, the pumping station and its equipment, was designed and constructed between 1883 and 1886 under the direction of E. O. Moriarty, Engineer-in-Chief, Harbours & Rivers of the Public Works Department, NSW. Construction was supervised by engineer H. A. Moriarty and the works were managed for Goulburn City Council by engineer Edward J. Woodhart from 1887 to 1922. The water works as upgraded, supplied water to Goulburn up to 1977. It is of State heritage significance and is the only remaining intact example of its type in NSW.

The Institution of Engineers Australia and Goulburn City Council 2003.

References:

- Conservation Management Plan Goulburn Steam Museum By Gary Dutaillis & Associates
- 2. Museum Public material

From Goulburn City Council

3. Public Works Department Archives

State Archives

4. Conservation Management Plan for Albury Water Pumping & Electricity Generating House

By Kenneth Young – Architect

5. Notes on Appleby Beam Engine

By Owen Peake of International Stationary Steam Engine Society - ISSES.

Source Material & Research

The research on the Goulburn Waterworks subject has been fragmented and difficult, as most of the information is scattered and found in many sources. Even to date the Goulburn City Council and the nominator are communicating with relevant people in England to determine further the history of Appleby Bros. The nomination proposal is mostly based on previous research by those undertaking heritage works on the Goulburn Waterworks and the other associated waterworks constructed at the same time. Detail such as exact dates is difficult to determine without further prolonged research in archives, newspaper library's and other sources. Very little material is cross-referenced especially at the Government level where much of this information and detail was stored at the government archives prior to current recording procedures.

The subject has great potential for further research both in terms of the Public Works involvement and that of the overseas supplier, Appleby, but this would require a serious amount of time and research.

Plaquing of this Work needs to be based on the merit of the subject and not upon the detail within the nomination.