ENVIRONMENTAL ASSESSMENT

Mayfield Site Port-Related Activities Concept Plan

Volume 4 - Appendix I

July 2010

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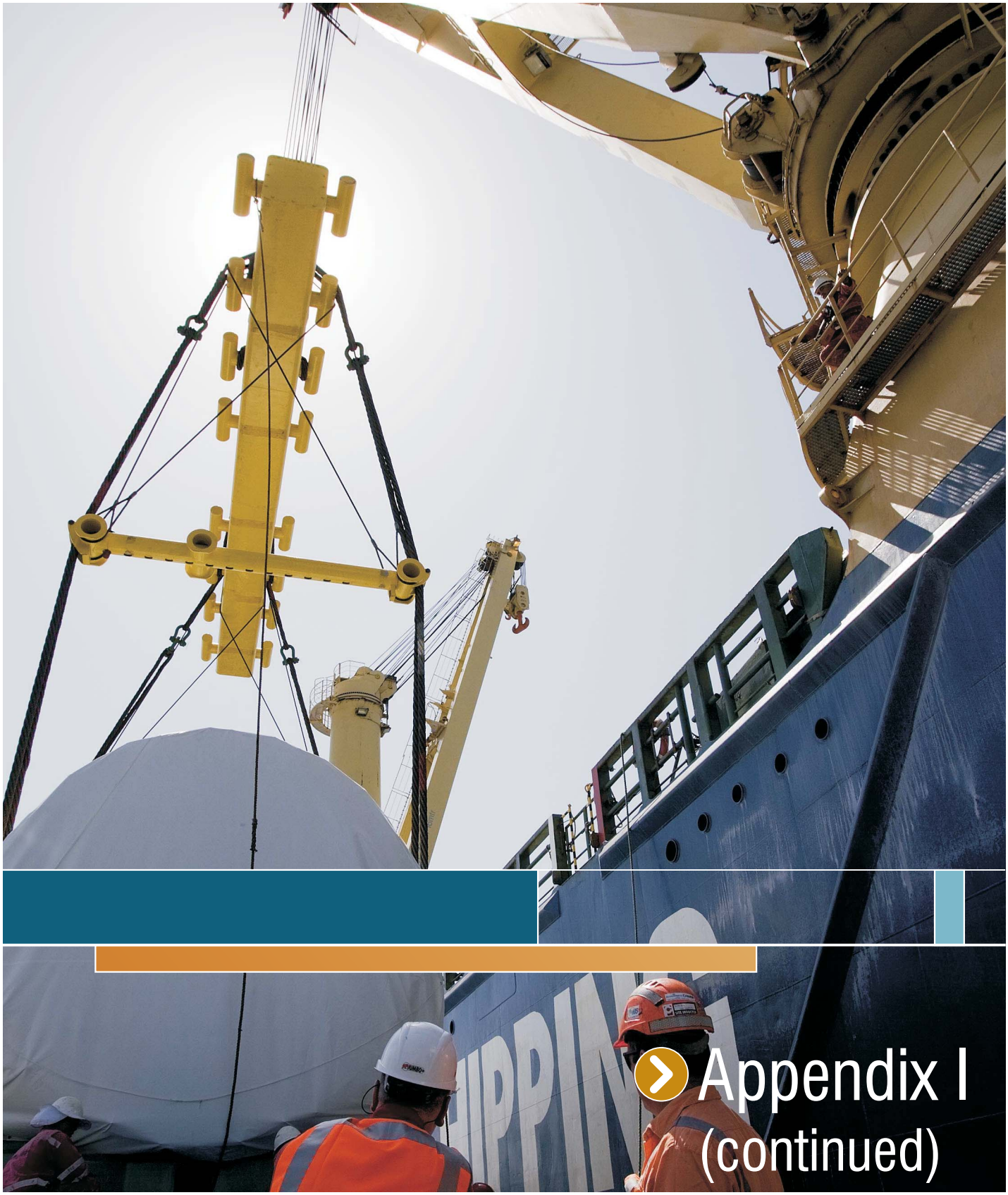
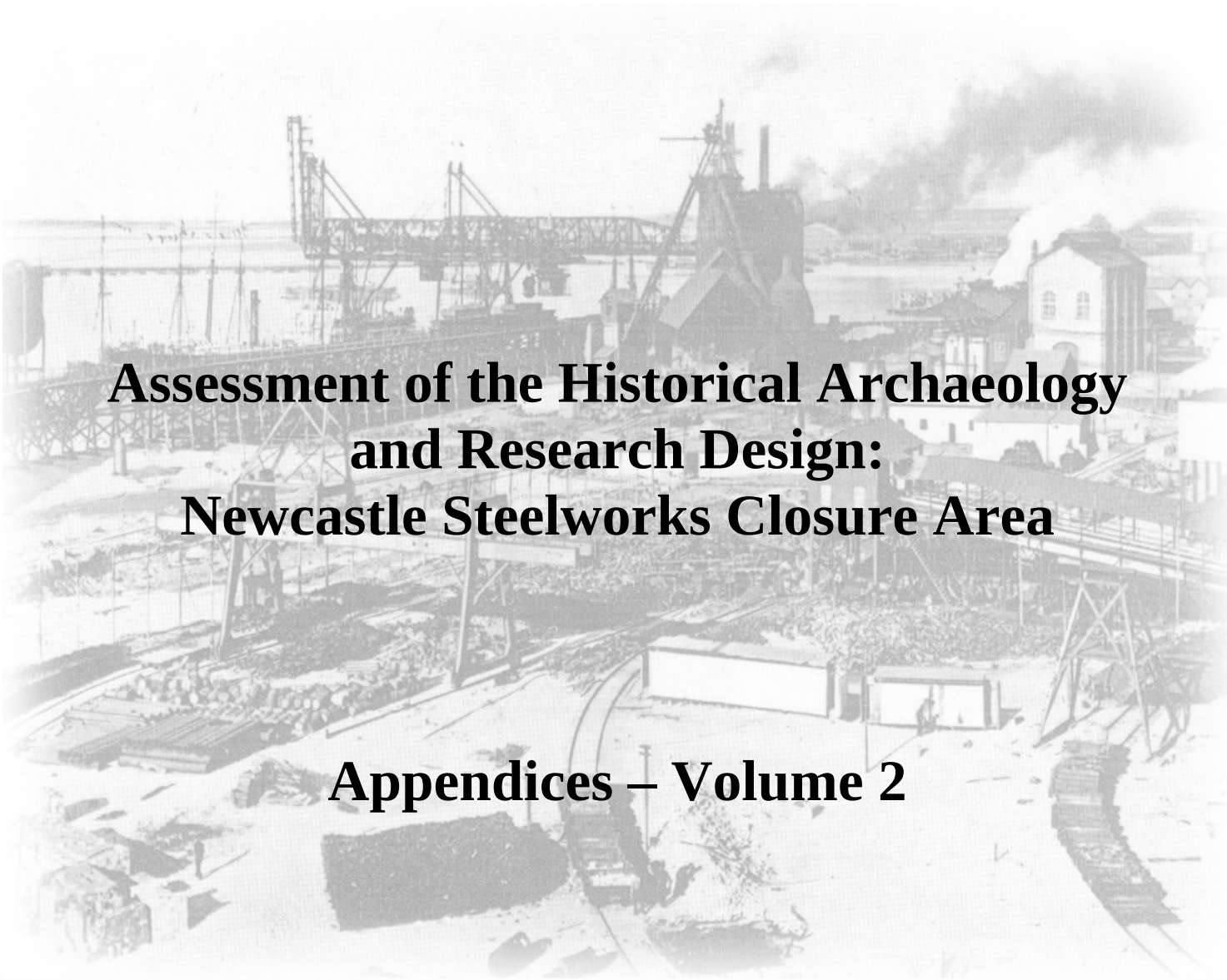


Appendix I (continued)

Archaeology Reports and Management Action Plan

Regional Land Management Corporation



Assessment of the Historical Archaeology and Research Design: Newcastle Steelworks Closure Area

Appendices – Volume 2

May 2005

Prepared by:

Umwelt
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APPENDICES – VOLUME 2

APPENDIX 4

Copy Archival Record and Statement of Heritage Impact No 1 Blower House

STATEMENT OF HERITAGE IMPACT

PROPOSED DEMOLITION OF THE No. 1 BLOWER HOUSE

Figure 0.1 View west of the "permanent end" of the No.1 Blower House.
Source: Author. Roll 9741, 20/03/00

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CONTENTS

1.0 THE PROPOSAL

Major changes have occurred in Newcastle and the Hunter Region over the past 20 years. The downsizing and eventual decision to close BHP steel making operations and the rationalisation of the coal industry are a reflection of these changes. The BHP steel making site is strategically placed, not only on a local and regional level, but on a State and National level. It has been proposed that the existing site be redeveloped as a major Multi Purpose Terminal servicing the east coast of Australia. The area to be developed as the Terminal, would require the demolition of all above ground structures located within this area (see Appendices for Terminal and Affected Heritage Items Location Plans) to enable remediation of the land and redevelopment of the site. Development of the remainder of the site at a later stage for industrial / commercial purposes is also proposed. The buildings proposed for demolition are:

1. No. 1 Blast Furnace
2. No. 1 Blower House
3. Open Hearth Building
5. No. 1 Bloom & Rail Mill
6. Steel Foundry
10. DC Sub Station
11. Wharves
14. No. 3 Blast Furnace
15. AC Pump House
16. Power House
19. Open Hearth Change House
20. Mould Conditioning Building
21. BOS Plant
23. No. 4 Blast Furnace

2.0 THE CONTEXT OF THE PROPOSAL

2.1 Physical Context

The Blower House is located at the north eastern sector of BHP's Port Waratah works, on the South of and parallel to the site locations of Blast Furnace No.1, No.2 and No.3, the most northern point of the proposed wharf precinct. It is located immediately to the West of the "new" Blower House and adjacent to the middle of the Northern face of the B.O.S. Plant building. The Container Terminal proposal is located adjacent to the "swing basin" which forms the widest point in the Hunter River for marine manoeuvring.

2.2 Statutory Context

The No. 1 Blower House is identified within the group identification forming Part B of Schedule 4 (Port Waratah – BHP Steelworks and Office) of "The Hunter's Heritage" – Hunter Regional Environmental Plan 1989. It is identified individually within Schedule 4 of The Newcastle Local Environmental Plan 1987 as having State-level heritage significance. (This ascribed level of significance is consistent with the level of significance determined in the Port Waratah Steelworks Conservation Plan prepared by EJE Architecture in 1991). The item does not fall within a Conservation Area and is not included on the State Heritage Register. Under the EP and A Act, if an item is of State level heritage significance, the local council is required to obtain the consent and concurrence of the Department of Urban Affairs and Planning to any major intervention into the item. Under the Integrated Approvals Amendment Act 1998, "Integrated development" is development (not being complying development) that, in order for it to be carried out, requires development consent and approval under other, listed environmental legislation (s 91 (1)). The "other listed environmental legislation" includes the Heritage Act 1977. Under the new legislation, (in Section 91a):

(2) Before granting development consent to an application for consent to carry out the development, the consent authority must, in accordance with the regulations, obtain from each relevant approval body the general terms of any approval proposed to be granted by the approval body in relation to the development. Nothing in this section requires the consent authority to obtain the general terms of any such approval if the consent authority determines to refuse to grant development consent. A Consent granted by the consent authority must be consistent with the general terms of any approval proposed to be granted by the approval body in relation to the development and of which the consent authority is informed. For the purposes of this Part, the consent authority is taken to have power under this Act to impose any condition that the approval body could impose as a condition of its approval.

(3) A consent granted by the consent authority must be consistent with the general terms of any approval proposed to be granted by the approval body in relation to the development and of which the consent authority is informed. For the purposes of this Part, the consent authority is taken to have power under this Act to impose any condition that the approval body could impose as a condition that the approval body could impose as a condition of its approval.

3.0 HISTORICAL REVIEW

The No. 1 Blower House was constructed in 1915. It originally housed three piston driven, vertical blowing engines. As noted by Guillame Delprat, BHP's General Manager from 1899 to 1921, "The blowing engines are three in number – two high-pressure and one low-pressure – two being required at one time to operate the furnace. No less than 35,000 cubic feet of air per minute is required to keep the furnace running". The blowers were built by Mesta in Pittsburgh, USA and gave a great deal of trouble.

When additional blowing engines were required an additional blower was constructed, housing two horizontal blowing engines. This building was subsequently extended in 1941 to accommodate the first of the turbo blowers. The vertical engines were gradually phased out, but remained as standby equipment until1963. At this point they were removed and the Blower House became a workshop for the Power Department's pump services and precipitator maintenance crews until 1987. It was occupied by the Blast Furnace Maintenance Department in 1989 which remained in occupation until closure of the plant in September 1999.

The majority of buildings at BHP's Port Waratah Works relate specifically to the enclosure of Machinery and Plant. They follow a Nineteenth Century industrial ethic with the plan as generator of design and the materials used economically and structurally to meet engineering problems while allowing for industrial expansion. Buildings such as the No. 1 Blower House and the DC Power House are constructed of brick and glass for reasons of cleanliness, maintenance, heat efficiency and natural lighting. Their detail design has its origins in Georgian simplicity.

Associated with the large industrial buildings are smaller buildings housing engines, turbines and other machinery necessary for the operation of the steelworks. These buildings such as the No. 1 Blower House, the DC Power House, the AC Salt Water Pump House and the Engine Houses of the Mills, have different functions to the Steel Making and Mill buildings. These buildings were required to keep the machinery clean and in a reasonably stable environment. This was not easy to achieve within the hot grimy conditions of the steel works. For this reason substantial brick construction has been used. Maintenance and repair work on the machinery required an extremely good lighting level, this necessitating large glazed windows.

Speed of construction would have been another factor determining the architectural qualities of these buildings. The Georgian manner of treating brick walls has been used and in order to be economic has been kept flat and simple.

4.0 SUMMARY CONDITION ASSESSMENT

The number 1 Blower House is in fair condition at best, although the internal gantry and gantry crane are in good condition. The masonry walls show the signs of functional change, including infill, painting etc, while the more recent mezzanine masonry remains in good condition as does the eastern end galvanised iron wall cladding.

The external masonry, including the arched indentations are structurally sound, although it is evident that little maintenance has occurred. Substantial damage has been done to the N-W corner of the masonry where access piping amendments have been made. The roof, and roof framing, though lacking in maintenance, is intact, including roof light panels. The floor is in an unmaintained condition.

The condition of each of the subject buildings is fully described in written and photographic form in the Archival Record document produced to accompany this Statement of Heritage Impact.

Asbestos in the Blower House:
Asbestos was widely used on all 7 boilers throughout the plant and in the associated pipe-work as an insulating material. Much of the asbestos had progressively been removed from pumps and turbines during overhaul, however, some remains particularly on interconnecting pipe-work. In the boiler areas, asbestos was only removed if required for maintenance work because it was covered in metal sheeting, painted, well documented and regularly inspected

5.0 ASSESSMENT OF SIGNIFICANCE

The No. 1 Blower House has been assessed (1991 Port Waratah Steelworks Conservation Plan) as having State heritage significance within the context of the development of the Steelworks.
The following detailed Assessment of Significance has been undertaken to reflect current NSW Heritage Act, Heritage Amendment Act and Burra charter requirements.

Historic Significance

The No. 1 Blower House, through its functional relationship with Newcastle Steelworks, represents a significant contribution to the development of iron and steel manufacture in New South Wales. Its construction in 1915 enabled one of the primary elements of modern steel production to begin. The building housed equipment which continually served the steel making process until the mid 1960's. The Blower House shows the continuity of a manufacturing process of State significance from its inception in the State to a period half a century later. For its significant association with the birth of the steel making process in NSW, it must be considered to have STATE – level HISTORIC significance.

Aesthetic Significance

This building demonstrates its period of design and is one of four buildings remaining from the earlier days of The Steelworks. Although representative of type in the wider context it is Aesthetically distinctive at the local and regional level. It was not designed to have much greater than functional significance and its architectural features are generally incidental to structural efficiency. As such the building has LOCAL and REGIONAL AESTHETIC significance.

Social Significance

The No. 1 Blower House has significance for its association with the development of steel making in Newcastle and for its association with the creation of work and the social fabric of Newcastle resulting from that work. Like all of the major "Front End" BHP buildings/ structures, the No. 1 Blower House has special educational and associational value to the people of the region. As such it has REGIONAL SOCIAL Significance.

Technical Significance

Archival records and photographs of the No. 1 Blower House illustrate that in the context of the BHP Steelworks in Newcastle it formed a key role in the initiation and development of integrated iron and steel making in Australia and as such it forms a benchmark reference site providing evidence of a half – century evolution of technology unavailable elsewhere in the state.

Technically the No. 1 Blower House has highest – level potential to yield valuable information about a major industrial phase in early 20th century NSW; it is constructed using a steel frame structure, clad with brick to provide cleanliness and protection of valuable equipment, in a style which bridges the period between the nineteenth century industrial ethic and the use of steel frame engineering and steel cladding austerity of twentieth century industrial construction. In this context it must be considered to have STATE TECHNICAL significance.

Overall, the item has STATE heritage significance.

6.0 OPTIONS FOR PHYSICAL INTERVENTION

The Conservation Plan BHP Port Waratah Site Addendum 1999 described the following options:

"After closure of steel making, the 27 items of heritage significance identified in the Newcastle LEP 1987 (as well as all other heritage items identified in this Conservation Plan), will remain in situ until:

a) the item becomes unsafe and/or uneconomic to maintain; or
b) the item is to be removed to facilitate remediation of the site; or
c) the item is sold; or
d) the item is to be removed to facilitate the proposed redevelopment

Where "Front End" items are to be demolished they should, where easily transportable and relocatable, be relocated, to a low impact, operating environment within the overall Steelworks site. Components/elements of existing structures/buildings should be similarly relocated or preferably, be relocated to either the proposed Interpretation Centre or, (if that is not appropriate), to the proposed State Industrial Archaeological Repository, both being within the existing Steelworks site. Items capable of continuing to provide service within a steel-making operation, should be relocated to Port Kembla Steelworks or other iron and steel making operation elsewhere in Australia or the world. Where buildings/structures of higher level significance are demolished and removed, interpretation of the building form at ground level is required (Burra Charter and NSW Heritage Act – As Amended).

This item is to be removed to facilitate this proposal. Therefore in accordance with Burra Charter and NSW Heritage Office requirements, recording and interpretation must be undertaken.

It would be preferable for the building to remain. However, this proposition is considered untenable given:

a) If the No. 1 Blower House remains, it cannot readily be adapted to accommodate another use. If retained, it would require continuous expensive stabilisation and maintenance, or will otherwise deteriorate and become a potential health and safety hazard.

b) Remediation of this area of the site is required. The remediation proposal involves capping the proposed Multi Purpose Terminal site, with a monolithic concrete slab.

The structural frame and internal equipment such as the crane, are capable of being removed and re-used elsewhere on site, if appropriate. Off-site (i.e. not in-situ) interpretation, will only be undertaken where on-site interpretation is not possible and will involve samples of highest-level fabric/fittings/equipment.

Possible re-use or interpretation items include: the crane and gantry.

As part of the overall interpretation strategy for the Heritage of iron and steel making in Newcastle, it is proposed to relocate some components to a position opposite the BHP Administration building on Crebert Street. This will ensure accessibility of the item for the public and allow a major heritage element to retain and define the heavy industrial character of the site and will enable interpretation of this significant item.

7.0 THE HERITAGE IMPACT OF THE PROPOSAL

This item is substantiated as having STATE level significance, therefore demolition of the item to enable development of the Multi Purpose Terminal will impact on the high-level significance of the item. The closure of operations at the Newcastle Steelworks had an impact on the interpretation of the processes of iron and steel making; demolition of the item changes the interpretation of the processes and the significance of the item.

This impact will be ameliorated by fully recording and interpreting the item as required and through protection of the in-situ remains below the pavement of the proposed Multi-Purpose Terminal. The individual site will be interpreted using pavement treatment that will identify the extent of the item while accommodating the operation of the Terminal. The processes associated with the item will be further interpreted on the main site at Port Waratah within the Delprat Interpretive Centre and/or supplemented by selected items being deposited in the proposed State Archaeological Repository which is proposed to be accommodated within the Tool Room adjacent to the Delprat Interpretive Centre. However, the physical site will remain and its location will be identified through interpretive design within the pavement of the Multi Purpose Terminal and through the sealing off of any below ground evidence.

8.0 APPENDICIES

8.1 Site Development Masterplan – showing area of proposed Multi Purpose Terminal in yellow

8.2 Site Development Masterplan – showing identified Heritage Items

8.3 Conceptual Design for Heritage interpretation of No. 1 Blower House

ARCHIVAL RECORD

WATERFRONT PRECINCT HERITAGE BUILDINGS, MAIN SITE BHP PORT WARATAH STEELWORKS, NEWCASTLE

No. 1 BLOWER HOUSE

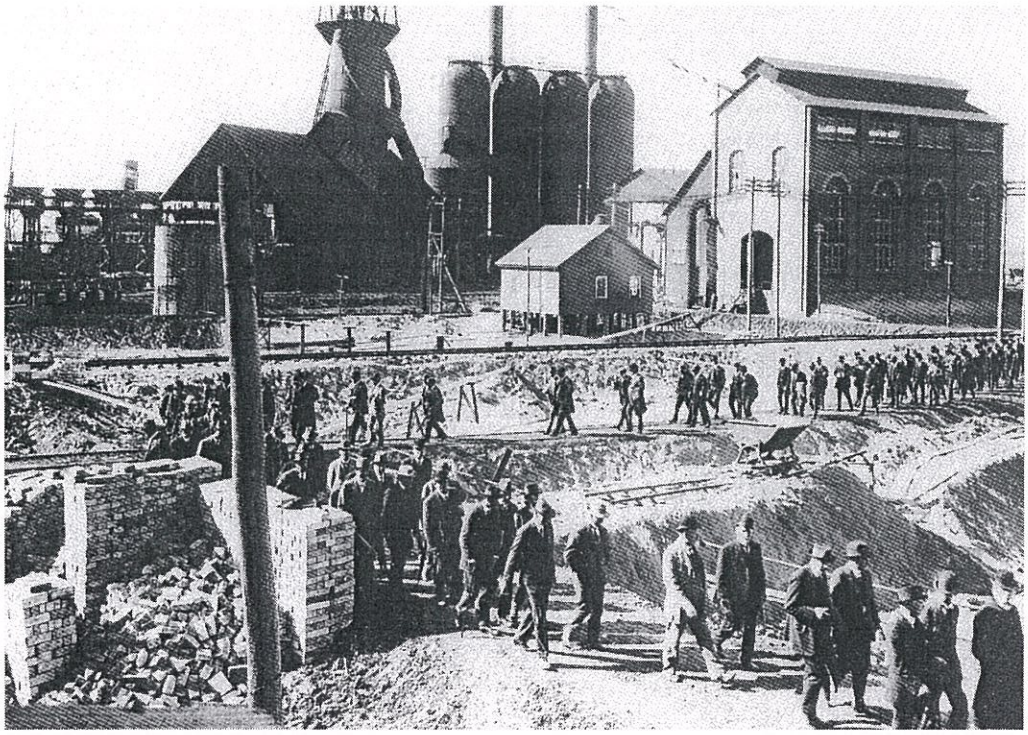

Figure 0.1: No 1 Blower House (Right) and No1 Blast Furnace with stoves, 1915
Source: Jay (1999: 80) BHPA - N953

Prepared by:

EJE ARCHITECTURE

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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background to the project

Major changes have occurred in Newcastle and the Hunter region over the past 20 years. The downsizing and eventual decision to close BHP steel making operations and the rationalisation of the coal industry are a reflection of these changes. The BHP steel making site is strategically placed, not only on a local and regional level, but also on a State and National level. It has been proposed that the existing site be redeveloped as a major Container Handling Terminal servicing the east coast of Australia. The area to be developed as the Container Handling Terminal would require the demolition of all above ground structures located within this area to enable remediation of the land and redevelopment of the site. Development of the remainder of the site at a later stage for industrial /commercial purposes is also proposed.

In light of the above, EJE Architecture has been commissioned to prepare detailed archival records of the buildings proposed to be demolished that are considered to have heritage value. These records involve documenting the relevant buildings and items they contain as well as the industrial processes that took place within them. Designed to help ascertain the heritage significance of the buildings and associated processes, these archival records also form a statement for the future interpretation of this now redundant part of Newcastle's industrial culture.

The following document constitutes the Archival Record of the No.1 Blower House - an item classified as having a 'State level of heritage significance'[1].

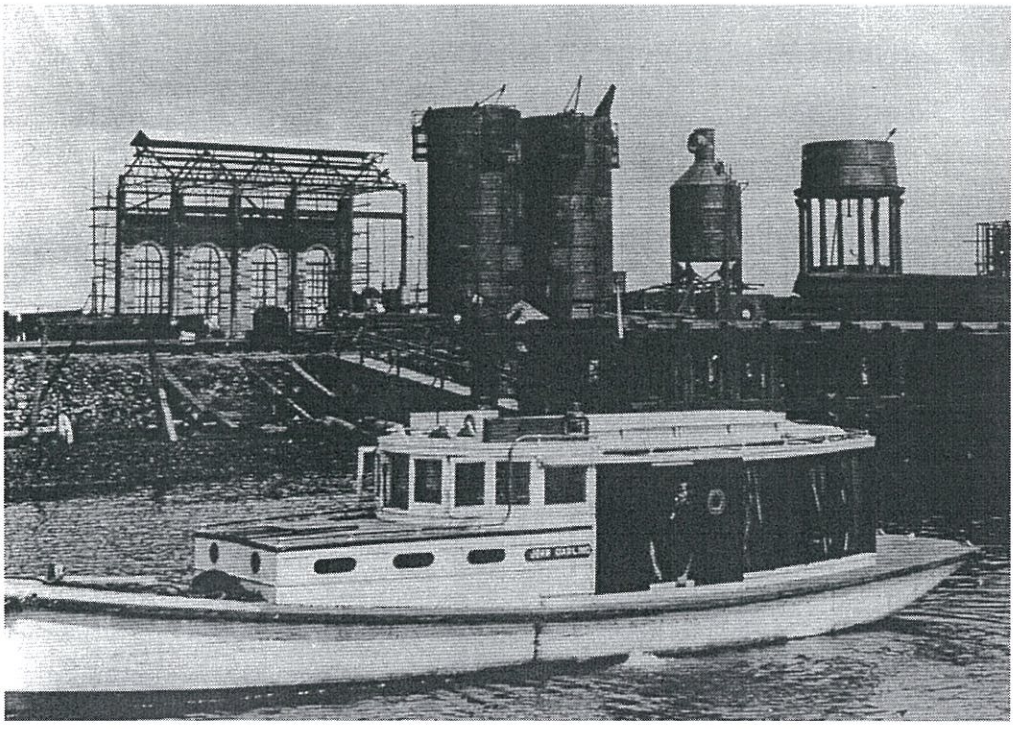


Figure 1.1 Blast Furnace and No1 Blower House under construction, 1914
Source: BHP Archives - N 1400

[1] Identified individually within Schedule 4 of The Newcastle Local Environmental Plan 1987 and the Port Waratah Steelworks Conservation Plan 1991.

1.2 Archival Recording Methodology

The approach taken in recording these heritage items and the document format is based on heritage consultant input and current NSW Heritage Office's guidelines including those relating to the preparation of archival records and their photographic recording.

A number of important aspects have been identified in the statement of heritage significance included in the report whose recording was necessary to reflect the item's character and value described. Hence it is this statement that drives the rationale for the report and determines the relevance of information collected. Derived from three main elements - buildings (structure and fabric), the individual items they housed and the processes that took place within them - these aspects are elaborated on in a number of different ways, which reflect their respective social, technical and aesthetic qualities.

As a way of dealing with the items various facets of heritage value, the report is broken into 3 main components:

-Written descriptions (history, process and heritage statement),
-Pictorial descriptions (photographs and working drawings)
-Inventories and other supporting information

Together these components create a comprehensive account of the chronological development of both the buildings and the industrial technologies held within them that have invariably changed throughout their lives. At times the components are incorporated into each other to provide a more coherent and illuminating description. All material is cross-referenced to each other and referenced to archival registers and source publications.

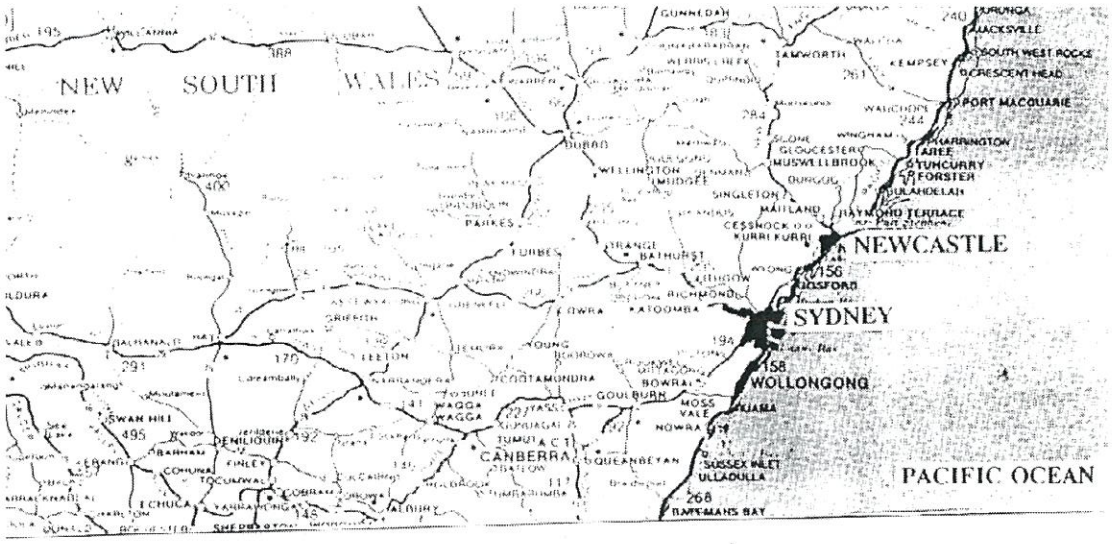
The written descriptions provide a background to the building and the functions that it housed and incorporate relevant photographs. As an essential part of the written component, a statement on the item's heritage significance details why the item is valued.

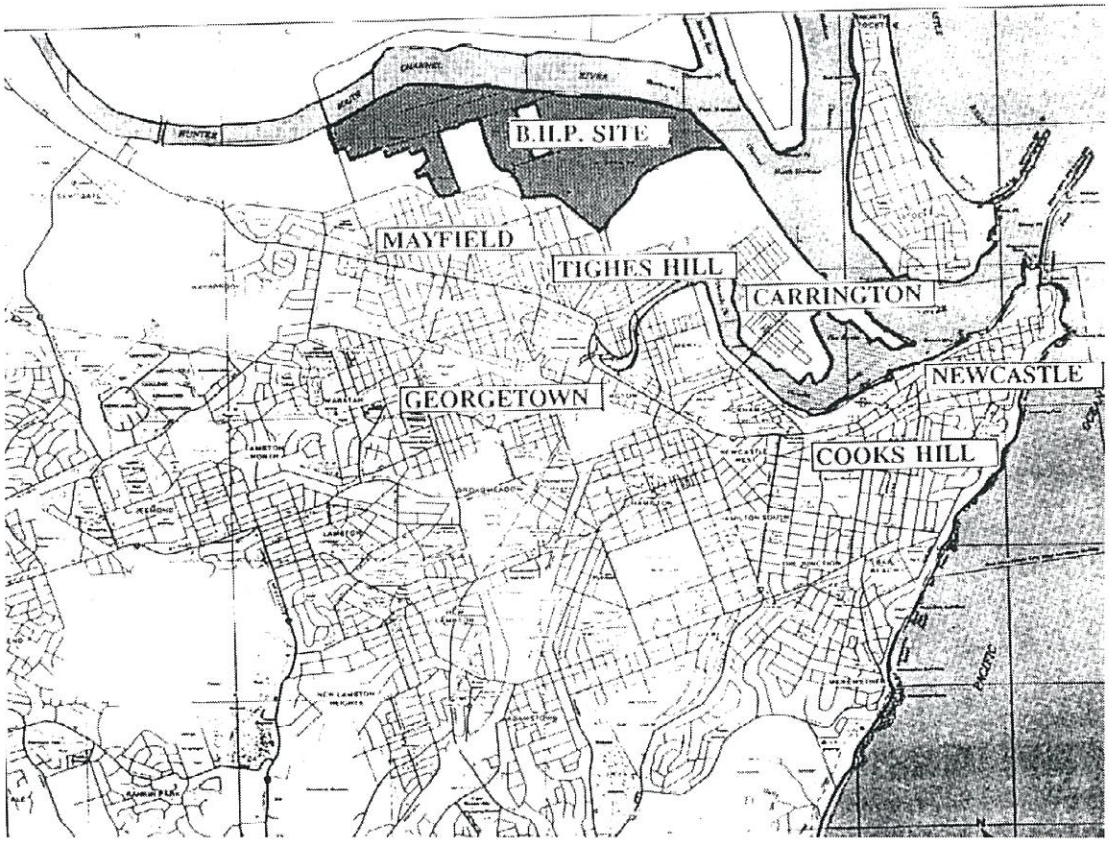
The bulk of the information in this report comes from the pictorial descriptions. Comprising of both historic and contemporary photographs, an account of the building fabric, the various industrial processes contained and the changes that have taken place through time is made. In addition, a selection of original working drawings provide a detailed picture of the construction techniques, structure and fabric details and offer substantial dimensions and measurements, making largely redundant any requirement for contemporary measured drawings or scaled photographs.

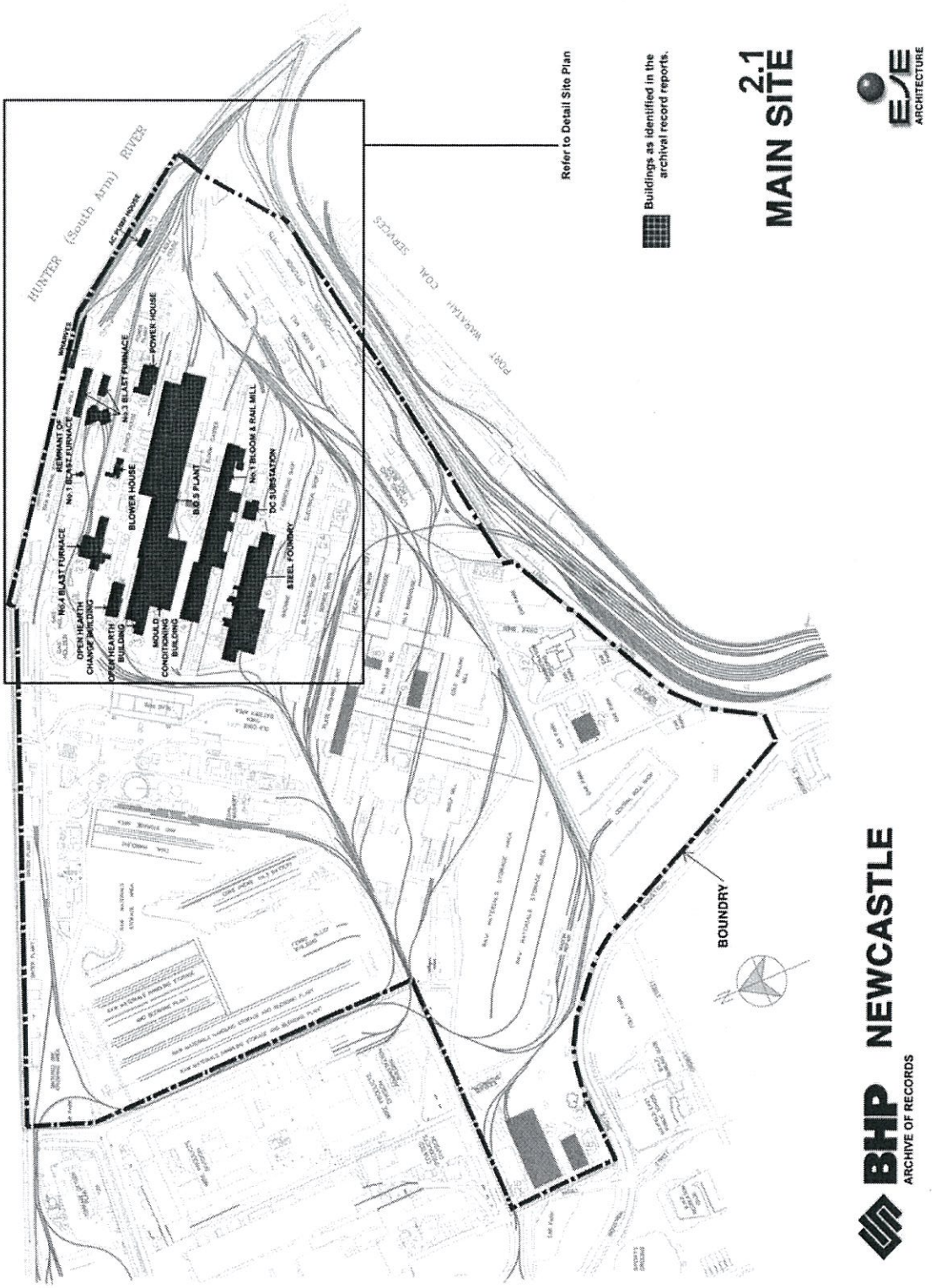
Supporting both the written and pictorial information is a series of inventories and tables which provide details of equipment contained within the building, cross-referenced descriptions of photographs and shot locations, and bibliographical information.

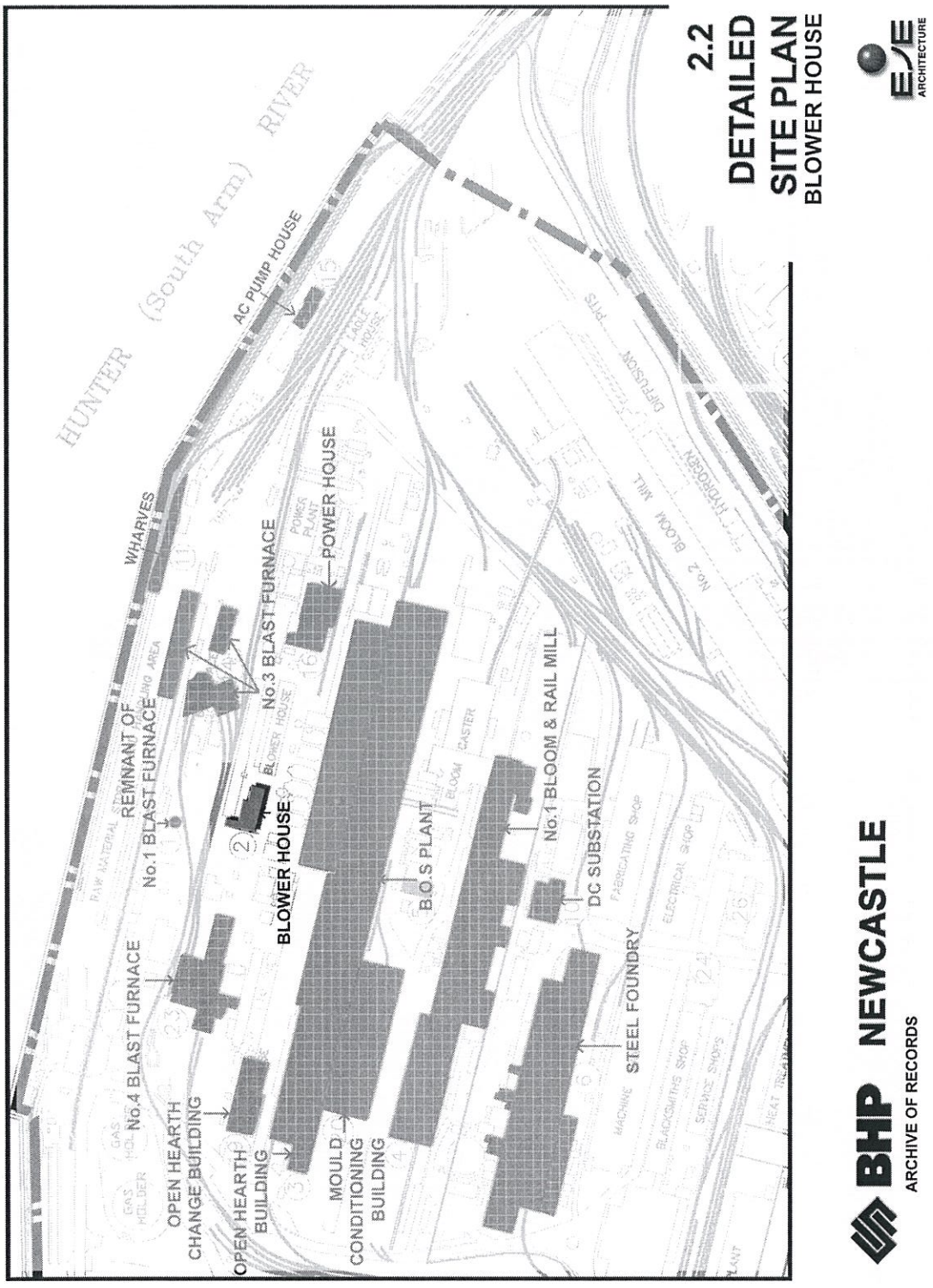
The process of documenting the heritage items involved a number of input teams, of which EJE was the coordinator.

2.0 LOCATION PLANS






HUNTER (South Arm) RIVER
KCP&M HOUSE
WHARVES
REMNANT OF No.7 BLAST FURNACE
No.3 BLAST FURNACE
POWER HOUSE
No.4 BLAST FURNACE
OPEN HEARTH CHARGE BAY/CRANE
OPEN HEARTH BUILDING
BLOWER HOUSE
B.O.S PLANT
MOULD CONDITIONING BUILDING
No.1 BLOOM & RAIL MILL
DC SUBSTATION
STEEL FOUNDRY
PORT WARATAH COAL SERVICES
Refer to Detail Site Plan
Buildings as identified in the archival record reports.
2.1
MAIN SITE
EJE ARCHITECTURE
BOUNDRY
BHP NEWCASTLE
ARCHIVE OF RECORDS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MOULD CONDITIONING BUILDING
B.O.S PLANT
No.1 BLOOM & RAIL MILL
DC SUBSTATION
STEEL FOUNDRY
2.2
DETAILED SITE PLAN
BLOWER HOUSE
EJE ARCHITECTURE
BHP NEWCASTLE
ARCHIVE OF RECORDS