Flour Mill
2-32 Smith Street, Summer Hill

Heritage Assessment

MUNGO SCOTT FLOUR MILL

SUMMER HILL

1935

Prepared for

EG Funds Management
by
John Graham & Associates

16 Kent Street, Sydney
GPO Box 4441, Sydney 2001
Phone: 02 9241 4688
Fax: 02 9241 5611
jg@jgassociates.com.au

10 March 2011

Executive summary

The Mungo Scott flourmill at Summer Hill was until recently owned by Allied Mills Pty Ltd. It has been made redundant by the construction of a new mill on the railway line at Picton on the outskirts of Sydney. The Summer Hill mill is no longer operational and the milling machinery has been sold. It was the last user of the adjacent goods railway line that links Glebe Island with the main line at Dulwich Hill. The reservation for the goods railway line is proposed to be adapted for use as a corridor for use by the light rail system. It was one of numerous mills built in Sydney in the 1920s. EG Funds Management, the current owners of the site, propose to adaptively reuse several of the most culturally significant buildings in a residential and mixed-use development.

Purpose of this document

This document accompanies an application by HASSELL on behalf of EG Funds Management for approval of a Concept Plan for the site of the former Mungo Scott flour mill to facilitate its redevelopment for residential and commercial purposes under Part 3A of the Evironmental Planning Act 1979. It should be read in conjunction with drawings attached to the Concept Plan prepared by HASSELL.

The assessment is designed to provide an understanding of the significance of the place. An assessment of the impact of works associated with the proposed redevelopment on its cultural significance is provided under separate cover.

The site

Figure 1: Site plan

Photo: Google Earth

The mill occupies part of an industrial precinct located mid-way between Summer Hill and Lewisham railway stations on the Inner West line. The precinct is bisected by a goods railway line that follows the route of the Hawthorne Canal. The goods line is now disused but the reservation is proposed to be developed for use by light rail. The site is bound to the west by late nineteenth and early twentieth century dwellings of more or less uniformly consistent urban grain. The main body of the site is within the Local Government Area (LGA) of Ashfield. A small portion of land to the north, currently vacant, lies within Marrickville LGA.

Existing Heritage Status

Consideration of 2-32 Smith Street as a heritage item has been deferred under Section 68(5) of the Local Government Act. It is not within a Heritage Conservation Area. The Quarantine Ground Conservation Area lies to the west of the site. The Hawthorne Canal is not listed on the State Heritage Register or the Ashfield LEP but is included on Sydney Water's s.170 Register.

Methodology

This assessment has been prepared in accordance with the methodology outlined in the *NSW Heritage Manual* guidelines for the preparation of *Heritage Assessments*, the approach set out in JS Kerr's *The Conservation Plan* and the guidelines of the *Burra Charter*.
The terminology in this assessment is consistent with that used in the *NSW Heritage Manual.*

Limitations

This report excludes an assessment of the milling machinery, which has now been removed from the site.[1] It excludes an assessment of the site for indigenous heritage values and excludes an assessment of historical archaeological remains prior to European occupation.

Author identification

This assessment has been prepared by John Graham.

Acknowledgements

The assessment draws on observations made during several visits to the site, an assessment of the cultural significance of the flourmill site carried out for Ashfield Council by Rod Howard Conservation Pty Ltd in 1998, and its subsequent review in 2005. The understanding of the milling process and the history of flour milling in Sydney was greatly assisted by Alf Trumper, a former employee of the mill. A Heritage Assessment of the machinery and equipment at the Mungo Scott mill undertaken by Godden Mackay Logan for AHMS Pty Ltd, dated September 2008, provides useful background on the place.

[1] *A separate Heritage Assessment of the machinery was undertaken by Godden Mackay Logan for AHMS Pty Ltd in a report dated September 2008*

John Graham & Associates ABN 13 218 626 486
Board of Architects Registration Number: 3838
jg@jgassociates.com.au

A brief overview of wheat flour milling

Wheat was domesticated from the wild in Mesopotamia (present day Kurdistan and Iran) about 9,000 years ago, however in its natural state wheat grain is indigestible by humans. The grain is composed of an outer covering of bran, the germ (the embryo of the new plant) and a starchy endosperm that constitutes about 85% of the whole. The purpose of milling is to separate the bran and germ from the endosperm. When the endosperm is milled into flour it becomes suitable for human consumption. Early milling processes included grinding between two stones or pounding in a mortar and pestle then sieving to remove the bran.

Early mills were powered by animals, but at about the time of the birth of Christ water was introduced as a power source. Windmills were developed in the Middle East in the 9th century AD but production was greatly enhanced by the introduction of steam power in the mid eighteenth century. Until the middle of the nineteenth century stone grinding was the principle form of milling. Stone grinding produces wholemeal flour, which is still popular today due to its high nutritional value.

In the middle of the nineteenth century milling was revolutionized by the introduction of the roller mill, which allows the production of finer flour from which most of the bran has been removed. Most of the flour consumed in Australia is produced by roller milling. Originally powered by steam, roller mills are today powered by electricity. Their mode of operation remains essentially unchanged since their invention.

Numerous cereals are milled into flour but wheat flour is the only one capable of producing dough that retains gas under pressure, thus making it suitable for making "risen" products such as bread. Other cereal flours are not suitable for baking risen products unless combined with wheat flour. [2]

The first Australian mills were portable hand powered machines that accompanied the first European settlers.[3] By the early nineteenth century permanent mills powered by wind or steam were established in Sydney, which was the main market for flour and the port for imported grain. Mills were also developed in the more prosperous country towns, close to where the wheat was grown.

In the late nineteenth century the railway system was greatly expanded enabling wheat to be brought to market much more quickly[4]. At first the wheat was stored in jute bags in the open adjacent to the rail sidings, but there were considerable losses from spoilage, burst bags and vermin. In response, the NSW government passed the "Grain Elevator Act" in 1916. The first concrete silos were built at Peak Hill in 1918 and by 1925 The Grain Elevators Board had constructed 63 country silos and a large complex of silos at the terminal in Sydney's White Bay.[5] The combination of the electrification of Sydney in the early 20th century, the modernization of the wharves and the

---

[2] *Lauke Flour Mills-Understanding Flour*

[3] *Godden Mackay Logan, Industrial Heritage Assessment, Mungo Scott Flour Mill, Summer Hill dated September 2008 p.10*

[4] *The line from Albury to Sydney was completed in 1881.*

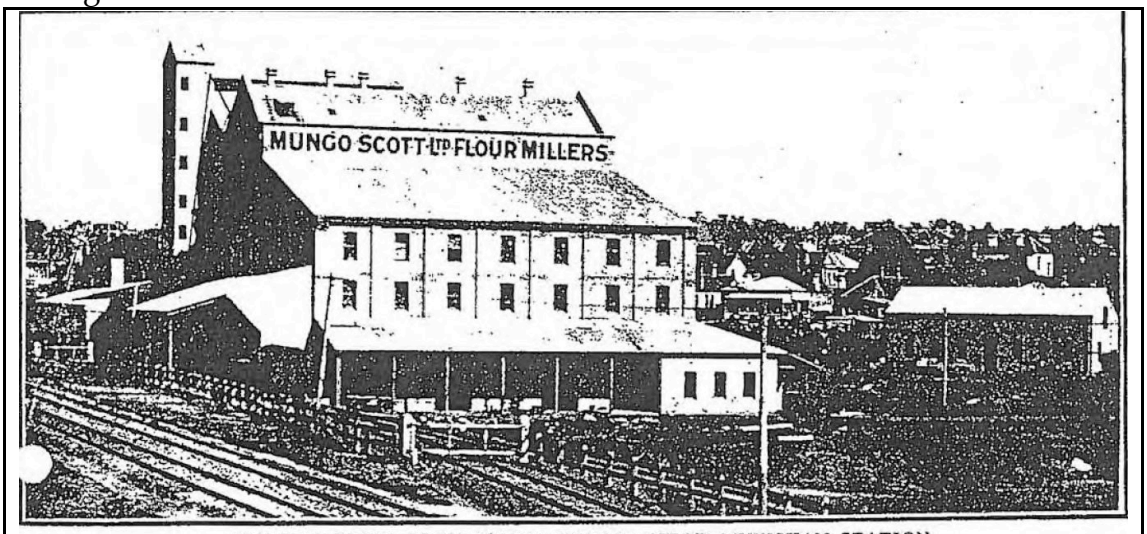
[5] *Michael Bogle, unpublished Heritage Assessment, Allied Mill and Silo Grouping, Albury NSW April 2010*

John Graham & Associates ABN 13 218 626 486
Board of Architects Registration Number: 3838
jg@jgassociates.com.au

convenience of rail transport, made Sydney an attractive place to establish flour-milling facilities.
"After the First World War, there was a significant expansion of the Australian wheat industry, with the area under cultivation doubling between 1920 and 1930, and a noticeable increase in yield per acre, due to improvements in wheat breeding and farming techniques. This spurred the construction of new mills, of which Summer Hill was one. Others were the Gillespie Bros mill at Pyrmont in 1921, the John Darling mill at Rhodes in 1920, the Great Western mill at Dulwich Hill, the McLeod mill at Merrylands in 1925, the extensions to the Crago mill at Newtown in 1921, and to the Austral mill at Parramatta."[6]

The Summer Hill mill

The site of the Mungo Scott mill forms part of a 30 acre grant made to Henry Kable in 1804. It formed part of John Fyle's brickworks in the mid nineteenth century and in the early part of the twentieth century was acquired by the Railways & Tramways Construction Authority for works associated with the construction of a goods railway line linking Glebe Island/Darling Island with the Sydenham to Belmore line (later the Bankstown line) at Dulwich Hill. Those parts not required for railway purposes were acquired by Mungo Scott between 1916 and 1918.[7] The first buildings erected on the site are illustrated in Figure 2.



GENERAL VIEW FROM SMITH STREET, NEAR LEWISHAM STATION.
Showing Flour Store and loading basement in foreground, offices, also stables.

Figure 2: The mill in 1922, prior to the fire.

Photo: From "The Millers Journal" July 31,1922

Mungo Scott purchased additional land facing Edward Street and in 1920 began construction of a new mill, which would allow it to close its operation in Sussex Street in the city.[8]

---

[6] *Alf Trumper, unpublished manuscript, Allied Mills-Summer Hill Site History.*

[7] *Ashfield Heritage Study Review of Areas Zoned 2(a) Reference No 3 19 02*

[8] *Aitken Scott, who had been milling in Sussex Street since 1895, was taken over by Mungo Scott in 1904.*

The new mill was similar in design to other mills of the era. They consisted of "a rectangular, brick, gable roofed building of four or five storeys, and various smaller associated buildings. All included wheat silos and were located beside railway lines for easy receival of grain.[9] The capacity of the Summer Hill mill was in the order of 4.2 tonnes/hour. The main building was a five storey one, divided down the centre by a brick wall. This created separate sections for the mill/screenroom and warehouse. Banks of square wooden silos ….were housed in a tall corrugated iron clad structure on the southern side, with rail weighbridge and intake hopper, jute bag and wheat cleaning areas at ground level."[10]
On the morning of 13 January 1927 a fire broke out in the warehouse, severely damaging the structure, however it did not extend to the main body of the mill itself, or to the silos, although drawings prepared by the architect suggest the fire did damage the roof of the adjacent mill.[11] Rebuilding was undertaken by the milling engineers Henry Simon utilizing the architectural services of Arthur William Anderson. The re-built work can today be distinguished by the use of steel framed windows, as opposed to the timber framed box framed windows of the earlier work.

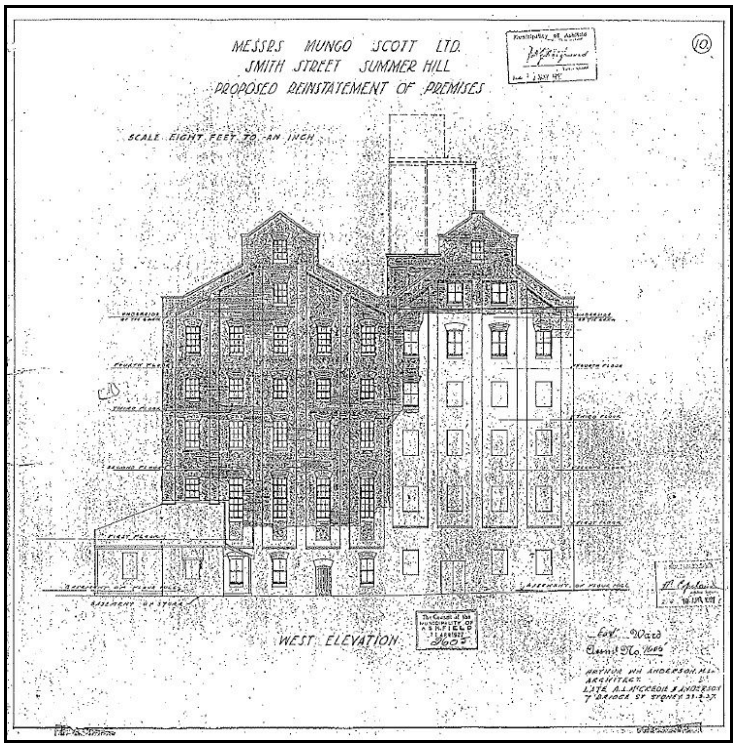


Figure 3: West elevation for the reinstatement of the warehouse:

Drawing: Arthur Wm Anderson, provided by Goodman Fielder and reproduced on page 25 of Rod Howard's Heritage Assessment Survey dated February 1998.

The mill returned to operations in September 1928.

[9] *Alf Trumper*
[10] *Ibid*
[11] *See Fig 2*

John Graham & Associates ABN 13 218 626 486
Board of Architects Registration Number: 3838
jg@jgassociates.com.au

A simplified description of the milling process

Wheat was delivered from the farm to the site from a railway siding to the east of the wooden bins. The siding had a capacity of 12-13 trucks, which were decoupled from the locomotive and drawn through a covered lean-to by means of a rope capstan. A hopper in the base of the car allowed the wheat to discharge onto a grillage. From here it dropped through a chute and was conveyed by a horizontal auger through intake separators that removed any rubble or large pieces of foreign material. It was tested to ascertain its moisture content, density and protein content before being stored in an appropriate wooden bin.[12] The railway car was weighed on entry and exit to determine the quantity of wheat delivered.

According to the type of flour required, wheat was drawn from the bottom of the wooden bins by a screw conveyor, cleaned in a screen room within the main brick mill and blended before being taken either to concrete silos for storage, or to conditioning bins to optimise its moisture content prior to milling.

After it had been conditioned, the wheat was transported to the top of the mill by bucket elevators and the milling process would begin. This was accomplished in the first instance by passing the wheat through fluted "break rollers" to remove the husk. The grain would then pass through numerous reduction rollers and plan sifters to separate the bran and germ from the semolina, and ultimately the flour itself. When the process was complete the flour would be stored in steel holding bins until it was ready to be despatched either in bulk (by road) or packaged and despatched by rail through a second siding attached to the east side of the main mill building. By products such as bran and wheat germ were packaged for sale to health food suppliers, while "offal" which consisted of pollard and the miscellaneous other grains that had been separated in the early cleaning stage, were sold as animal fodder.

Figure 4: Milling machinery (now removed)

Photo: JGA 2007

[12] *Conversation with Alf Trumper. The wooden bins were small as this allowed storage of a variety of wheat types. They were wooden because this was a cheap way of making silos in the 1920s.*

A description of structures from the first building program

Amenities (Building 9)

The amenities building initially served as a stable associated with horse drawn vehicles and formed part of the initial building program in 1922. By 1944 the fleet had become motorised, a second storey was added and it was converted to use as an amenities block. The alterations included rearrangement of the external openings and the removal of visible evidence of its former use. It has brick walls and a gabled roof clad with corrugated iron.

Figure 5: Amenities block (Building 9) from the north

Photo: JGA 2007

Figure 6: First floor of Building 9

Photo: JGA 2007

Warehouse and packing (Building 13)

The warehouse and packing building is the most prominent building on the site and is particularly visible from the Inner West train line. It has five main floors with a sixth floor under a raised clerestory, a pitched corrugated iron roof and metal framed windows with high sills. The exterior is enclosed by substantial brick walls. Mill offices are attached to its northwest corner and a corrugated iron railway siding to its eastern end. It has an internal structure of timber storey posts and beams, and timber floors. It was constructed in 1922 but extensively rebuilt (and enlarged) to the design of the architect Arthur William Anderson following a fire in 1927.[13]

Figure 7: The exterior of the warehouse and packing building from the east.

Photo: JGA 2007

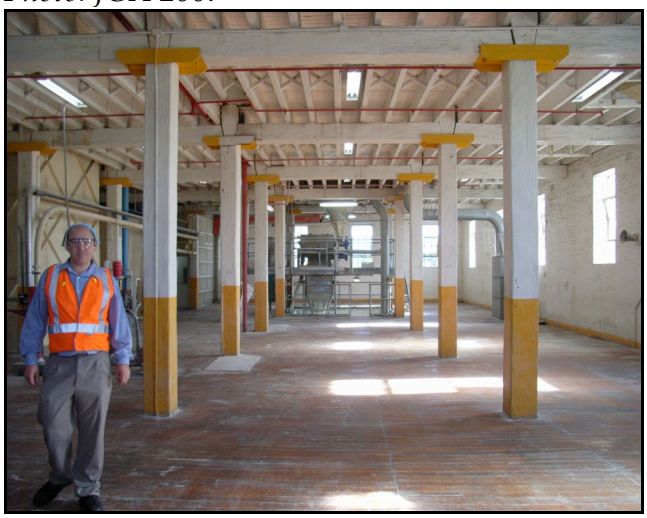


Figure 8: The interior of the warehouse and packing building.

Photo: JGA 2007

Rod Howard identifies it as "one of the most significant buildings on the site, because of its early date of construction and its intact fabric".

[13] *Rod Howard Conservation Pty Ltd Heritage Assessment Survey 1998, p7*

Flour Mill (Building 14)

The flourmill is similar in construction to the adjacent warehouse and packing building but has more closely spaced columns and its windows are timber framed. Contemporary drawings suggest it survived the 1927 fire. The milling machinery has been removed as the site is no longer operational.

Figure 9: The flour milling building from the east. The warehouse and packing building is on the right. The annexe on the left, used for dust collection, is a later addition.

Photo: JGA 2007

Wooden Bins (Building 15)

The bins are arrayed in two groups. The group of 35 bins on the eastern side are about 3.2m x 2.4m in plan. The group of 16 bins on the western side are about 3.2m x 3.0m in plan. Both groups are a little over 19 metres in height, are similarly constructed of *Oregon* in an interlocked "log cabin" arrangement and are supported on a forest of hardwood trunks. The whole arrangement is enclosed by corrugated iron, is connected to the siding by an underground conveyor system and to adjacent silos by overhead conveyors. A report by MacDonald Wagner and Priddle dated December 1979 highlighted numerous fractured planks in the bins, which resulted in a reduction of their recommended capacity[14].

[14] *Appendix A, Rod Howard's Heritage Assessment Survey, February 1998*

Figure 10: The wooden bins and receiving siding from the east.
Photo: JGA 2007

Figure 11: The forest of hardwood posts supporting the wooden bins. Photo taken from within General Store 2 (Building 16)

Photo: JGA 2007

Figure 12: A wooden bin at the upper levels, showing the typical "log cabin" construction.

Photo: JGA 2007

Figure 13: The bottom of a wooden bin showing the Oregon (Douglas Fir) timber of its construction and a horizontal auger in the base.

Photo: JGA 2007

General Store 2 (Building 16)

The single storey, skillion roofed store is attached to the side of the wooden bins and is ancillary to the use of the site as a flourmill. A mezzanine that occupies the southern part of the space is supported on hardwood posts. (See Figure 11).

Ancillary structures

A number of ancillary buildings and structures were needed to support the milling operation. These included:

- Sidings
- Sheds for maintenance (workshops)
- Offices
- An electricity sub station

As the operation expanded, additional silos were constructed to the west of the main building and the warehouse facilities were enhanced. At first new silos were made of concrete, later ones were made of steel.[15] In the 1960s a new technical centre for milling and baking was established on the northwest corner of the site, and between 1969 and 1971 several houses on Edward Street were acquired and demolished, and their land used for staff parking. Throughout this process, a regime of plantings was established across the site, but particularly on its northern boundary.

Sidings

Sidings for receiving wheat and despatching finished product are located on land belonging to RailCorp and are partially built over the Hawthorne Canal.

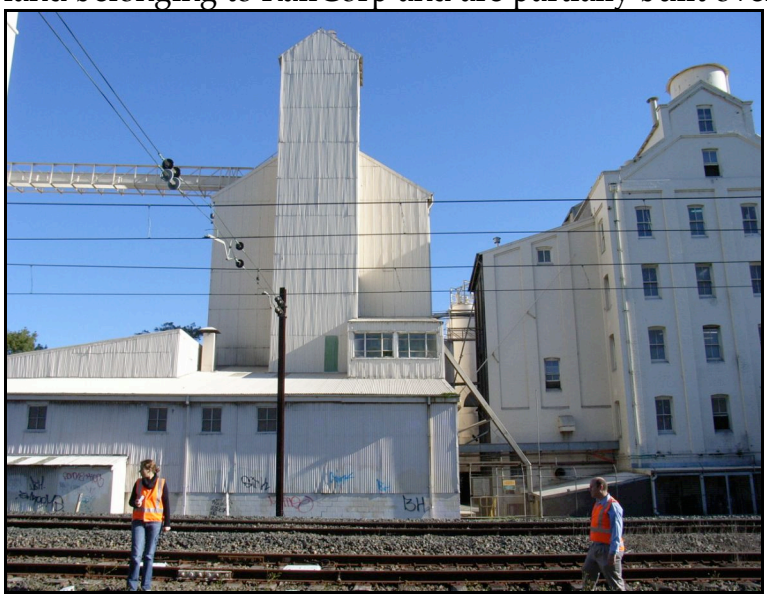


Figure 14: The siding for receiving grain alongside the wooden bins

Photo: JGA Jan 2008

[15] *The concrete silos, for the storage of wheat, were built in 1950, the steel silos, for the storage of flour, were built in 1963.*

Figure 15: The siding to the east of the wooden bins. There are weighbridges on each side of the discharge grillage.

Photo: JGA May 2010

Figure 16: The lean-to east of the Mungo Scott building used for depatching finished product.

Photo: JGA Jan 2008

Figure 17: The Mungo Scott siding (for the despatch of finished product) looking towards the receiving siding.

Photo: JGA May 2010

Sheds for maintenance (workshops)

Workshops were located along the western boundary. The sheds housed machinery for re-fluting the break rollers and general maintenance. In 1942 a brick and concrete air raid shelter was incorporated into the structure.

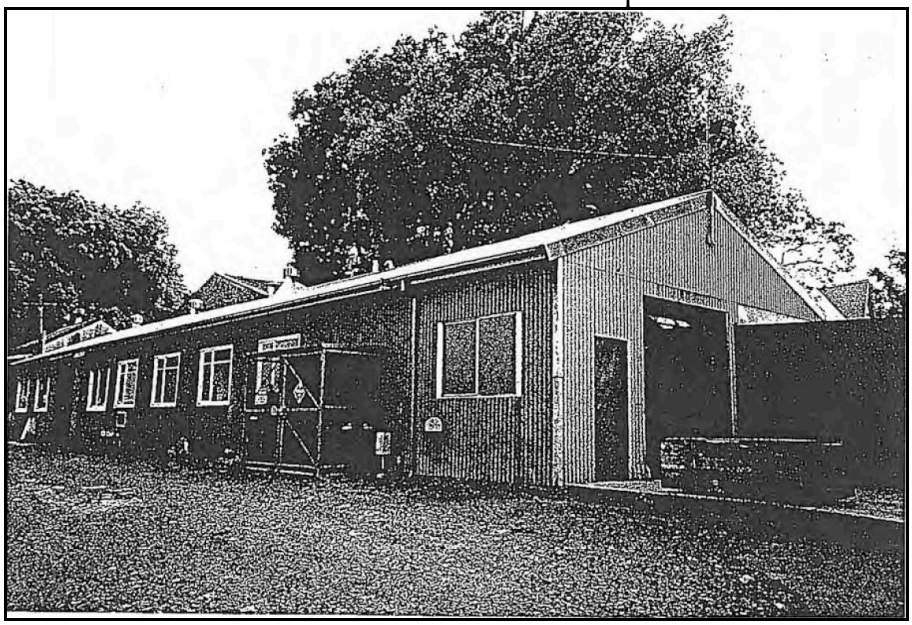


Figure 18: Workshop

Photo: Rod Howard, 1998

Offices

This concrete framed office building was documented by the architects RAC Rogers and Coward in 1964. It has undergone numerous changes of use and been either modified or added to at least 5 times since its initial construction.

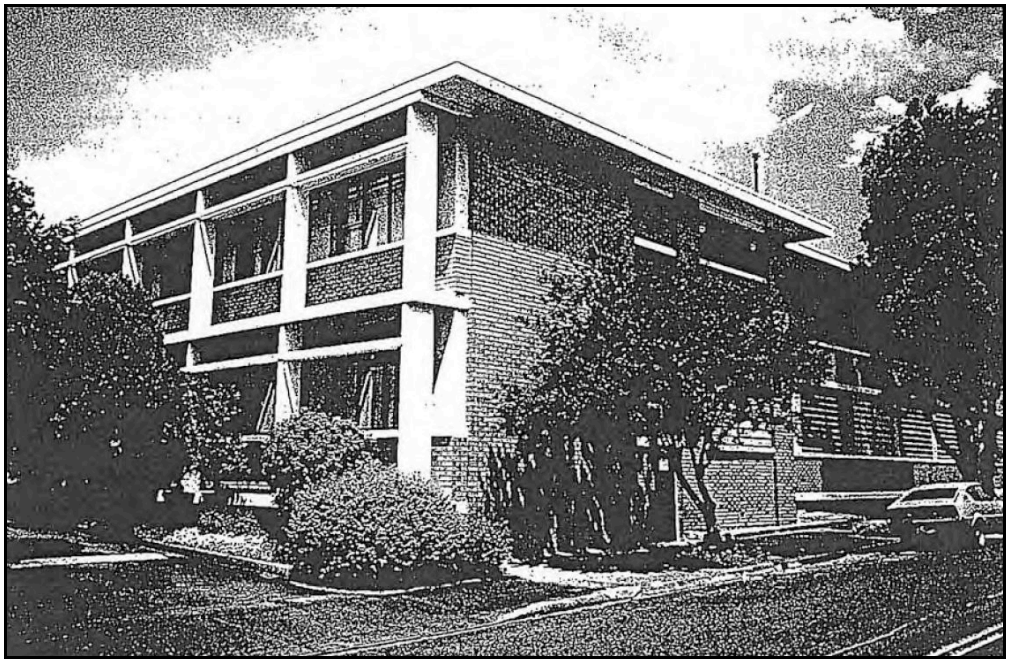


Figure 19: Technical & Baking Centre, Offices

Photo: Rod Howard, 1998

Substation

This terracotta-roofed brick structure formed part of the 1922 works program. It has been modified and added to as the operation has expanded.

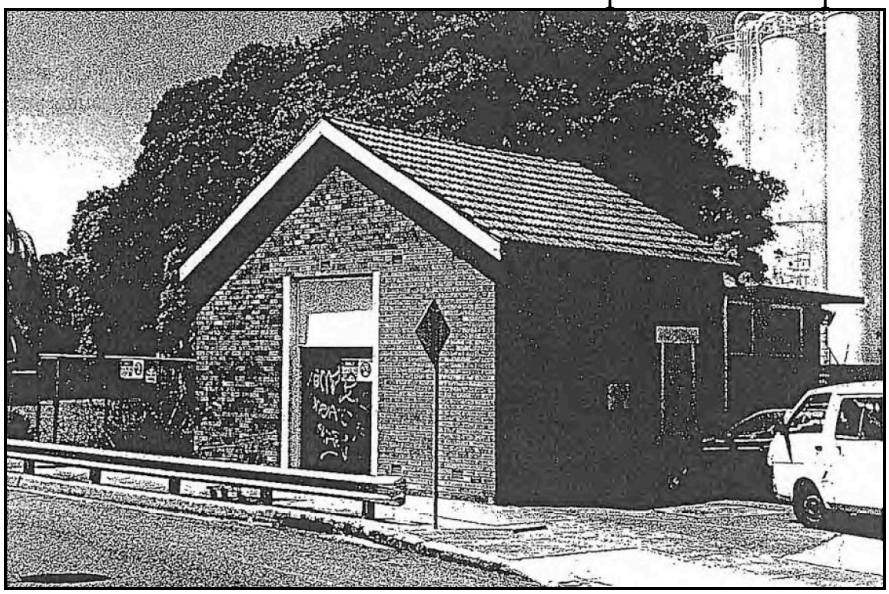


Figure 20: Substation (fronting Smith Street)

Photo: Rod Howard, 1998

Planting on the northern end of the site

The first planting program consisted of Camphor Laurels, remnants of which survive in pockets across the site. The second, and most important program, is represented by major plantings of Brushbox, Hill's Weeping Fig and a line of Wine Glass palms along the Smith Street boundary. [16]

Rod Howard says of this: "the landscaping and planting has aesthetic significance for its landmark form represented by mature Brushbox, Camphor Laurel and Ficus Hillii trees. The line of Wine Glass palms is also of some note because this species is normally planted as an individual specimen within a park surround. The landscaping is representative of the expression of several eras, particularly that of the interwar period and the 1960s."

Figure 21: Planting on the northern end of the site includes Wine Glass palms and an avenue of Brushbox.

Photo: Rod Howard, 1998

ASSESSMENT OF CULTURAL SIGNIFICANCE

Approach to assessment

The approach to assessing the significance of the place is set out in *The NSW Heritage Manual Part 2* (July 2001). An item will be considered to be of State (or local) heritage significance if, in the opinion of the Heritage Council of NSW, it meets one or more of the following criteria.

[16] *An assessment of the planting, undertaken by D.M. Taylor, is contained in Rod Howard's Heritage Assessment Survey, pp 51-57*.

Criterion (a)
An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (b)
An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (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);

Criterion (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;

Criterion (e)
An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (f)
An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (g)
An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or a class of the local area's cultural or natural places; or cultural or natural environments).

An item is not to be excluded from the Register on the ground that items with similar characteristics have already been listed on the Register.

Grading of Significance

Grading	*Justification*	*Status*
EXCEPTIONAL	Rare or outstanding element directly contributing to an item's local and State significance.	Fulfils criteria for local or State listing
HIGH	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance	Fulfils criteria for local or State listing
MODERATE	Altered or modified elements. Elements with	Fulfils criteria for local or State listing

	little heritage value, but which contribute to the overall significance of the item.	
LITTLE	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or State listing
INTRUSIVE	Damaging to the item's heritage significance	Does not fulfil criteria for local or State listing

Statement of Cultural Significance
Rod Howard 's statement of significance of the site is as follows:
The Mungo Scott Flour Mill is considered to be significant for the following reasons:

- The Mill is historically associated as one of a number of flour mills constructed throughout New South Wales during the 1920s as a response to economic circumstances and scientific advances in wheat-growing. It also represents the increasingly centralised infrastructure which increased the prominence of Sydney at the expense of rural localities.
- The Mill has significance in the locality as a prominent visual landmark and, at an historical level, its site is significant because of its long and continuous association with industry and processing.
- Components of the Mill have some aesthetic significance. The Warehouse and Packing and Flour Mill buildings have associations with prominent early twentieth century architect Arthur William Anderson, whilst the Milling and Baking Technical Centre and the small office adjacent to the Weighbridge are very representative of commercial architecture from the first half of the 1960s.
- The landscaping and planting has aesthetic significance for its landmark form represented by the mature Brushbox, Camphor Laurel and Ficus Hillii trees. The line of Wine Glass palms is also of some note because this species is normally planted as an individual specimen within a park surround. The landscaping is representative of the expression of several eras, particularly that of the interwar period and the 1960s.
- The landscaping is an important contribution to the locality, forming the setting for a major commercial enterprise having long associations with the area.

Following the criteria set out in the NSW Heritage Manual, Rod Howard's statement has been refined by the author of this document as follows:

Criterion (a) An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);

The Mungo Scott flour mill is one of a number of similar mills built in response to the development of the railways, the electrification of the city and the introduction of a state-wide system of grain elevators. It has

since been replaced by a mill with similar qualities and the same function, located on the outskirts of the city. The landscaped area to the north of the site contains plantings of local natural significance. ***Moderate, local significance.***

Criterion (b)

An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);

The mill is associated with the prominent early twentieth century architect Arthur William Anderson. ***Moderate, local significance.***

Criterion (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);

The design of the mill demonstrates a typical approach to flour mill design in the early years of the twentieth century. It does not demonstrate a high degree of creative or technical achievement. The mill is a local landmark. ***Moderate, local significance.***

Criterion (d) Social

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;

The mill was the source of income for the local community for most of the twentieth century. ***Moderate, local significance***.

Criterion (e) Potential to yield information

The site possibly has some archaeological potential relating to Fyle's brickworks, but it has little research potential as it is typical of a type. ***Little***

Criterion (f) Rare or endangered

The mill is not a rare example of its type, nor is the type endangered. ***Little***

Criterion (g) Ability to demonstrate the characteristics of a class of places

The mill is a good example of its type. Its siting adjacent to the railway line and the general arrangement of its component parts are attributes that demonstrate the type. ***Moderate***

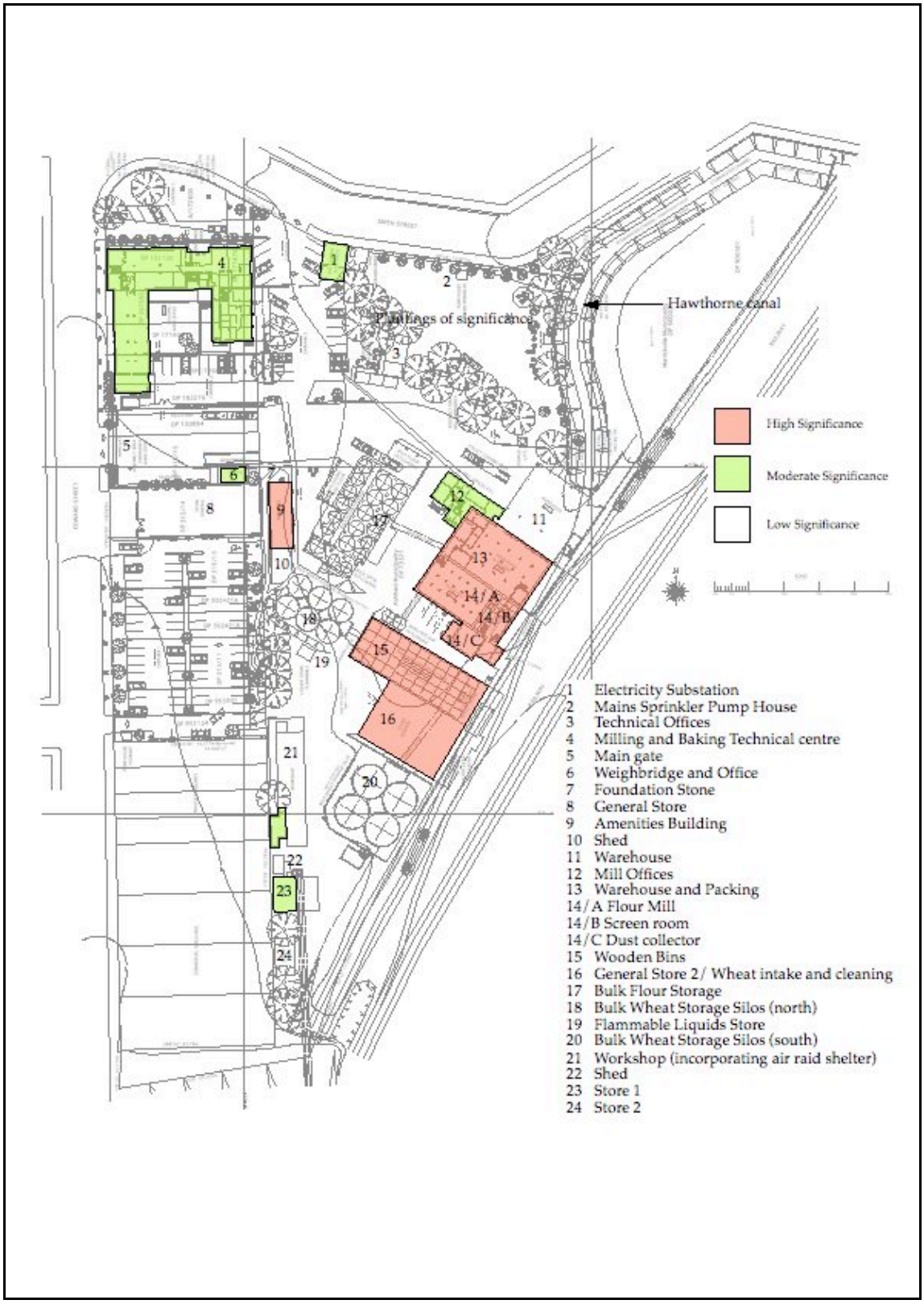


Figure 22: Site Plan showing levels of cultural significance of buildings on the site. ***(Adapted from information contained in Rod Howard's Heritage Assessment Survey February 1998. Base survey provided by Allied Mills)***

John Graham & Associates ABN 13 218 626 486
Board of Architects Registration Number: 3838
jg@jgassociates.com.au

Tabulation of fabric of high significance
(Refer to Figure 22)

Amenities building (9)

Facades generally	moderate
Roof form	moderate
Roof cladding	little
Internal fabric	little

Warehouse and packing (13)

Facades generally	high
Roof form	high
Roof cladding	little
"Mungo Scott" Signage	high
Storey post construction	high
Timber floors	high

Flour mill and screen room (14/A & 14/B)

Facades generally	high
Roof form	high
Roof cladding	little
Storey post construction	high
Timber floors	high
Machinery (removed)	n/a

Dust collector (14/C)

Facades generally	little
Roof form	little
Roof cladding	little
Floors	moderate

Wooden bins (15)

Facades generally	little
Roof form	moderate
Roof cladding	little
Method of construction	high

General Store 2 (16)

Facades generally	little
Roof form	little
Roof cladding	little
Floors	little
Method of construction	moderate

Tabulation of fabric of moderate significance
(Refer to Figure 22)

Electricity substation (1)

Function	high
Facades generally	little
Gabled roof form	little
Roof cladding	little

Milling and Baking Technical Centre (4)

Facades generally	moderate
Roof form	little
Roof cladding	little
Internal fabric	little

Weighbridge (6)

Function	moderate
Facades generally	little
Roof form	little
Roof cladding	little

Mill Offices (12)

Function	high
Facades generally	little
Gabled roof form	little
Roof cladding	little

Workshop, including air raid shelter (21)

Function	high
Fabric generally	little
Machinery	n/a
Air raid shelter	moderate

Store (former laboratories, built 1947) (22)

Fabric generally	little