3.0 Initial Archaeological Work

3.1 Opening up the Area for Excavation

The area under excavation was divided into a series of areas A to E (**Map 3.1**). The initial excavation work in these areas involved a series of test trenches along the southern slope. The intention behind the initial work in Area A was to determine if remains of the windmill survived within the study area. This was seen as a potential issue for the redevelopment. The main evidence found in this area were the remains of Quarry 1. The opening of more test trenches to the east eventually found the remains of Road 1, at the end of three weeks of excavation work.

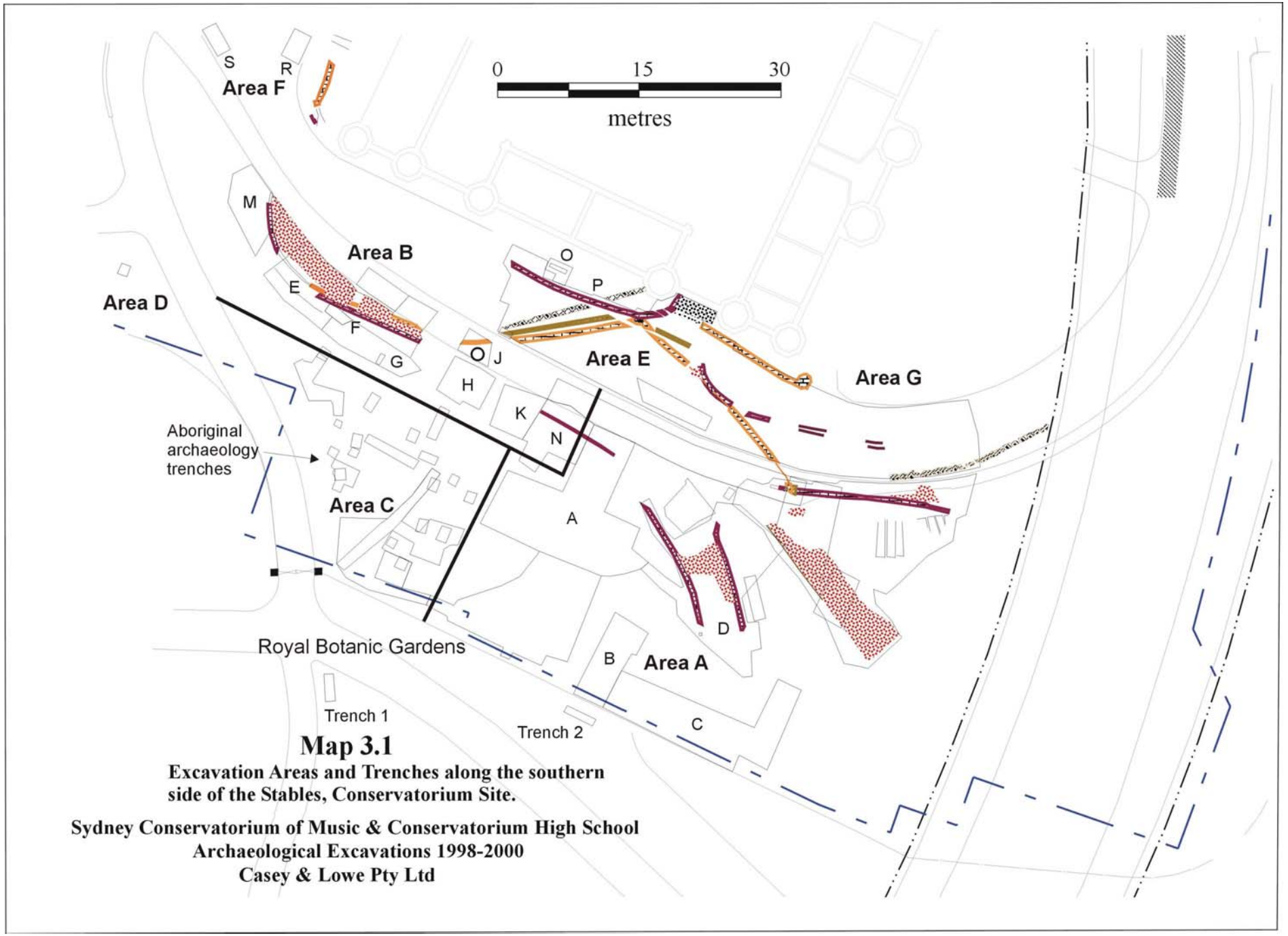
The opening of trenches in Areas B and C for testing was aimed at determining the nature of the underlying archaeological deposit. The initial work in Area C found what appeared to be a natural soil horizon but later work determined that it was not the case. The work in Area B had quite different results to the other two areas in that we found remains of a road system and various associated drains as well as the cistern previously located in 1917 during roadworks.

Shortly after this time the Heritage Council of New South Wales requested that additional work be undertaken so as to inform their decision making process. This further work exposed the southwestern corner of the Forecourt with its intact section of roadway and drains. It also identified the associated drainage system on the northern side of the Forecourt as well as the underground drains that crossed the Forecourt.

A Heritage Council request for further work exposed the eastern extension of Road 2, Road 3 and the gardens in area A, trench U. This stage of the work was completed by mid September 1998 (**Photo 3.1**).

Further work inside the Conservatorium or Stables building was undertaken between June and July 1999. This involved testing and excavation inside the area of Verbrugghen Hall, built within the courtyard area of the quadrangle Stables, where remains of the 1800 bakehouse and various deposits were found as well as the Stables' central courtyard well.

During January and February 2000 further work was undertaken with the former Government Stables. This work involved removing the extant Conservatorium-period floors. Many of these floors were to be replaced for acoustic reasons. The removal of the various floors exposed the extensive remains of earlier Stable-period surfaces and footings where walls had been removed or added in. The recording of the Stables-period fabric is in Volume 4. In addition there was some excavation where there were requirements for redevelopment.



Map 3.1

Excavation Areas and Trenches along the southern side of the Stables, Conservatorium Site.

Sydney Conservatorium of Music & Conservatorium High School
Archaeological Excavations 1998-2000
Casey & Lowe Pty Ltd

Photo 3.1: Aerial photograph of the Conservatorium site showing Macquarie Street and the Royal Botanic Gardens, 15 September 1998. The main archaeological work was on the southern side of the building. Note that the 1960s building on the northern side has not yet been demolished. Skycam Australia.

Photo 3.2: Aerial photograph of the southern and eastern sides of the Conservatorium site, 15 September 1998. Skycam Australia.

Photo 3.3: Aerial photograph of the Conservatorium site, 28 November 1998. The work in the western area has exposed the western drain (covered with black plastic) and the western wall (partially covered with orange plastic. Most of the archaeology in the southeastern area has been removed although the large stone drain is visible. The green structure to the southwest of the building is the protection over the retained section of the Forecourt. Skycam Australia.

4.0 Phase 1 - Aboriginal use of the area and their landscape

4.1 Phase 1.1 - Pre-European Landscape

This section of the report is a summary of results based on two specialist sub-consultant reports which are included in full in Volume 5 of this report. Map 4.1 shows the reconstruction of the landscape based on the computer mapping of natural levels across the site. These natural levels generally consisted of rock or truncated soil profiles or B horizon soils. The central area of the site was flatter while the southern side was steeper and the slope continued to the north into the Stables building line.

The original landscape consisted of a narrow neck of Sydney sandstone with a high ridge that dropped down to the north. There is a general description for the harbour terrain in 1789 by Governor Phillip:

> *The necks of the land that form the different coves, and near the water for some distance, are in general so rocky that it is surprising such large trees should find sufficient nourishment, but the soil between the rocks is good, and the summits of the rocks, as well as the whole country around us, with few exceptions, are covered with trees, most of which are so large that the removing them off the ground after they are cut down is the greatest part of the labour.*[1]

Therefore the study area was part of a rocky sandstone promontory extending into Sydney Cove. Phillip's analysis of the agricultural potential quickly proved to be wrong.

4.1.1 Soil

There was evidence for two types of soil profiles surviving on site. The first one was typical of the profile associated with higher ground, where it survived, and the other was found in the flatter areas, such as underneath the Stables building.

The soil profiles were recorded by Roy Lawrie, NSW Department of Agriculture and his report is reproduced in full in Volume 5 of this report. This was not a natural soil profile but was found to be deposited c. 1817-1821 as part of the landscaping of this area and had taken on some of the characteristics of the natural soil profile.

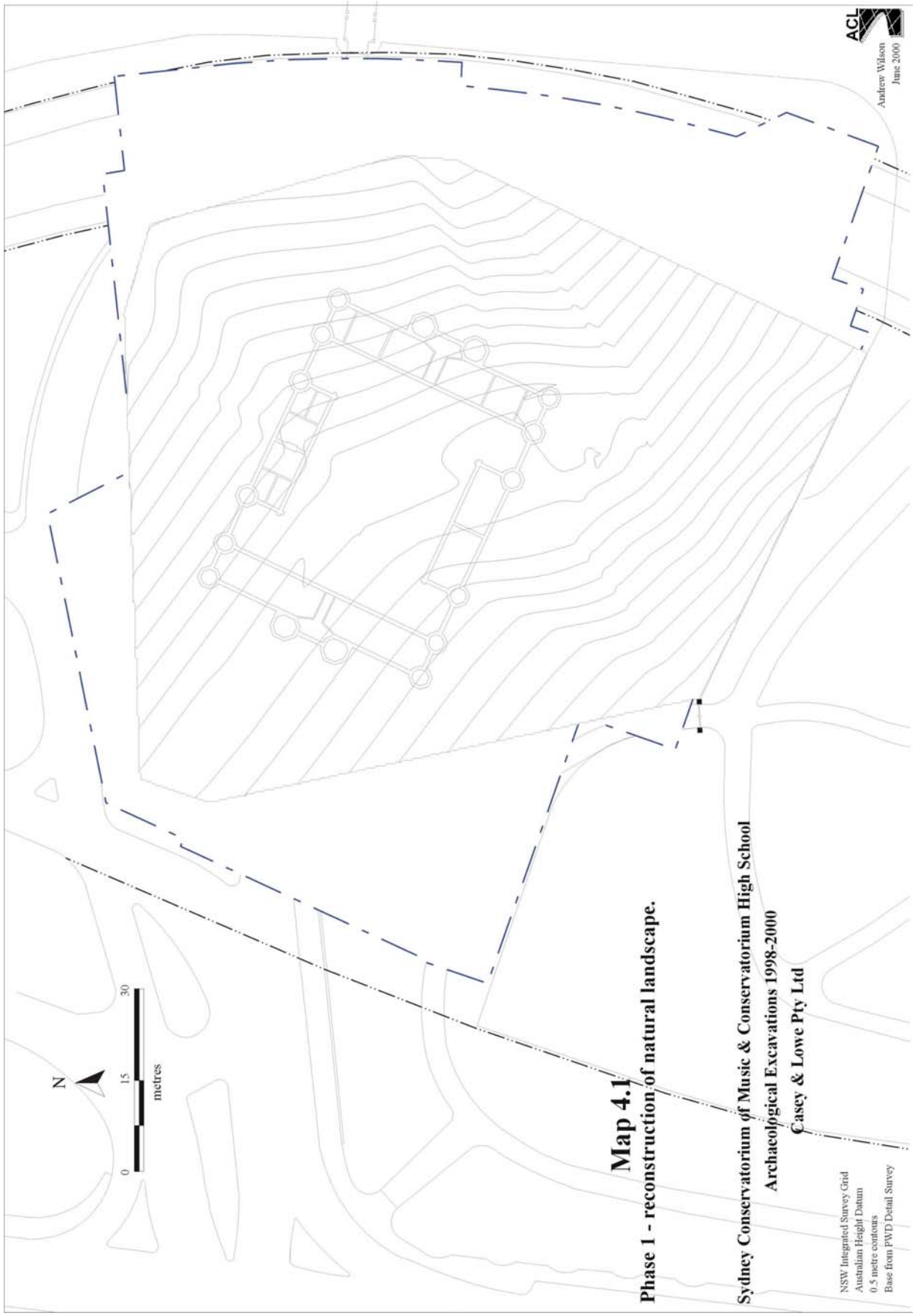
Site 1: southern area

A1 horizon	a dark greyish loamy sand with moderate amounts of iron-indurated gravel becoming paler with depth (350-460 mm)
A2 horizon	greyish yellow loamy sand becoming clayey with depth (460-68 mm)
B	yellow brown clay coarse sand with moderate amount to iron-indurated sandstone gravel (680-950 mm)
	Bedrock, weathered sandstone.

Site 3: Verbrugghen Hall Area, underneath courtyard fill (Photo 4.1).

A1 horizon	greyish brown sand, structureless, with a very slight amount of charcoal in top 2 cm. (190-330 mm)
A2 horizon	yellow brown loamy sand, (330-440 mm)
B1	yellow brown loamy sand with 40% iron-indurated sandstone gravel (440-570 mm)
B2	yellowish brown sandy clay (570-720 mm)
C	very light grey medium clay, cheese consistency when moist (720-1080 mm)

[1] Phillip 1789 (1982).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Andrew Wilson
June 2000
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0
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metres
Map 4.1
Phase 1 - reconstruction of natural landscape.
Sydney Conservatorium of Music & Conservatorium High School
Archaeological Excavations 1998-2000
Casey & Lowe Pty Ltd
NSW Integrated Survey Grid
Australian Height Datum
0.5 metre contours
Base from PWD Detail Survey

This was a truncated natural soil profile. The upper part of the site had areas of weathered rock which were buried by the later quarry fill and landscaping.

Photo 4.1: Soil profile in the davit crane hole, Verbrugghen Hall. The mottled material at the top is the remains of the courtyard packing. This was laid directly above natural. CP 79/12.

4.1.2 Palynological Analysis

Palynological analysis is the study of plant microfossils such as pollen and spores that survive in the soil. A series of soil samples were taken from the site (**Map 4.2**) which provides extensive evidence for both the pre-European flora and plantings associated with the European transformation of this landscape.

The following sections were extracted from Dr Mike Macphail's report which is produced in full in Chapter 22.2 of this report.

The earliest samples indicate the Conservatorium site near the apex of the ridge was located within eucalypt Low Open Forest.[2] The forest understorey was dominated by shrubs rather than the grasses and ferns found in otherwise similar dry sclerophyll forests and woodlands on fertile/frequently burnt sites around Sydney Harbour, e.g. along the Lane Cove River.

Because it is uncertain whether the oldest soils preserved on the Conservatorium site predate European settlement or represent the earliest years of the colony, it is possible that the shrub understorey had developed within a more open sclerophyll vegetation type (Woodland), due to a change in fire regime *following* European settlement.

Nevertheless the pollen data confirm the general accuracy of many late eighteenth- and early nineteenth-century illustrations which show the ridge behind First Government House covered in a mosaic of forest/woodland, scrub and grassland. Use of Bennelong Point for grazing cattle in 1788

[2] Specht 1970.

implies the lower slopes of the ridge were covered by grassland maintained by fires lit by Aborigines camped on the foreshore.

What was growing on the ridge between Sydney and Farm Coves in 1788?

Information on the vegetation growing at Sydney Cove before European settlement is important for two reasons.

Firstly it provides a base line against which the impact of Europeans can be measured in Australia's longest settled district.[3] This impact includes not only obvious changes such as the felling of any existing forests and woodland, but also of the rapidity with which exotic weeds such as dandelions invaded the landscape.

Secondly, it helps clarify the issue whether what we now regard as 'pristine' native vegetation is not in fact an artefact of altered fire regimes. For example early accounts indicate that the understorey in sclerophyll forest in the Lane Cove district was dominated by grasses and ferns, not by shrubs as at present.[4] The evolution of these shrub communities almost certainly reflects the change from 'cool'/frequent to 'hot'/infrequent firing regimes after c. 1788 (cf Jackson, 1968). Physical clearing of trees and grazing has the opposite ecological effect, viz, promotes the spread of grasses at the expense of woody taxa.

A number of attempts have been made to reconstruct the vegetation growing around Sydney Cove before European settlement in 1788 using a combination of early colonial-period documents and illustrations and remnant vegetation surviving in equivalent sites elsewhere around Sydney Harbour, e.g. Campbell (1925) and Benson & Howell (1990).

Both types of evidence are equivocal. Reasons include 'artistic license' and the probability that the surviving (usually shrub-rich) bushland has developed *since* European settlement. Nevertheless illustrations of Sydney Cove drawn before 1791 concur in showing low open forest covering the ridge behind First Government House. Examples reproduced in McCormick (1987) are William Bradley and Capt. John Hunter (1788), George Raper (attributed) (1789), William Bradley (1791), Juan Ravenet (undated but before 1793) and Fernando Brambila (published 1793).

Support for their general accuracy is provided by subsequent (1792-1795) illustrations which show either an obviously stylised wooded backdrop or isolated trees (1792-94). Significantly, two undated/unsigned views from the same period show dead, moribund and lopped eucalypts (British Museum Watling Collection 19, L.S. 9, 13, reproduced as Plates 18, 25, 29 respectively in McCormick, 1987). Views of, and from, the eastern side of Sydney Cove show scrub surrounding tree stumps on what is now the Inner Domain (Plates 52, 53 in McCormick, 1987).

Palynofloras recovered from the truncated soil profiles preserved below Verbrugghen Hall (#1006) confirm that the understorey in sclerophyll forest or woodland on the Conservatorium site was dominated by shrubs, not grasses. The significance of this observation however depends on whether the samples predate European settlement or represent the period between 1788 and c. 1800 when the site was first cleared. For example, traces of exotic and possible exotic pollen types could indicate that the truncated soils (Samples 50-52) developed after 1788 or that the profiles incorporate post-Settlement material (cf Samples 53-54).

If the former, then it is possible that woody understorey developed *after* 1788, i.e. that the ridge was covered in eucalypt forest or woodland with a grassy understorey in 1788. If the latter (the

[3] Fox 1990; Hobbs & Hopkins 1990.
[4] Clark & McLoughlin 1986.

preferred option) then the ridge *apex* almost certainly was covered in eucalypt Low Open Forest rather than (more open) Woodland at the time of European Settlement (terminology after Specht, 1970). The rapidity with which 'brush' re-established itself on the Domain during the 1820s (Gilbert, 1986, p. 42) is evidence of the importance of frequent fires and/or grazing in maintaining grasslands in the Sydney district.

Documentary evidence that the earliest recorded name for Bennelong Point was 'Cattle Point' implies that the lower slopes and foreshore were covered by grassland, not sclerophyll forest.[5] The logical explanation is that these grasslands were maintained by fires lit by Aborigines camping around the foreshore of Sydney and Farm Coves. It is equally reasonable to conclude that Aboriginal fires will have had a variable impact on the hinterland, leading to the ridge being covered by a mosaic of woody and herbaceous vegetation types at the time of first European Settlement.

Pollen evidence from original soil profiles – Group A

Pollen evidence came from 12 samples taken from a range of soils identified as part of the original soil profile. Generally the soil profile was truncated with only a shallow topsoil when evident. The A2 horizon was more prevalent than the A1 horizon.

The relatively high pollen yields are unusual for sandy subsoil (soil A_2) horizons. One not unlikely explanation is that the microfossil content comes from old topsoil mixed into the sandy clay during the early phases of clearing of the site.

If correct, then the sediment post-dates European occupation of the peninsula but much of the microfossil content could represent the pre-clearance vegetation on the site. Even when buried under later rubbish there is no evidence for 'leakage' of younger pollen and spores into the natural topsoil (Sample 21).

The combined data represents *Eucalyptus* dry sclerophyll forest or woodland with a shrub-dominated understorey. The paucity of grasses is significant because of documentary and other evidence that at the time of European settlement, the understorey in many of the forests lining Sydney Harbour were grass- and fern-dominated due to frequent Aboriginal fires (see Discussion).[6]

Because of the exposed, rocky nature of the site, the casuarina count is more likely to represent shrubs species such as *Allocasuarina distyla*, rather than tree species such as *A. torulosa*. Casuarinas are amongst trees listed as growing in the grounds of First Government House in 1802.[7]

Other shrub genera in the general vicinity were wattles, broom-heath, banksia, grevillea (*Grevillea*/*Hakea*), ti-tree (*Leptospermum*) and crinkle-bush (*Lomatia*). Cheese-wood trees may have been planted locally or, less likely due to limited pollen dispersal, the pollen sourced from distant stands in the Tank Stream Valley.[8]

Sedge (Cyperaceae) pollen and selaginella (*Selaginella uliginosa*) and liverwort (*Cingulatisporites bifurcatus*) spores indicate that the soils were moist although there is no evidence that fern communities were widespread on the site. Exceptions are Samples 13 and 21, which preserve 'high' numbers of Rainbow-fern spores (*Calochlaena dubia*). Rainbow-fern typically grows on moist sandstone 'outcrops', an ecological preference that also includes damp sandstone/brick walls

[5] DPWS, HS 1997:78.
[6] Clark & McLoughlin 1986.
[7] cf Benson & Howell 1990:116; Gilbert 1986:16.
[8] see Campbell 1925; Benson & Howell 1990.

and foundations. Whether the fossil pollen data are evidence of early stone or brickwork constructions on the site is unknown.

4.2 Phase 1.2 - Aboriginal Occupation of the Area[9]

It is known that Aboriginal people used this area and that there was a Bora Ring in the Royal Botanic Gardens. Their occupation in this space would generally have been associated with the catching of marine foods, such as fish and shellfish, and the use of rock shelters and overhangs for respite from the weather. Little evidence of this occupation was found during the archaeological excavation.

For details of the archaeological work undertaken by the prehistorians and the Local Aboriginal Land Council see MacDonald 1998.

Some of the shells found within Verbrugghen Hall Area may have been taken from Aboriginal shell middens around the harbour foreshore. There were a large quantity of Sydney rock oysters (*Saccostrea cucullate*) and mud oysters (*Ostrea angasi*) found within this area. Historical references attest to convict women collecting shell from the middens for the manufacture of shell lime for mortar. Those found within the Verbrugghen Hall Area were possibly from deposits associated with the construction phase of the Government Stables. The Sydney mud oyster is no longer found within Sydney Harbour.[10]

[9] Based on McDonald 1998:15-19.
[10] For details see specialists report of shells by Sarah Colley, Vol. 5.