HERITAGE IMPACT ASSESSMENT

RESIDENTIAL DEVELOPMENT

FORMER LUKE MURAS BUILDING AND CHUBB COMPANY FACTORY

WATERLOO

November 2000

Prepared on Behalf of St Hilliers

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1.1 The Study Area and Its Status

The subject of this report is one part of the Waterloo site of the former Chubb Factory encompassing the Luke Muras Building and post-war factory structures. This is to be redeveloped for residential occupation. This report reviews the significance of this place, presents conservation objectives and evaluates the impact of the proposed development on the significance of the place, its elements and the conservation objectives. The site is bound by the heritage-listed facade of the first stage Chubb building, a heritage listed electricity sub-station and Powell and Short Streets, Waterloo. The only elements within the study area which have been recognised for their heritage value are a section of trusses contained within the Luke Muras building.

1.2 Historical Context

The founder of the firm of Luke Muras and Company, engineers and blacksmiths, purchased part of the study area in 1915 and erected the central portion of the building which now occupies this site. Some of the components for this industrial structure are likely to have been either brought from their earlier premises or purchased second-hand. During the 1920s-1930s additions were made to the factory on both the Powell and Short Street ends bringing the factory to its present size. This family company remained in occupation until 1949 at which time the place was purchased by the Chubb Company. The latter used it for the art metal branch of their company. It remained so until the 1970s when the business was sold to Wunderlich which also used the premises for art metal manufacture. The other buildings on the site were erected in the 1960s and following years for staff amenities and warehousing. The Chubb Company first purchased land on this block in the 1920s and from then progressively purchased it all, erecting and adapting buildings for their use. In 1998 the Chubb site was sold and, in 1999, the original factory and administration building were adaptively reused for commercial purposes.

1.3 The Elements

The study area is occupied by the Luke Muras building which comprises three distinct elements being a brick facade and offices on Powell Street (c.1920), a large open plan factory area in the centre of the site with a distinctive and probably earlier roof truss system (1915) and an addition to this factory to the south, with a different roof truss system, taking it to the Short Street frontage (c.1930s). Adjoining this is a a staff amenities building constructed in 1968 and warehousing from the 1970s or later. The study area also contains an electrical sub-station built in c. 1920.
1.4 Cultural Significance

An assessment of the entire Chubb Company complex determined that it was significant because:

- it is representative of the development of Waterloo during the most substantial period of industrial development which provided the principal character for this area
- it is a good representative sample of inter-war and post-war industrial buildings
- it has been continuously occupied and used since its construction by the well-known international firm of Chubb. This company supplied important components to significant building works around the country and was a major domestic supplier of hardware.

Graded assessments of significance for individual items within or adjoining the study area are as follows:

1.4.1 Schedule of Items

Highly Significant Elements

- the facades of the original Chubb factory buildings and Chubb signage
- the sub-station (subject to further analysis)
- the truss system of the original 1915 Luke Muras building

Significant Elements

- the first stage Chubb factory timber truss system and saw-tooth roof form
- the remnant internal structure of the first stage Chubb administration building

Contributory Elements

- the former office, toilet spaces and pedestrian enclosure on the ground floor of the first stage Chubb building
- the Short Street facade of the Luke Muras building
- the Powell Street facade and offices of the Luke Muras building
- the party wall of the Luke Muras building to the first stage Chubb buildings
- the truss system of the 1930s extension to the Luke Muras building
- the 1960s+ elements of the Chubb factory
• sub-surface archaeological relics

Intrusive Elements

• replacement elements for entrance doors, windows on the facades of the first stage Chubb buildings

• roller shutters on both Powell and Short Street facades

• replacement of original joinery and recent office fit-out to Powell Street office spaces

1.5 Conservation Objectives

Conservation objectives determine what is to be achieved through the management of historic fabric and presentation of information. The heritage impact assessment evaluates the degree to which the development proposal will support or impede the application of these objectives or where it will have no impact at all. The conservation objectives for the study area address:

• historical associations and interpretation

• retention of highly significant components

• retention of significant fabric

• management of contributory elements

1.6 Management Issues

There are additional factors which inform the assessment regarding the issues which have influenced the development proposal, external heritage requirements and factors which could affect the implementation of the conservation objectives. These issues are:

• Council requirements

• Statutory considerations

• Retention of the truss system

1.7 The Proposal

The design concept for the residential development is based on the envelopes for built form and open space presented in the Revised Masterplan. The principal components of the development are:

• demolition of the Luke Muras building and later Chubb buildings
The proposal recognises the importance of the heritage items and responds by stepped building heights, selection of materials, finishes and colours.

There is a loss of industrial identity along Powell Street and a negative visual impact is created by the relationship and scale of the new residential buildings to the significant early Chubb building. The design of the new buildings is consistent with the Revised Masterplan and Council requirements but it results in a loss of heritage significance. Physical separation between the Chubb building and the new residential buildings and the use of interpretive materials along the northern edge of the park to create visual links between the extant industrial elements would mitigate this loss of significance.

The retention and adaptation of the sub-station is a positive outcome and it is afforded relief from a potential visual impact by the curtilage which has been left around it.
SECTION 2.0

CONTEXT OF THE INVESTIGATION

2.1 Background

This report has been commissioned to inform the redevelopment of the study area at Waterloo. It provides conservation objectives and comments on the impact of development on the significance of the place and its environs. This report fulfils statutory requirements of the Local Environmental Plan which requires assessments of this kind when development is proposed which may impact on an item identified to be of heritage significance or where development is undertaken adjacent to items of heritage significance.

2.2 The Study Area

The subject of this report is one part of the former Chubb Company manufacturing premises at Waterloo. The entire Chubb factory complex occupies most of the block bound by Elizabeth Street (to the west), Bourke Street (to the east), Powell Street (to the north) and Short Street (to the south). It is located within the Parish of Alexandria, County of Cumberland and is contained within the local government area of South Sydney.

The area to be redeveloped encompasses a structure known as the Luke Muras building, after the original owner and occupant, and additions made to the complex for the Chubb Company during the 1960s and later. These buildings are located between the first stage Chubb buildings on Elizabeth Street and the former Aras Lane and substation to the east. In this report this area is referred to as "the study area".

2.3 Status of the Study Area

The first stage Chubb factory site and the sub-station were identified as items of potential heritage significance when they were included in the inventory prepared as part of the South Sydney Heritage Study (1994). This inventory listing has since been included in a schedule of heritage items (Amendment No. 3, Schedule 2) attached to the Green Square LEP 1998 thus giving those elements statutory protection. The Luke Muras building was included in the Chubb company listing for the schedule, which, therefore, also provides it with statutory protection. Additionally, the sub-station has been identified in Sydney Electricity's Section 170 Register to be an item of cultural significance.

The post-war components of the Chubb Company factory have not been individually identified to be of significance and have not been included in the schedule attached to the planning instrument.
The entire factory site has been the subject of a conservation plan and heritage impact statement (Tropman and Tropman Architects, *Former Chubb Factory 830-838 Elizabeth Street Waterloo Preliminary Conservation Plan and Heritage Impact Assessment*, St Hilliers 1998). This work identified components of the first stage Chubb buildings, elements of the Luke Muras building and the sub-station to be of significance.

A conservation plan was prepared for the earliest Chubb buildings (Wendy Thorp, *Conservation Plan First Stage Chubb Factory Waterloo*, St Hilliers, 1999). The recommendations contained in this work informed the subsequent adaptive re-use of this portion of the site. This building now is used for commercial purposes.

A heritage assessment of the Luke Muras building (Wendy Thorp, *Conservation Management Plan Luke Muras Building, Waterloo*, 1999) concluded that the truss system contained within the earliest part of this factory, dating from 1915, was rare and the technology encompassed by this system deserving of preservation. The remainder of the building was found to have varying levels of contributory significance.

There has been no dedicated assessment or analysis of the sub-station.

The entire site has been the subject of an archaeological assessment (Wendy Thorp, *Archaeological Assessment Former Chubb Factory Site Waterloo*, St Hilliers 1999). Application for an Excavation Permit from the Heritage Council of NSW was made based on the recommendations contained in this study. It has been approved by the Heritage Office of NSW.

### 2.4 Methodology

This report has been prepared in accordance with the principles and practices presented in *Statements of Heritage Impact* (NSW Heritage Office and Department of Planning 1997) and *Heritage Assessments* (NSW Heritage Office and Department of Planning 1997).

The analysis and recommendations have been made in accordance with the principles expressed in the Burra Charter and, generally, James S. Kerr, *The Conservation Plan* (National Trust, Australia. Various Editions).

### 2.5 Objectives

The first stage Chubb factory buildings have already been adaptively reused for commercial purposes. These were the Stage 1 works of the Masterplan. The eastern end of the site is currently under development for a building of mixed uses, the Taylors Building (Stage 2). The centre of this site, the study area, is to be redeveloped for residential purposes (Stage 3).

The principal objective of this work is to assess the impact of the proposed Stage 3 works on the heritage significance of this place, its component elements and significant items in the close environs. The principal objective of a Statement of
Heritage Impact is to explain how the heritage values of a place or items are to be conserved or enhanced by the proposed development. The principal issues addressed by a heritage impact statement are defined by the Heritage Office of NSW as:

- identifying why the item(s) is of heritage significance
- assessing the impact of proposed works on that significance
- identifying measures which may mitigate any negative impacts
- discussing why more sympathetic solutions are not viable if this is relevant

(*NSW Heritage Office, Statements of Heritage Impact, 2*)

### 2.6 Tasks

Much of the information which is required to support a heritage impact statement has already been completed, for example, Conservation Management Plans for the Luke Muras building and the first stage Chubb Factory buildings (see Section 2.3). In some cases conservation policies are required to identify the objectives of heritage management. To this end the following tasks have been undertaken:

- review of the analysis and policies prepared for the entire site in 1998, those presented in the heritage assessments of the Luke Muras Building and Chubb factory and, generally, the Masterplan requirements
- review of the primary and secondary archival research
- inspections of the place and its fabric
- liaison with Council, the owner and manager and architect for the new development
- determination of conservation objectives where necessary
- an assessment of the proposed development and its alternative options on these objectives and the significance of the place and individual elements
- documentation of the programme in a form and standards acceptable to South Sydney Council and the Heritage Office of NSW.

### 2.7 Authorship, Client and Acknowledgements

This report has been written and researched by Wendy Thorp (Cultural Resources Management). The work was commissioned by St Hilliers Pty Ltd. The work draws from the earlier studies of this place. A full bibliography is included in Section 9.0 of this report. The drawings have been provided by Stanisic Turner Architects.
Views of the Luke Muras Building and later Chubb Company buildings on Powell Street
Views of the Luke Muras Building and later Chubb Company buildings on Short Street
SECTION 3.0

HISTORICAL CONTEXT

The historical evidence for the study area has been comprehensively analysed in several of the reports prepared for this place. The sub-station remains largely undocumented at this time. Despite considerable efforts Sydney Electricity were unable to supply original archival material for this building within the time frame of the investigation. This has not prejudiced the outcome of the investigation.

The purpose of this section is to present a brief narrative of development for the study area as a means of providing a framework for interpreting the significance of the fabric within it. For full details reference should be made to the works which are listed in the bibliography at Section 9.0 of this report.

The historical narrative is presented in several phases which approximate the chronological development of this place. They are:

- The Pre-European Environment and Aboriginal Occupation
- The Mount Lachlan Estate - Subdivision and Residential Occupation
- The Industrial Context
- The Chubb Company
- The Sub-Station
3.1 The Pre-European Environment and Aboriginal Occupation

The study area was part of the Waterloo Swamps environmental system which was characterised by sand dunes, Banksia scrub, streams and swamp. A large stream ran along part of the northern boundary of the study area. Archaeological evidence from the first stage Chubb factory site shows that this land, although not a swamp, had a flow of water across it possibly due to floods at various times.

The large volume of water in this area contributed to the catchment that supplied Sydney's second and third water reservoirs and more directly was used by the scattered industries, such as tanning and fell-mongering, which relied on it as part of their industrial process. These small and sparsely distributed establishments characterised Waterloo during the majority of the nineteenth century. Three large dams were made in the swamps to aid this nascent industrial development. One, the Little Waterloo Dam, was located just to the west of the study area.

The environment provided a rich source of food and raw materials for the original owners. However these people, members of the Guringai, Eora or Cadigal tribes, are unlikely to have used the swamps as permanent camp-sites. Decimated by disease and pressure on traditional resources brought about by white settlement the Aboriginal peoples gradually left their traditional lands; few reports are made of contact in this area after the early part of the nineteenth century.

3.2 The Mount Lachlan Estate - Subdivision and Residential Occupation

The study area is included within the boundary of one of the first European grants made in the area of Waterloo. This was a property of 185 acres given to John Thomas Campbell by Governor Sir Thomas Brisbane on 30 June 1825. There is no evidence to show that Campbell made any use of this land. An informal track across the area was the only addition made to it by c. 1830.

Campbell sold the estate to Daniel Cooper and William Hutchinson in 1829 for 1000 pounds. Most of Waterloo and the surrounding suburbs remained in the hands of the Cooper family until the later years of the nineteenth century or early years of the twentieth century. Any development was undertaken by tenants who leased their land from the family. This combination of environmental conditions and the nature of land ownership contributed to the sparse settlement of Waterloo during most of the nineteenth century.

The Mount Lachlan estate was subdivided and put up for lease in this manner; the study area was encompassed in Lot. There is no evidence to show that any use was made of the study area, residential or otherwise, after this sale until the early years of the twentieth century.
3.3 The Industrial Context

Throughout the second half of the nineteenth century Waterloo attracted numerous small industries particularly those who could make use of the abundant supply of water. This industrial profile was consolidated at the end of the nineteenth century and during the early years of the twentieth century as many more small industrial firms purchased or leased land often on the newly reclaimed portions of the former swamps. In the immediate environs of the study area were a meat products manufacturer and machinery manufacturer amongst others.

The land immediately adjoining the study area to the west was purchased in 1914 and developed as a stonemasons’ yard for the firm of Holdsworth McPherson. The second parcel to be sold on this block was developed by the firm of Luke Muras and Co. Soon after a small allotment at the intersection of Powell and Elizabeth Streets was used as a machinery storage yard. From the 1920s onwards the entire block was progressively purchased and developed as the Australian manufacturing premises of the firm of Chubb.

3.4 Luke Muras and Company

Luke Muras and Company was a family firm of engineers and blacksmiths first established in Glebe in the mid-1880s. By 1888 their permanent address was in Bridge Road, Glebe. They remained there, expanding over several adjacent properties, until they acquired land in Waterloo.

In 1915 Luke Grieve Readford Muras purchased a parcel of land at Waterloo. At that time the only street access was from Short Street; Powell Street was not formed until c. 1920. The company transferred their entire operations to the new site.

The new premises for the company comprised a large, open-plan factory set back from Short Street. This southern side may have been the original entrance to the site. It is likely that the wrought-iron truss structure for the roof was either brought from their old premises and re-erected on new columns or it was purchased second-hand. The technology is more common for the later years of the nineteenth century rather than for the first decades of the twentieth century. Most of the steel columns holding up this building were manufactured by the English firm of Frodingham Iron and Steel Company. This company imported large quantities of building materials to Australia during the nineteenth and early twentieth centuries prior to the establishment of Australian manufacturers for these elements. There are also some column elements by the Scottish firm of Danarkshire Steel Company.

In 1919 the property was transferred to John Robert and Bowser Muras, Luke Readford Muras and Stephen Bowser Muras on the death of Luke Grieve Muras. Council Rates for 1920 value the property at just over 4000 pounds. By 1930 the improved capital value was over 12,000 pounds. This increase may be accounted for by the extension made to the factory at the northern end. With the formation of Powell Street in c.1920 it appears that the company created a new formal entrance to their site which comprised brick offices and a new facade.
3.5 The Chubb Company

The Chubb family company was established at Wolverhampton in the UK in 1818. By the 1880s the company was beginning to export its security devices. Agents were appointed in Sydney and Melbourne in 1884. The Sydney Agency was known as Chubbs Australian Company. Their office was in Clarence Street. The company prospered in the building boom of the early twentieth century and there was a move to establish an Australian factory to remove the complete reliance on imported goods. The site chosen for this factory was at Waterloo. It acquired two lots on Elizabeth Street and built there a new administration building and factory at opposite ends of the street frontage.

While Luke Muras and Company extended their premises in the inter-war period their neighbours, the Chubb Company, also found a need for more space for their works. In the early part of the 1930s the Company acquired their neighbour to the east, the premises of Holdsworth McPherson a stonemasons' yard, and extended their factory over this entire site. In the later 1940s representatives of the parent company visited Australia to determine the most appropriate means of again expanding the factory premises. In 1949 the company acquired the Luke Muras building for this purpose. Chubb initially used the Luke Muras building, at least in part, as the premises for their art metal manufacturing plant.

During the 1950s and 1960s further need for expansion was accommodated by the acquisition of land on the eastern side of the Luke Muras building, between it and Aras Lane. Additions were made in 1958 and the Annual Report for 1959 noted that these had been "considerable". As well, the entire factory had been reorganised to make better use of the space. A staff amenities block was built in c. 1968 adjoining the Luke Muras building. In 1970 the architectural metalwork side of the company was sold to to the firm of Wunderlich. It continued to lease the part of the factory in which this work was carried out, apparently still the Luke Muras building.

In 1984 the Chubb companies were merged with Racal Electronics. Eventually the two were merged with a third company Williams. The latter was responsible for the
decision to sell the Waterloo site in 1998. Since that time the building has stood vacant with parts of the Luke Muras building providing for casual tenancies. The site is currently owned by St Hilliers Pty Ltd.

3.6 The Sub-Station

Nothing is known of the sub-station at this time. Primary documentation is said to be held by Sydney Electricity but it was not made available during this investigation. The Section 170 register records a construction date of c. 1920 although the style of the building and, generally, the history of electricity supply to the inner-city suburbs could suggest an earlier date in the twentieth century for this building.
SECTION 4.0

THE FABRIC

The fabric of the various components of this site have been analysed to varying degrees as part of the preparation of the earlier reports for the Chubb factory and its component parts. The exception remains the sub-station. The following sections present the principal conclusions of those investigations which have relevance to this analysis.

4.1 Character and Streetscape

The study area is located in Waterloo in an area generally dominated by small scale industrial buildings constructed during the first half of the twentieth century. There is an occasional larger industrial building like the six-storey Millers Storage building on Bourke Street. Opposite the study area, on the northern side of Powell Street, is a former Chubb factory building of a similar period to the Luke Muras building. Adjoining this building to the east is a building which presently has a Development Application lodged with Council for an eight-storey building. On Short Street there are mid-twentieth century industrial buildings and some residential buildings in Hunter Street.

The small, early twentieth century single-storey sub-station occupies the eastern boundary of the study area. Immediately adjacent on the Bourke Street boundary of the former Chubb site, but separated by a narrow lane, is a six-storey commercial building currently under construction. The western boundary of the study area is defined by the newly restored and adapted first stage Chubb factory and administration building now used for commercial purposes.

The study area is oriented north-south and has frontages to both Powell and Short Streets. The principal facade is to Powell Street. The Luke Muras facade cannot be described as an example of any particular architectural style. It is a simple, unadorned utilitarian structure which is principally defined for its period, the 1920s, by the joinery and brickwork expressed on the street frontage. It contains the main public entrance, both vehicle and pedestrian, now having a roller door. The entire frontage is dominated by the brick wall of the offices which extend for one room's width behind. The eastern half is two-storey and the western portion is principally one-storey although there is a small single room space over the eastern end of this block. The facade of the building adjoining it to the east, constructed by Chubb in the 1960s is also a very plain utilitarian structure typical of that period. These later Chubb buildings are of one and two storeys.

The Short Street facade of the Luke Muras building is even more simple. It is a flat single-storey face-brick facade broken only by a large vehicular entrance in the centre and a small barred security window to the west. It is dominated by a single large metal
clad gable; this may be a replacement of the original form. The facade on Short Street which was erected for the later Chubb buildings is similarly utilitarian in character.

The Luke Muras and Chubb building facades create a continuous line of varied industrial buildings along Powell Street broken only at the point where there is an open space around the sub-station to the east. These buildings reinforce the traditional character of the area and help to define its principal period of development. They reflect the progressive industrial development of this block and, by inference, the historical associations of the Chubb company with the site. This is largely expressed through the facades. None, with the exception of that recently restored on the first stage Chubb building, have any architectural or aesthetic merit although they have been identified as contributory elements to the significance of the place.

The Luke Muras building and later Chubb factory buildings are complimentary in scale to the former and present industrial buildings surrounding them. For this reason, despite the differences in styles and materials, the Powell Street facade in particular achieves a degree of visual unity expressive of its inter-related history and chronological progression of the Chubb company across the site.

The new buildings which have been approved or are in the course of construction immediately adjacent to the study area represent a substantial break from these earlier twentieth century low-rise buildings. They comprise residential and commercial structures of up to six storeys.

4.2 Planting and Paths

The Powell Street footpath is formed from concrete. The continuity of the footpath is broken at the entrance to the Luke Muras building where a gentle concrete ramp provides vehicle entrance to the factory.

The Short Street footpath is similar to that on Powell Street although here there is a grass kerb-side verge. There is a ramped vehicle entrance to the factory.

Both Short and Powell Streets have irregular plantings of Eucalyptus species. None have been identified to be of any significance.
Street trees and facades along Powell Street (above) and Short Street (below)
4.3 Structures

4.3.1 The First Stage Chubb Buildings

The first stage Chubb buildings, being the inter-war period administration building and factory, have been adapted for their present commercial use. The facades to Elizabeth, Powell and Short Streets have been retained and restored with some changes (for example, the new entrance on Elizabeth Street). The roof structure has been adapted with the provision of a two-storey extension within the body of the former administration building. The extension to the building can be seen above the old parapet wall to the street. Efforts have been made in the design of the form and fenestration and the selection of materials and colours for the new structure to reflect the industrial character of the older building and its principal design qualities. Much of the 1930s timber truss system has been retained within the covered car park which occupies the land between the commercial premises and the Luke Muras building. This boundary is defined by a brick wall probably built in the 1930s by the Chubb Company to separate the two premises. It now forms the western wall of the Luke Muras building taking the place of what was likely to have been a timber-framed wall covered in corrugated iron sheets.

The Powell Street facade of the first stage Chubb buildings
4.3.2 The Later Chubb Buildings

These buildings to the west of the Luke Muras building were constructed by Chubb in the 1960s and later for staff amenities and warehousing. The amenities building adjoins the Luke Muras building at its north-eastern corner. It was built in c. 1968 and contains staff toilets, canteen and other amenities. It remains inside substantially intact in its form and detailing. It has a break-front, face-brick facade with flat-roofs. It has a bank of rectangular windows to Powell Street.

The warehousing which lies behind and next to this building is constructed from prefabricated aluminium sheeting and generally has a saw tooth roof form. It is supported on a simple truss system and spans a very large open space. This dates from the 1970s onwards. There have been several additions to this building.

The eastern wall of the Luke Muras building was removed to enable a flow through from this building to the new Chubb building.
4.3.3 The Sub-Station

The sub-station is a single storey, tuck-pointed, face-brick load-bearing building. It has a gable roof, iron clad, and a timber framed ventilation turret. The upper facade has been rough cast cement rendered and is decorated with the building identification in relief: "MCS ELECTRICITY SUBSTATION NO 110". There are two doorways, one infilled and finished with cement render. The other contains a small timber doorway.

There appears to have been relatively little change to the external appearance of this structure. Behind the building are new transformers. It was not possible to view the inside of the building and this was not necessary for the purposes of this report. It has been described as an Inter-War Arts and Crafts style building probably of the 1920s (Tropman and Tropman Architects, Former Chubb Factory 830-838 Elizabeth Street Waterloo Preliminary Conservation Plan and Heritage Impact Assessment, 15).
4.3.4 The Luke Muras Building

The Luke Muras building comprises three distinct elements being:

- brick facade and offices of one and two storeys on Powell Street (c. 1920). Most of the internal spaces have been re-fitted in the last five years. This adjoins,

- a large open plan factory area in the centre of the site with a distinctive triple-gabled roof truss systems (1915). This is a Warren truss system with an additional vertical member in the middle (king rod). Both the centre and side gables have this system but it is reduced in size for the aisles. The technology is more typical of later nineteenth century traditional engineering practices than those of the early twentieth century. The elements may have been purchased second-hand or brought to the site from existing premises. This is attached to,

- an addition to the south with a different, single-gable roof truss system, the same width as the triple gable system of the earlier section of the factory, supported on lattice columns (c. 1930s).

Both factory spaces were externally clad with corrugated iron sheeting over timber framing. The frame and cladding only partly survives on the northern end of the building behind the Powell Street offices. It has been lost from the western, southern and eastern sides to accommodate the extension of the factory at different times.
4.4 Condition

An assessment of the structural condition of the Luke Muras building was prepared for St Hilliers in 1999. It concluded that:

- the Powell Street facade is in good condition
- the Short Street facade has problems with cracks in the brickwork
- the trusses are corroding but this had not yet visibly effected their performance
- the timber framing has evidence of old white ant damage
- there is evidence of rising damp
- it is paved in poorly compacted and poor quality concrete.

The condition of the Chubb company amenities building has been described as fair to good condition. The sub-station was assessed to be in poor to good condition requiring general maintenance (Tropman and Tropman Architects, *Former Chubb Factory 830-838 Elizabeth Street Waterloo Preliminary Conservation Plan and Heritage Impact Assessment*, 15).

4.5 Archaeological Resources

The entire Chubb factory site has been the subject of a comprehensive archaeological evaluation which concluded, with respect to the study area, that the archaeological resource of this place could encompass environmental evidence, some evidence of the methods used to clear and level the site during the nineteenth century and no evidence of European occupation pre-dating the Luke Muras building or the later Chubb buildings. There is likely to be a very deep deposit of fill over the entire site. Some evidence of this was seen during excavation of the first stage Chubb factory site. The archaeological resource was assessed to have low cultural significance.

The principal recommendations of the original assessment were for application for an Excavation Permit from the Heritage Council of NSW with requirements for recording and on-going monitoring. These recommendations have now been acted upon and a permit has been approved for the site with provisions for monitoring and recording as necessary.

4.6 Relics

All industrial relics have been removed from the Luke Muras building. In part this had been done by the Chubb company when it vacated the premises. It was noted in the industrial survey attached to the Preliminary Conservation Plan that "much of the internal movable and industrial heritage items have been removed prior to the building being sold" (OHM Consultants Appendix B to Preliminary Conservation Plan). What did remain was inventoried and, with respect to the Luke Muras building, the following items were identified as having some significance:
The only item of significance located within the later Chubb factory building was a Meters "Triumph" gas oven (Tropman and Tropman Architects, Former Chubb Factory 830-838 Elizabeth Street Waterloo Preliminary Conservation Plan and Heritage Impact Assessment. 21).

In common with the rest of the factory all elements such as switches, heaters and bus bars were removed and a representative sample was stored on site awaiting decisions with respect to their future use. None of the items from the Luke Muras building had any particular identity with its use by either the firm of Luke Muras or the Chubb Company. All were common industrial or service items. A subsequent assessment of these items concluded that they had little or no significance and recommended for their disposal.

The only item of significance located within the later Chubb factory building was a Meters "Triumph" gas oven (Tropman and Tropman Architects, Former Chubb Factory 830-838 Elizabeth Street Waterloo Preliminary Conservation Plan and Heritage Impact Assessment. 21).

- overhead travelling crane (now removed)
- the trusses
- the driveway on Powell Street
- safes in the eastern offices (now removed).

A "nave" section of the truss system in the Luke Muras building
Assessments of significance for the Chubb Company site and the various components potentially impacted upon by the proposed development have been presented in several of the reports prepared for this site and are described in the following sections.

An assessment of significance is made by applying standard evaluation criteria to the facts of the item's development, associations and fabric. These criteria are defined in the NSW Heritage Manual. They encompass the "nature of significance" and "comparative significance". Items have value if they meet at least one of the nature of significance criteria and are good examples of either of the comparative criteria.

Determining cultural value is at the basis of all planning for places of historic value. A clear determination of significance permits informed decisions for future planning that will ensure that the expressions of significance are retained, enhanced or at least are minimally impacted upon. A clear understanding of the nature and degree of significance will determine the parameters for and flexibility of any development.

An assessment of significance for the Chubb Company site and the various components potentially impacted upon by the proposed development have been presented in several of the reports prepared for this site and are described in the following sections.
5.2 The Entire Chubb Complex

An assessment of significance of the entire Chubb company complex was contained in the Preliminary Conservation Plan and discussed in the Conservation Management Plan for the First Stage Chubb Buildings. The principal issues of significance may be summarised as follows:

- it is representative of the development of Waterloo during the most substantial period of industrial development which provided the principal character for this area

- it is a good representative sample of inter-war and post-war industrial buildings

- it has been continuously occupied and used since its construction by the well-known international firm of Chubb. This company supplied important components to significant building works around the country and was a major domestic supplier of hardware.

5.3 The First Stage Chubb Buildings

The historical evolution of this site is representative of Waterloo during the nineteenth and twentieth centuries in its limited residential development and later small scale industrial profile. It is likely to have provided some employment opportunities for the local population. The building contributes greatly to the streetscape it has frontages to, particularly those of Elizabeth and Powell Streets, and these help to define the principal historical character of the area and the time when it largely acquired this profile. The scale is complimentary to the open space of the park across from the building.

The site's principal historical association is with the internationally well-known firm of Chubb which continuously occupied this place for over seventy years. Australia was the first of Chubb's international divisions and the Waterloo site the first of its non-UK based factories. The first stage Chubb building contains the earliest buildings constructed for the factory and the administrative needs of the company. However, these historical associations are not particularly well expressed in the fabric.

Apart from the Chubb signs which were once displayed on the facades, the building is not expressive of the company or the specific technologies employed by it. The building does not exhibit any particular adaptation to this company other than to provide work space. This has been achieved by a timber truss system. This technology developed in the nineteenth century is not particularly rare, there is still a substantial range of examples of this form of structure in Sydney. Apart from its representative value the merit in this building of this truss system is that it contributes to the interpretation of this as an industrial space. The place has little value for its industrial technology, which was largely removed by the company when it vacated the premises or for historical archaeological investigation.

The building constructed for the firm is an amalgam of four distinct periods of development but principally of the 1920s and 1930s. It is a competent if not particularly
fine or diagnostic example of the Federation Warehouse and Free Classical styles of the early part of the twentieth century.

The building is assessed to have representative value as an example of local development, a not particularly fine example of its architectural type and of the structural system employed in it. It has local significance.

(Wendy Thorp (CRM), Conservation Management Plan First Phase Chubb Factory Waterloo, 35).

5.4 The Later Chubb Buildings

Apart from their contributory value to the overall complex the Preliminary Conservation Plan assessed the staff amenities building on Powell Street to have low significance and the warehousing to have no significance. No specific statements of significance were developed for these components to explain these assessments (Tropman and Tropman Architects, Former Chubb Factory 830-838 Elizabeth Street Waterloo Preliminary Conservation Plan and Heritage Impact Assessment, Figure 48).

On the basis of the standard evaluation criteria used to assess places of potential significance it could be concluded that both the amenities building and warehousing contribute to the historic associations of this site and thus have some contributory significance in interpreting the expansion and requirements of the Chubb Company.

However, individually, neither has any aesthetic or technical significance as architectural elements being utilitarian and common design types of their periods. The technology contained within them also is neither rare nor unusual. Both the amenities building and warehouse, as individual components, are assessed to have no individual significance.

5.5 The Luke Muras Building

The building's principal historical association is with the original occupants, the family firm of Luke Muras and Co. This firm was typical in its scale and fortunes of the hundreds which moved to and contributed to the particular development of Waterloo in the early decades of the twentieth century. The building has a second association with the firm of Chubb which occupied it for fifty years. An internationally famous company, Australia was the first of Chubb's international divisions and the Waterloo site the first of its non-UK based factories. This is principally expressed in the first stage Chubb buildings on Elizabeth Street. The Luke Muras building is one of several which are representative of the growth and success of that company. The later history of the company's associations with this site, particularly its take-over and subsequent redundancy by a new parent company, is typical of many company histories in the later part of the century.

The building, an amalgam of works from 1915, c. 1920 and the 1930s, is a utilitarian example of a modest industrial site which contributes to the streetscapes it has frontages to, particularly Powell Street. It helps to define the principal historical character of the area and the time when it largely acquired this profile. The scale and materials are complimentary to the buildings around it; this is particularly important
5.6 The Sub-Station

The significance of the sub-station is described on the S170 Heritage Inventory Sheet as, "a modest, externally intact inter-war purpose designed and constructed building" which is a description rather than a statement of significance. It was noted that the building contributed to the local character and that it was important for historic and aesthetic considerations.

The Preliminary Conservation Plan describes it as "a good representative example reasonably intact of a 1920s utility building designed in the Arts and Crafts style of architecture. It also provides information on the industrial development of the district in the 1920s with the advent of electricity" (Tropman and Tropman Architects, Former Chubb Factory 830-838 Elizabeth Street Waterloo Preliminary Conservation Plan and Heritage Impact Assessment, 19).

With neither primary historical evidence to determine its evolution and, thus, its role in the region and as part of the development of the inner-city power supply nor a dedicated physical analysis it is impossible to make an authoritative statement of significance at this time. The facts which are implied by its form, that is dates to the early twentieth century, that it is reasonably intact externally and, apparently, a good example of its type suggest that it will have some degree of significance. The level of this significance and its currency for the locale, region or state will require additional investigation and analysis.
5.7 Schedule of Items

Decisions with respect to how a place is managed depend on understanding the value of individual elements to the significance of the place, whether they are of fundamental importance, contributory or whether they are of detriment to preserving and interpreting cultural value. For this reason the principal elements of an historic site are assigned a category or ranking of significance. Each ranking has a policy of management. These grades or ranks of significance are:

Highly Significant

- buildings, elements, spaces, relics, deposits or other features which should be retained and maintained to ensure that the principal values of the place are preserved.

Significant

- buildings, elements, spaces, relics, deposits or other features which should be maintained although consideration would be given to removal or alteration if there is no appropriate alternative or if retention would or could adversely affect more significant fabric or the survival of the place.

Contributory

- buildings, elements, spaces, relics, deposits or other features which may be more radically adapted or removed if in doing so no damage is done to fabric of significance or high significance

Intrusive

- buildings, elements, spaces, relics, deposits or other features which should be removed to recover the significance of the place.

The elements within or adjoining the study area have been assessed as follows:

5.7.1 Highly Significant Elements

- the facades of the original Chubb factory buildings and Chubb signage
- the sub-station (subject to further analysis)
- the truss system of the original 1915 Luke Muras building

5.7.2 Significant Elements

- the first stage Chubb factory timber truss system and saw-tooth roof form
- the remnant internal structure of the first stage Chubb administration building
5.7.3 Contributory Elements

- the former office, toilet spaces and pedestrian enclosure on the ground floor of the first stage Chubb building
- the Short Street facade of the Luke Muras building
- the Powell Street facade and offices of the Luke Muras building
- the party wall of the Luke Muras building to the first stage Chubb buildings
- the truss system of the 1930s extension to the Luke Muras building
- the 1960s+ elements of the Chubb factory
- sub-surface archaeological relics

5.7.4 Intrusive Elements

Intrusive Elements

- replacement elements for entrance doors, windows on the facades of the first stage Chubb buildings
- roller shutters on both Powell and Short Street facades
- replacement of original joinery and recent office fit-out to Powell Street office spaces

These changes, although a valid part of the historical development of this site, actively detract from aesthetic considerations or an appreciation of the principal historical periods of development and the industrial or administrative uses associated with them.
SECTION 6.0

CONSERVATION OBJECTIVES

A heritage impact statement needs to understand what is to be achieved by the management of elements within a place identified to be of cultural significance. Determination of these conservation objectives is an outcome of comprehensive assessments of significance. A heritage impact statement evaluates the degree to which a development proposal will support or impede the achievement of these objectives. The following sections discuss issues which have arisen from the statements of significance and determines the conservation objectives which derive from these issues. The conservation objectives appear in italics at the end of each discussion. In many cases these reiterate the policies identified in the conservation plans.

6.1 Historical Associations and Interpretation

The associations of the entire development site with the Chubb Company have significance for two reasons. The development of this site by the company is an important example of the industrial development which proliferated here during the early years of the twentieth century and which was a major contributor to the creation of the unique environment that characterises Waterloo. This industrial association and use had a particular longevity which may be demonstrated by the fabric which remains on the site. Secondly, this site played an important role in the expansion and operation of an internationally famous company and one which played a significant role in the local market.

The retention of highly significant fabric, in this case the seminal buildings associated with the company's occupation of this site, recognises the importance of these associations and preserves them. However, while the fabric contributes an historical landmark to the landscape this historical significance, the place of the site in the development of a community profile, the role of the Chubb Company and its particular technological contributions will only be made explicit by the introduction of interpretive material to the place.

The significance of the retained and adaptively reused first stage buildings are to be explained by means of an information plaque located on the Elizabeth Street facade. This is now being designed. The significance of the remainder of the site and its component parts will need to be addressed in some other public place.

- To address the historical significance of this site explicit interpretive material/devices will need to be placed in publicly accessible areas
6.2 Streetscape: Industrial Character

The study area and the larger Chubb factory complex are principally important because of their industrial history and the various influences this association had on the community. This significance is most clearly expressed and interpreted through the facades of the buildings. The interiors generally are open plan factory space, non-specific to the particular industries once housed there and retaining almost no technology of any kind. Retention of the industrial character of the streetscapes explains and preserves the unique historical profile of the community and creates a specific sense of place.

The scale, materials, forms and utilitarian appearance of all the facades identify their early twentieth century industrial origins. Apart from the aesthetic values of the first stage Chubb building facades none of the other building facades have individual aesthetic merit. However, the physical and visual relationships between the facades is expressive of the organic growth of this particular site and reinforces its comprehensive industrial uses and associations.

These are issues which need to be addressed by any new design components. This is of particular relevance to the significant first stage Chubb factory building and facade which adjoins the Luke Muras building on the western side. This has been retained and restored as part of the Stage 1 works because of its association with the seminal Chubb development on this site, its industrial character and aesthetic qualities. New development will have to be particularly respectful of this heritage item and should seek to maintain its historical relationship with the remainder of the site.

- New development needs to project the twentieth century industrial qualities and history of this area. This needs to be addressed by the careful selection of materials and a design which is aware of and respectful of the existing context. Particularly the importance and relationship of the first stage Chubb factory buildings and the sub-station

- New development, particularly in the consideration of streetscape issues, should seek to reinforce the historical relationship and influence of the first stage Chubb buildings to the remainder of the site
6.3 Retention of Highly Significant Components

Fabric is assessed to be of high significance because its retention is of fundamental importance to the illustration, documentation or explanation of the principal importance of a place and/or it has a value which transcends its incidental associations with a specific place. The latter is usually because of reasons of rarity. Loss of highly significant fabric comprises the significance of the entire site.

Only three components of high significance have been identified within the Chubb Company site. These are located within or adjacent to the study area. These components have been identified to be of significance because of their seminal role in the development of this site, as part of the regional historical profile or because of independent technological importance.

The first of these components, the facades and other elements of the original Chubb factory buildings, have been retained, restored and adapted in the first stage works. The sub-station requires further assessment to confirm its assessment as a component of high significance. The issues pertaining to the retention of the rare truss technology in the 1915 section of the factory are discussed in subsequent sections (refer Section 7.3).

- **The sub-station should be retained in any future development. It may be adaptively re-used but a conservation plan must be prepared to more fully address its significance and management requirements.**

- **The technology encompassed by the 1915 section of the Luke Muras truss system should be preserved because of its rarity.**

6.4 Retention of Significant Fabric

Fabric of this category makes important contributions to the significance of a place but not to the degree of highly significant fabric. It may illustrate or explain secondary issues of significance but its loss or adaptation will not compromise the overall importance of the place. In this case the only significant elements identified are associated with the original Chubb factory buildings and these have been managed as part of the first stage works programme.
6.5 Management of Contributory Elements

Items of contributory significance enhance our understanding or appreciation of an important place usually through their illustration of secondary or lesser aspects of that importance. It is always desirable for contributory items to be maintained but it is not a mandatory requirement. Their retention is not vital to preserving primary significance and their contribution can usually be managed through other means, for example, recording or introduced interpretive material.

In this case, apart from the earliest truss system in the Luke Muras building, this building and its component parts were assessed to be of contributory value to the overall significance of the place. That is, they help to illustrate the evolution of this important industrial site, but are neither of seminal nor outstanding importance in its history and they do not possess individual merit separate to their association with this place.

The original occupants have no particular historical importance, they were one of many that established an industrial presence in the area at this time. The building was not particularly expressive of their specific industrial functions nor of the uses to which it was put by the Chubb company. Its associations with the Chubb company are representative of the commercial success of that company which was expressed through an aggressive policy of site expansion. The Luke Muras Building is one of several that illustrate that aspect of Chubb’s history including the post-war components (the amenities block and the warehousing) contained within the study area.

- Where possible those items identified to be contributory to the significance of the place should be maintained or adaptively reused within the place. Removal from the site is an acceptable option where retention or adaptive reuse is not feasible.

- Before a contributory item is removed a record should be made of it to ensure that its role in the development of the place and its associations with other fabric have been transferred to archival sources.

- The removal of or adaptation of contributory elements should be carried out in ways that ensures no impact will be made on fabric of significance or high significance.
SECTION 7.0

MANAGEMENT ISSUES

Several issues have been identified which either respond to Council requirements for the site, the maintenance of heritage items and their significance or have been an outcome of developing a viable development proposal within the parameters of heritage requirements. These management issues are discussed in the following sections.

7.1 Council Requirements

Council requires mixed development of this block for both commercial and residential purposes in line with its overall planning objectives for the Green Square area. The study area is nominated for residential development. Council's requirements for this site are best expressed by the outcomes described in the revised Masterplan adopted by Council.

The objectives of the Masterplan were to create an "urban village" scaled for pedestrian use but accommodating cars and public transport. The "village" was to have mixed uses with a high level of amenity for the residents and workers accommodated within it. It was to develop an environment responsive to the character, built form and urban pattern of the area. The accepted form of the residential portion of the site is for 2-6 storey + attic buildings.

The buildings presently occupying the site were all built for industrial purposes and are not readily adaptable to residential requirements particularly to meet these outcomes and other planning issues such as energy efficient housing and public open space.

Generally, Council's requirements with respect to heritage issues are expressed in the provisions of the planning instruments discussed in the following sections.
7.2 Statutory Considerations

7.2.1 South Sydney LEP 1998

The first stage Chubb site on Elizabeth Street and the Electricity sub-station are included in South Sydney LEP 1998 (Amendment No. 3) Schedule 2 (heritage Items) Green Square - Heritage and Conservation as:

- Item 406: Former Chubb Pty Ltd group, one and two storey Interwar Commercial buildings including the Luke Muras Building c. 1916 and the early Chubb Building c. 1920 - 1923
- Item 879: Electricity Substation No. 110 - Interwar Building c. 1920

This means, that with the exception of the post-war Chubb Company buildings, the planning provisions of the LEP regarding heritage issues apply to the proposed development because of its potential impact on an item of heritage significance (the Luke Muras building) and in the environs of heritage items (the inter-war Chubb buildings and the sub-station). The principal planning clauses with respect to development of or in association with a heritage item may be summarised as follows (in italics) with discussion following regarding the compliance of the proposal.

- Heritage Aims

Consent for development will not be provided unless Council is of the opinion that planning for heritage objectives has been integrated into the development process, that it provides for public involvement in the area's environmental heritage and that the development does not adversely impact upon items, areas, streetscapes, settings, landscapes and architectural styles which are important to the area.

Generally, the several reports which have assessed the significance of the various components and the preparation of management plans for the first stage Chubb buildings and the Luke Muras building with the implementation of their recommendations demonstrate the integration of heritage requirements within the development process. The proposals for public interpretation of the first stage Chubb building now being developed and consideration being given to additional interpretive devices in the residential section of the development provide for public involvement in the areas of environmental heritage as does, more generally, the retention of significant fabric within the development.

- Protection of Heritage Items, Areas and Relics

Council consent must be applied for and given when the development involves work on an item within a conservation area, moving a relic, work on land that is a heritage item or is contained in a conservation area. Consent is not required when Council is assured that the works are minor or that they will not adversely impact on the significance of an item. The latter requires a complete evaluation of the impact of the works by means of a heritage impact statement and/or conservation plan.
The present report fulfils Council's requirement for a heritage impact assessment for the residential component of the development.

- **Development of Known or Potential Archaeological Sites**

  Consent to development will be granted only if adequate assessment has been made of the likely impact on Aboriginal and non-Aboriginal relics which may be contained within the site and all necessary approvals have been acquired prior to the commencement of work.

  The present report fulfils the requirements of a heritage impact statement. An Excavation Permit has been approved by the Heritage Council of NSW for the management of archaeological relics.

### 7.2.2 Sydney Electricity Section 170 Register

The sub-station is included as an inventory item in this register (Item No. 5529). The recommendations for this item were for retention of the building, the preparation of a Conservation Plan prior to any works planned or undertaken on it, preservation of the external character and ongoing maintenance. Adaptation of the internal space was considered to be an acceptable action.

The present proposal provides for the retention and adaptive re-use of the sub-station which fulfils these recommendations. A conservation plan will need to be prepared to inform this adaptive re-use.

### 7.2.3 The NSW Heritage Act

The NSW Heritage Act also has application to this site principally through the relics provision which requires responsible management of archaeological evidence.

This has been undertaken via an assessment and application for an Excavation Permit from the Heritage Council of NSW which has been approved for the site.

### 7.2.4 Master-planning Issues

South Sydney Development Control Plan 1997 - Urban Design, Draft Green Square DCP and South Sydney LEP 1998 require master-planning issues to be taken into consideration. Consent for development cannot be given unless a master plan has been prepared for the site. These issues have been addressed, first, in the Draft Masterplan Report for Chubb Site (LFA Aust. Pty Ltd. 1999). This was adopted in principle by South Sydney Council. A revised masterplan was submitted to Council in October 1999 and adopted by it with some minor ongoing issues.

With respect to heritage issues the Masterplan addressed the need to retain significant heritage items and provided a framework for doing so. The Masterplan provided for, and Council approved, a Development Application for the use of the first stage Chubb buildings for office and warehouse space. It allowed for the demolition
of part of the building to provide for a two storey extension. This work has been completed including the restoration of the significant facades.

Arising from the first Masterplan Council required a further assessment of the significance of the Luke Muras building. A conservation management plan was prepared for it (Wendy Thorp, Conservation Management Plan Luke Muras Building Waterloo. St Hilliers. 1999). The revised Masterplan was based on one of the three conservation options outlined in the Conservation Plan. This provided for the in situ retention of four of the original trusses of the Luke Muras building.

The present Heritage Impact Statement fulfils additional Council requirements for ongoing assessment and considers this option and others as a means of retaining the significance of this technology.
7.3 Retention of the 1915 Luke Muras Truss System

The only industrial component which was found to be of significance was the roof truss system of the 1915 section of the Luke Muras factory. The conservation plan for this building found that the value of this element was in its demonstration of an increasingly rare form of technology. This is not specific to this site. The significant technology would be preserved if the system or a representative sample of it was relocated and re-erected using the same materials and principles presently employed in it.

Three options were considered in the Conservation Plan for the Luke Muras Building being:

- preservation of the entire structure in situ
- preservation of a representative sample in situ
- relocation of the structure to a new site and its re-erection using the same methods and materials. This option was qualified by the need to ensure that the work undertaken to dismantle and re-erect the system managed to retain the technology employed within the truss system.

The Masterplan developed a design proposal for retaining a representative sample in situ. The present DA proposal considers an option for relocation of a representative sample of the truss system to the public park which will be built on Powell Street. Each of the options has substantial implications for the principal objective of preserving rare technology. These are discussed in the following sections.

7.3.1 Preservation of the Entire Structure or a Representative Sample in Situ

Preservation of some or all of the truss system in situ effectively addresses the same management issues. If the truss system was to be preserved within the residential envelope it means that this development will need to either accommodate units within the truss structure or the truss structure will need to be preserved in a new building (if complete preservation is attempted) or a sample of the trusses will need to be preserved between the residential buildings.

Consideration has been given to the preservation of the truss system within the fabric of a new building and as the basis for a residential development. The principal issues that arose from this scenario are that the trusses will not comply with fire ratings and are not load bearing. From the client's perspective it would severely reduce the floor space ratio within the development. Incorporation of the trusses within the fabric of a building would require them to be concealed in part or completely above or behind other materials and elements. It would ensure the survival of the technology but it would be inaccessible for interpretation and examination. This outcome would largely defeat the objective of preservation.

Consideration has also been given to preserving a representative sample of the truss system between the new buildings in the finger courtyards. A representative sample
Both options have desirable outcomes of preserving the rare technology in situ although both result in restricted access to it.

There are, however, more substantial considerations with respect to in-situ preservation of the truss system on any part of the existing site. The most important of these is the issue of the measures needed to address the potential problem of flooding. The portion of the site which encompasses the significant truss system needs to be raised more than one metre above its present surface to meet this requirement.

This issue and the actions needed to redress it results in only two possible options for the truss system. In the first instance a substantial portion of the support structure could be buried leaving the truss system intact but at a considerably lower height in relation to the ground. This impacts on the technology of the structure insofar as it reduces the ability of the truss system to demonstrate why it was first developed; to provide for high and wide unrestricted factory space. The reduced headspace that results from this option further diminishes the ability of the trusses to be successfully adapted to any residential function.

Alternatively the structure could be dismantled and re-erected at the higher level. In this case it defeats the purpose of in-situ preservation (which is recommended to create the optimum circumstance for minimal interference in the fabric). Re-erecting the structure requires new structural components and this has an impact on the significance of the technology. This is discussed in the following section.

The potential for in-situ preservation of the truss system completely or in part in a way that retains the principal significance of the structure is minimal. As well it has the potential to impact on the amenity of the residential precinct contrary to the objectives of the Masterplan. For these reasons the present DA has considered an option for the preservation of a representative sample of the trusses within the public park proposed for Powell Street.

Following pages: drawings showing position and relationships of a sample of the truss system in a courtyard (prepared Stanisic Turner Architects)
7.3.2 Relocation of a Representative Sample

A sample which effectively demonstrates the technology of the trusses would encompass the entire area of the proposed park (refer drawing following page) because of the need to keep both naves and aisle and at least two bays as a representative sample. The structure has an open character and it is not considered that this would greatly detract from any aesthetic qualities of this open space and could even redress some of streetscape issues identified as potential heritage impacts (refer Section 8.0).

The principal issue with respect to this scenario (and the re-erection of the trusses at a higher level in situ) concerns the impact on the principal significance of this structure by dismantling and re-erecting it. An independent assessment of the engineering issues which need to be addressed for the implementation of this option has been prepared by Van der Meer Bonza Engineers. They note that, although care would be taken to dismantle the structure so as to preserve as many of the original components as possible, it is likely that the condition of some will require measures such as oxy-cutting. This means that some components will have to be replaced.

Because the metal trusses and columns would be exposed, a circumstance for which they were not designed, protective treatments would have to be applied. The trusses and columns would have to be sand-blasted to a class 3 level and then painted with an approved protective coating. It is a lesser issue than the potential damage caused to the truss system through its disassembly, however, the work would considerably change the appearance of the elements. The principal issue of relocation relates to ensuring the structural stability of the elements. It is considered that to ensure this outcome substantial modification of the structure will be required as follows:

- all the columns would have to be replaced and purlins will be required along all roof slopes
- knee struts would have to be added to the central truss and fully welded to provide resistance to lateral swaying and the bottom chord of the central trusses would have to be removed at the column/strut location and a larger pipe section welded on
- a substantial roof bracing system would have to be introduced to all bays to ensure stability and a portal frame system would have to be introduced along the column lines to provide longitudinal stability
- a gable column would have to be added at each end of the ridge line to provide horizontal support to the existing truss bottom chord restraints

The extent of these measures is shown on the following drawing (in red). The proposed adaptation and additions to the structure substantially impacts on the significant technology by removal of some elements, adaptation of others and the introduction of new members. The extent of the measures compromises the significance of the structure and, thus, removes the reason and potential value of relocating the structure away from the site.
7.3.3 Ongoing Maintenance

If either option of in situ preservation or relocated technology was adopted there is an issue to be considered of ongoing maintenance. The engineering assessment notes that, as a minimum, the structure would have to be inspected to ensure that the coatings and elements are not deteriorating according to weather or vandalism and the structural integrity remains sound. Whether the truss system is placed in a courtyard or park the responsibility for ongoing maintenance including financial commitment will need to rest with the managers of the residential buildings. There is no means of ensuring long-term management in these circumstances.
SECTION 8.0

HERITAGE IMPACT ASSESSMENT

8.1 The Proposal

The design concept for the residential development is based on the envelopes for built form and open space presented in the Revised Masterplan. The principal components of the development are:

- demolition of the Luke Muras building and later Chubb buildings
- construction of four buildings separated by finger-courtyards. The height of the buildings varies from four to six storeys with attics, the taller buildings placed at the eastern end decreasing in height to the east where the first stage Chubb buildings define the boundary of the development
- construction of a sub-basement car park with 125 spaces, disabled parking and bicycle storage
- creation of public open space in the north-east on Powell Street and a pocket park on Short Street. Elements to the Luke Muras Truss system proposed to be incorporated in the park subject to engineering and heritage assessments
- creation of pedestrian links from Short Street, Aras Lane and Powell Street
- retention of the sub-station and its adaptive re-use for a cafe

The architect’s statement for the development proposal describes the northern elevations as having a crate-like character related to the predominance of balconies. The southern elevations are "wall-like" having closed galleries and glass ended stair towers. The eastern and western facades have minimal openings to reduce heat gain.

The main materials to be used on the elevations are face brick, bagged and painted brick and painted concrete. Metal ribbed profiled cladding is to be used at high level on the Short Street facade to reduce the visual impact of the building. The attic roofs are to be covered in zinc-like standing seam sheeting. Window frames are powder coated or anodised aluminium. Balcony balustrades will have metal frames with translucent, white, colour clad or finely patterned glass to provide privacy (Stanisic Turner Architects, Residential Development Chubb Site Architects Statement)
8.2 Assessment of Conservation Objectives with the Development Proposal

8.2.1 To address the historical significance of this site explicit interpretive material/devices will need to be placed in publicly accessible areas

This issue is being reviewed in part by the potential to name various site components in a way that demonstrates the past history and use of the place and the introduction of art works and/or interpretive material in public and private spaces. St Hilliers have indicated their willingness to create specific interpretive materials for this place.

8.2.2 New development needs to project the twentieth century industrial qualities and history of this area. This needs to be addressed by the careful selection of materials and a design which is aware of and respectful of the existing context, particularly the importance and relationship of the first stage Chubb factory buildings and the sub-station

The new buildings are to be constructed in a selection of materials that reflect the industrial past including face brick, concrete and metal cladding. Colours also have been selected to address this issue.

The one and two-storey sub-station and Chubb buildings are much smaller than any of the buildings that are to be erected on the site or are in the course of being built. The Taylors building is six-storey and the new residential blocks are a mixture of between two and six storey+ attic. The height of the new buildings responds to the requirements of the Revised Masterplan and is in keeping with new buildings which are being constructed in the immediate vicinity or already have been earlier in this century, for example, the Miller Storage building.

The design is conscious of the disparity between the smaller industrial buildings and the new residential buildings and seeks to accommodate this by stepping the heights of the buildings down from east to west so that the lowest abuts the north-western corner of the Chubb Building. They increase in height from here to the Short Street end of the building. The three residential buildings at this point abutt the eastern wall of the Chubb Building. There are courtyards between. The western elevations of the residential buildings are minimally fenestrated, a measure necessary for energy efficiency. These will be viewed from Elizabeth Street as three large, essentially blank walls that are much taller than the earlier building and have no relation to it. It is noted that these walls are a part of buildings which are consistent with the Revised Masterplan.

These buildings create a substantial visual impact on the Chubb Building. The designers have made efforts to accommodate this relationship by stepping back the building on Short Street and relating the saw-tooth roof line of the Chubb building to the balcony level of the new blocks. Despite these measures the juxtaposition of the different forms and their heights with no relief provided by any set back creates a visual impact on the earlier significant heritage building that also has implications for the relationship of this building with the rest of the site (see following). The sub-station is located next to the tallest buildings on the site but it has been afforded visual relief
by the curtilage that has been left around it in the form of Aras Lane, the park and some open space behind.

8.2.3 New development, particularly in the consideration of streetscape issues, should seek to reinforce the historical relationship and influence of the first stage Chubb buildings to the remainder of the site.

The sub-station is more effectively blended into the new development because of the curtilage that has been left around it. The Chubb Building, which was the principal catalyst for the development, form and appearance of this site, has been visually separated from it by the relationship of the three residential buildings which have been placed against it. The courtyards between the three residential blocks do afford views through to the eastern wall of the building which is to be retained but the streetscape views from Powell and Short Streets remove any connection of this building with the rest of the site or with the sub-station.

Along Powell Street, in particular, although efforts are made in in the design of the new buildings with respect to choice of materials and colours to reflect an industrial past, any sense of this historical context and the organic relationship that once existed on this site through the influence of the Chubb buildings has been removed. The creation of an open space park along Powell Street, in particular, removes any sense of the past industrial identity and relationship of this site and further divorces any visual relationship between the only two industrial elements which remain.

8.2.4 The sub-station should be retained in any future development. It may be adaptively re-used but a conservation plan must be prepared to more fully address its significance and management requirements.

The proposed development does retain the sub-station with a good adaptive re-use option for it.

8.2.5 The technology encompassed by the 1915 section of the Luke Muras truss system should be preserved because of its rarity.

The proposal does consider and option for the retention of a representative sample of the truss system in the park. If this measure were adopted it would help to redress the visual isolation of the remaining industrial elements within the site and would contribute to reinstating the loss of industrial identity which is an outcome of this development. However, consideration of the implications of carrying out this work in the park or leaving elements in-situ has concluded that the measures needed to ensure the stability and longevity of the fabric are so intrusive that the purpose of retaining the truss system, as an example of a rare technology, are lost. A more acceptable outcome would be to record the technology before it is dismantled.
8.2.6 Where possible those items identified to be contributory to the significance of the place should be maintained or adaptively reused within the place. Removal from the site is an acceptable option where retention or adaptive reuse is not feasible.

Before a contributory item is removed a record should be made of it to ensure that its role in the development of the place and its associations with other fabric have been transferred to archival sources.

The removal of or adaptation of contributory elements should be carried out in ways that ensures no impact will be made on fabric of significance or high significance.

All of the industrial elements within the study area, apart from the 1915 truss system, were assessed to be of contributory value. All will be demolished for the proposal. If these elements are recorded prior to their demolition and an archive of this evidence is placed in a suitable repository it is an acceptable outcome. The documentation of the truss system should be carried out prior to the demolition of any portion of the site.
8.3 Positive Heritage Impacts

The following aspects of the proposal respect or enhance the heritage significance of the place:

- The addition of interpretive material/devices and other measures such as place naming will help to make explicit the historical associations and importance of this place.

- The proposal retains the sub-station in a good adaptive form and provides a satisfactory curtilage separating it from any visual impact caused by the construction of the new multi-storey buildings adjacent to it.

- The proposal attempts to reflect the industrial heritage of the place through its choice of colours and use of materials such as face brick.

- The proposal makes a stepped transition in height from the six storey commercial building on Bourke Street to the two storey first stage Chubb factory and relates the older roof line to new levels within the residential buildings, thus recognising and attempting to reduce the visual disparity between the new and old buildings.

- The proposal provides for the retention of the significant truss technology by a sample in the park and this would help to redress the visual isolation of the extant industrial elements and the loss of industrial identity. However, the implications of dismantling and re-erecting the truss system make this a poor outcome for that significant fabric (see in 8.4).
8.4 Negative Heritage Impacts

The following aspects of the proposal detract from or could detrimentally impact on the heritage significance of the place:

- there is a substantial visual impact made on the significant Chubb building by the three residential buildings which abut its eastern wall. Even at the lowest point these buildings are out of scale with the older building, there is no relief afforded by any step back or curtilage between the older building and the new. The view from Elizabeth Street will be of three, minimally fenestrated walls that have no relationship to the older building. It is recognised that the building heights are consistent with the Revised Masterplan.

A separation between these elements to create a curtilage around the older building would help to address this issue.

- the character of an industrial streetscape, and the historical associations and relationship with the Chubb building, is greatly diminished by the removal of the Powell Street facades between the first stage Chubb building and the sub-station and the visual "divorce" of the older Chubb building from the rest of the site because of its relationship with the new residential building abutting it. The new residential character is heightened by the creation of a park on this street frontage which further visually isolates the two remaining industrial elements on the site.

The erection of a sample of the truss system in the park would have helped to regain this loss of industrial identity and create a link between the industrial elements but this is not a satisfactory outcome for this significant fabric. The use of interpretive elements along the northern edge of the park, perhaps recycled elements from the factory or silhouette shapes, could address this problem.

- the measures required to relocate or retain and stabilise part or all of the truss systems would severely compromise the significance of this technology or do not create an outcome which supports the purpose of retention or preservation.

Although retention of fabric is the optimal outcome for this significant element a detailed archival recording will need to be made in place of this measure.
8.5 Neutral Heritage Impacts

The following aspects of the proposal do not substantially impact on the heritage significance of the place in any way

- the removal of the majority of the industrial elements on this site (apart from the 1915 truss system) is considerable to be an acceptable outcome if these elements are recorded prior to their removal

8.6 Conclusions

The proposal provides for the retention of the most significant elements of the site. Where elements must be removed there are acceptable means of transferring the information contained within them to other sources.

The proposal recognises the importance of the heritage items and responds by stepped building heights, selection of materials, finishes and colours.

There is a loss of industrial identity along Powel Street and a negative visual impact is created by the relationship and scale of the new residential buildings to the significant early Chubb building. The design of the new buildings is consistent with the Revised Masterplan and Council requirements but it results in a loss of heritage significance. Physical separation between the Chubb building and the new residential buildings and the use of interpretive materials along the northern edge of the park to create visual links between the extant industrial elements would mitigate this loss of significance.

The retention and adaptation of the sub-station is a positive outcome and it is afforded relief from a potential visual impact by the curtilage which has been left around it.
SECTION 9.0

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