



Proposed Taronga Wildlife Hospital Heritage Impact Assessment

FINAL REPORT

July 2022

for the Taronga Conservation Society Australia



A view of the distinctive conical space near the end of the visitor loop within the existing 1990s Serpentaria building that is a principal subject of this heritage impact assessment report. (*Photograph by Geoffrey Britton, March 2021*)

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Figure 1 Location photograph showing the area of Taronga Zoo potentially affected by the proposed Taronga Wildlife Hospital project and associated development. Refer to **Figure 2** for more detail of the listed heritage items included within this area. (Source: NSW Land & Property Information SIX Viewer)

I Introduction

I.1 Site Location

Taronga Zoo is located at the southern edge of Mosman overlooking Sydney Harbour and is accessed principally from Bradley's Head Road (as well as by ferry from the harbour). The proposed development precinct is located in the upper part of the zoo across the central ridge line (**Figure 1**). The site area for the new building is presently occupied by the existing 1990s Serpentaria building. The main building area is compact though very tightly constrained by existing physical parameters – to the south by the existing Chimpanzee Park, to the west and north by internal access roads and to the east by a relatively intact area of sandstone outcropping with an important vestige of the pre-Zoo *Angophora costata* woodland.

I.2 The Project

This report was commissioned by the Taronga Conservation Society Australia (TCSA) to review the potential for heritage impact arising from the proposal to build a new Wildlife Hospital building at Taronga Zoo, Mosman. The review focuses mainly on European cultural heritage relevant to the precinct. The TCSA has sought separate informed advice regarding Aboriginal cultural heritage as well as the historical archaeological potential of the site.

The site planning and design of the proposed precinct that is the subject of this HIA report is described in 2022 documentation by **dwp** architects (refer to **Section 5**).

I.3 Background

The entire Taronga Zoo site (Lot 22, DP 843294) is listed as an item of local environmental heritage (Item 34) on Schedule 5 of the Mosman Local Environmental Plan 2012 (**Figure 3**) as Taronga Zoological Gardens, Bradleys Head Road. The LEP listing also specifically mentions the following components: Rainforest Aviary, Elephant House, bus shelter and office, floral clock and upper and lower entrance gates, Gardens.

While not currently listed on the NSW State Heritage Register (SHR), various specialist heritage-related studies over the past two decades have consistently assessed Taronga Zoo, as well as some individual components, as being of State cultural significance. The Zoological Parks Board of NSW nominated Taronga Zoo for SHR listing in 2002 but the listing was not finalised as site specific exemptions were not developed. Studies that assessed the site as State significant include the:-

- * Section 170 Heritage and Conservation Register, 1998 (DPWS and as subsequently amended to the present) – note Item 82A (whole of the Taronga Zoo site);
- * Taronga Zoo Conservation Strategy, 2002 (GML), Endorsed July 2002;
- * Taronga Zoo Archaeological Management Plan, 2004 (GML), Endorsed February 2004;
- * Taronga Zoo Landscape Management Plan, 2006 (Design 5 Architects et al); and
- * Taronga Zoo African Precinct, Strategic Heritage Advice, 2006 (GML).

Since these documents, there have also been numerous heritage impact assessment reports written to accompany various capital works projects, and many of these reports also attest to the Zoo, as well as some of its individual components, as being of State significance.

Nevertheless, whether sites are listed on the SHR or not, the Heritage Act, 1977 (NSW), at Section 170, requires all State government instrumentalities to establish and maintain a Heritage and Conservation Register as part of their responsible management of public assets (Clauses 3 and 4). The Act requires that the register is reviewed and, if necessary, amended at least annually (Clause 5) and ensure it is publicly (and freely) available for perusal (Clause 7).

Consistent with Section 170A (Clause 3) of the Act, both NSW Treasury and the Heritage Council of NSW have issued guidelines to government instrumentalities to assist in the effective management of public heritage assets.¹ Also consistent with s170A (Clause 1) is the need for the Heritage Council of NSW to be notified in writing before any items on the register are removed from the register or demolished.

With respect to the NSW Heritage Act, 1977, the TCSA does hold a Section 170 Heritage and Conservation Register for Taronga Zoo though this appears not to be publicly accessible at present (at least in relation to the TCSA website). The register lists a number of items within, and in the vicinity of, the proposed Wildlife Hospital site. These include the existing Serpentina building (Item 102B on the TCSA s170 Register) and associated site, the Koala House (s170 Item 77B), part of the early access road network (s170 Item 99L), an area of massive sandstone outcropping that supports a vestige of the pre-Zoo *Angophora costata* woodland vegetation community (included as s170 Item 240L) and a mature Bangalay (*Eucalyptus botryoides*) (s170 Item 187L) along with some view lines. Historically significant items in the immediate vicinity of the proposed new wildlife hospital are the 1980 Chimpanzee Park (s170 Item 100B) to the south, the remnant aviary structure (s170 Item 60B) and the remnant Brown Pine (s170 Item 168L) (Figure 2).

The Taronga Zoo, Sydney Wildlife Hospital project is a State Significant Development (SSD-33211326). Under Section 4.12(8) of the NSW Environmental Planning and Assessment Act, 1979, the Planning Secretary's Environmental Assessment Requirements (SEARs) were issued for the project on 13 December 2022. Item 20 of the SEARs requires the heritage component of the Environmental Impact Assessment to take into account "the relevant guidelines, which assesses any impacts and outlines measures to ensure they are minimised and mitigated". There is no CMP for the overall zoo site, but there is the Landscape Management Plan (2006) that fulfils the same purpose. Both the LMP (2006) and the GML Conservation Strategy (2002) have been taken into account in writing the present heritage impact assessment.

1.4 Approach

The Mosman LEP, 2012 Dictionary describes a **heritage impact statement** as "a document consisting of:-

- (a) a statement demonstrating the heritage significance of a heritage item, archaeological site or place of Aboriginal heritage significance, and,
- (b) an assessment of the impact that proposed development will have on that significance, and
- (c) proposals for measures to minimise that impact".

The present report is largely structured accordingly. It also follows the standard procedure for reviewing the heritage context of places and potential for heritage impact based on recommendations by the Heritage Division of the NSW Office of Environment and Heritage. A review of the site – historically and physically – is undertaken in order to understand what it is that gives it its cultural value. After considering the nature of the site's cultural significance, the proposed works are then tested against various benchmark criteria such as how would the works affect the assessed cultural significance and would they comply with relevant expectations arising from the LEP heritage listing and those for the s170 register.

Finally, in those instances where impacts on the precincts' cultural value are unavoidable, mitigatory measures are proposed in an effort to reduce the nature and degree of potential impact. European and Aboriginal archaeological resources are the subject of separate reporting for this SSDA. Normally, issues concerning aesthetic values would be taken into account in any assessment of heritage impact. In this case a specific visual impact assessment encompassing views beyond the zoo, and relating to the harbour setting, has been undertaken by others.

¹ The guidelines are *Heritage Asset Management Guideline, 2004* (TAM04-9) from NSW Treasury and *State Agency Heritage Guide, 2005* from the Heritage Council of NSW.

1.5 Authorship

This heritage impact assessment report was written by Geoffrey Britton in June 2022. In 2017 another heritage impact assessment report was undertaken for the African Waterhole project (now fully built) and in that report an account of the historical development of the overall zoo and specific precincts was written by consultant historian and historical archaeologist Nicholas Jackson.² With acknowledgement, parts of that historical account – particularly those dealing with the initial overall zoo development - have been used for **Section 2** of the present report.

Unless acknowledged otherwise, site photography was taken in June 2022 by Geoffrey Britton.

1.6 Acknowledgements

Jean Rice, Project Manager, Heritage Specialist (part-time) TCSA
Kristine Marshall, Senior Project Manager, TCSA
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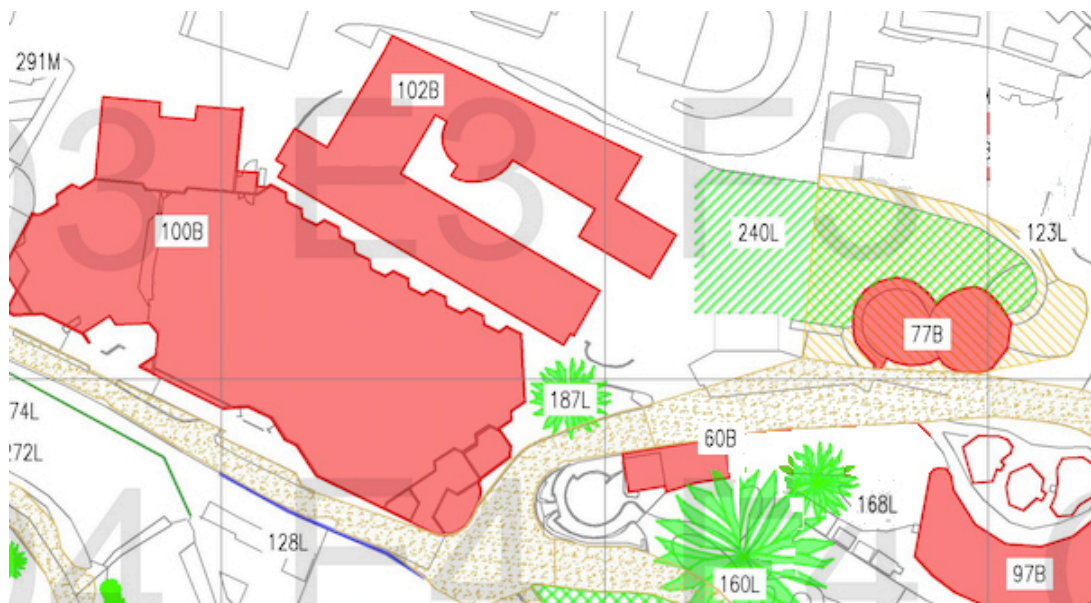


Figure 2 A detailed extract from the s170 Register for Taronga Zoo showing the outline project area for the proposed Wildlife Hospital in relation to s170 items within and in the vicinity of the project site. (Source: TCSA 2022)

² Geoffrey Britton, Nicholas Jackson & Ashley Built Heritage, *Proposed African Savannah/Waterhole & Congo Precincts Heritage Impact Assessment*, Final Report to TCSA, June 2017

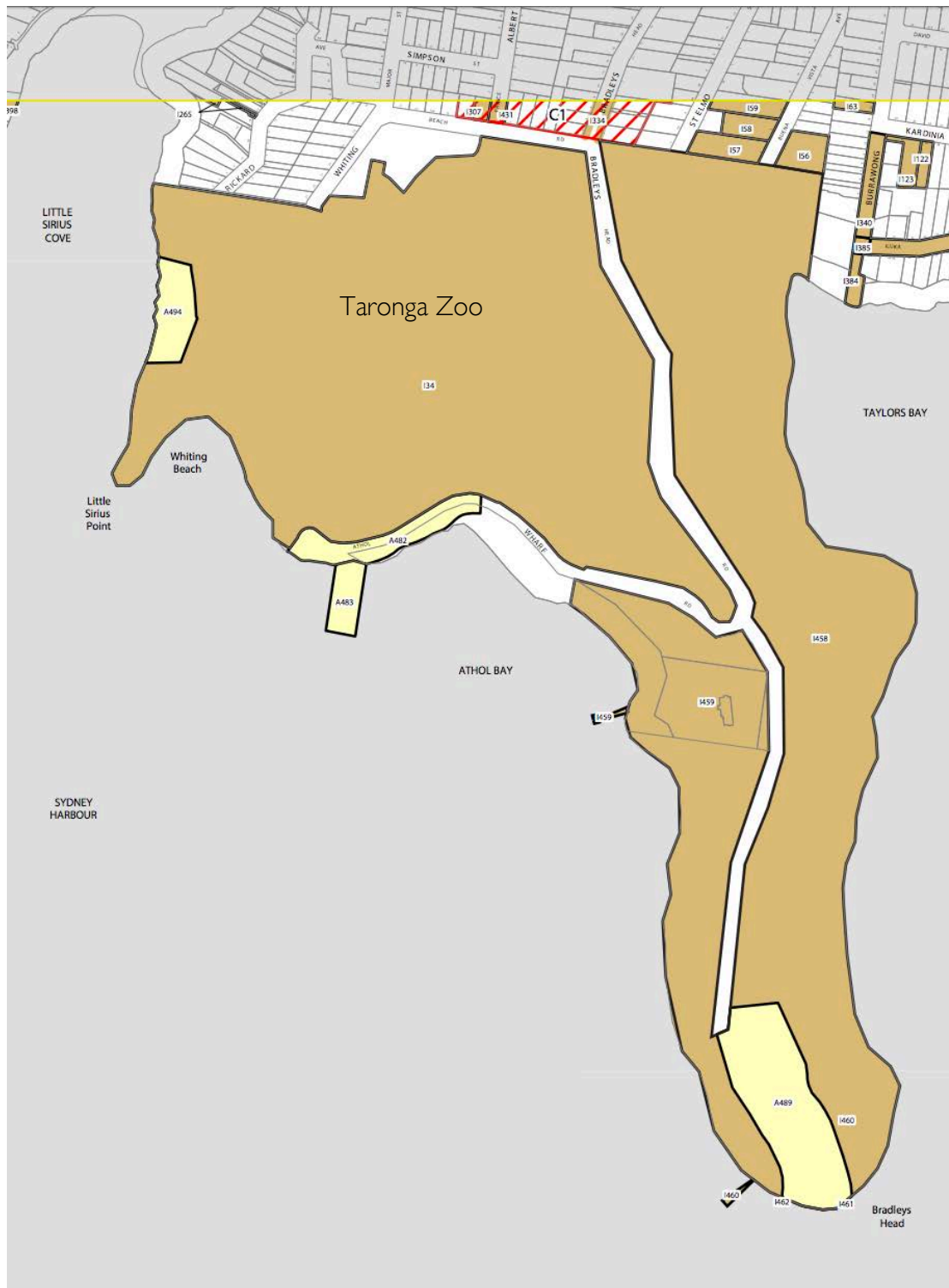


Figure 3 Extract from Heritage Map Sheet HER-003 from the Mosman LEP 2012 indicating the Taronga Zoo site as heritage Item 34 (I34). No Conservation Areas directly relate to the site with the closest - Bradley's Head Road Conservation Area (C1) - immediately to the north. The yellow areas identified on the LEP map relate to historical archaeological sites though none of these would be affected by the proposed development for the Taronga Wildlife Hospital building. Aboriginal archaeological resources are the subject of separate advice to the TSCA.

2 Historical Overview

2.1 Preamble

In this section of the report, a brief review of the historical development of the site is outlined to help understand the nature and historical significance of the various remnant 'layers' and their relationship to adjacent zoo structures and landscape areas. This review makes liberal use of material in the substantial historical overview written by Nicolas Jackson from the 2017 Heritage Impact Assessment report for the African Waterhole and Congo precincts insofar as it relates to the overall zoo development history. This is dealt with briefly before focusing on the immediate site area and proposal that is the subject of the present heritage impact review.

2.2 Initial Basis of Taronga Zoo Development

Land resumed by the Government at Bradleys Head in 1908 and 1912 became the basis of the new Taronga Zoo – replacing an earlier, inadequate zoo at Moore Park - with additional land added in subsequent years as the site continued to develop and expand. The earliest planning and development was by Albert Sherbourne Le Souef (1877-1951), who had been secretary of the Zoological Society since 1903 and, after touring and observing various zoos and parks in England and Europe, formulated a vision for a new zoo in Sydney. This vision was particularly influenced by the recently opened Tierpark Hagenbeck at Stellingen, near Hamburg, Germany, where, as much as possible, animals were kept in barless enclosures that were designed along more 'naturalistic' lines and where a more informed approach to zoo keeping was practiced.

Le Souef described his vision for the new zoo in early 1910, with visitors arriving by ferry and walking to the nearby zoo entrance then:

'following winding paths through the trees, the striking observation will be made that there is scarcely any sign of cages, for the enclosures are masked by thick bushes and the natural contour of the ground, which gives more the appearance of a park, and not by any means of a menagerie; and in this respect the grounds will be unique in Australia for the bold plan of keeping the carnivora in bounds without recourse to iron bars can be carried out perfectly. Sheep and goats will be seen rejoicing on their natural rocks, and monkeys in their spacious wire compartments enclosing large trees, everything living happily under natural conditions in our ideal climate'.³

A major factor in the layout of both animal precincts and the path network throughout the zoo site, was – and remains – the sloping topography towards the harbour. This provides challenges in the design and planning of the place though also enables the dramatic harbour setting to be exploited to stunning effect.

The earlier character of the zoo site was described as:

'a series of plateaus or grassy slopes, rising one above the other to a height of some 340 feet from water level, in a succession of terraces faced with precipitous rock or weather-worn masses of boulders, well wooded with angophora, eucalyptus, eugenia, banksia, grevillea, and other trees ..'⁴

To illustrate the complex nature of the harbourside topography, a detailed contour plan of 1912 survives (**Figure 4**). A site planning response to this landscape is shown at **Figure 5** as a basic – almost 'back of the envelope' – sketch, presumably from AS le Souef's own hand. It is dated from December 1912.

³ 'New Zoo at Athol', *Sydney Morning Herald*, 11/2/1910, p. 7

⁴ Taronga Zoological Park, *Australian Zoologist*, Vol 1

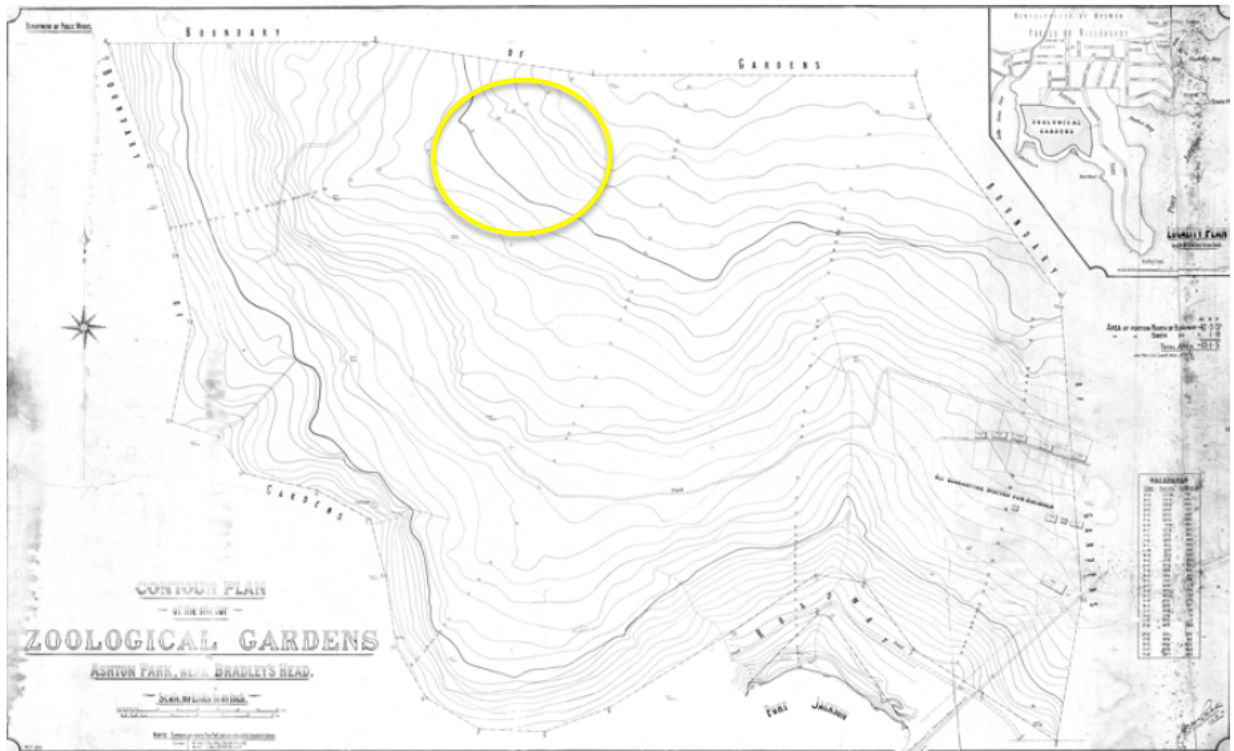


Figure 4 A detailed contour plan of the new zoo site by the Public Works Department (September 1912). The majority of the site remained as bushland, with the exception of the stock quarantine compound at the southeast corner. The approximate location of the present focus for this heritage impact review is shown circled. (Source: NSW Public Works - Plan Room)

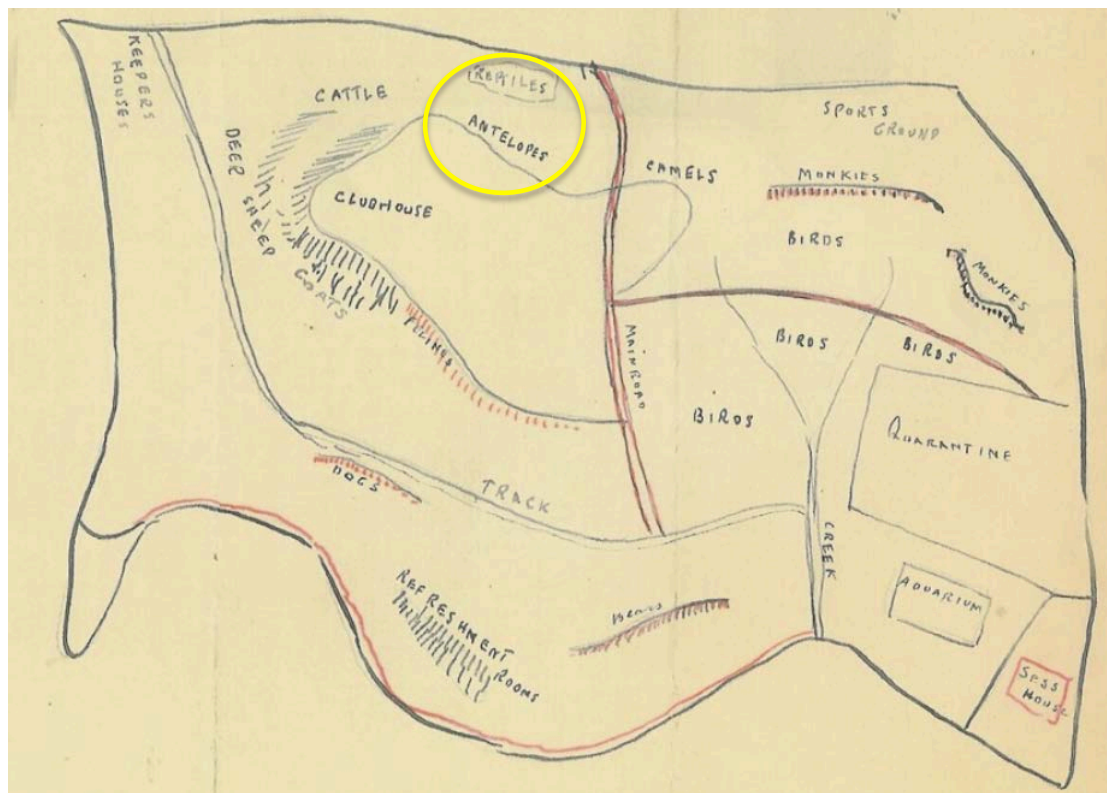


Figure 5 A rudimentary layout sketch – presumably by Le Souef - dated December 1912 shows the proposed division of the zoo site into discrete compartments (animal enclosures with ample reserves for parkland though surprisingly few paths). The main vertical line denotes an intended access spine along the central ridgeline. (Source: Taronga Zoo Archives (with Holding SE/81 newspaper clippings))

As Nick Jackson notes in the 2017 HIA report “Le Souef had approached the planning [of the zoo] with some scientific rigor for in 1939 he recalled:

'The actual planning of the grounds took six months. Several thermometers were hung about the park, temperatures noted and wind velocities recorded. Every section was worked out in detail, and when the general scheme was in mind, numerous different coloured pegs were prepared, and each separate enclosure, lawn, pond, and path, were lined out its respective colour. The trustees carefully checked this over, taking into consideration all available data that could be obtained at that time'.⁵

Presumably too, this microclimatic data was based on the protection afforded by the remnant *Angophora costata* woodland across the site – a resource that is now considerably diminished. Taking into account these microclimatic considerations, an early layout plan of 1913 (Figure 6) records how the sketch of 1912 had been further detailed with discrete areas and intended structures distributed across the site ready for staged implementation.

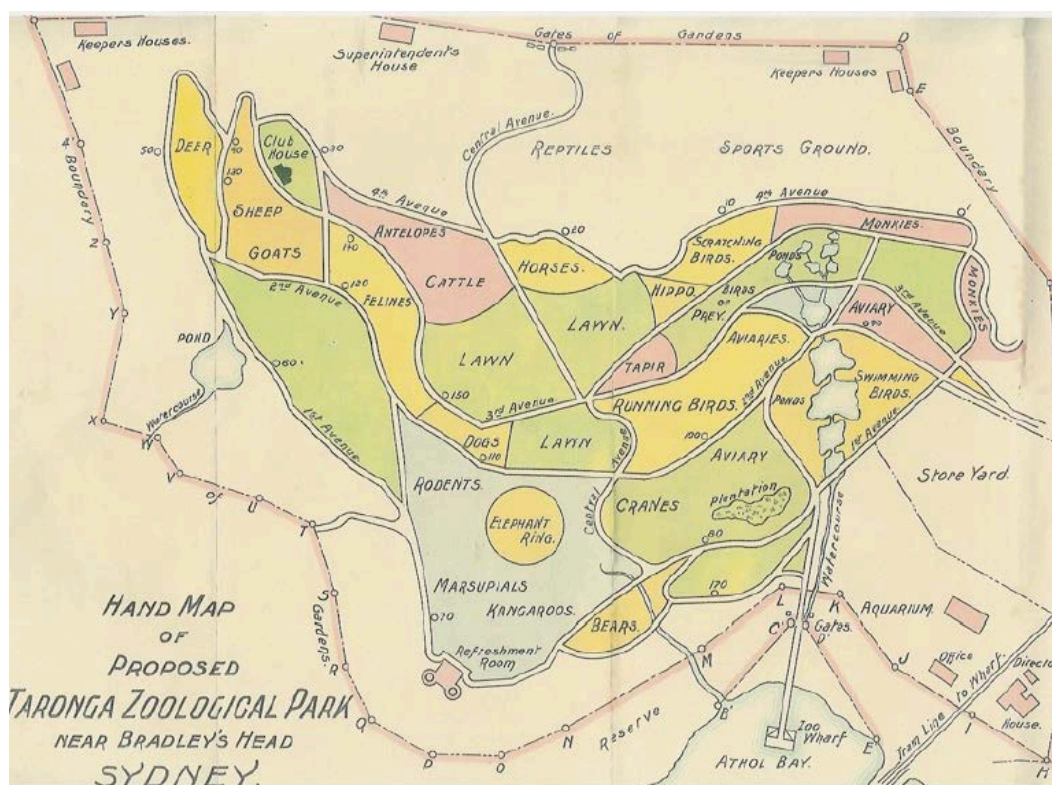


Figure 6 The 1913 'hand map' of the proposed site layout of Taronga Zoo. Most of the currently proposed Wildlife Hospital development relates to the area immediately north of the designated “4th Avenue” on this plan (between the ‘Superintendent’s House’ and the pink area to the south for ungulates). (Source: Taronga Zoo Archives (with Holding SE/81 newspaper clippings))

Nick Jackson continues: “Initial site works included blasting and levelling the bedrock,⁶ and selective culling of native flora. The native eucalyptus trees were removed for they did not provide sufficient shade, while the angophoras were retained.⁷ Technical assistance in regard to the planting was provided by JH Maiden, director of the Botanic Gardens,⁸ and indeed Maiden arranged for the supply of all the plants needed.⁹ James Dawes, superintendent of Centennial Park, was also involved in providing advice on horticultural matters.”¹⁰ Figures 7 and 8 show

⁵ 'Stormy fight for Taronga Park', *Sydney Morning Herald*, 14/10/1939, p. 11

⁶ 'Making Sydney's New Zoo', *Sun*, 11/2/1914, p. 42

⁷ Undated typewritten report included Taronga Zoo Archives Record Holding SE81

⁸ Taronga Zoological Park Trust, Report for 1916, p. 2

⁹ Min, 16/8/1912

¹⁰ M 21/2/13

early views of remnant woodland within the Mosman zoo site. A 1916 *Sydney Morning Herald* article noted the early approach to the indigenous vegetation:

'the park is well covered with native trees, principally angophoras, eucalyptus, eugenias, banksias, etc. Many of these have had to be thinned out to make room for roads and enclosures, but hundreds more had been planted. Apart from herbaceous plants, which are necessary to give colour effect, only Australian material has been used, this will give a special interest to the gardens'.¹¹



Figure 7 ABOVE A photograph taken of the natural state of the Zoo site prior to implementation of the works program. (Source: *Taronga Zoological Park Trust, Report for 1916*, p. 9) **Figure 8** BELOW Another early view (early 1910s) with distinctive rock outcropping and relatively intact vegetation structural layers. (Source: *TCSA Archives* and also reproduced in the *2006 Landscape Management Plan*)



¹¹ 'The Old and Zoo and the New', *Sydney Morning Herald*, 14/9/1916

2.3 Specific Study Site Development

The following account now concentrates more particularly on the progressive changes to the general area proposed for the new Wildlife Hospital from early site planning to the present.

2.3.1 Interwar Development Priorities (1910s-1930s)

Early sketches, such as those from 1912 and 1913, and site plans (1916 (**Figure 9**) and 1920) indicate various intentions for the northwestern part of the zoo site but these remained largely unrealised until the 1920s when the access system was extended including a loop – previously not indicated on the concept plans – that was introduced around an area used for ungulates over many decades (the same area being later developed in the 1970s as the Chimpanzee Park, completed in 1980).¹² In relation to the 1927 site plan (**Figure 14**), the area to the north of the former ungulate precinct is the specific focus of this report.

The 1927 site plan shows that the new upper roadway now linked the main upper east-west path to the back-of-house 'Yard' area shown originally on the 1916 site plan. This 'Yard' area, with access from the north via Whiting Beach Road, comprised a group of buildings (built or relocated by 1916) to house maintenance functions, a central incinerator and a small operating theatre and hospital shelter sheds (**Appendix A**). The group formed a rectangular block plan around a central courtyard and was defined along the eastern side by a lofted timber hay and fodder shed relocated from the Moore Park Zoo site. To the south of this food store building was the first zoo hospital (**Figure 20**). The form of this group (not its use) remained much the same from 1916 until the late 20th century when the smaller building 'footprints' were replaced by large plate buildings in tandem with expanding zoo functions. Although not within the present study area, this group is notable for containing the original wildlife hospital of the zoo. This remained the case until the 1930s when a new hospital/quarantine facility replaced it, and interestingly, the location of this 1930s facility coincides with the presently proposed hospital.

By 1927 a number of animal 'exhibits' had been built along the main east-west public pathway. These included yards for Llamas and Camels (**Figures 10 to 14**) (basically where the present reptile complex is located) and, further to the east, enclosures for 'Crocodiles' (although the 1920 site plan had Alligators here!) and Collared Peccaries. Two years later the layout remained the same except that a section for reptiles had been added between the Camel yard and the (once again) Alligators.

With a severe contraction in the world economy in the early 1930s the NSW Government introduced welfare schemes to provide work for unemployed men. In the case of Taronga Zoo unemployed men were engaged from 1930 under Schedule 3 of the Prevention and Relief of Unemployment Act and by the second half of 1932 some 45 men were employed at the zoo.¹³ A year later there were 70 men receiving such assistance¹⁴ while in September 1934 additional funding was provided for:

'construction of new and additional bird aviaries, construction of new carnivora dens and demolition of old carnivora houses; construction of new yard for horses, and new hospital quarters for sick animals'¹⁵, formation of path from compressor house and pump house on Harbour front; construction of Lyre Bird enclosure and formation of necessary paths thereto; and works required in connection therewith'.¹⁶

The supervision of these men was left to professional architect Alfred Spain (1868-1954) who was also Chairman of the Zoological Park Trust in the 1930s (and since 1928).¹⁷ The new hospital quarters mentioned above subsumed the area used for Llamas in the 1920s and included a further group of buildings to the north and extending further to the west as part of new, expanded quarantine facilities (**Figure 15** and compare **Figures 19** and **20** below).

¹² Compare for example the zoo guides from 1920 and 1927.

¹³ Notes and News, *Sydney Morning Herald*, 9/8/1932, p. 6

¹⁴ 'Several Big Contracts', *Sydney Morning Herald*, 25/7/1933, p. 6

¹⁵ Emphasis added to indicate a component of this funding directed to the former hospital within the study site.

¹⁶ *New South Wales Government Gazette*, 2/9/1934

¹⁷ 'Several Big Contracts', *Sydney Morning Herald*, 25/7/1933, p. 6

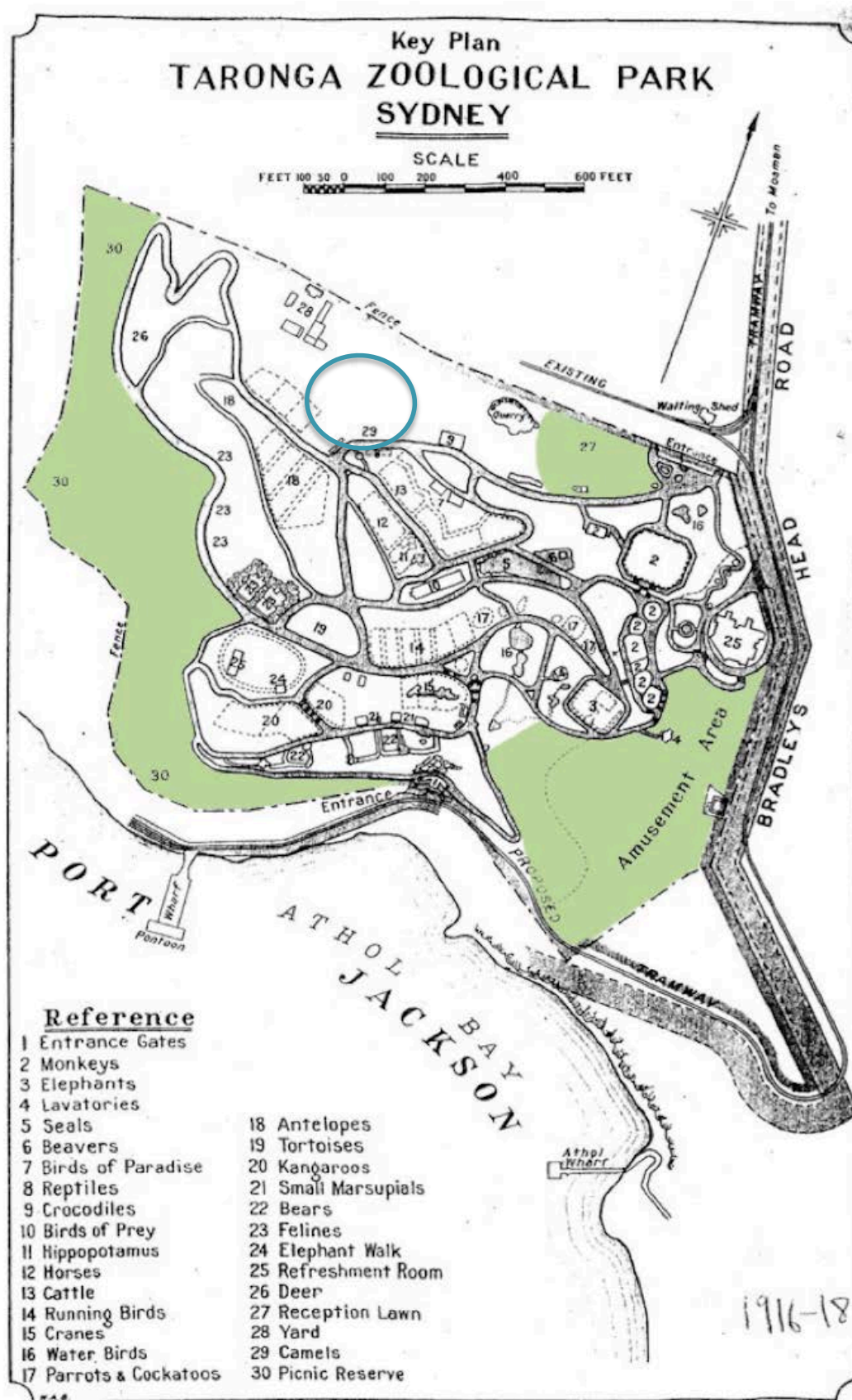


Figure 9 A layout plan of Taronga Zoo from 1916 indicating what had been built by this date. The approximate area relating to the present heritage impact assessment is circled. (Source: Design 5 Architects et al, Landscape Management Plan, 2006)

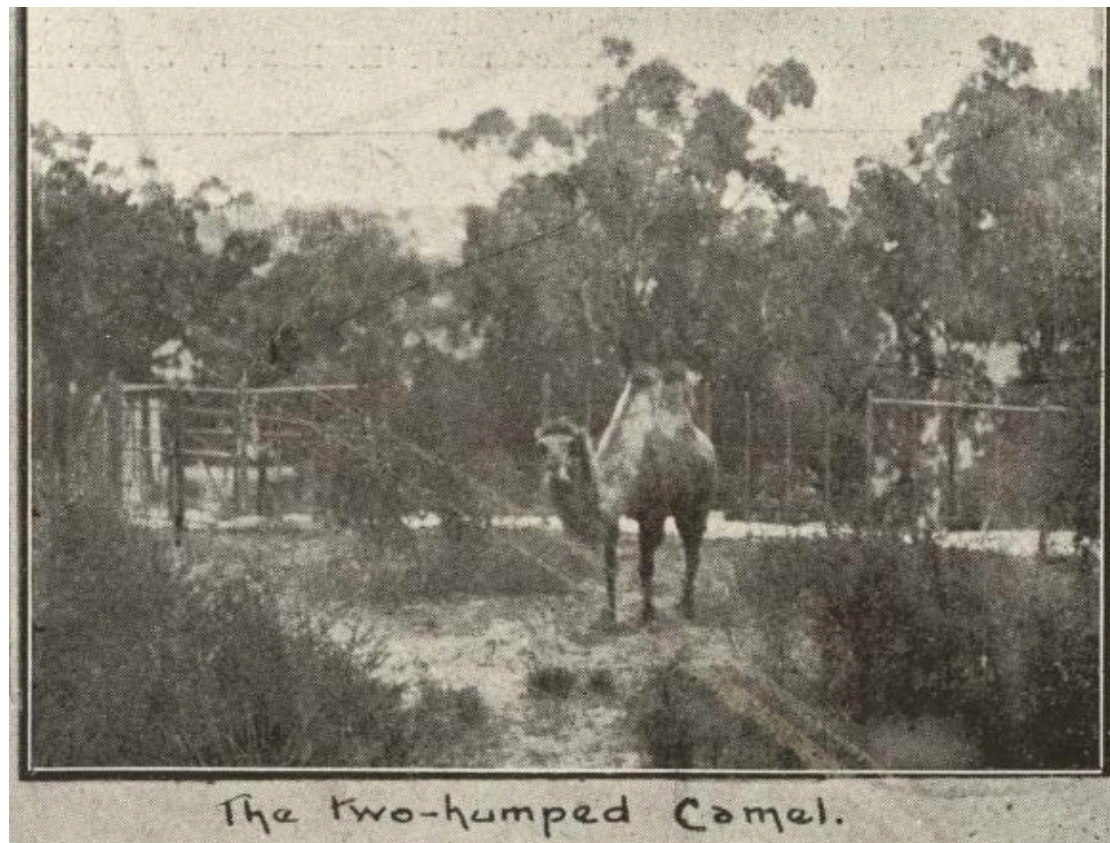


Figure 10 ABOVE A 1917 view through the Camel yard showing remnant woodland beyond and even some remnant understorey species within the yard. (Source: *The Queenslander*, March 1917 TCSA Archives)
Figure 11 BELOW One year later and from further back, the Camel yard is looking sparser though rock outcropping is plainly evident. (Source: Government Printing Office, 31 March 1918, GPO 1-13308 TCSA)





Figure 12 ABOVE The Camel yard in 1924 showing surviving woodland vegetation beyond with an edging garden to the western end of the large ungulates section (now Chimpanzee Park). The image suggests that the present surviving Bangalay may have been planted (or retained) within a decade earlier. (Source: Government Printing Office, 1 February 1924, GPO 1-19169 TCSA Archives) **Figure 13** BELOW Looking north into the Camel yard a year later showing some of the remnant *Angophora* woodland at the back of the enclosure. (Source: Government Printing Office, 1 June 1925, GPO 1-15945 TCSA Archives)



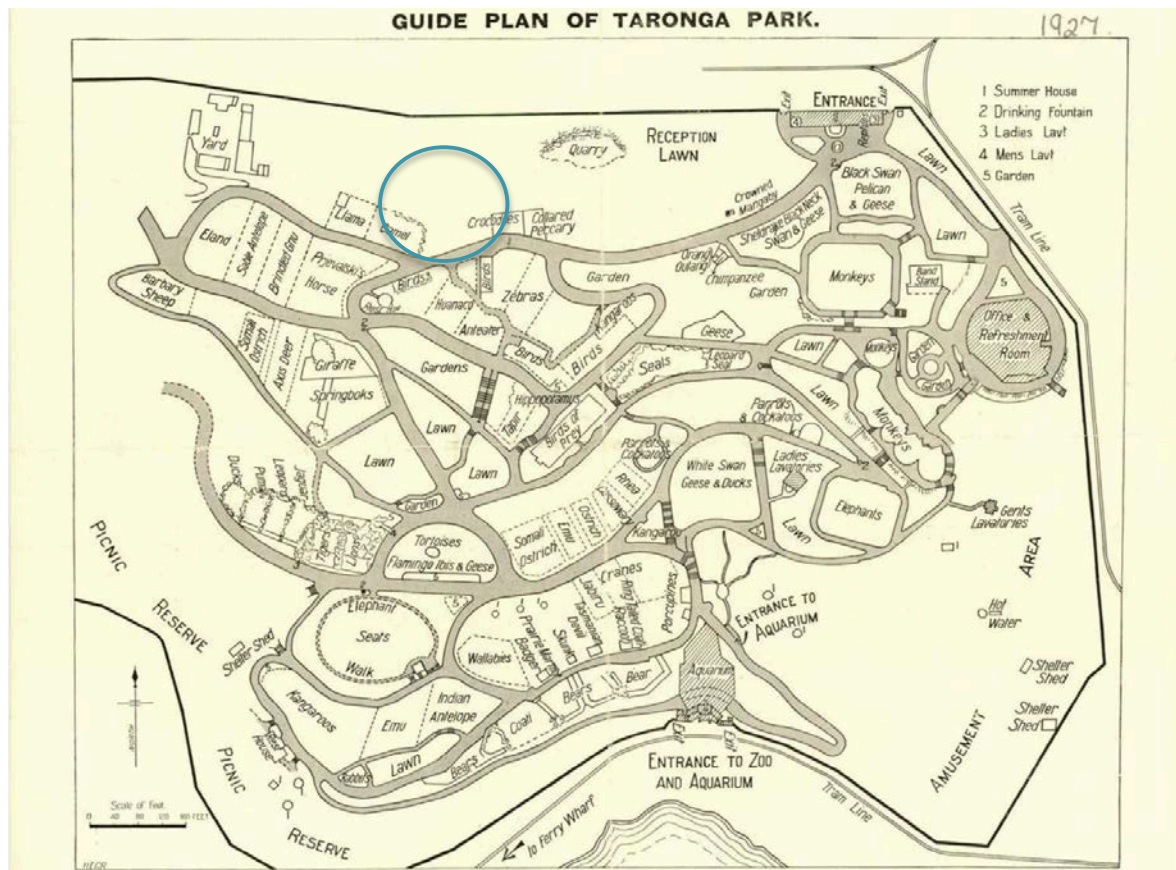
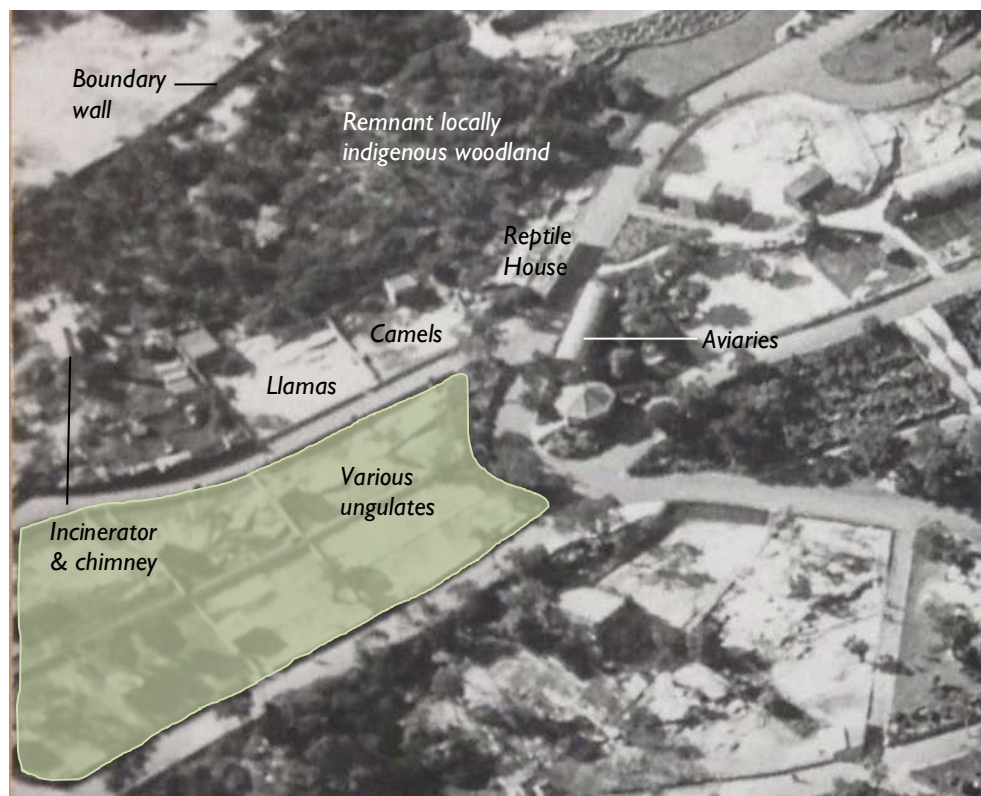


Figure 14 ABOVE The 1927 site plan with the approximate area of the present study focus circled. The buildings shown at the southeast corner of the 'Yard' group – ie further west of the study area - comprised the zoo's early hospital and operating theatre. (Source: TCSA Archives) **Figure 15** BELOW An annotated detail of a 1930 oblique aerial photograph showing part of the present study where llamas and camels are noted. The view is looking approximately to the northeast. (Source: TCSA Archives)



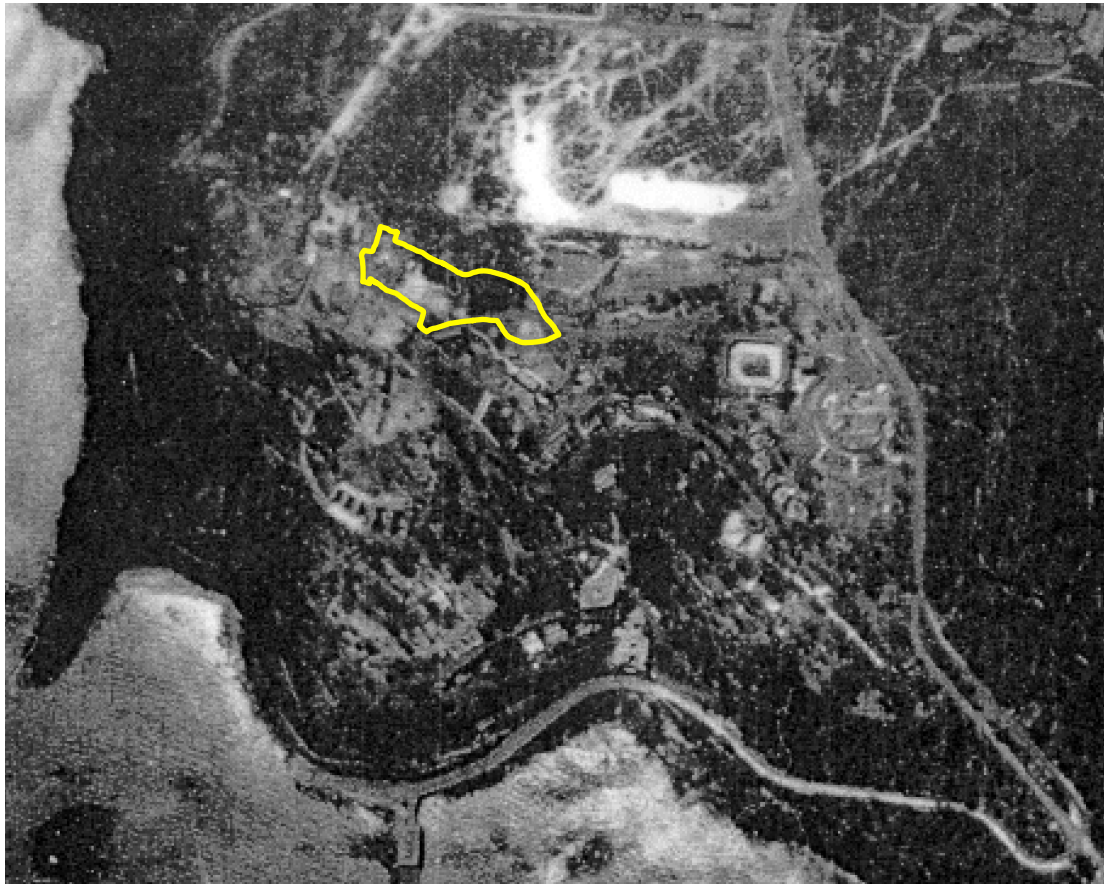
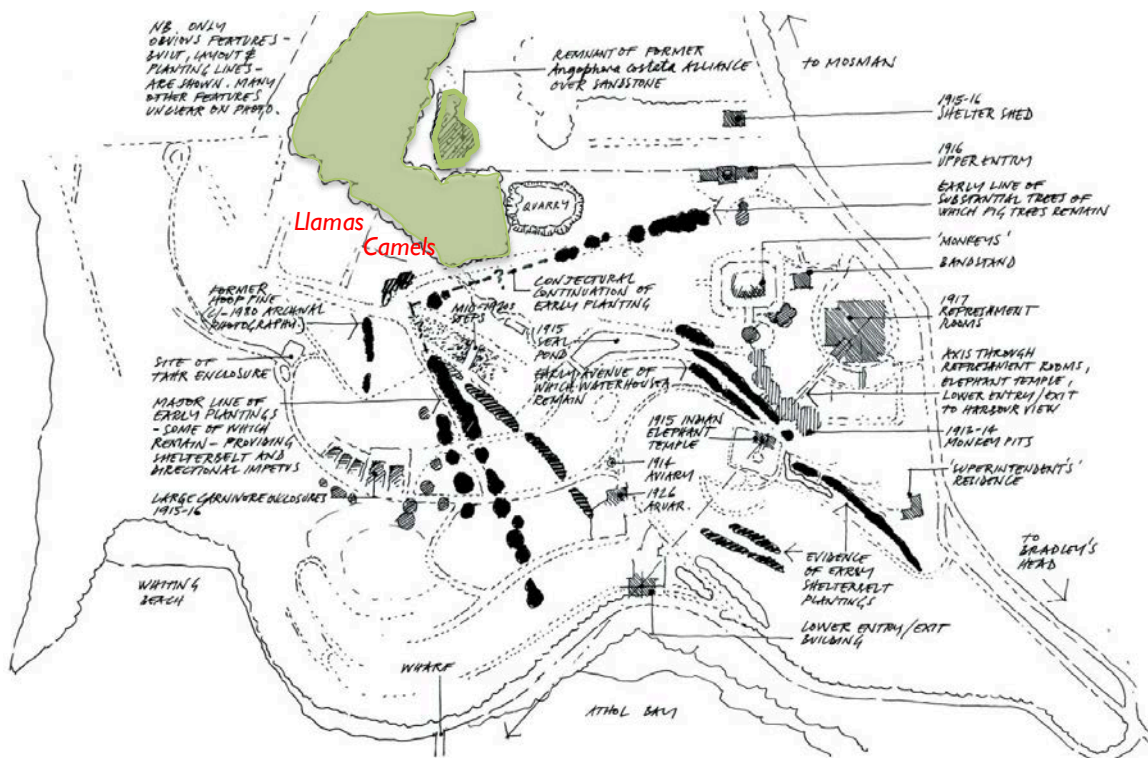


Figure 16 ABOVE 1930 aerial photography with the approximate area of the present study noted. (Source: TCSA Archives) **Figure 17** BELOW An analytical sketch from the 1930 photography highlighting the extent of remnant woodland within, and near, the site at that time. (Source: Geoffrey Britton from the 2006 LMP)



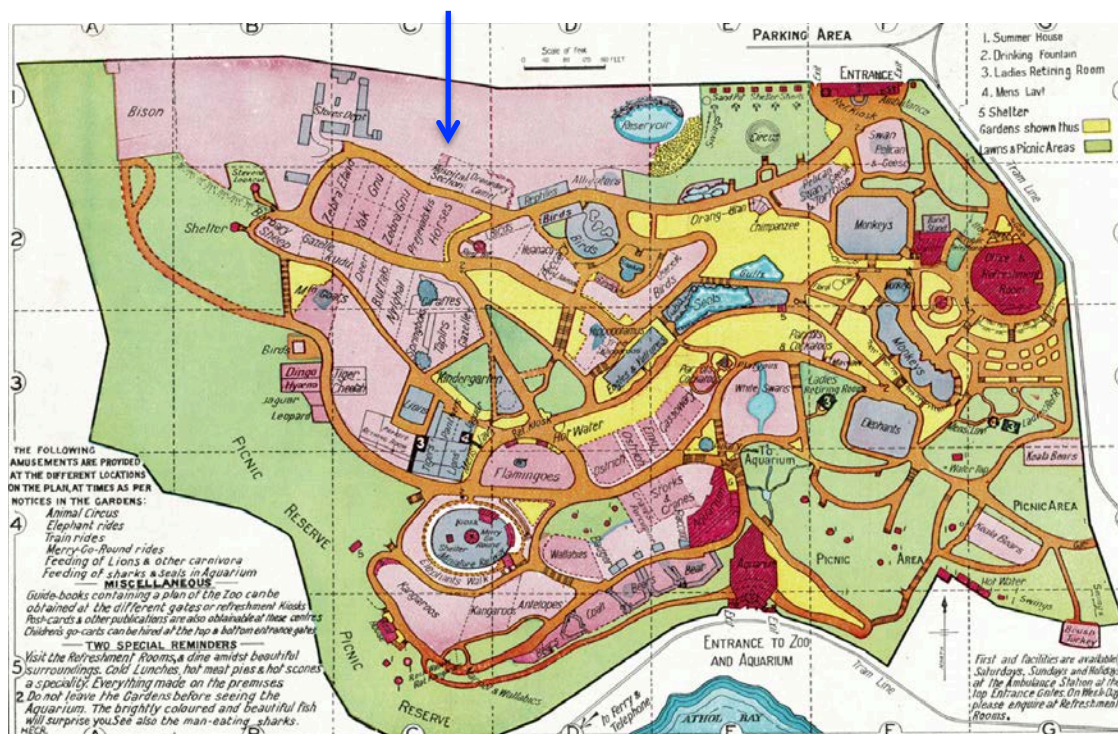


Figure 18 The 1939 guide plan showing the new 1934 hospital section (arrow) where the Llama enclosure had previously been (next to the Dromedary and Camel yard). (Source: TCSA Archives)

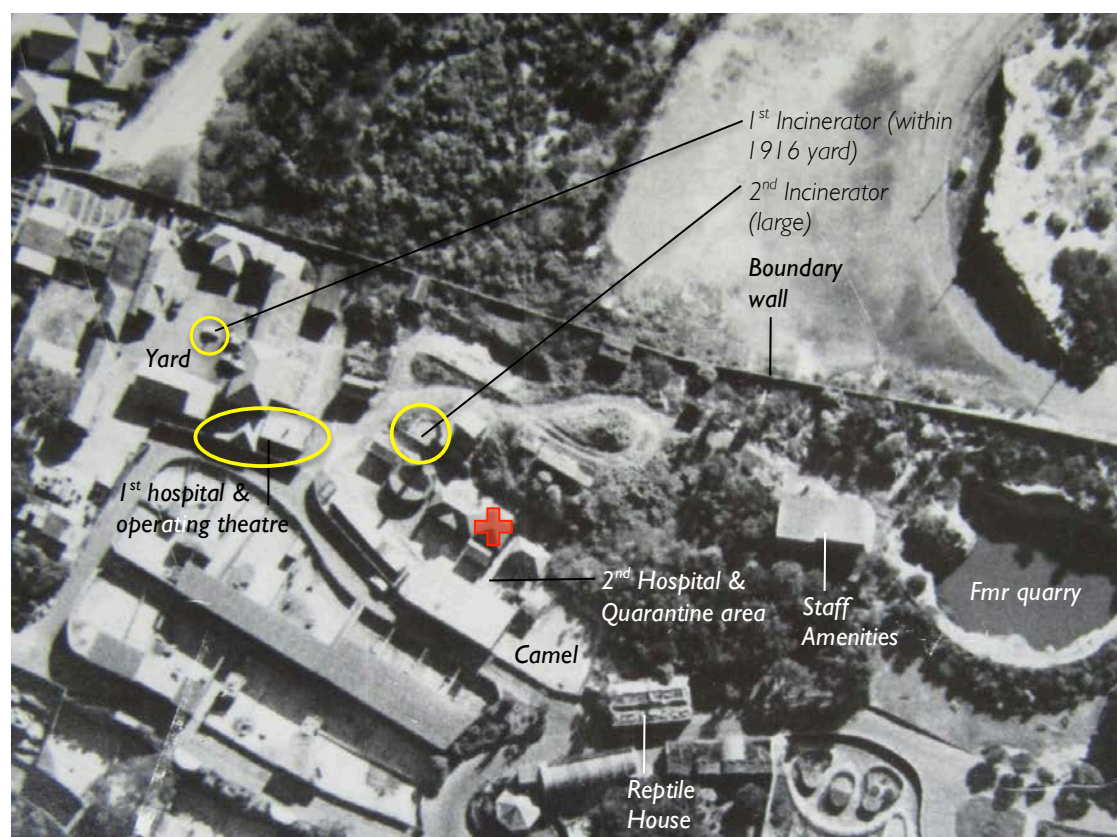


Figure 19 An annotated detail of a 1950 aerial photograph showing key development to this point in the vicinity of the present study site. Some of the structures comprising the 1934 hospital and quarantine complex may have been designed by prominent architect and Chairman of the Zoological Park Trust, Alfred Spain. A May 1969 survey (TCSA Archives Misc. 198/185 V12 Roll 335) shows the building indicated (red cross) to be the actual hospital and that to the west to be the operating theatre at that time. (Source: TCSA Archives)

2.3.2 Post-War Development (1940s-1950s)

By 1950 (**Figure 19**) there had been a further extension to the hospital building but little else since the mid-1930s work to build the new hospital/quarantine complex. The structures comprising the complex are shown to be a curious mix of a row of three traditional hipped-roof cottages to the north and two long, skillion-roofed ranges to the south. Most of the small cottage buildings were heavily modified by the early 1960s. The main range (adjoining the camel yard) appears from subsequent photography (**Figures 21** and **22**) to have been a very sober, functional structure with little concession to overt aesthetics.

The 1954 Taronga Zoological Park and Aquarium site plan (**Figure 20**) described this entire expanded complex as a 'Quarantine Area'. Consistent with earlier site plans, the 1954 guide plan shows various bird aviaries south of the main public pathway with an alligator enclosure to the north. The former quarry site is described as a 'reservoir' and the former reptile enclosure is now shown as a shelter structure.

In 1959 Sir Edward John Lees Hallstrom was appointed honorary director of Taronga Zoo. Hallstrom (1886-1970) had previously been appointed a trustee of the Zoo in 1941, was vice-chairman (1945-51), and then president from 1951 until 1959. Professionally, Hallstrom had made his name as a manufacturer and had no formal training in the sciences – something for which his tenure was eventually viewed negatively - though he had a profound interest in animals and gave liberally both in monetary and material terms to the zoo.¹⁸ (An example of his considerable largesse at the zoo was the 1945 administrative block paid for by Hallstrom.) During Hallstrom's tenure little appears to have changed within the area of the zoo that is the focus of this study – the 1960 guide plan is basically unchanged since that of 1954. Also at this time development remained within the original northern zoo boundary (**Figures 19** to **21**).

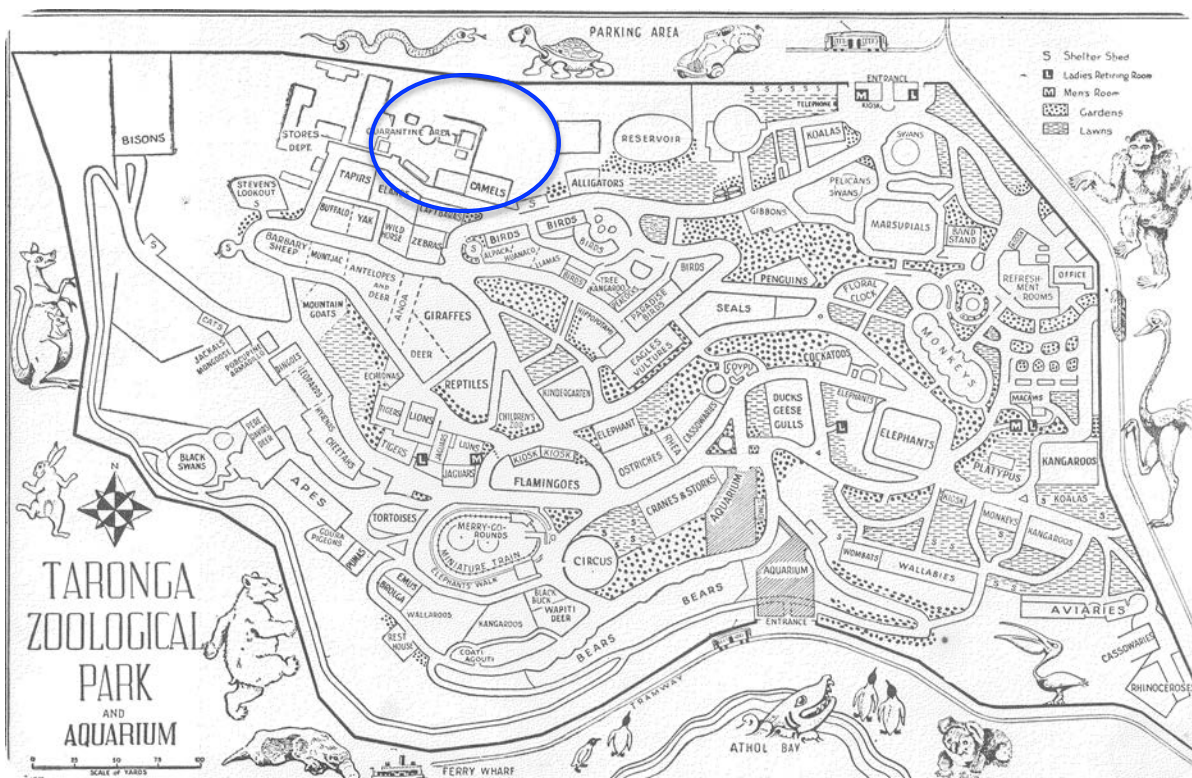


Figure 20 The 1954 guide plan showing much of the present study site described as a 'Quarantine Area'. The earlier Reptile House on the main path is now described as a 'shelter' and the new building shown west of the reservoir is the late 1940s former staff amenities building. (Source: TCSA Archives)

¹⁸ Audrey Tate, 'Hallstrom, Sir Edward John Lees (1886-1970)', *Australian Dictionary of Biography*, Melbourne University Press, 1996

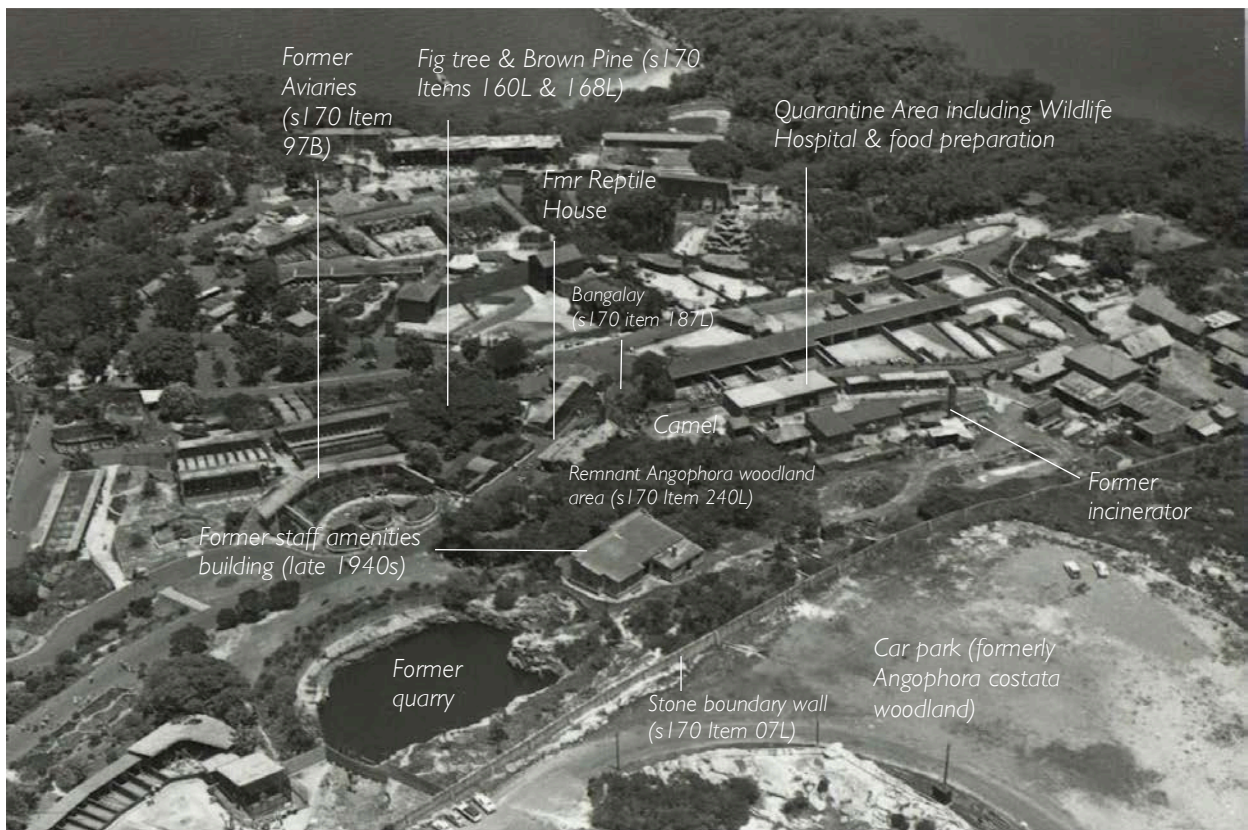


Figure 21 ABOVE An annotated detail of the c. 1962 oblique aerial photography looking across the northern boundary wall to the southwest and Whiting Beach (centre top). (Source: TCSA Archives) **Figure 22** BELOW Another early 1960s oblique view of the site though this time from the opposite direction. Both this view and that above show that some of the earlier hipped cottages adjacent the hospital range have been either removed or extensively rebuilt. (Source: TCSA Archives)

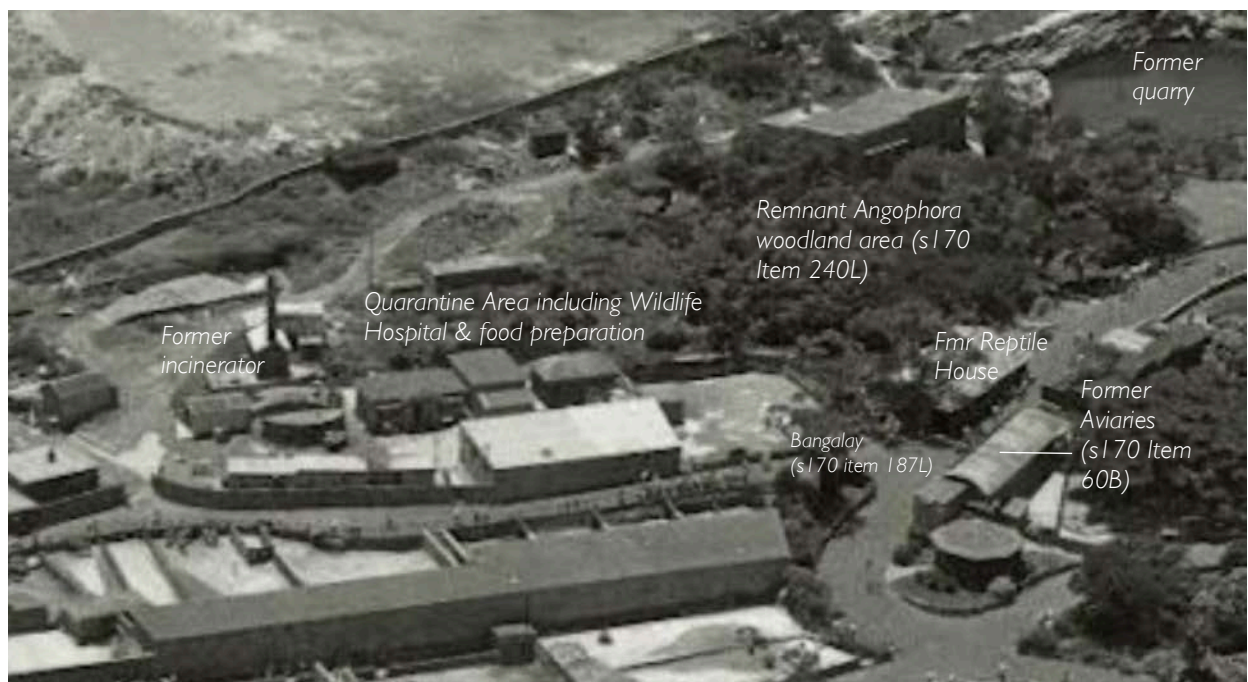
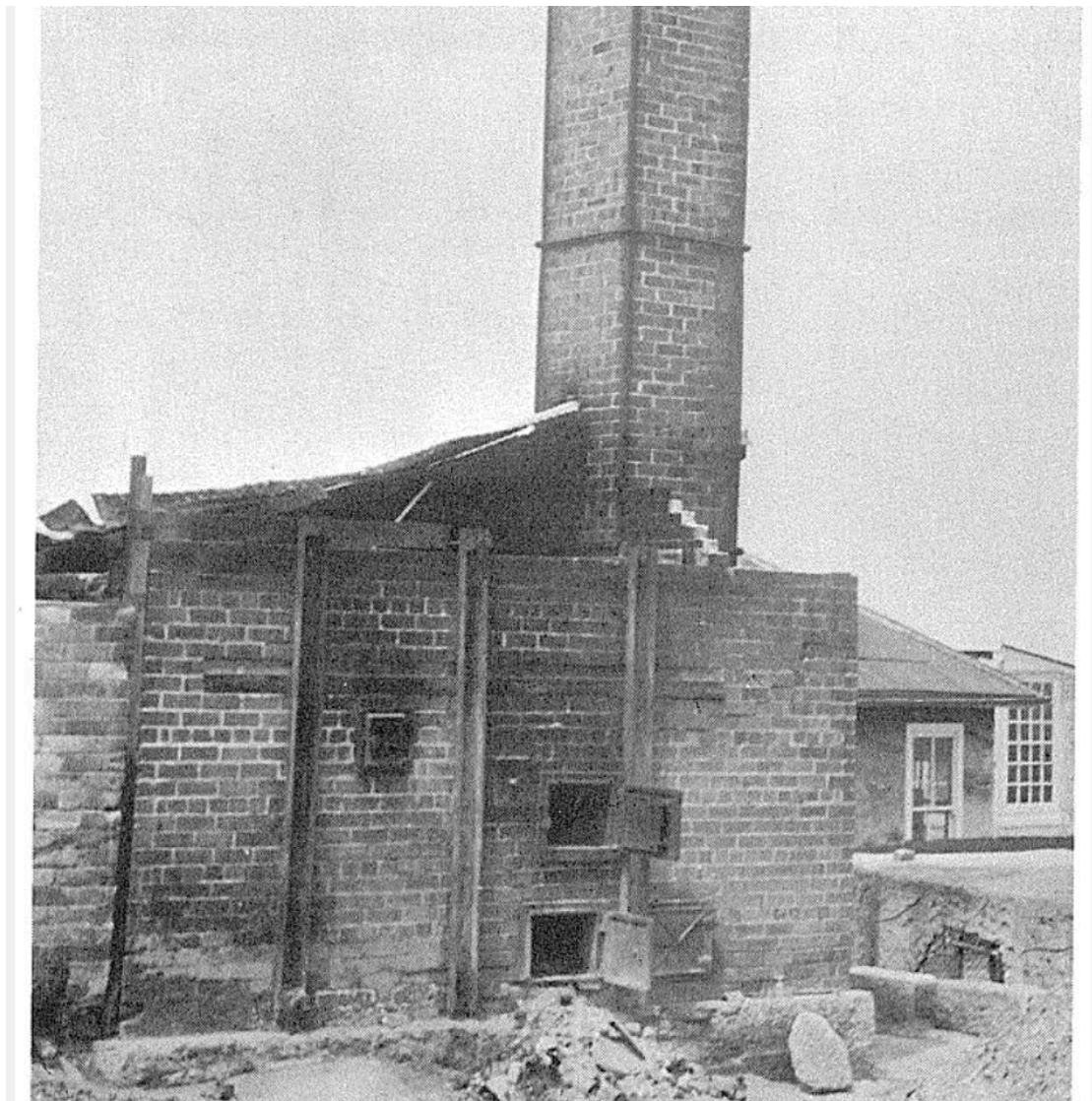




Figure 23 ABOVE A c. 1960s view of the Camel yard showing a somewhat dour, featureless yard environment. The eastern end of the 1934 hospital building forms an edge to the yard. (Source: TCSA Archives) **Figure 24** BELOW The first(?) incinerator, likely within the original quarantine area. Note, to the right, original 1915 service yard buildings with their multi-pane windows. (Source: Hediger report, 1966)



2.3.3 Major Push towards Australian Themes (1960s-1980s)

With the commissioning and submission of Dr Heini Hediger's report on the management and conditions of Taronga Zoo in 1966, there was an impetus for the progressive development at the zoo that put more focus on the wellbeing of the animals (including removing concrete enclosure floors) and reviewed relationships between humans (as zoo visitors) and the animals (generally regarded as 'exhibits') where new enclosures were planned.¹⁹ Shortly after this Dr Ronald Strahan replaced Hallstrom as director of the zoo in 1967. Strahan (1922–2010), a graduate in zoology, had studied in Western Australia then at Oxford University, followed by the universities of Hong Kong and New South Wales. His was the first full-time directorship of the zoo and marked a significant departure from 'keenly interested amateur' directors to those with widely recognized credentials in zoological science. Strahan remained in this position until 1974 and, among other achievements, is remembered as a pioneer in advocating zoos as cultural scientific institutions.²⁰ Consistent with this emphasis, Strahan sought to appoint scientifically qualified curators for each of the zoo's mammal, bird, reptile and fish sections.²¹

Also consistent with Strahan's concern to review the overall planning and functioning of the zoo and Hediger's earlier recommendations, a Planning Committee was established to oversee preparation of a master plan of redevelopment of the Zoo in March 1967. The Committee included two representatives from the then Government Architect's Branch (GAB) of the NSW Public Works Department: Geoffrey Phillip (Peter) Webber (Assistant Government Architect) and Donald Murray Coleman (project architect).²² Another member of the committee was trustee (and first Chairman of the newly formed Zoological Parks Board of NSW²³) DCB Maclurcan, a senior partner in the well-known Sydney architectural firm Fowell, Mansfield, Maclurcan and Jarvis.²⁴

The Master Plan was completed in March 1970²⁵, and it set out the basic principles guiding redevelopment policy, an important objective of which was a new emphasis on Australian fauna. As a result of this master planning, many new initiatives were undertaken including the building of various new purpose-built structures and major upgrades to both public and back-of-house areas. Many of these structures were the result of a close and productive collaboration between Ron Strahan (as scientific consultant) and Don Coleman (as principal designer). A legacy of this formative zoo development period is a series of fine buildings representative of some of the best design of the 'Sydney School' style. One of these designs, from 1972, is the much-lauded – and now iconic – Koala House built to a site-specific design by Coleman (**Figures 25 and 26**). This represented the western-most extremity of a wide-ranging Australian thematic precinct that stretched back to the eastern side of the zoo (**Figure 27**). Replacing the former alligator enclosure, the Koala House was strategically located along the main pedestrian route leading from the upper entrance building to the central heart of the zoo. The 2006 Landscape Management plan noted the building as a landmark structure within the Zoo (**Figure 28**).

Also consistent with a more animal-sensitive approach to design was the conversion of the former Reptile House (located near the former camel yard) into an experimental Nocturnal House during the 1960s until a more purpose built structure could be designed. Eventually, this was accomplished by 1972. Other major projects of this period included the walk-through, trend-setting rainforest aviary (1970 with refurbishments in 1991 and 2004), kangaroo and wombat enclosures, waterfowl (later wetlands) ponds (1972), Numbat House (later Tasmanian Devil enclosure), Platypus House (1968), Chimpanzee Park (1980) and a new veterinary-quarantine complex (1978). With the relocation of the former 1930s hospital and quarantine area to its present site near the northwestern corner of the zoo lands, the former veterinary-

¹⁹ Hediger was director of the Zurich Zoological Gardens with a particular interest in human-animal relationships and the author of *Wild Animals in Captivity*, Baratay & Hardoun-Fugier, 2004, p. 262

²⁰ australianmuseum.net.au/tribute-to-ron-strahan-am

²¹ Taronga Zoological Park Trust, *Annual Report for 1967/68*, p. 2

²² Taronga Zoological Park Trust, *Annual Report for 1967/68* p. 2

²³ Wikipedia entry for Donald Maclurcan, Accessed 24 June, 2022

²⁴ Taronga Zoo, *Architecture in Australia*, December 1970

²⁵ Taronga Zoological Park Trust, *Annual Report for 1969/70*, p. 12

quarantine centre became the site of the zoo's plant nursery and horticultural section (Figures 30 and 31) until redeveloped in the early 1990s.

A number of back-of-house service buildings were built from the mid-1970s through the 1980s to the north of the present reptile complex. These include the present clerestoried, reverse-skillionned building (in 'Sydney School' style) used for food preparation and the two storey, gabled barn building further to the west – both chocolate brown brick utilitarian structures (Figures 31 and 32). The 'Gardens Department' (noted on Figure 30) was eventually relocated away from the former 1934 hospital precinct further to the north in its present location.

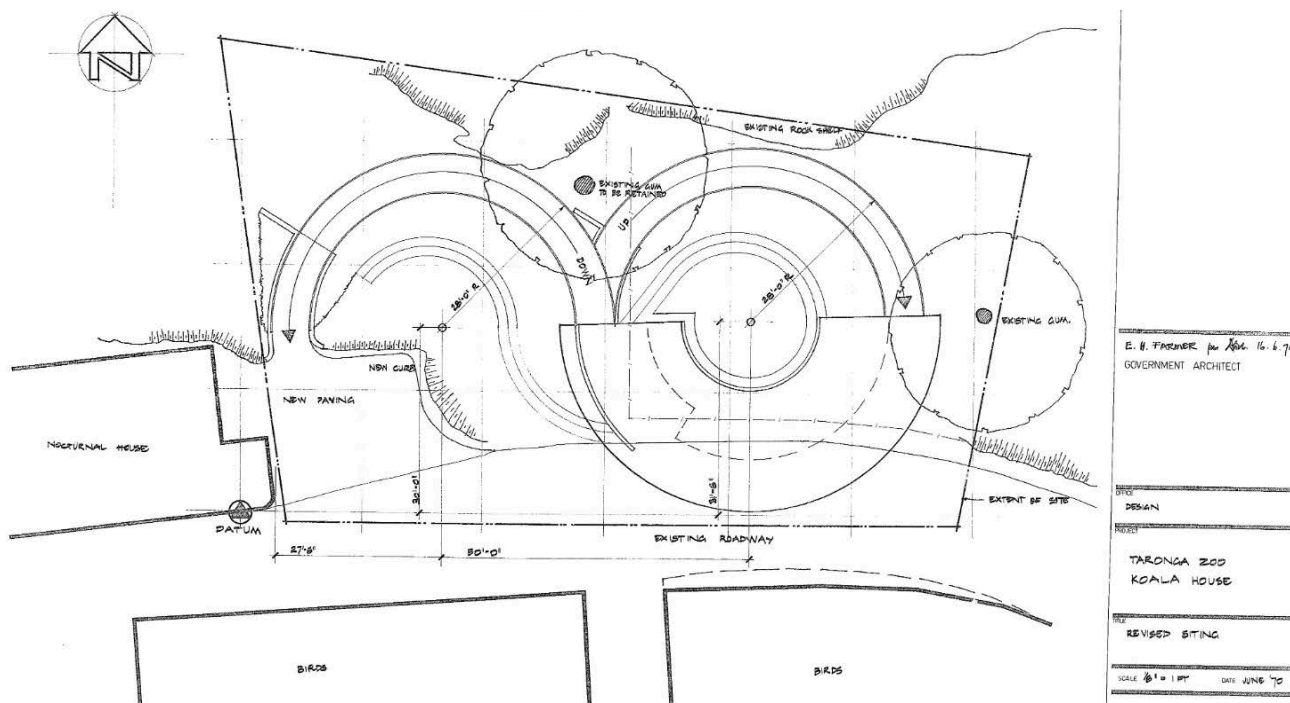
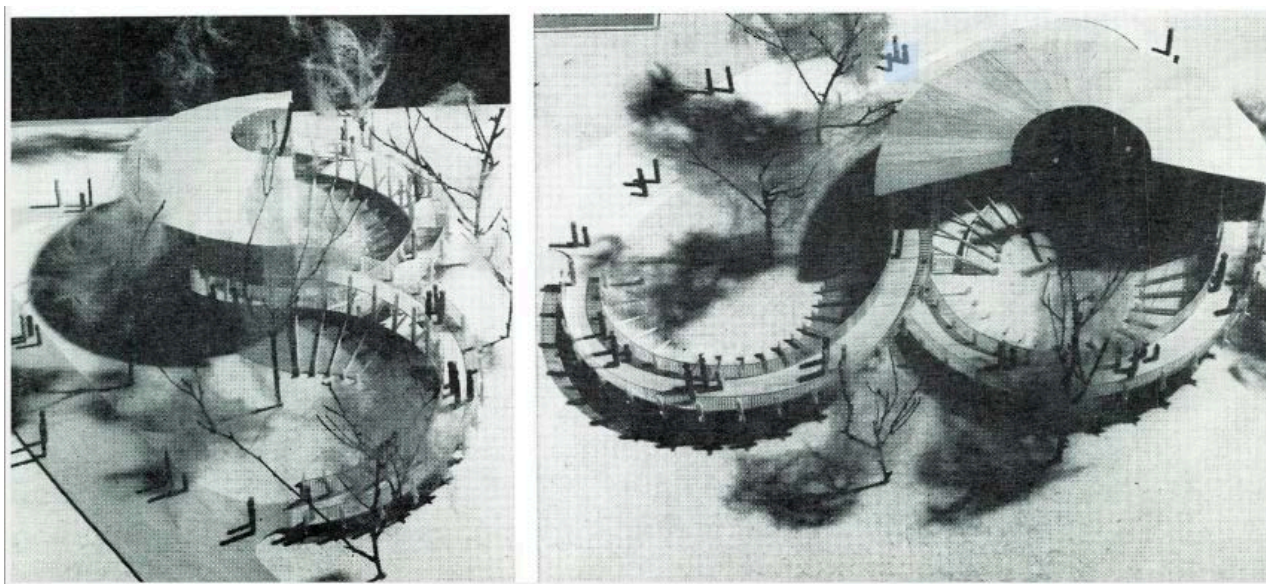
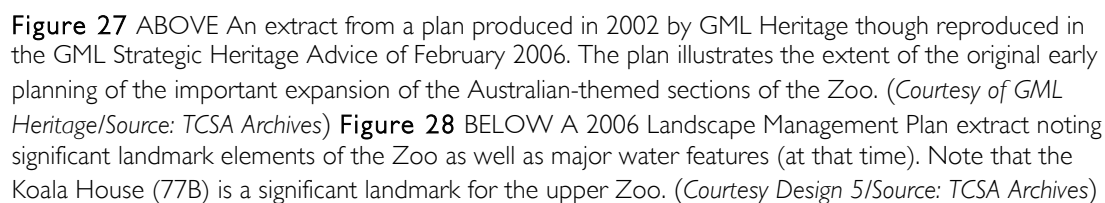


Figure 25 ABOVE An early concept plan of the Koala House (1970) showing how the design took into account existing site features such as rock outcrops and remnant indigenous vegetation. (Source: TCSA Archives) **Figure 26** BELOW Views of an early working model of the Koala House with the access spiral in reverse and inverse. (Source: *Architecture in Australia*, December 1970)





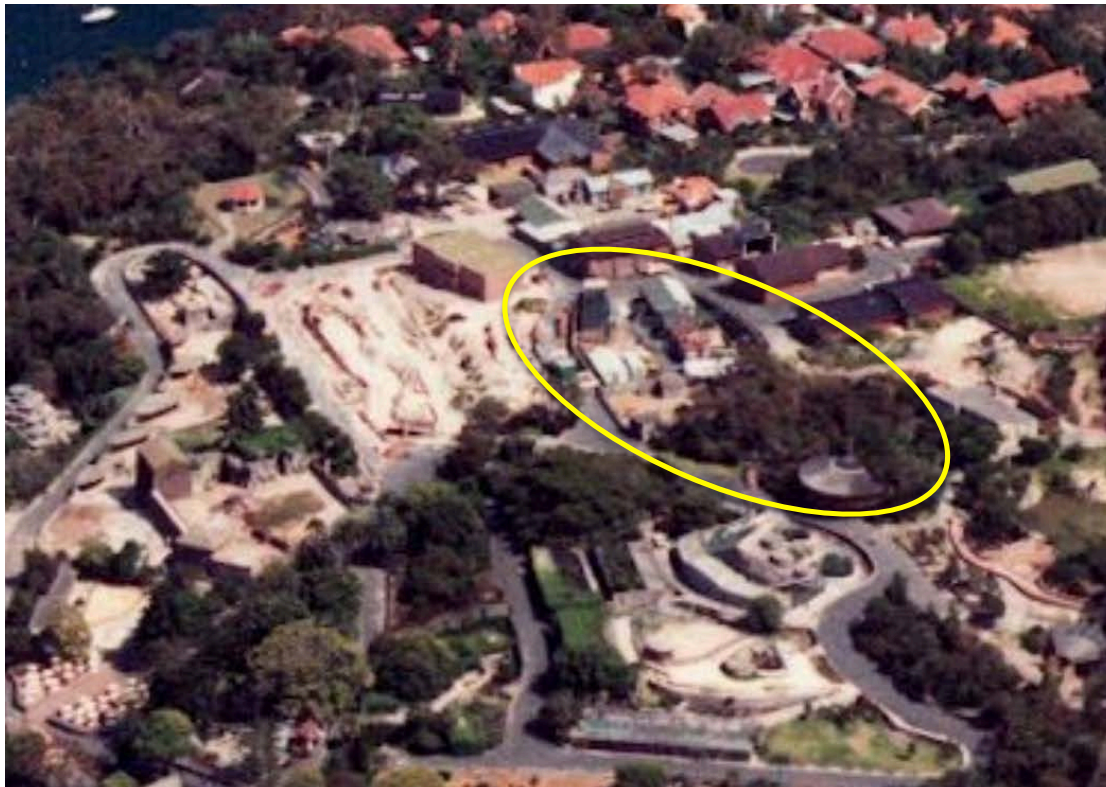
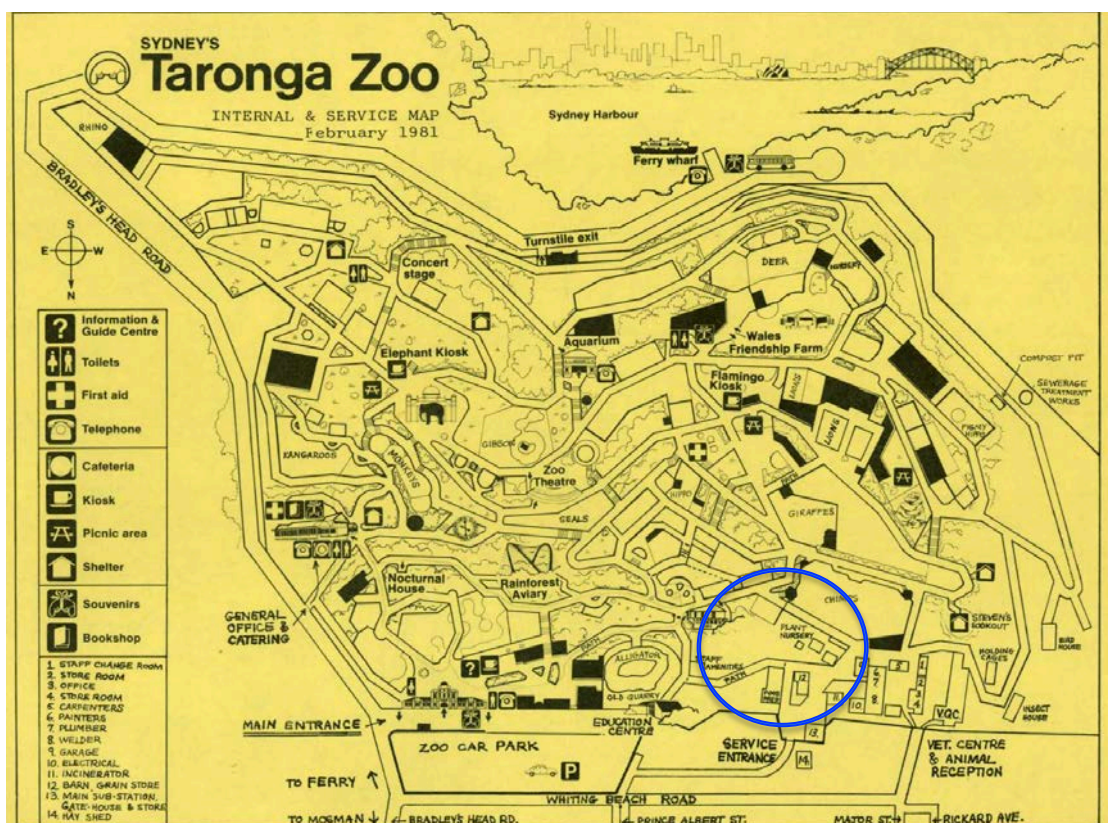


Figure 29 ABOVE Detail from the 1979 oblique aerial photography with the Chimpanzee Park under construction to the left of the present study site, which is indicated approximately by the yellow area.

Note the recently completed Koala House within the lower part of the ellipse. (Source: TCSA Archives)

Figure 30 BELOW A 1981 guide plan with the present study site circled. Note that the plan has been inverted to orientate visitors south to the harbour in the general direction of movement through the zoo. At this time the study site is most notable for the Zoo's plant nursery. (Source: TCSA Archives)



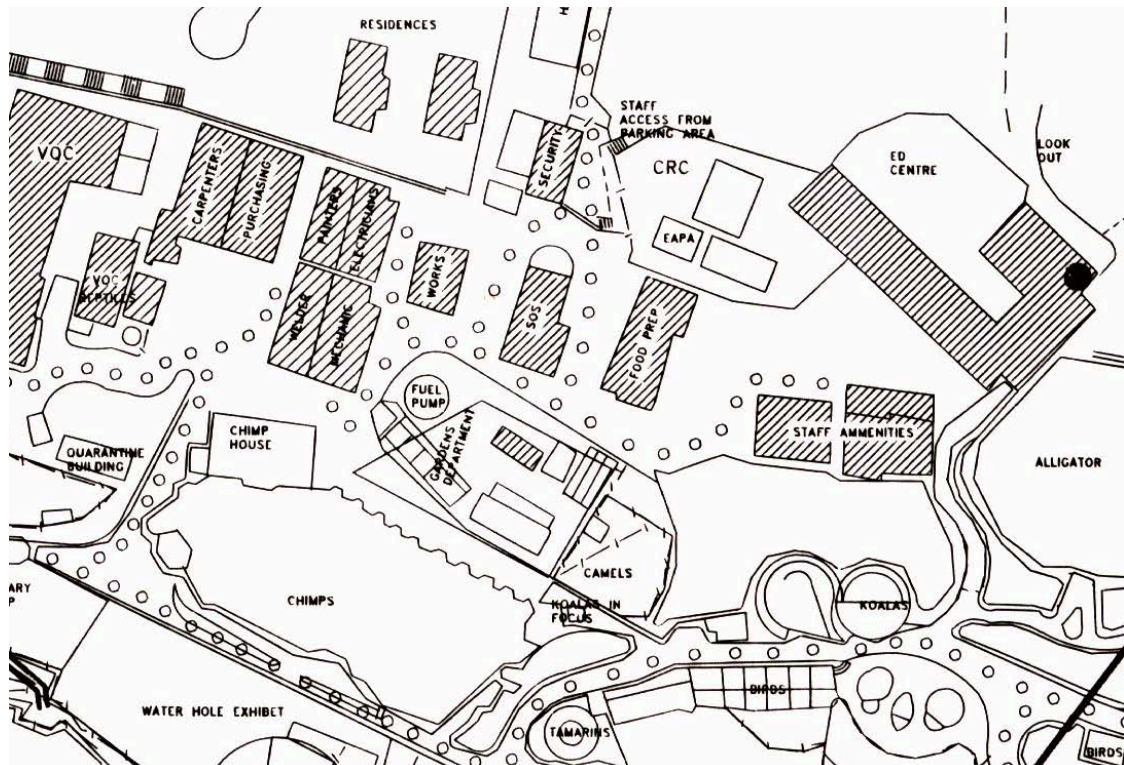
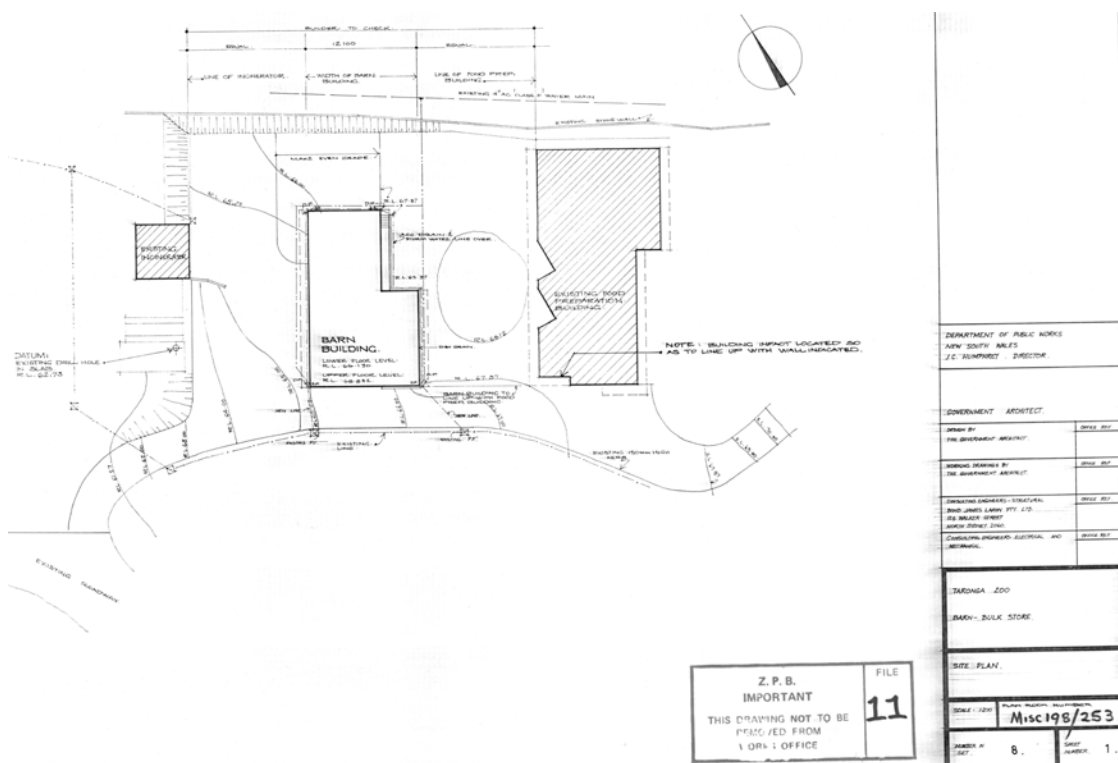


Figure 31 ABOVE Part of a 1992 site plan showing the present study area immediately prior to the construction of the current reptile complex. Note the circular fuel store to the western edge of the former hospital/quarantine site and immediately north of the then 'Gardens Department' area. (Source: TCSA Archives) **Figure 32** BELOW An undated (probably 1970s) site plan showing the food preparation building (right) and the incinerator (left) with the 'barn building' in between. These buildings form the nearest structures along the northern side of present Wildlife Hospital development site. (Source: TCSA Archives)



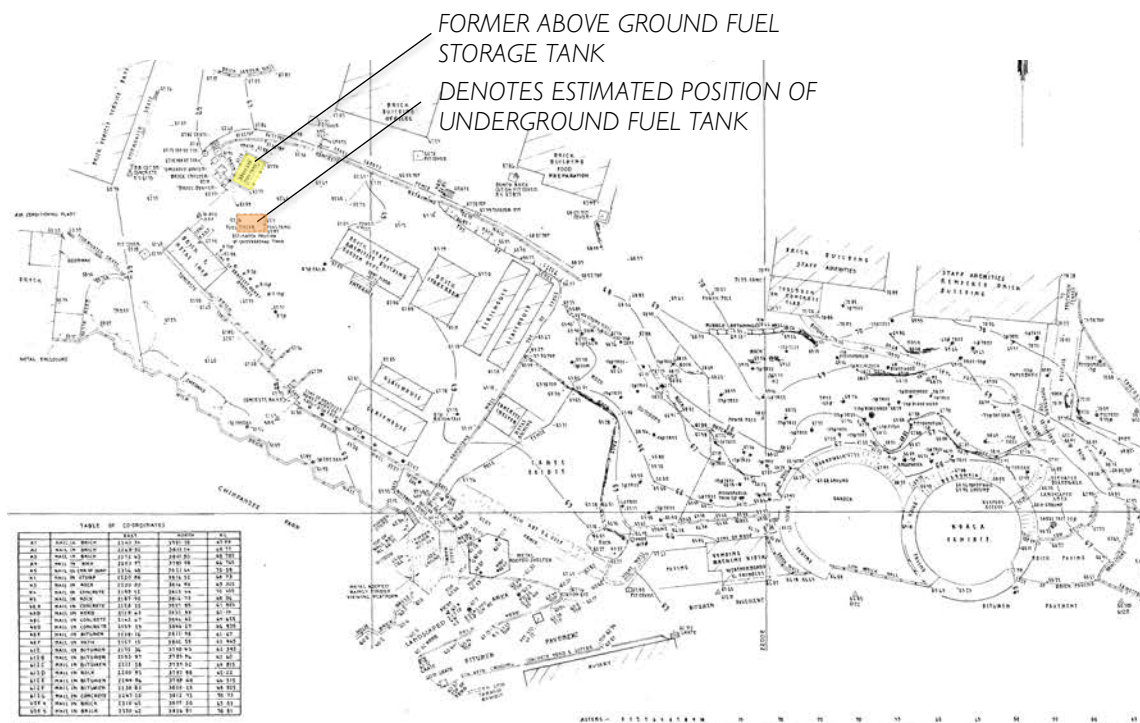


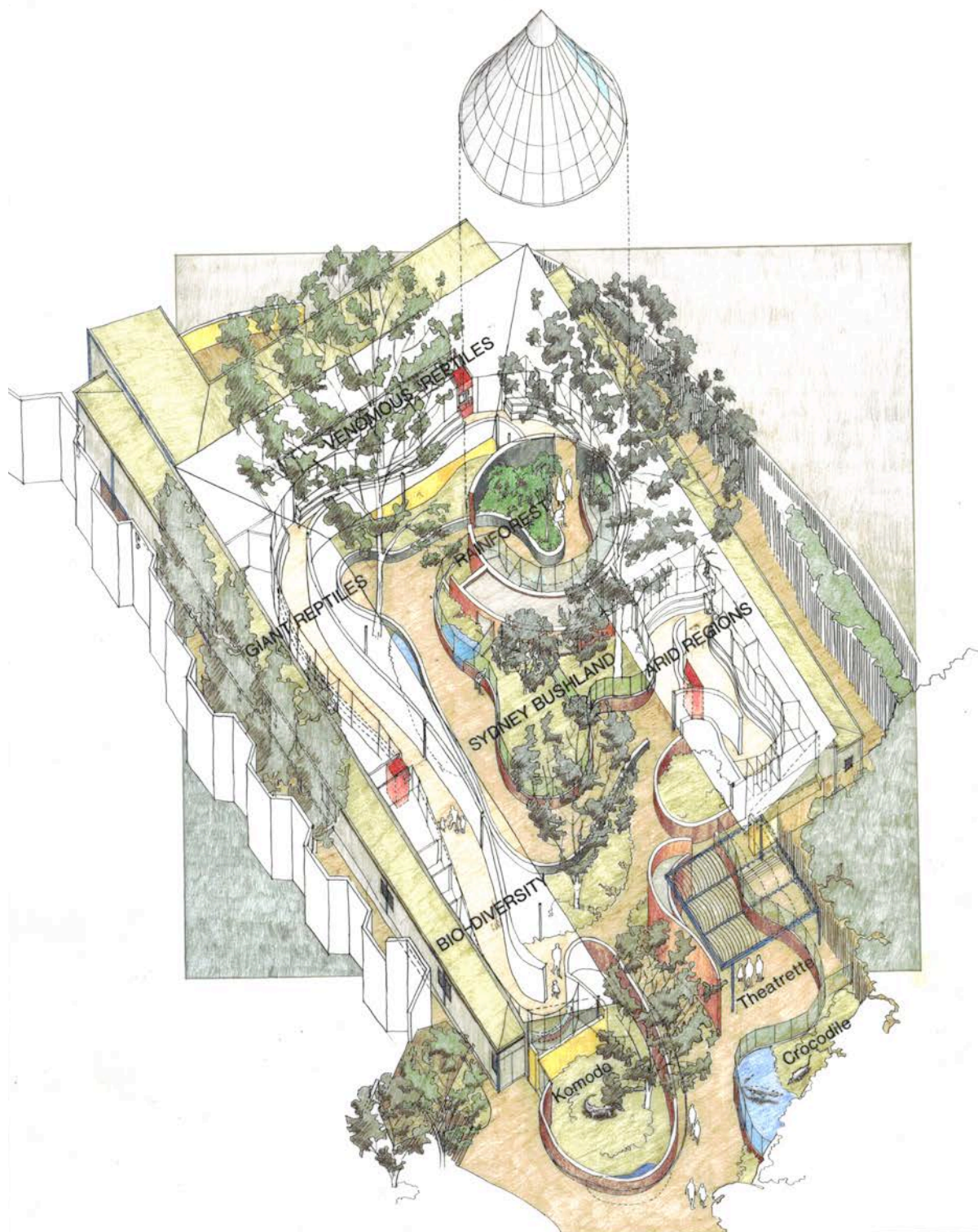
Figure 33 ABOVE Part of the 1991 site survey showing key parts of the present study area immediately prior to the construction of the current reptile complex. (Source: TCSA Archives)

2.3.4 Later Development (1990s-2010s)

Under Dr John Kelly's directorship (appointed 1987) the Government Architect's Office produced its second Master Plan for Taronga Zoo in June 1989. To the immediate south of the present study area, the Master Plan's most substantial project was a new complex to accommodate reptiles and amphibians. This became known as 'Serpentaria' (**Figures 34 and 35**) and subsumed a large area that formerly accommodated the Camels (being basically in this location since the zoo's inception) and a substantial part of the 1934 hospital and quarantine area. The 'Serpentaria' complex was designed by NSW Public Works Department architect Paul Bardsley for the Government Architect and was completed in 1993 though not opened to the public in time to be noted as such on the 1993 zoo guide plan.

Both the 1992 site plan (**Figure 31**) and 1991 survey (**Figure 33**) indicate the approximate location of an earlier fuel storage tank (noted previously in **Figures 19, 21 and 22**). It is not known if this feature was fully remediated prior to the construction of the Serpentaria complex in the 1990s. Some investigation of the site may be warranted in relation to the present proposal. Also the alignment of the cutting along the western edge of the sandstone rock formation (between the Koala House and the former camel yard) on the 1991 survey is similar to that around the existing Serpentaria building. This suggests that the cutting may date to the earlier phases of the Zoo's development – possibly prior to the camel yard. An implication of this is that the Serpentaria building appears to have been planned and designed in a particularly compact way that minimised further rock cutting in order to accommodate the 1990s development. In turn, this enabled more of the sandstone-based *Angophora costata* woodland community to remain intact.

Located between the Koala House and the Serpentaria entrance, the former reptile house (later shelter structure then finally converted to an experimental nocturnal house and noted at **Figure 22**) was replaced by a food vending machine and a relocatable metal shipping container used to promote the conservation of endangered Southern Corroboree Frogs (**Figure 36**).



REPTILES EXHIBIT



Figure 34 Presentation 'exploded' axonometric perspective of the 'Serpentaria' complex with the articulated brick boundary wall of the 1980 Chimpanzee Park at left. The original thematic zones are indicated while the drawing clearly conveys the 'exhibit's' characteristic curvilinear and coiled 'reptilian' internal layout. (Source: TCSA Archives)

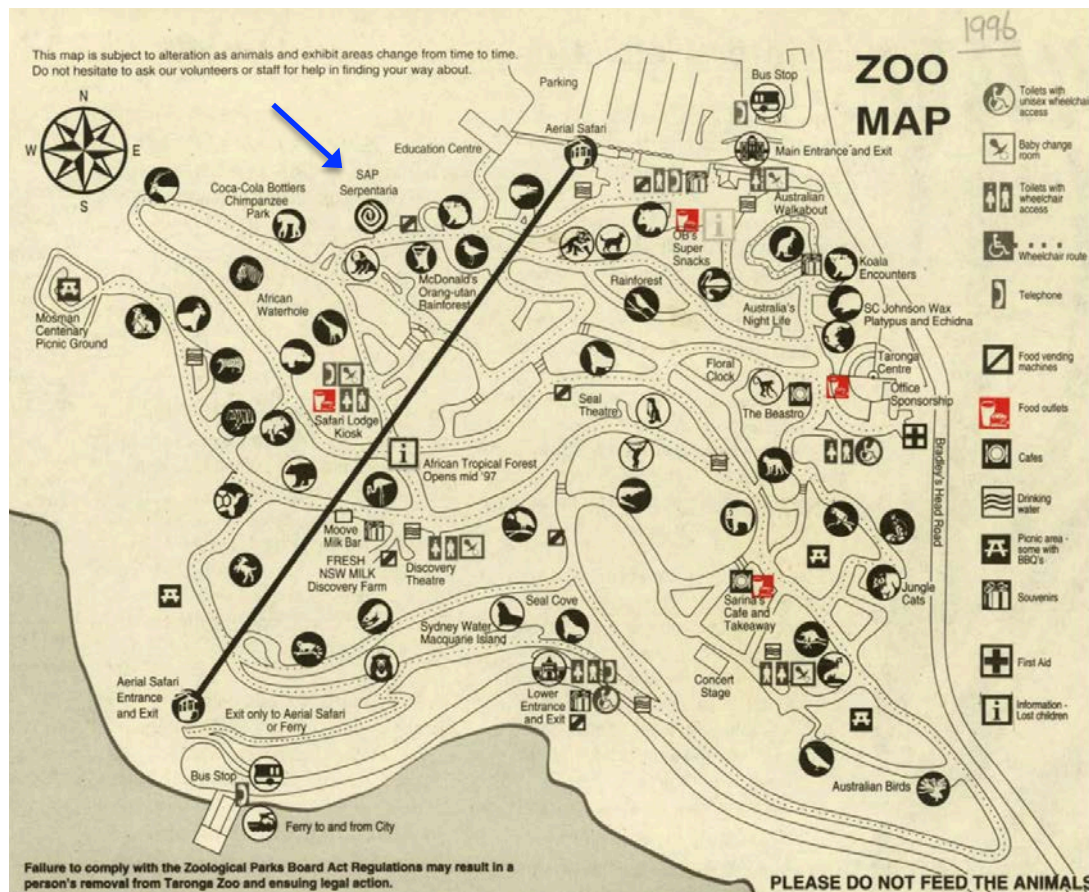


Figure 35 Taronga Zoo guide map from 1996 with the completed 'Serpentaria' complex indicated.
(Source: TCSA Archives)



Figure 36 View east towards the Koala House with the Southern Corroboree Frog interpretive container and shelter to the left. Another colourful display – for the Northern Corroboree Frog – has been added to the lawn (right). Yet another notable feature in view here, though far less conspicuous, is the otherwise overlooked central path that still follows the original 1910s alignment and formed part of the Zoo's original circulation network (s170 Item 99L). (Photograph: Geoffrey Britton, 2021)



Figure 37 TOP 2015 aerial photograph showing the former amenities buildings (circled) to the north of the Koala House and remnant woodland area. (Source: TCSA Archives) **Figure 38** 2020 photograph of the same area with the same buildings removed. (Source: NSW Land & Property Information SIX Viewer)

3 Current Site Context

This section considers the current status of the study area and particularly those remaining or persistent aspects of the site that have the potential to contribute to the cultural value of Taronga Zoo. Where such aspects are identified they are further reviewed in the following section (Section 4).

3.1 Pre-Zoo Landscape

3.1.1 Site Morphology

Of the many components of the Taronga Zoo site assessed as having cultural value, the most fundamental relate to its basic landscape morphology (so dictating drainage patterns), geology and ancient vegetation remnants. The basic landform of the site is characterised by descending terrain from the north towards the harbour to the south. Several ridges define valleys of varying size providing a more protected environment. The southerly orientation of the descending topography has facilitated the zoo's spectacular views across the harbour to the city and beyond and this important cultural (visual) asset has been widely recognised since the zoo's inception over 100 years ago. The present study area centres on one of the more elevated parts of the site – on and mostly west of the main ridgeline - (Figure 39) from which there are spectacular scenic view prospects across the harbour to the Sydney Opera House, CBD and Harbour Bridge (Figures 40 and 41).

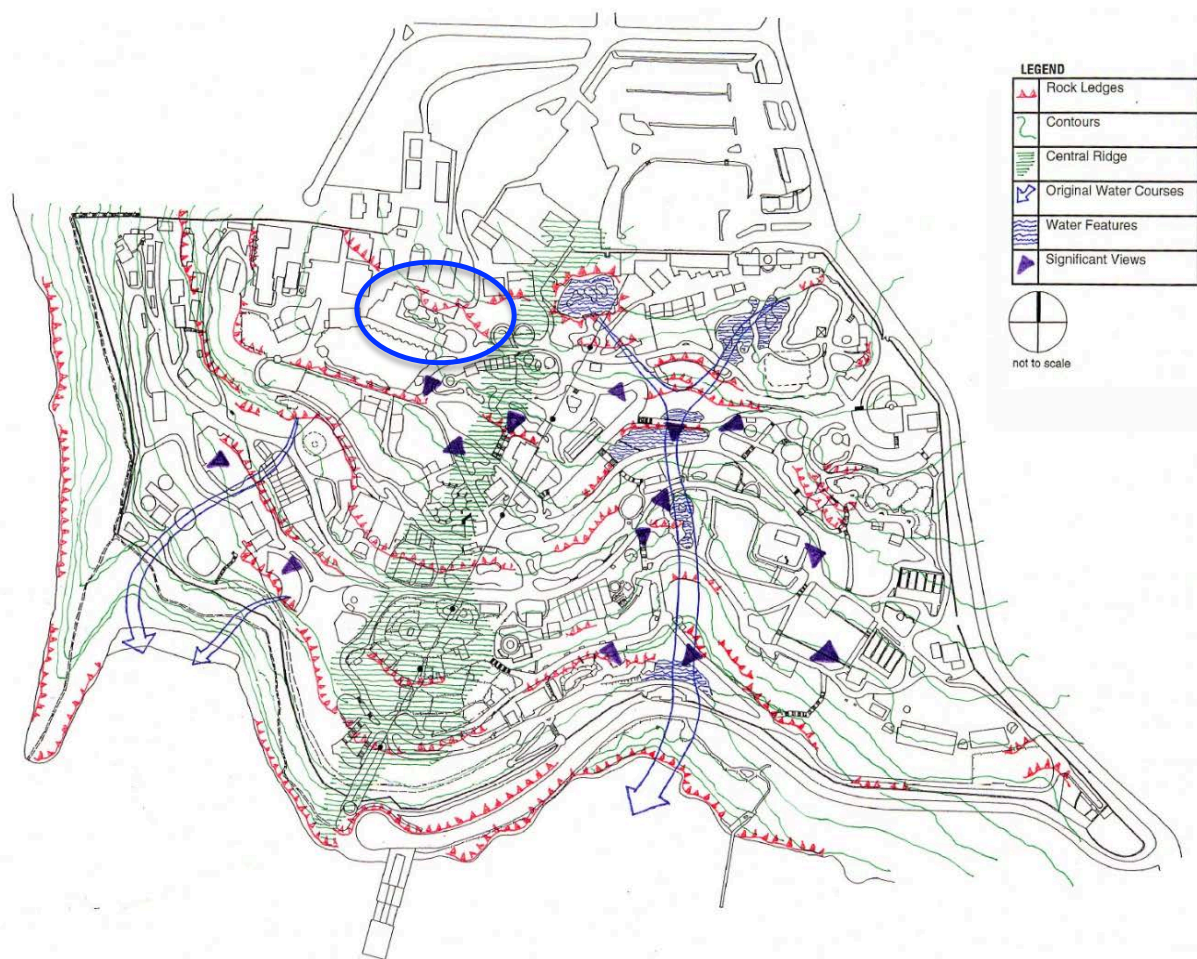


Figure 39 Overall site plan showing the zoo's basic landform. The hatched green area denotes the central ridgeline that defines the principal valleys either side while the red graphic indicates the main rock ledges though this is not meant to be exhaustive. (Base courtesy: GML Conservation Strategy, 2002)



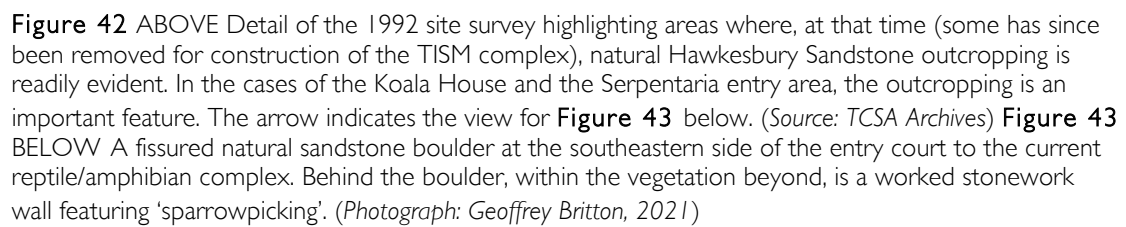
Figure 40 ABOVE An incidental scenic view from the back-of-house access road above the current reptile complex. **Figure 41** BELOW A similar view to Figure 38 though with a broader sweep across the harbour. The low elevation of the current reptile complex allows this unexpected but impressive panorama that is generally not accessible to the public. (Both photographs: Geoffrey Britton, 2021)



3.1.2 Distinctive Sandstone Outcropping

An outstanding intrinsic feature of the Taronga Zoo landscape is the layered embedded sandstone benching and intermittent outcropping. The characteristic Hawkesbury Sandstone outcrops and cliffs have featured in many zoo exhibits since 1913 (**Figure 8**) and within the study area the pervasive presence of the underlying sandstone bedrock is evident to the east of the existing Serpentina building (**Figure 42**).

The same *in situ* features have provided quarried stone faces of varying scale and worked stone blocks for structures within the zoo. One of these structures is the remnant boundary wall where sections remain further to the north of the study area. Another is that forming a backdrop to the outdoor learning area of the Serpentina site as well as the outcrop near the site entry (**Figure 43**). Natural sandstone site features continue to offer opportunities as part of new designs as well as having a role as an overall unifying element throughout the zoo landscape.



E.1: Significant Remnant Indigenous Vegetation Communities (Dr Ben Wallace)

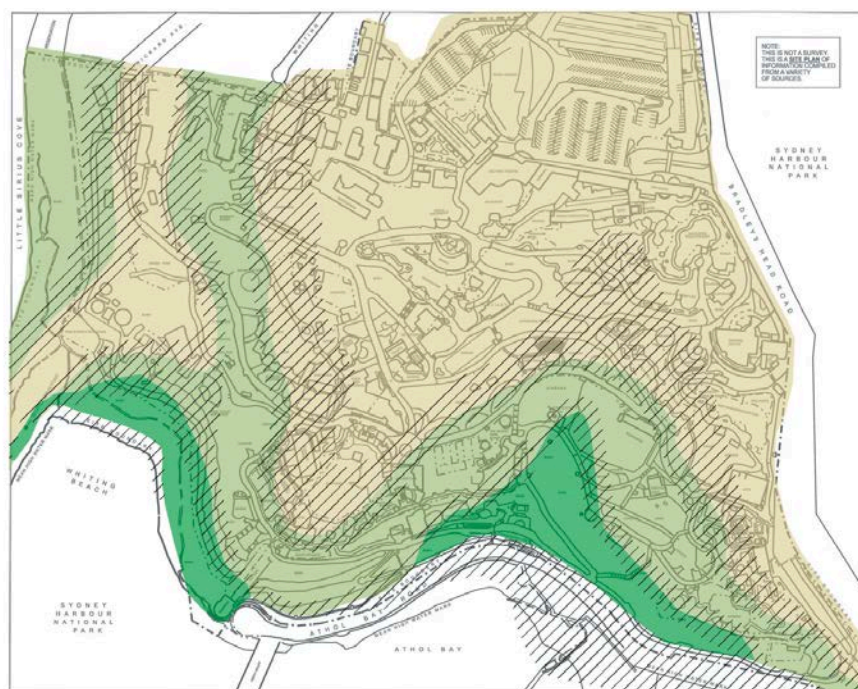
- Angophora costata shrubby woodland
- Euc. botryoides/ Glochidion/ Elaeocarpus open forest
- Glochidion/Acmena closed forest



Figure 44 ABOVE Approximate areas of significant remnant indigenous vegetation within the zoo. The area of *Angophora* woodland in proximity to the Koala House is probably more extensive than indicated on this plan originally drawn in 2006 from initial basic mapping by botanist Dr Ben Wallace. Since 2006 though, the same woodland may be less well represented with key indicator species. Similar woodland shown to the north has been impacted (reduced) by the multi-storey car park development (Source: Design 5 et al LMP, 2006) **Figure 45** BELOW Dr Wallace's conjectural mapping of the extent of the three main pre-European vegetation communities across the zoo site. A comparison between this and the previous Figure poignantly indicates how very little of the locally indigenous vegetation remains and the critical importance of conserving the few surviving remnants. That remaining between the Koala House and the Serpentina complex, although now reduced in its intactness, assumes particular significance in this context. Rehabilitation and conservation should be high priorities. (Source: Design 5 et al LMP, 2006)

5.23: Probable extent of pre-European vegetation communities across the Taronga Zoo site, based on existing flora and vegetation, slope, aspect, soils and local areas (Dr Ben Wallace)

- Angophora costata shrubby woodland
- Euc. botryoides/ Glochidion/ Elaeocarpus open forest
- Glochidion/Acmena closed forest
- Ecotonal, rocky and shore areas



3.1.3 Locally Indigenous Vegetation Community Remnants s170 Register Item 240L

Three distinct remnant vegetation communities have been identified within the overall zoo lands – *Glochidion/Acmena* Closed Forest (behind the beach areas); *Elaeocarpus/Glochidion/Eucalyptus botryoides* Open Forest; *Angophora costata* Shrubby Woodland - with a fourth transitional type having occurred between the communities (**Figures 44** and **45**). Of these, a persistent remnant of the *Angophora costata* shrubby woodland type (s170 Heritage Item 240L) occurs to the north and west of the Koala House that relates to the extensive sandstone rock outcropping noted at **Figure 42**.

Based on the conjectural mapping of the pre-European distribution of the local vegetation communities (**Figure 45**), it is likely that the *Angophora costata* Shrubby Woodland formerly occupied the greater part of the zoo lands. A magnificent mature tract of this type remains along the lower part of Bradley's Head Road and in other parts of the nearby National Park. As all of these vegetation communities are now much reduced within the zoo as well as across the broader suburb of Mosman (excepting the fringing National Park lands), it is important to retain all remnants – particularly so where a major educational principle of the zoo revolves around the active conservation of surviving habitat in order to maintain local biodiversity.

During the fieldwork for the 2006 Landscape Management Plan, it was noted that the *Angophora* woodland remnant near the Koala House was becoming more nutrient rich and attracting an increasing number of opportunistic species (*Pittosporum*, *Glochidion*, *Polyscias*, *Ficus*, *Cupaniopsis*, *Omalanthus* etc. with some being planted along with *Acmena* and *Diploglottis*) more typical of moister areas. A consequence of the invasion of these species into the ridge-top woodland is a reduction in sun access to the ground level and a consequent loss of smaller shrubs and groundcovers that rely on higher light levels, drier conditions and lower nutrient levels. To illustrate this progression, in 2006 almost 100 individual plants of the small shrub *Crocea exalata* (**Figures 46** and **47**) were recorded within this area of woodland, whereas in 2022 only one small area of regeneration was found. It is also the case that since 2006 the local population of Australian Brush-turkeys (*Alectura lathami*) has increased markedly in numbers and distribution and it has been noted by Zoo staff that this bird species' habit of strenuously raking away soil can result in the demise of individual plants of species such as the *Crocea*.

In 2006 it was noted that the Item 240L woodland remnant was one of two surviving ridge-top areas or variations of the *Angophora costata* Shrubby Woodland type within Taronga Zoo but where neither sample currently contained specimens of *Angophora costata* – the nominate dominant species – only the associate dominant species and other subordinate species which was enough to represent and identify the vegetation community type. Even in 2006, this area was reported as being weed infested and that is more so the case by 2022: there are many exotic species now present including *Phoenix canariensis*, *Olea europaea* subsp. *cuspidata*, *Yucca* sp., *Ochna serrulata* and *Celtis* sp. to name a few. These are additional to those native species (mentioned above) migrating upslope from the moister areas of the zoo as well as planted Swamp Mahogany (*Eucalyptus robusta*) which is not a representative species of the *Angophora costata* shrubby woodland type. Indigenous subordinate species for the Item 240L site include *Crocea exalata* (now greatly restricted in number and distribution to a small area at the western end of the remnant woodland), *Epacris longiflora* (none found in 2022), *Breynia oblongifolia* and *Lomandra longifolia* (still abundant), *Dianella* sp. and *Commelina cyanea*.

The 2006 study also noted the presence of the root rot fungus *Armillaria luteobubalina* at the eastern extremity of the Item 240L area (**Figure 48**) though no evidence was found in 2022.

Although floristically depauperate at present, the woodland remnant is still important and justifiably included on the Zoo's s170 register. Virtually the entire area of Item 240L is included within the present study area (though the related and adjacent Koala House is excluded).



Figure 46 One of (formerly) numerous individual plants of the locally indigenous woodland shrub *Crowea exalata* within the remnant area near the Koala House. (Photo courtesy of Jean Rice, 2016)



Figure 47 A detail of the attractive flower of *Crowea exalata*. (Photo courtesy of Jean Rice, 2016)

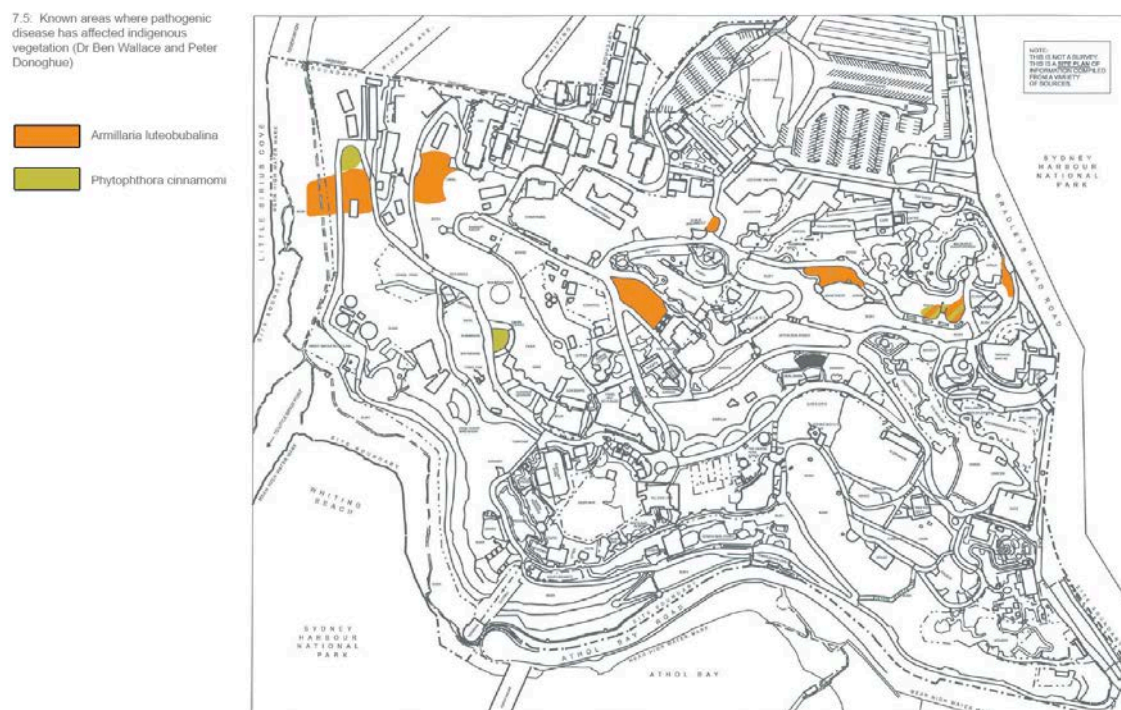


Figure 48 Extract from the 2006 LMP showing remnant natural areas affected by pathenogenic disease at that time. Note that one such area is the eastern edge of the remnant woodland area near the Koala House. (Source: TZ LMP, 2016)

3.2 Early Zoo Elements (Interwar – 1910s to 1939)

Only three elements from the early zoo period appear to remain in close proximity to the Taronga Wildlife Hospital project site. One is the early main east-west access path (s170 Item 99L) to the immediate south (but outside the project area), another is the solitary Bangalay (*Eucalyptus botryoides*) (s170 Item 187L) near the public entry point to the project site and the third (unlisted) relates to evidence of the 1910s construction for the early camel yards.

3.2.1 Bangalay (*Eucalyptus botryoides*) (s170 Item 187L)

This Bangalay (*Eucalyptus botryoides*) (Figures 49 and 50) does occur naturally within the zoo site however archival evidence (see Figure 12 for instance) may even suggest that this particular tree had been planted in the 1910s as part of the initial development of the zoo. Whether this is the case or the bedding area shown in Figure 12 simply enveloped an existing sapling or a volunteer seedling grew here, the tree is now a centenarian and should be conserved as a significant site asset. The same tree is clearly visible through various archival images from the 1910s to the 1990s (Figures 12, 15, 19, 21, 22, 33 and 34).

3.2.2 Main Path Access (s170 Item 99L)

Although this important landscape element is just outside the project site boundary, it remains the principal means of public access to the site and other zoo areas to the south and has functioned in this role since the 1910s when it was established (Figure 51). For clarity, it is not the access road's physical surface that is significant (this is often more recent), it is its basic alignment and, at times, its width and edging materials. This section of road forms an important part of the surviving overall network of early accessways that provided the basis of Taronga Zoo's initial circulation system and response to dealing with the zoo site's challenging topography.



Figure 49 ABOVE LEFT The large Bangalay between the present reptile & amphibian complex and the Chimpanzee Park frames one of the classic views from the zoo to Sydney Harbour and the city. **Figure 50** ABOVE RIGHT Detail of the same tree where the original stone edging (shown in **Figure 12**) has been removed. **Figure 51** BELOW The main path providing public access to the proposed Taronga Wildlife Hospital site looking east to the Koala House. (Photographs: Geoffrey Britton, 2021)



3.2.3 Rock Cutting

Numerous archival records suggest that the sandstone outcropping around the northern and eastern sides of the Serpentaria complex had been cut back at an early stage of the Zoo's development (1910s) in order to prepare relatively level yards for the camels and llamas. The level of excavation was not to the depth of the existing cutting and appears to have been cut back further to the north for the 1934 hospital development (**Figures 52 and 53**). There was always an elevated terrace for the camel yard until the 1990s when most of the level was excavated further to enable a gentle gradient from off the main path into the Serpentaria area. (The original camel yard level can be seen behind the Freshwater Crocodile.) The Serpentaria documentation of 1993, notes a section of the north-south edge to the sandstone plateau was cut away further to the east (**Figure 56**). Apart from this, the alignment of the present edges to the sandstone appear to be close to the 1910s-1930s alignment (**Figures 54 and 55**).

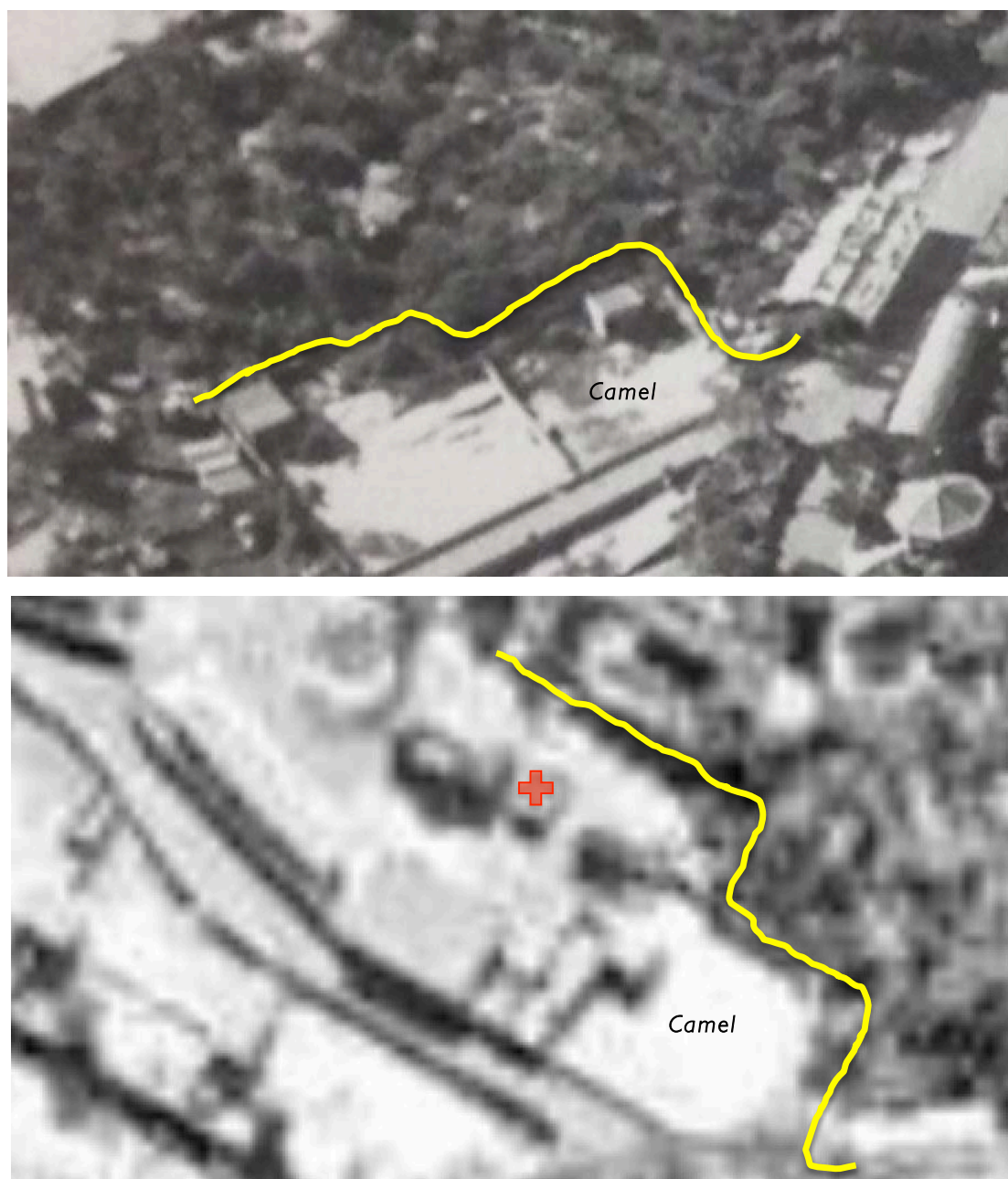


Figure 52 TOP A detail from the 1930 photography with a graphic outlining the alignment of excavation behind the camel and llama yards. **Figure 53** ABOVE The 1943 photography showing a further enlargement of the cutting to the north (for the 1934 development) to about its present extent.

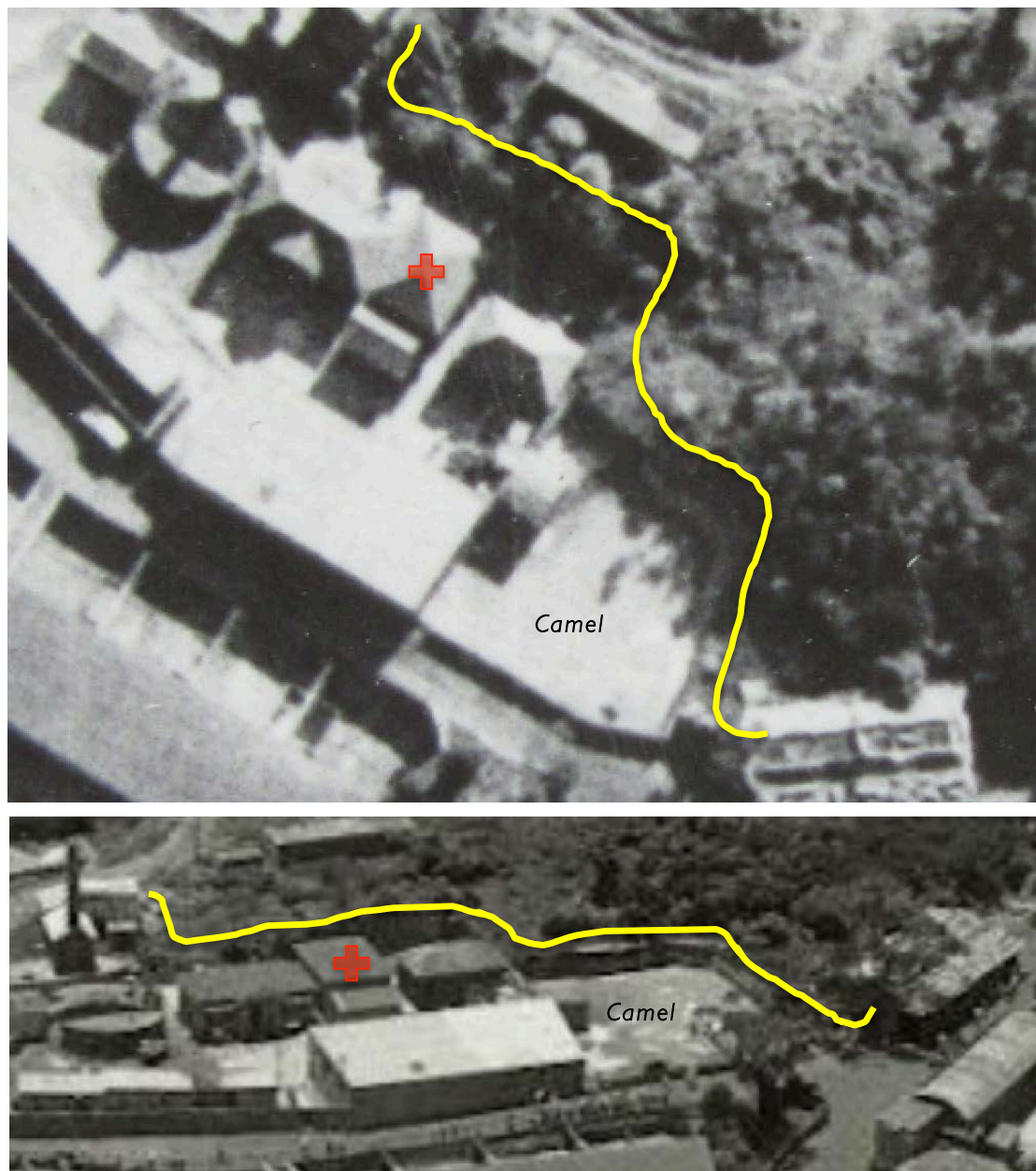


Figure 54 TOP A 1950 photograph detail with a graphic outlining the alignment of excavation behind the remnant camel yard and the enlarged cutting behind some of the buildings supporting the 1930s development. The building at the lower right corner is the earlier reptile house. **Figure 55** ABOVE A detail from a 1962 oblique aerial photograph showing a very similar cutting alignment.

3.2.4 Camel/Llama Yards

The yards formerly devoted to housing Llamas and Camels (**Figures 14** and **15**) were established early in the zoo development with the basic site area identified on the 1916 site plan (**Figure 9**). The westerly section was subsumed with the 1934 development for an expanded hospital/quarantine complex and the easterly section survived until subsumed by the early 1990s Serpentaria development.

3.2.5 Early Aviaries

Along the southern edges of the main upper path and from 1916 through to 1939, a number of aviaries of varying size were built. Most of these have been removed and of the two that remain

The image is a detailed site plan for the Taronga Zoo Mosman. It features a grid system with letters A through K across the top and numbers 1 through 6 down the right side. The plan shows various exhibits, roads, and infrastructure. A blue circle highlights a specific area in the upper right quadrant of the plan. The plan includes a legend at the bottom left with symbols for roads, paths, and other features. A title block at the bottom right contains project information and a scale of 1:100.

Legend:

- ROADS:**
 - Existing paved road (grey line)
 - Proposed road (dashed line)
 - Proposed road with kerb and footpath (dashed line with dots)
 - Proposed road with kerb and footpath (dashed line with dots)
 - Proposed road with kerb and footpath (dashed line with dots)
- Other features:**
 - Proposed road with kerb and footpath (dashed line with dots)
 - Proposed road with kerb and footpath (dashed line with dots)
 - Proposed road with kerb and footpath (dashed line with dots)
 - Proposed road with kerb and footpath (dashed line with dots)
 - Proposed road with kerb and footpath (dashed line with dots)

Scale: 1:100

Project Information:

TARONGA ZOO MOSMAN

EXTERNAL WORKS

Scale: 1:100

Project Information:

TARONGA ZOO MOSMAN

EXTERNAL WORKS

Scale: 1:100

43

the camels. Another such dour 'exhibit' was the equally sterile-looking 1940s elephant enclosure with its concrete floor and walls (formerly above the current Gorilla enclosure). The 1966 report of Dr Heini Hediger was critical of such harsh enclosures and associated animal husbandry generally and partly formed the impetus for a bold new era of zoo designs and integrated planning where animal-visitor relationships were explored more innovatively. The Koala House is an excellent example of this more inspired phase of zoo development that included various components comprising the Australian sections of Taronga Zoo of the late 1960s through to the 1980s (noted in **Figure 27**).

At 50 years old, the 'Sydney School'-inspired brick and timber Koala House is now an iconic zoo landmark (**Figure 28**) and is firmly etched into the experiences and memories of countless visitors. Part of its charm is the way it consciously envelopes and addresses the remnant woodland to the north and visually draws it in after the ageless principle of 'borrowed scenery'. The enclosure also ensures the desirable conservation of this small remnant of important indigenous vegetation along with the many sandstone rock shelves embedded within it (s170 Item 240L)(see also **Appendix C**). Both the building and the woodland area it addresses, function as a complimentary unit and should be regarded as inseparable entities. The Koala House justifiably carries a widely-acknowledged high cultural significance while the woodland area also has high conservation value. The roof and southern walls offer protection to the koalas from the cold winter prevailing winds while its open orientation to the north ensures maximum sun access. Together with other projects at the time for native Australian fauna enclosures (including the 1970s walkthrough rainforest aviary, a new quarantine and veterinary complex completed by 1978 and the 1968 platypus house), the Koala House was recognised with the RAA Merit Award for Civic Design for 1973.²⁷ Although the Koala House is excluded from the present Taronga Wildlife Hospital project area, it is an important building in the immediate vicinity of the proposed development though a proposed non-public entry pathway is proposed in close proximity (see **Section 5**).



Figures 57 LEFT and 58 RIGHT Views from within the Koala House showing part of the double helical walkway system that enables views of the koalas from different perspectives. The sophisticated, yet compact cantilevered timber structure supporting and unifying the deck and roof is plainly visible, its minimal, earthy materials and vertical rhythms engaging with the surrounding trees. Owing to budgetary constraints, parts of the structure were even built by Taronga Zoo employees. (Geoffrey Britton, 2021)

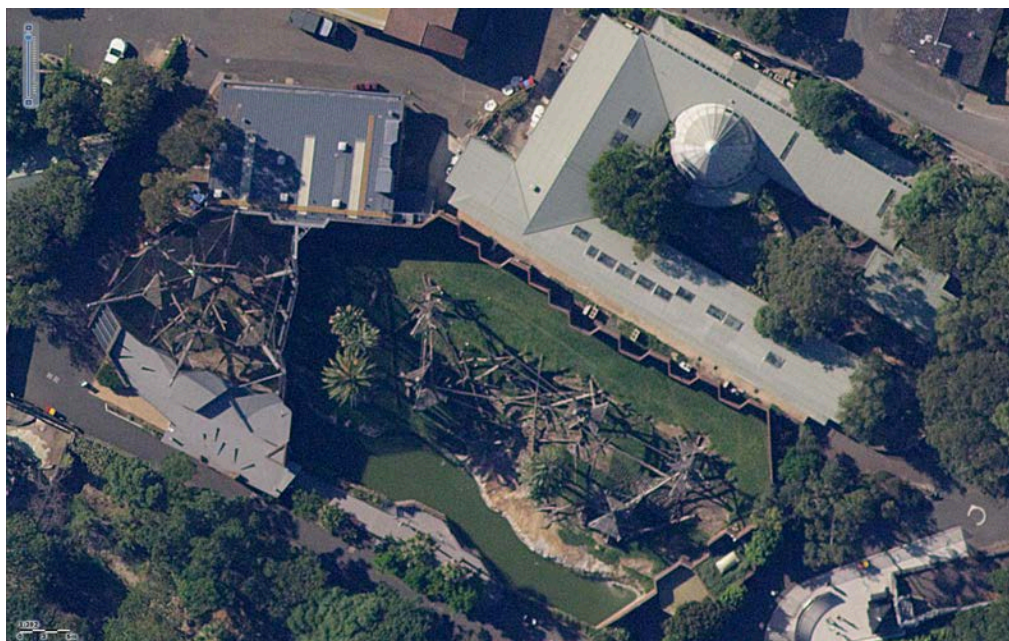
²⁷ Public Works Department, *Annual Report for 1973/74*, p. 17

3.3.2 Chimpanzee Park

The second major zoo development from this period that remains largely intact is the adjacent Chimpanzee Park. This precinct subsumed a relatively large area previously used as yards for various ungulates (**Figures 14, 18 to 20**) for over 50 years. **Figure 29** shows the primate site under construction in 1979. The chimpanzee site was first opened to critical and public acclaim in 1980²⁸ then upgraded to a design of Jackson Teece architects in 2010-2011. One of the readily recognized features of the original design of Chimpanzee Park is its high brick walls enclosing the site. The articulated back wall is essentially the boundary between this site and that proposed for the new Taronga Wildlife hospital (**Figures 59 and 60**). Another of its signature design features is the moat along the front providing a link to the earliest, innovative concepts of barless 'exhibits' at Taronga Zoo from the 1910s.



Figure 59 ABOVE Recent aerial photography showing the Chimpanzee Park with its 2010-2011 additions at the lower left side, the original Chimp House above left and the current Serpentina site immediately to the north (above). **Figure 60** BELOW A closer detail from the same photography showing the signature articulated high brick wall separating the Chimpanzee Park site and the current Serpentina building as the site of the proposed new Taronga Wildlife Hospital. Interestingly, this is the same site of the second hospital at Taronga Zoo – the 1934 complex before it moved further to the west to the current purpose-built facility in 1978. (Source: NSW Land & Property Information SIX Viewer)



²⁸ GML, *Taronga Zoo - African Precinct*, Strategic Heritage Advice, February 2006, p. 9

3.4 Recent Zoo Elements (1990s to 2022)

3.4.1 Serpentaria s170 Register Item 102B

The existing reptile/amphibian complex from the early 1990s (known then as 'Serpentaria') is one of the zoo's principal attractions with an impressive range of reptilian and amphibian animals housed in a well-designed and detailed, purpose-built structure. It effectively subsumed most of the area formerly used as the 1930s hospital/quarantine complex and demonstrates a well-considered design response to the site. The building is particularly compact and manages to retain the substantial sandstone rock outcrop adjacent to it. Internally, the circuitous (reptilian) thematic route is compelling, making ample use of hidden skylights and clerestorey windows culminating in the dramatic conical space (**Figure 61** and front cover image). It is instructive to compare this scheme with a slightly earlier design proposal by prominent architects Daryl Jackson Robin Dyke where that unrealised concept appears more sprawling and less cohesive.

A considerable archive of documentation drawings describe the existing building characterised by its simple brick construction and metal skillion roofs. Architecturally, it achieves a certain understated sophistication while relying on a reduced palette of materials. The scheme unifies the site well and successfully manages the balance between providing visitors with an intriguing complexity yet controlling the serial experience with clarity. The overall site design is regarded as being a particularly fine example of late 20th century institutional architectural planning and design from the NSW Government Architect's Office and well deserving of its recognition and listing on the zoo's s170 Register.



Figure 61 ABOVE View of the distinctive conical space of the existing reptile/amphibian complex with part of the circuitous, convoluted circulation system evident. The brick paving and brick and painted/bagged plinth and dwarf walling are used as unifying devices throughout the building. **Figure 62** LEFT A view of the small open teaching area with the natural bedrock and some of its associated indigenous vegetation evident beyond. The compact 'U'-plan arrangement of the building was basically dictated by the site's spatial constraints wedged between the Chimpanzee Park, the rock outcrop and the service access road to the north. (Geoffrey Britton, 2021)



Figure 63 View of the northeastern teaching space looking into the back of the Freshwater Crocodile enclosure showing the retained approximate level of the former camel yard with the 1910s drill marks in the rock outcropping (arrows) to blast away the former stone projections. (Photograph: Jean Rice, 2022)



Figure 64 View of the courtyard area of the existing reptile/amphibian complex looking to the remnant woodland vegetation between this space and the Koala House beyond. (Photograph: Geoffrey Britton, 2021)

Further illustrating the retention of the rock cutting discussed above in **Section 3.2.3** and noted in **Figures 52 to 55**, the approximate original level of the former camel yard level is evident at the raised 'stage' area used as an outdoor teaching space (**Figures 62 and 63**) and behind the pond for the Freshwater Crocodile (at the entry to Serpentaria). The circulation system surface used throughout the Serpentaria site - brick stretcher-pattern pavers (**Figure 64**) - provides a thematic link to that used consistently in the main Australian sections further to the east during the formative 1970s and 1980s period.

The Serpentaria site is recognised as having local environmental heritage significance in the s170 Register. Not noted on the s170 Register however are the various artworks contained within, and around, the building as well as a number of valuable plantings for the external spaces. The artworks include numerous fibreglass, stainless steel and sandstone sculptures along with an extramural ceramic tile mosaic (*Ntaria Our Country*) executed specially for the building in 1994 by members of the Hermannsburg Potters, Northern Territory. These were documented by staff of the Zoo in 2021 (**Appendix B**) as part of the preparatory process of salvaging the works for reuse in the new Reptile and Amphibian Centre or elsewhere within the Zoo.

There are various mature plantings within the Serpentaria site that are valuable and also worth salvaging for reuse elsewhere within the Zoo. These include the large Screwpine (*Pandanus* sp.) and rock orchids (*Dendrobium speciosum*) within or near the Freshwater Crocodile enclosure and the large *Beaucarnea* sp., *Xanthorrhoea* sp. (grass tree) and cactus within the central courtyard area (**Figure 65**). Also throughout the courtyard are many *Raphis* sp. (palms) that are useful and readily transplanted.



Figure 65 The courtyard of the Serpentaria site contained various valuable plantings included this group within a central enclosure featuring a *Beaucarnea* sp., *Xanthorrhoea* sp. and a cactus. Beyond these is the distinctive cone and the northern wing of the Serpentaria building. (Photograph: Jean Rice, 2022)

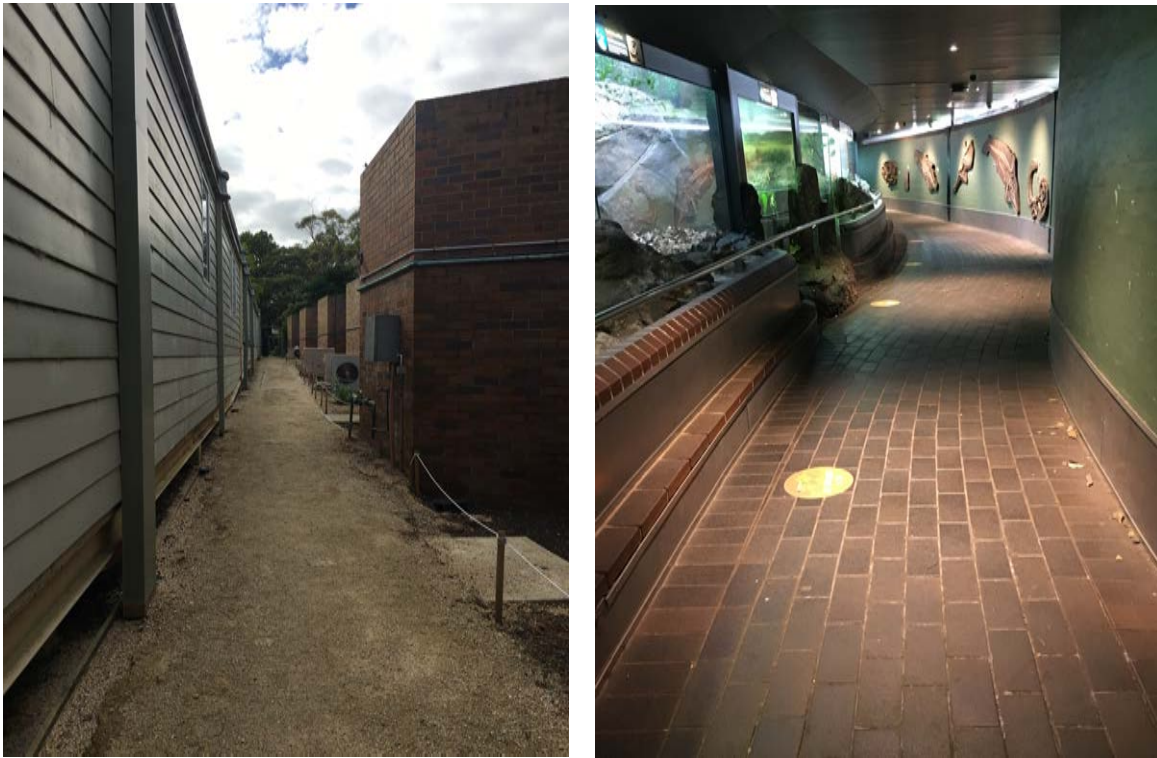


Figure 66 LEFT The 'sterile' zone between the southern wing of the Serpentaria building and the dark brick northern boundary walls of the Chimpanzee Park complex on the right. **Figure 67** RIGHT The meandering interior walkway of the southern wing featuring various reptilian enclosures on the left and fibreglass models of ancient reptilian fossils mounted on the wall to the right. (Photographs: Jean Rice, 2022)

3.4.2 Southern Corroboree Frogs

The 2010 Zoo guide map shows that by this time an interpretive display for endangered Corroboree Frogs had been installed just to the east of the Serpentaria entry. A repurposed shipping container with an access ramp, steps and an associated (repurposed?) shelter structure remain in this location featuring Southern Corroboree Frogs. A similar, and much more recent, display has been installed in another shipping container on the other side of the main Zoo access path for Northern Corroboree Frogs.



Figure 68 Panoramic sweep across the main access path looking to the Southern Corroboree Frog interpretation display and its associated shelter structure with the Serpentaria entry out of picture to the left and the Koala House to the right. (Photograph: Geoffrey Britton, 2022)

4 Consideration of Significance

4.1 Previous Heritage Studies

Previous heritage studies of Taronga Zoo have provided considered assessments of the overall cultural significance of the zoo as well as its various individual components such as structures, landscape, vegetation, views and layout. As the first of the comprehensive site assessment studies, the 2002 Conservation Strategy (GML Heritage) set the benchmark by describing the Taronga site as having national cultural significance for Australia as an urban zoo. Subsequent studies have come to similar conclusions confirming the status of Taronga Zoo within an Australian context. The 2002 Conservation Strategy's statement of significance for the overall zoo has been adopted for all of the more recent heritage impact assessment reports written through the TCSEA.

The 2006 Landscape Management Plan provided a further statement of significance with specific reference to the extensive and complex zoo landscape. It contended that the zoo landscape is an inseparable part of Taronga Zoo, "providing the matrix that binds the [many] significant elements of the zoo together and substantially contributes to the definition of the zoo's character". It also stated "the Taronga Zoo landscape is exceptional in the contribution it makes to the significance of the zoo as a whole". Landscape components therefore provide important context for considerations in relation to the present HIA report.

Social value in connexion with Taronga Zoo has yet to be formally studied however it is highly likely that this aspect of cultural significance would form an important part of its overall significance. There is a small, but compelling, hint of this in a former exhibition board previously mounted at the former Safari Lodge (demolished for the recent African Waterhole precinct) where an impressive and diverse group of international personalities are recorded visiting Taronga Zoo. These include Eleanor Roosevelt (1947), Alfred Hitchcock and Albert Namatjira (1960), Queen Elizabeth II (1973), Nelson Mandela (2000), Sir David Attenborough and Prince Harry (2003) and many others more recently: Jane Goodall (2009), Lady Gaga (2013), The Duke and Duchess of Cambridge and Prince George (2014), John Cleese (2015) and former US Vice President Mike Pence and his family (April 2017). Such visits by international dignitaries and celebrities continue to be a trend at the Zoo but it has (since its inception) also continued to be a major destination focus for countless Sydney-siders, other Australians and visitors. Taronga Zoo clearly continues to have recognition at an international level as well as nationally, within NSW and as a major cultural feature of the Sydney metropolis maintaining a continuous use at this Mosman site for well over 100 years.

4.2 Overall Significance of the Zoo

The 2002 Conservation Strategy provides the following overall statement of significance for Taronga Zoo that gives context for the various individually significant elements that follow in the next section. (The last paragraph of the statement comes from the 2004 Archaeological Management Plan):

Taronga Zoo is a place of national significance as an urban zoo with unique physical and associative attributes, including links with early modern zoo philosophy, a unique and powerful cultural landscape and a wide range of landscape elements, architectural styles and enclosure designs evidencing the development of zoos in Australia.

Features that contribute to Taronga's cultural landscape include the steeply sloping topography of the site; its location on the northern foreshore of Sydney harbour; the exploitation of the natural stone landforms and complimentary faux rock formations; the circulation layout and associated staircase and seating; the exotic and grand built elements used for public buildings and animal

enclosures; the native and introduced vegetation on the site, the internal visual corridors within the site and expansive views from the site across Sydney Harbour to the city skyline.

The original fabric at Taronga demonstrates the earliest example in Australia of Carl Hagenbeck's and early twentieth-century European zoological philosophies. In the differing design and approaches to the animal enclosures and aviaries, Taronga also evidences key aspects of international zoological [planning] philosophy that have influenced the Zoo's development throughout the twentieth century.

As an educational, entertainment and recreational facility, Taronga is a highly revered institution within Sydney's social fabric, evoking memories across generations of visitors. The Zoo is also an important keystone in distinguishing Sydney's sense of place. For the zoological community, Taronga is internationally recognised as a leading centre of biodiversity conservation and for the Zoo's educational focus.

Taronga's archaeological resource has some potential to provide information about the Aboriginal community, the early use of the site as a quarantine station and the development of the zoo. In combination, the extensive archive collection, built structures, landscape features and archaeological features at Taronga have great potential for research and community education.

Table 4.1 ITEM	Significance	Zoo Period/Phase	Comments
77B Koala House (though also closely related to the remnant woodland adjacent)	State/Exceptional	Initiated in the Directorship of Ron Strahan	Completed in 1972 the Koala House marked a significant change in the approach to Zoo planning & design as well as animal care and in the engagement of visitors with modern concepts of habitat conservation and education
99L Main Zoo access path	State/High	1910s initial development	Part of the enduring circulation system established at the Zoo's inception
102B Serpentaria complex	1995 (PWD Government Architect) Local/Moderate	Dr John Kelly's Directorship	Paul Bardsley (Project Architect). Some early aspects of the 1910s Zoo remain evident.
123L Australian Sections landscaping	Local/(originally High but probably now Low)	Early 1970s (see Appendix C)	Associated with the Koala House project
187L Bangalay tree (<i>Eucalyptus botryoides</i>)	Local/High	Possibly planted but a species representative of the <i>Angophora costata</i> shrubby woodland vegetation community assemblage	Locally indigenous vegetation
240L remnant <i>Angophora costata</i> woodland	Pre-zoo continuum Local/High	Pre-zoo continuum	Part of original site vegetation though currently in a depauperate state

Table 4.1 Heritage Items within the Taronga Wildlife Hospital site (from s170 Register). Refer to earlier sections of this report, the s170 Register and Landscape Management Plan 2006 for images of the items.

4.3 Individual Elements of Significance

4.3.1 Listed s170 Items within the Proposed Taronga Wildlife Hospital Site

Figure 1 indicates the area of the proposed Taronga Wildlife Hospital site while **Figure 2** indicates the listed s170 Register items within this area. Six items are noted (**Table 4.1**): the existing Serpentaria complex (Item 102B) extending from the Freshwater Crocodile enclosure in the east to the service area on the western side and from the northern access road to the Chimpanzee Park boundary; the intact Koala House (Item 77B); a part of the original Taronga Zoo circulation system from the 1910s (Item 99L) to the southeast that provides the principal means of public access to the proposed Taronga Wildlife Hospital site; two elements relating to the pre-Zoo landscape, the remnant area of *Angophora costata* woodland over sandstone bedrock (Item 240L) and a solitary Bangalay tree (*Eucalyptus botryoides*) (Item 187L); and an area of landscape (Item 123L) relating to the 1970s development of the adjacent Koala House (see **Appendix C**). However, while this latter item was originally viewed as an example of Australian native landscape treatment, very little of the original 1970s vegetation remains such that Item 123L probably should be now viewed as being subsumed by the more relevant and significant remnant Item 240L.

4.3.2 Listed s170 Items in the vicinity of the Proposed Taronga Wildlife Hospital Site

Again **Figure 2** indicates there are some items listed on the Zoo's s170 Register that are located just outside the proposed project area boundaries. These are noted in **Table 4.2** and include the western end of the former aviaries (originally a python enclosure in 1916) (Item 60B); the former 'horse-shoe' aviary (Item 97B); the Chimpanzee Park complex (Item 102B) to the immediate south; and the mature Brown Pine (Item 168L).

Table 4.2 ITEM	Significance	Zoo Period/Phase	Comments
60B Remnant aviary structure	Local/High	From 1916 (Python) + Finches (from 1924) (Substantially modified 2010s)	All but western bay of 1916 layout removed
97B Australian Bush Birds	Local/High	1910s	Small aviaries removed 2011 & remainder modified 2020
100B Chimpanzee Park & associated structures	Local/High	In planning from early 1970s, built in 1979 & completed 1980	Another major project from the 1970s & opening to critical/public acclaim
168L <i>Podocarpus elatus</i> (Brown Pine)	Local/Exceptional	Le Souef period (probably 1910s into 1920s)	A surviving component of the early Zoo windbreak planting (see Figure 17)

Table 4.2 Heritage Items in the vicinity of the Taronga Wildlife Hospital site (from s170 Register). Refer to earlier sections of this report, the s170 Register and Landscape Management Plan 2006 for images of the items.

4.4 Views

The Taronga Zoo Landscape Management Plan of 2006 recognised a number of significant views from vantage points in the vicinity of the study area. These are indicated in **Figure 69** below. However most of these views – mainly relating to vistas and panoramas from the elevated parts of the Zoo out to Sydney Harbour, the Sydney Harbour Bridge and the CBD skyline – remain unaffected and unrelated to any part of the current study site or any of its proposals. The only exceptions are views (glimpses) 34 and 35 (**Figure 70**) (or, respectively, Views 534V and 535V on the s170 Register). These are views that are not available to the general public as they are within a restricted area for staff, approved contractors and escorted visitors only. Both of these views would be affected by current or proposed SSDA projects and are discussed further in **Section 6** of this report.

Views **to** the project site from outside of the Taronga Zoo lands, particularly the west (such as from parts of Cremorne Point – note **Figures 81** and **82**) through to the south (from the harbour) are particularly important. These would normally be addressed in a heritage impact assessment such as this however, in this case, they are discussed in more detail by others in separate reports.

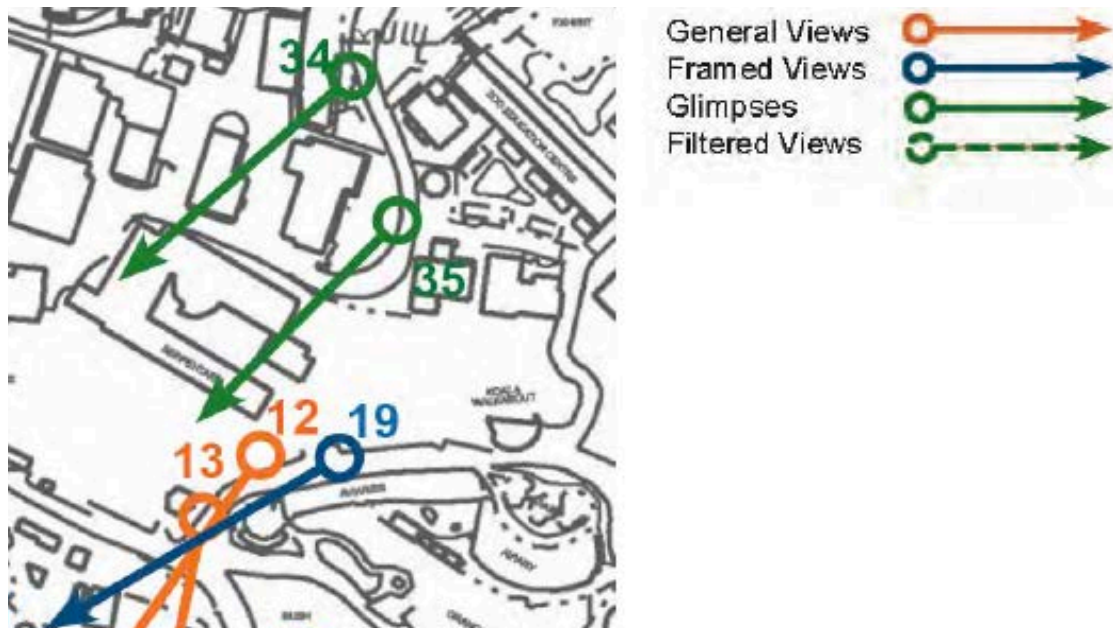


Figure 69 Previously recorded views in relation to the proposed Taronga Wildlife Hospital site. These were noted in the Landscape Management Plan 2006 by Design 5 Architects *et al.* Other views noted in the LMP 2006 are unrelated or now irrelevant to the current study site. (Courtesy of Design 5 Architects with some reformatting by Jean Rice)



Figure 70 An unexpected, incidental vista from along the back-of-house access north of the reptile and amphibian complex. The access is a well-used road to the Zoo's service areas and remains an important delivery access route supporting the Zoo's critical functions. This view is a continuation of similar views noted in the 2006 LMP as Views 34 and 35 (or 534V and 535V on the s170 Register). (Geoffrey Britton, 2021)

4.5 Historical Archaeology

The Taronga Zoo Archaeological Management Plan, 2004 (Endorsed February 2004) by GML Heritage considered potential archaeological resources relating to the present study area. In relation to historical archaeology, the AMP 2004 mapped most of the study site under the category 'Zone D' indicating that it held no potential for subsurface archaeological evidence and therefore had no archaeological sensitivity (**Figures 71** and **72**). Two small areas are noted as 'Zone C' where there is potential for resources relating to earlier Zoo phases to remain.

A more detailed review of archaeology has been undertaken specifically in relation to the Taronga Wildlife Hospital site as part of this SSDA and reference is made to that study.

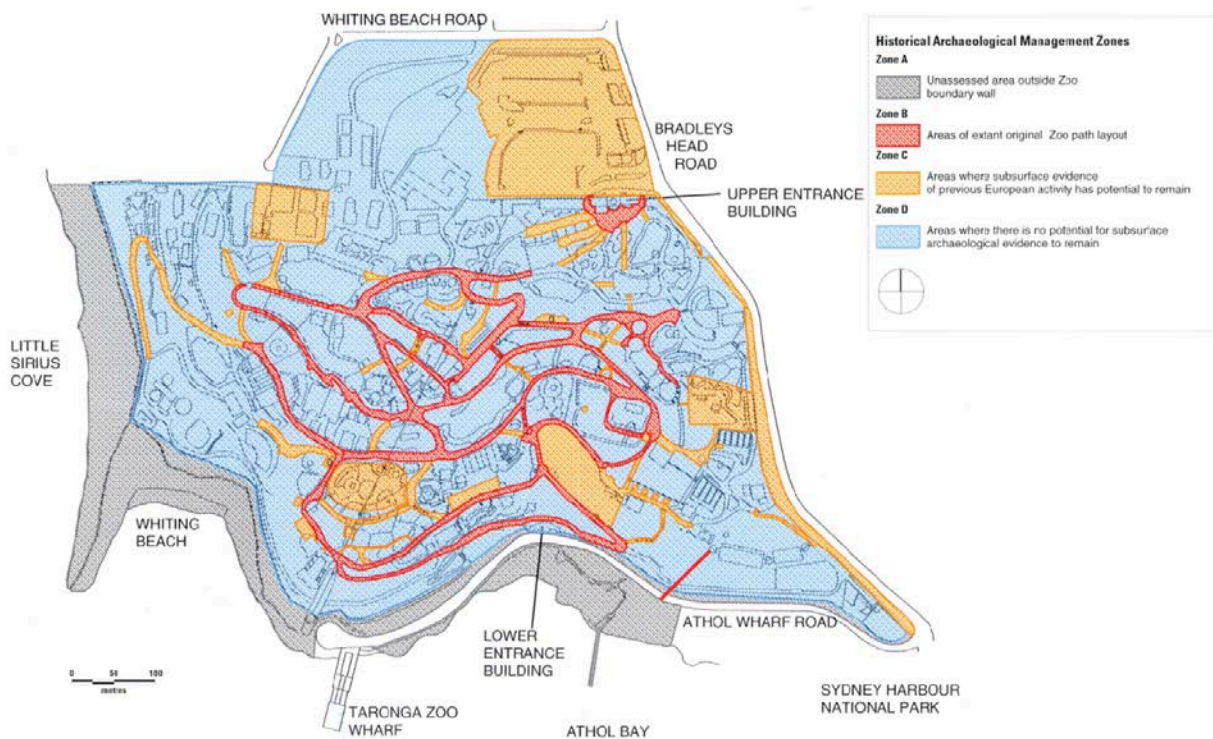


Figure 71 ABOVE A plan from the 2004 *Archaeological Management Plan* of GML Heritage showing site zones with potential for European archaeology. **Figure 72** BELOW A detail from the plan above showing almost all of the study area indicated as Historical Archaeological Management Zone D (light blue) where it is considered that there is no potential for subsurface archaeology. (Extracts courtesy of GML Heritage with some reformatting by Jean Rice)



4.6 Additional Site Elements

As well as the various s170 items listed and described in previous sections of this HIA report, there are a number of additional items within the study area that have hitherto not been listed or considered in previous reports but are likely to have social value to various communities of interest. These include diverse artworks within the existing reptile centre.

The artworks include the following:-

- * A large extramural ceramic mosaic 'Ntaria Our Country' made especially for Taronga Zoo in 1994 by artists from Hermannsburg, Northern Territory and its integral perspex interpretive details including the names of all of the contributing artists under the direction of Naomi Sharp (**Figures 73 to 75**);
- * Various fibreglass, stainless steel and sandstone sculptures of thematically related reptilian and amphibian animals (none with acknowledged artist details)(**Figures 67, 76 to 79**); and
- * An artwork of coloured hand stencils and dots across one of the bagged-brick internal dividing walls by children of La Perouse Public School (no date but, presumably, 1990s)(**Figure 80**).

Most of these works were documented in an inventory by Taronga Zoo staff in 2021 with a view of salvaging them for reuse elsewhere within the Zoo (**Appendix B**).



Figure 73 Forty-four ceramic panels comprising the extramural mosaic depicting desert wildlife in central Australia made especially for Taronga Zoo in 1994 by artists of the Hermannsburg Potters, Northern Territory. A large perspex panel (**Figure 74**) installed next to the work explains its imagery and includes a list of the contributing artists (**Figure 75**).

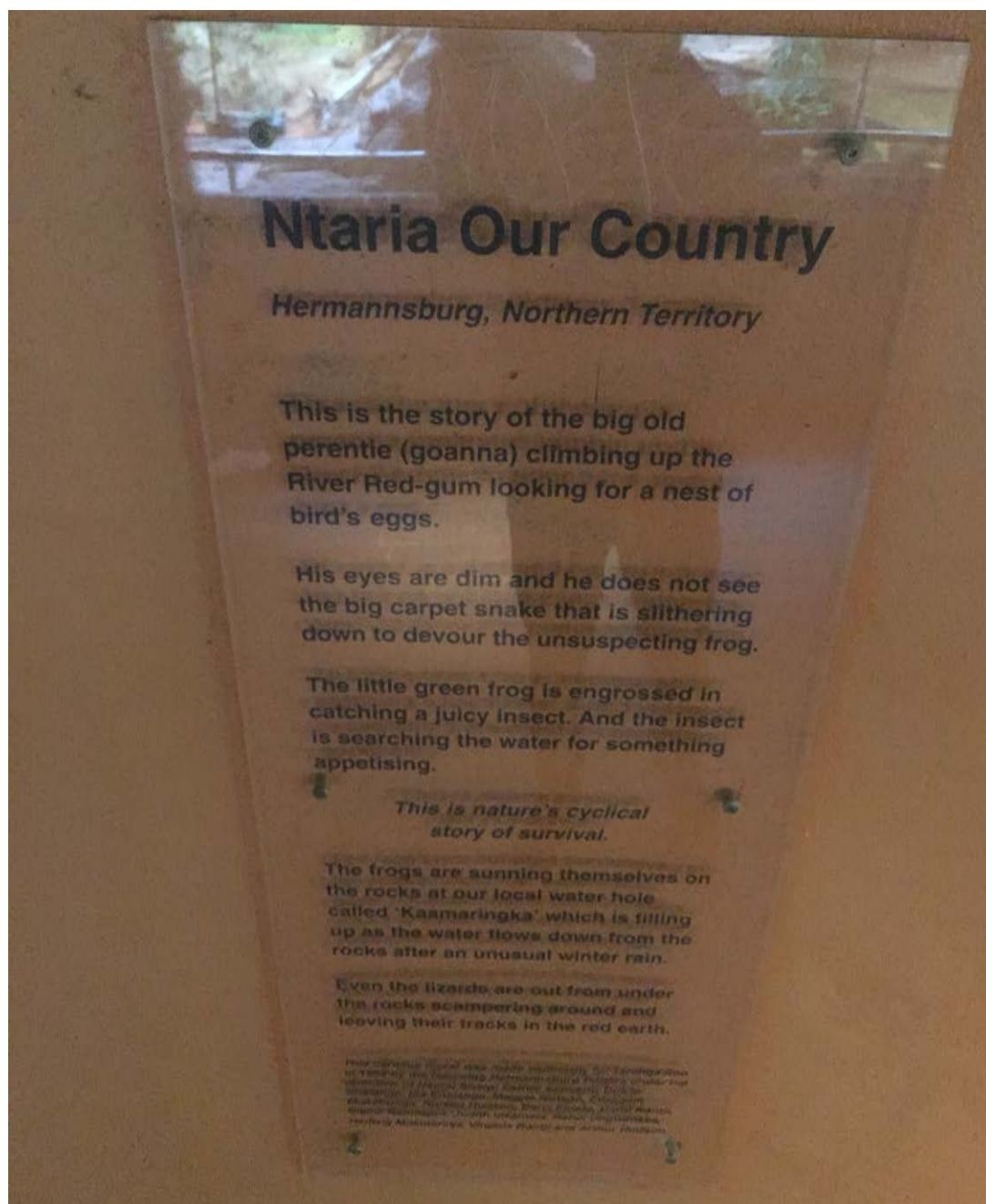
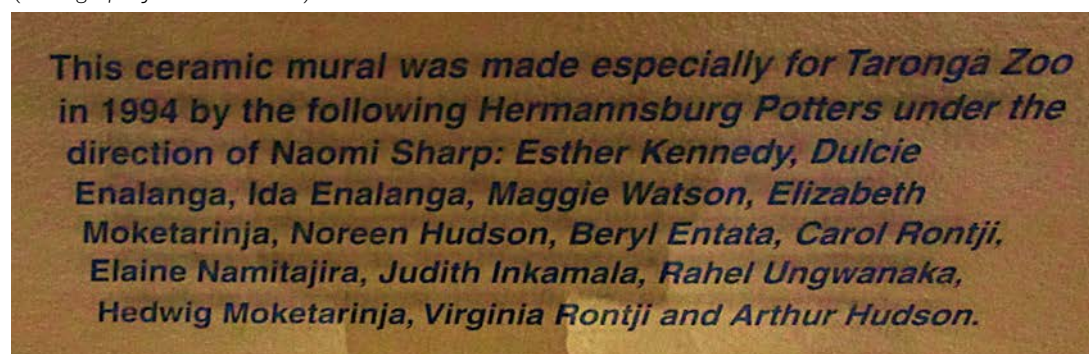


Figure 74 ABOVE The interpretive perspex sheet accompanying the Hermannsburg *Ntaria Our Country* artwork describing the work in the words of the artists. **Figure 75** BELOW The bottom text of the same perspex sheet accompanying the artwork indicating and crediting the various contributing artists. (Photograph: Jean Rice, 2021)



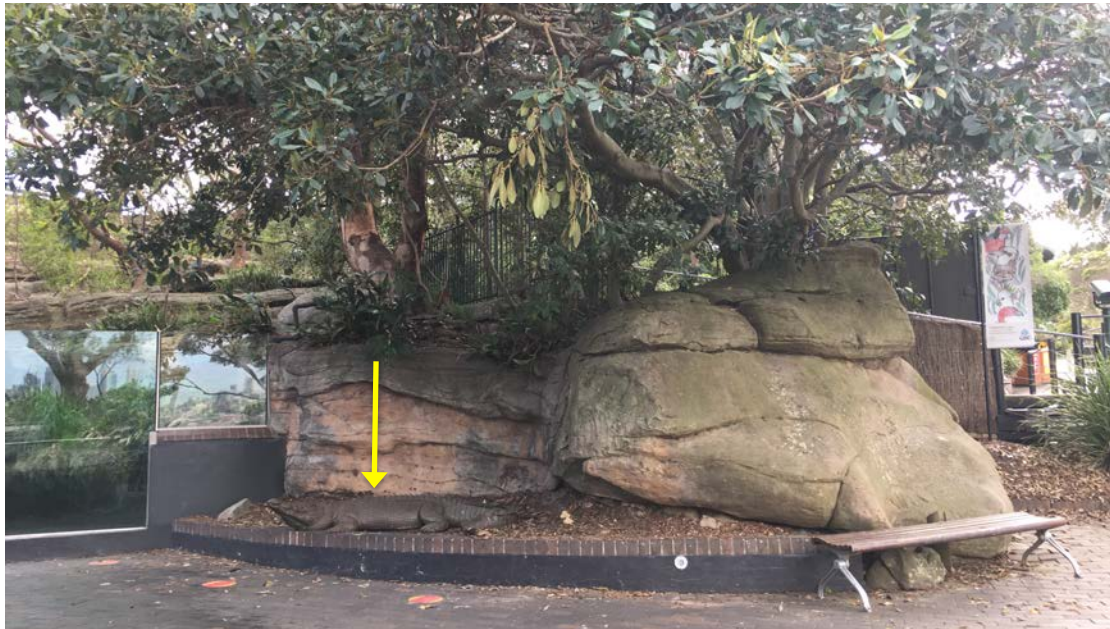


Figure 76 ABOVE Part of the entry to the Serpentaria precinct featuring a large sandstone boulder with a faux-rock extension applied as a backdrop to a large fibreglass sculpture (artist unknown) of a crocodile facing the pond for a real Freshwater Crocodile. (Photograph: Jean Rice, 2022) **Figure 77** BELOW LEFT A sandstone frog within the existing Serpentaria central courtyard (artist unknown). **Figure 78** BELOW RIGHT A sandstone lizard within the courtyard (artist unknown). (Both photographs: Jean Rice, 2021)





Figure 79 LEFT A view towards the Chimpanzee Park and distant CBD skyline from along the main Zoo access path showing the solitary Bangalay in the centre but with a strategically placed fibreglass sculpture of a Komodo Dragon (artist unknown) to the lower right (arrow).

Figure 80 BELOW A section of a bagged dividing wall within the existing reptile centre featuring the La Perouse Public School artwork of hand stencils and dot motifs. (1990s?) In this case the work would hold mainly social value as a point of engagement between the La Perouse Public School students and community with the Zoo. Salvage would not be possible though a similar exercise elsewhere within the Zoo could be considered. In the meantime archival recording would be expected. (Photograph: Geoffrey Britton, 2021)



Also within the current Serpentaria site are a number of valuable plantings. Although most of these are relatively recent introductions, they are valuable on account of their commercial replacement value as well as having amenity value because of their size and usefulness in a number of potential applications elsewhere within the Zoo. These include the large Screwpine (*Pandanus* sp.) and large rock orchids (*Dendrobium speciosum*) within or near the Freshwater Crocodile enclosure, the large *Beaucarnea* sp., *Xanthorrhoea* sp. (grass tree) and cactus group within the central courtyard area and the many *Raphis* sp. (palms) throughout the central courtyard. All of these plantings would be readily transplantable.

5 The Proposal

5.1 Basis of Assessment

In relation to the proposed Taronga Wildlife Hospital, potential heritage impact has been assessed in this report on the basis of the following information and reference should be made to these (and any subsequent minor iterations) in reading the present report:-

* Development Application plan set provided by **dwp** architects (plans, sections, elevations, sun access diagrams, annotated views and materials board) issued July 2022; and

* Landscape Development Application report by **Eximia Design** (plans, elevations, schedules and details along with a vegetation removal plan and schedule) issued July 2022.

5.2 Brief Description of Proposal

The overall proposal for the Taronga Wildlife Hospital complex involves the construction of a large two-storey building (with a small additional plant room element above) within the spatially restricted area of the present Serpentina site. Owing to the constrained site area, and to accommodate the considerable amount of facilities and functions, the new building is shown to be a large mass though mitigated by open structural tracery elements such as curvilinear laminated timber beams to the southern and southeastern sides. Another consequence of needing to fit a considerable number of functions within the limited space is that virtually all of the existing site elements would need to be removed – including elements from within the northern access road and eastern rock outcropping to the western service road and the southern Chimpanzee Park boundary walls.

At the northern elevation of the building a subterranean access is proposed to link with the proposed new Nutrition building across the access road to the north. And on the eastern side of the proposed Taronga Wildlife Hospital a restricted access boardwalk is proposed to link the existing Taronga Institute of Science & Learning (TISL) building with the hospital via the remnant woodland area. The intention is to use the woodland area as part of an indigenous teaching program for small groups under the supervision of Taronga Zoo staff.

DA drawing AA-H-8001 provides an external materials finishes board that indicates that façade treatments and external structural elements, where these are more likely to be visible from beyond the immediate area, are generally of recessive-toned colours. Considerable effort is evident in the documentation to break up the perceived massing of the building using variously coloured panels, articulation of form where possible and using changes of cladding – solid brickwork, hit and miss brickwork, blockwork, glazing and vertical metal louvres. The broad, split-pitched roof cladding is proposed as a light grey metal Colourbond ('Surfmist') sheeting with solar panels to the north-facing roof planes.

5.3 Implications of Proposal

In order to build the new Taronga Wildlife Hospital complex and facilitate its efficient functioning, the existing Serpentina building would need to be demolished (DA drawing AA-H-1000). In terms of precedence, the reptile centre did replace and greatly expand on an earlier reptile house formerly located where the existing Southern Corroboree Frog display is located. However there was also a major hospital/quarantine complex on the actual site of the current Serpentina building. This second Taronga hospital/quarantine complex was in use for some 50 years before being replaced by the present veterinary/quarantine centre. Taronga Zoo has already committed to building a larger and more fit-for-purpose reptile and amphibian centre elsewhere within the Zoo making the present complex (soon-to-be) largely redundant.

The remnant *Angophora* woodland area (s170 240L) is proposed for retention as is the Bangalay (s170 187L) near the Chimpanzee Park at the southern entry point to the study site. The existing Southern Corroboree frog display and shelter structure are also proposed for retention as part of this SSDA.

6 Heritage Impact Assessment

6.1 Potential for Heritage Impact

6.1.1 Impact on the Taronga Zoo Setting

In relation to the setting of Taronga Zoo, and specifically the proposed Taronga Wildlife Hospital development, there are several considerations that are relevant. One is how noticeable the proposed new building would be from beyond the Zoo – that is, does it affect the overall Taronga Zoo setting traditionally seen as a landscape-dominated skyline, another is to what extent the new building would impinge on its *immediate* setting within the Zoo and, the third, is whether the new development would impinge on particular significant views out from the Zoo to the harbour and features beyond.

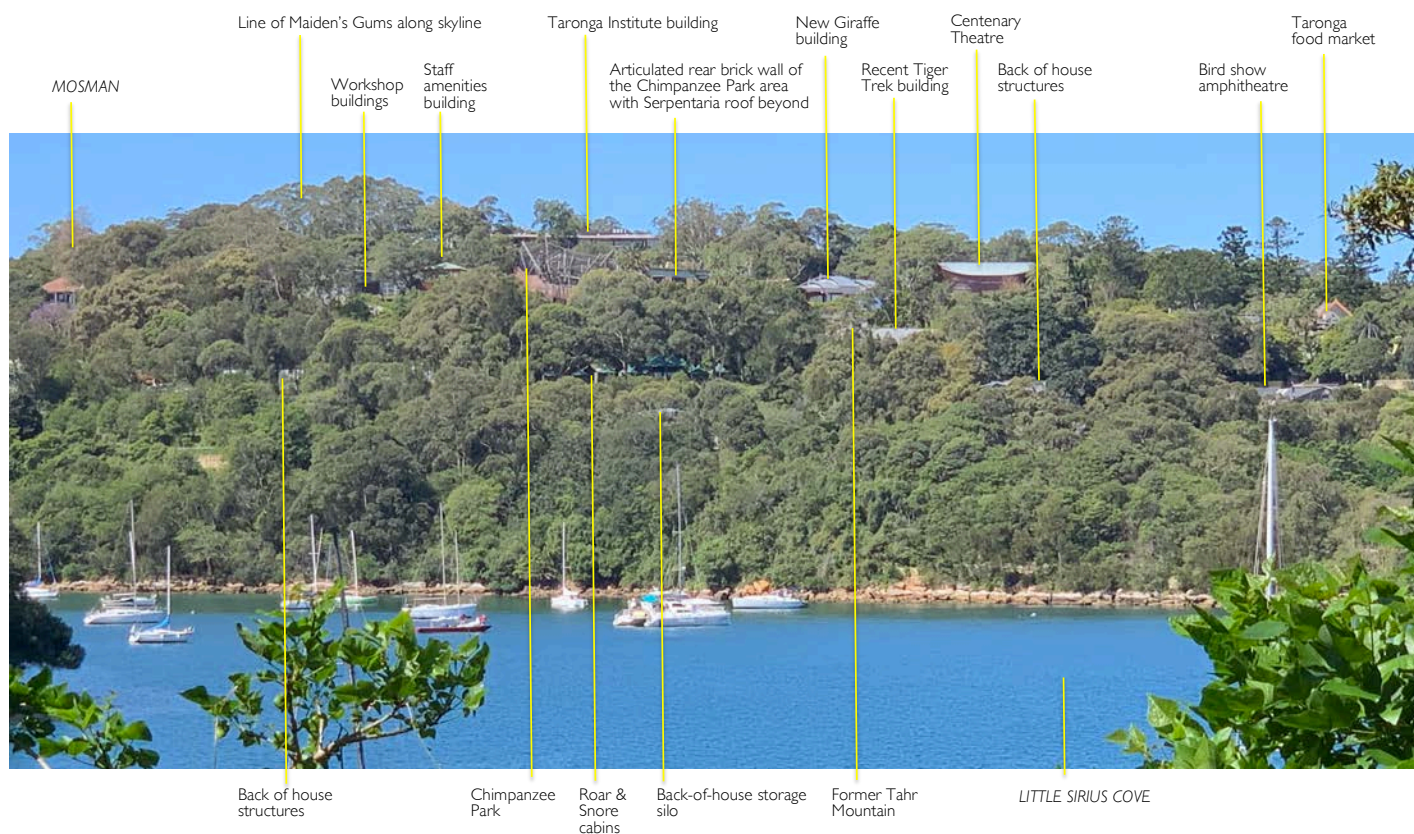


Figure 81 ABOVE View of western side of the zoo campus from Cremorne Reserve (towards the end of Cremorne Road). **Figure 82** BELOW View from Robertson Point, Cremorne Reserve showing an increasing prevalence of buildings within the erstwhile forested landscape setting of the zoo campus. Both of these views illustrate the importance of existing mature site vegetation as part of the setting of the zoo and the need to reinforce this vegetation wherever possible. (Images courtesy of Dr Anna Britton)



** Overall Taronga Zoo Setting*

Considering each of these aspects at a time, it is clear from **Figures 81** and **82** that the western side of Taronga Zoo still 'reads' as a mostly well vegetated landscape with locally indigenous vegetation communities strongly evident and with a considerable amount of exotic (non-locally indigenous) plantings introduced to the Zoo over many decades. Many of the structures visible (and identified) in **Figure 81** are relatively recent buildings suggesting that there has been an incremental increase in recent years in the number of new structures emerging above the traditionally wooded character of the landscape. On the basis of the DA sheets AA-H9050 to AA-H9052, it appears that the new Taronga Wildlife Hospital will also be apparent from areas beyond the Zoo lands. In this case the new building is likely to have some impact on the broader Taronga Zoo landscape setting. As this likelihood was anticipated by the architectural design team, the new building has been designed to reduce the extent of visibility as part of its mitigatory treatments.

** Immediate Site Setting*

This consideration revolves around how well the new building would be visually integrated within its immediate site landscape. The main difference between the existing Serpentina building and that proposed to replace it is the former is of a single storey with generally visually recessive materials and colours and the latter has a more exuberant architectural character of two storeys with some structural elements projecting higher. As a state-of-the-art operational and teaching wildlife hospital, the new building has been required to accommodate a considerable number of facilities and functions, which has necessarily produced a large building. While the ground floor would largely nestle into the space between the high road cutting to the north and the articulated boundary walls of the Chimpanzee Park to the south, the remainder of the building would rise above the latter walling a further nine to ten metres.

On the basis of the Preliminary Renders (AA-H9000 and AA-H9001) a sense of human scale close to the new building is shown to have been very skilfully handled and achieved through a form of arcading and other devices though the high, overarching laminate and polymer structure above would evoke something of the atmosphere of a grand cathedral. From the front of the Chimpanzee Park, the new building would be strongly evident rising up behind the northern brick wall as there are no opportunities to introduce tall trees within the Chimpanzee Park for security reasons.

The new development would benefit from the retained woodland remnant to the east (as well as the solitary Bangalay to the south) as this would provide an adjacent element of comparable height and assist in integrating the new building within this site. As much as spatial constraints allow, the additional planting of other locally indigenous tall canopy trees linking the remnant woodland with the lone Bangalay would probably also be beneficial in relation to the immediate site setting.

Another aspect of the immediate site setting needs consideration in relation to the proposed boardwalk access through the remnant *Angophora* woodland to the east of the site. SSDA drawings AA-H1001 and AA-H1204 show a meandering path route through the remnant woodland that links the southern courtyard to the TISL building with the second level of the proposed Taronga Wildlife Hospital. The boardwalk route and structure will have no impact on the present Serpentina site though is likely to have some impact on the woodland landscape as a new element built into this setting. It is also likely to have some impact on the perception of the remnant woodland from the immediately adjacent Koala House site as the walkway is sited close to the northern edges of the 1970s structure and the intrinsic design of the Koala House was to address the woodland remnant and invite the acknowledgement that it is an integral part of the Koala House's setting.

In this case, designed mitigating attributes of the proposed structure are that it is of a minimal nature and scale with visually low-key materials and colours and would largely hug the contours

as it passes through the woodland and across rock outcrops. Use of the boardwalk would be for educational purposes and be by way of a secure gate and only small groups would be able to access it on an intermittent basis and with accompanying Zoo staff.

** Views from the Site Setting*

From around the immediate site area there are a number of impressive views out to Sydney Harbour, the Sydney Opera House, Sydney Harbour Bridge and the Central Business District. Most of these views are those enjoyed by countless visitors since the Zoo opened – from along the main circulation path leading down to the Giraffe enclosure (**Figure 83**). These views are so iconic and well-etched into the experiences of so many Zoo visitors that a special elevated viewing platform has been built nearby to fully exploit the panoramas. The proposed new Taronga Wildlife Hospital development would have no impact on the enjoyment of any views from along the main (1910s) circulation path.

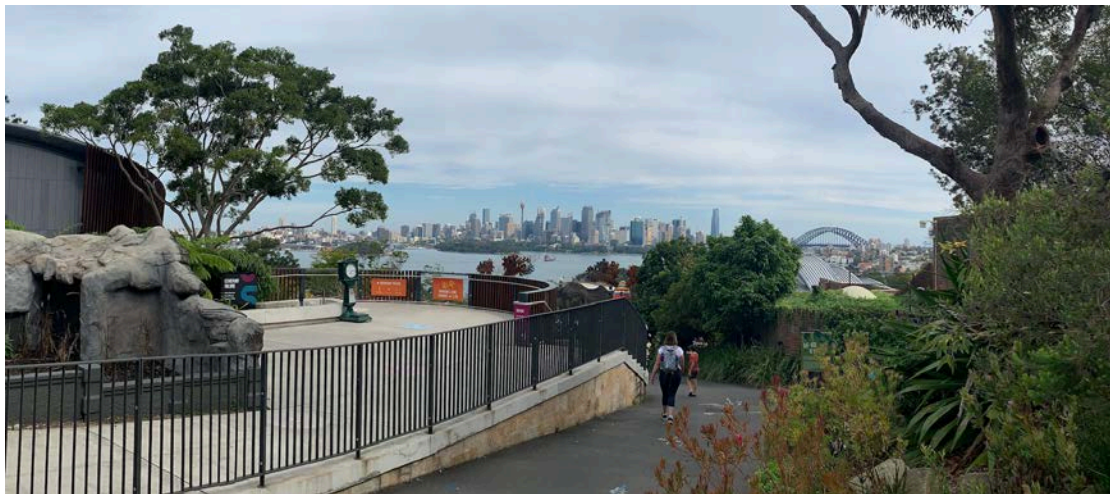


Figure 83 ABOVE A world famous view: from the main upper path with the recent viewing platform at left and the western end of the remnant 1916 exhibit with its faux-rock walls (s170 Item 60B).
(Photograph: Geoffrey Britton, 2021)

There are other spectacular views – as panoramas and glimpses - from the northern side of the Serpentina site (**Figures 40, 41 and 70**) that are equally impressive and these are largely incidental views from a back-of-house access road enjoyed mainly by Zoo staff, contractors and escorted visitors. The views are only possible because the existing Serpentina building is of a low-profile and the access road is higher in elevation. As the new building is substantially higher, these incidental views will be lost. However they are not views for the general public and other back-of-house view opportunities will replace these by way of internal spaces within the proposed Taronga Wildlife Hospital and Nutrition buildings.

6.1.2 Impact on Significant Layout

The principal component of layout relating to the proposed Taronga Wildlife Hospital site is the original 1910s circulation path that provides the sole public access to the site. This important landscape element carries considerable cultural significance, however, it would be completely unaffected by the proposed development.

Other elements that define some of the site's layout are the cut back edges of the massive sandstone formation enveloping the site from the north and east. Some of these bedrock edges would need to be cut back further to allow the new building to fit the space, while other edges could be left intact.

6.1.3 Impact on Significant Fabric

Within the designated site area for the proposed Taronga Wildlife Hospital development, SSDA drawing AA-H1000 shows that all of the existing site elements west of the remnant woodland area are to be removed to make way for the new building. Exceptions appear to be several trees at the peripheries. This means that the entire Serpentaria building, its external courtyards, its artworks and associated plantings would need to be removed.

Table 4.1 above set out four items listed on the s170 register noted as having cultural significance. Of these, only the 1990s Serpentaria complex (Item 102B and noted as having Moderate significance at a Local level) would be substantially affected. Provision has already been made by the Zoo for the salvage and meaningful reuse of almost all of the artworks associated with the existing site. Similar provision could also be made to salvage and reuse the small number of valuable plantings within the site noted in **Sections 3.4.1** and **4.6** above.

The remnant pre-Zoo woodland (Item 240L) is collectively noted as having High significance. It would be largely unaffected by the proposal with the exception of several trees needing to be removed (and, possibly, a small section of sandstone outcropping at the eastern end where it has been cut back already) in order to accommodate the proposed boardwalk structure through the area. Some important regeneration of desirable woodland species may be affected by the boardwalk in localized sections as well as some sandstone outcropping and overhangs where foundation supports are required for the structure.

6.1.4 Consistency with Assessed Significance

This section considers the proposal from the perspective of the statement of significance (**Section 4.2**). That is, do any of the proposed works have the potential to compromise the assessed significance of Taronga Zoo or individual items of cultural significance? In order to affect the assessed cultural significance of the place the proposed works would need to be clearly in conflict with any of the specific aspects outlined in the statement of significance. For convenience, each relevant paragraph from the statement of significance is repeated below.

Taronga Zoo is a place of national significance as an urban zoo with unique physical and associative attributes, including links with early modern zoo philosophy, a unique and powerful cultural landscape and a wide range of landscape elements, architectural styles and enclosure designs evidencing the development of zoos in Australia.

The proposed new Taronga Wildlife Hospital development would be consistent with reinforcing Taronga Zoo's urban zoo character, its diversity of architectural style and the ongoing development of state-of-the-art facilities for handling wild animals.

Features that contribute to Taronga's cultural landscape include the steeply sloping topography of the site; its location on the northern foreshore of Sydney harbour; the exploitation of the natural stone landforms and complimentary faux rock formations; the circulation layout and associated staircase and seating; the exotic and grand built elements used for public buildings and animal enclosures; the native and introduced vegetation on the site, the internal visual corridors within the site and expansive views from the site across Sydney Harbour to the city skyline.

The proposed Taronga Wildlife Hospital development would retain almost all of the existing sandstone formation that currently remains within the site along with the significant remnant woodland area immediately to the east while having no impact on the important original circulation network from which public access would directly engage with the site or on any highly esteemed public view prospects from the main path.

This paragraph of the statement of significance also touches on Taronga Zoo's traditional relationship to its harbour setting particularly in views to the study site from locations beyond the Zoo and the prominence of mature site vegetation as an important component of the Zoo's traditional landscape character. It is likely the new building would be visible from public locations within the Zoo (such as in front of the Chimpanzee Park) as well as from beyond the

Zoo site. Some current incidental views out from the back-of-house access road behind the site to the harbour and CBD would be lost.

The original fabric at Taronga demonstrates the earliest example in Australia of Carl Hagenbeck's and early twentieth-century European zoological philosophies. In the differing design and approaches to the animal enclosures and aviaries, Taronga also evidences key aspects of international zoological [planning] philosophy that have influenced the Zoo's development throughout the twentieth century.

As there is little original (1910s) or early (generally Interwar period) fabric and layout within the study site, none of these aspects of significance would be deleteriously affected by the proposal.

As an educational, entertainment and recreational facility, Taronga is a highly revered institution within Sydney's social fabric, evoking memories across generations of visitors. The Zoo is also an important keystone in distinguishing Sydney's sense of place. For the zoological community, Taronga is internationally recognised as a leading centre of biodiversity conservation and for the Zoo's educational focus.

The proposed Taronga Wildlife Hospital development has been planned and designed to provide a major upgrade to the current wildlife hospital and quarantine facilities. A notable advance for the new building is its upgraded veterinary and teaching facilities and capabilities as well as opportunities for public engagement with some of these functions. These attributes are consistent with the progressive nature of this part of the statement of significance.

Yet the proposed development would entail the loss of the existing reptile/amphibian complex that has likely contributed to the Zoo's educational and biodiversity conservation objectives since the 1990s as well as providing and 'evoking memories across generations of visitors' since that time to the present. It should be noted however, that the educational component of the current reptile/amphibian complex would be recovered (and expanded) with the completion of the new Amphibian and Reptile Conservation Centre (due in late 2023).

Taronga's archaeological resource has some potential to provide information about the Aboriginal community, the early use of the site as a quarantine station and the development of the zoo. In combination, the extensive archive collection, built structures, landscape features and archaeological features at Taronga have great potential for research and community education.

This aspect of significance is covered in more detail in a separate archaeological report relevant to the proposed Taronga Wildlife Hospital building.

So in summary with respect to the statement of significance for Taronga Zoo, while the proposed Taronga Wildlife Hospital is generally consistent with the statement, the proposed removal of the existing reptile/amphibian complex is noted as a potential heritage impact. Potential for cumulative visual impact on the Zoo and Sydney Harbour setting is a consideration that would normally be addressed as part of this assessment, however in this case it is considered by others in separate reporting for this SSDA.

6.1.5 Reconciliation with Taronga Zoo s170 Register Obligations (Heritage Act, 1977)

Within the proposed Taronga Wildlife Hospital development area there are six items listed on the Taronga Zoo s170 Register (see **Table 4.1**) apart from the acknowledgement that the study site is a part of the overall Zoo site (Item 82A). These items are:-

- * Item 77B – Koala House (1972)(State significant);
- * Item 99L – 1910s path layout as a component of the original Taronga Zoo circulation network;
- * Item 102B – Serpentaria complex (1990s);
- * Item 123L – Australian landscape area (this effectively overlaps with Item 240L and, given the attrition of most 1970s plantings associated with this area, Item 123L has been largely

superseded by Item 240L –the latter now being regarded as far more significant than Item 123L in its current state);

- * Item 187L – solitary Bangalay (*Eucalyptus botryoides*): and
- * Item 240L – Remnant *Angophora costata* woodland area (predating Zoo).

Of these six items only one (Item 102B) would be substantially affected by the proposal and that entails complete removal. Of the remaining items, Item 123L should now be regarded as being subsumed into item 240L where both Items 240L & 187L are to be retained, along with Items 77B and 99L.

A further four listed items are located immediately adjacent to the proposed site area (see **Table 4.2**). These items are:-

- * Item 60B – Remnant python/aviary structure (1916);
- * Item 97B – Remnant 'Horse-shoe' aviary structure (1930s);
- * Item 100B – Chimpanzee Park (1980 with more recent upgrades); and
- * Item 168L – Brown Pine (probably 1910s-1920s period).

None of these adjacent items would be substantially affected by the current Taronga Wildlife Hospital development proposal in physical terms however there is the potential for the new building to affect the way in which the Chimpanzee Park is perceived and enjoyed. There is also some scope for the proposed boardwalk through the woodland area to impact on the enduring close relationship between the Koala House and the adjacent bushland and its enclosing rock ledges.

A back-of-house view noted in the s170 register as View 535V is considered in the following section of the report.

6.1.6 Consistency with the Taronga Zoo Conservation Strategy 2002

In 2002 the TCSA commissioned Godden Mackay Logan (now GML Heritage) to provide a conservation strategy for Taronga Zoo. The purpose of the strategy is expressed in its various project aims that included:-

Providing an integrated, multi-disciplinary framework for the future management of the heritage resources at Taronga Zoo through:-

- * reviewing the cultural and natural heritage resources of the site identified in the existing s170 register*
- * assessing the relative value or significance of those resources;*
- * identifying opportunities and constraints that apply to their management;*
- * developing policies for conservation, interpretation, management and use of the site; and*
- * developing a framework within which recommendations for conservation works and further investigation and planning should be implemented as part of the management of the Taronga Zoo site.*

Within the policies developed by the Conservation Strategy, the following are specifically addressed to relevant components of the present study site.

Views, Setting

Policy 12.4.1 includes the proviso that “Significant views to and from the site and visual corridors within Taronga Zoo should be maintained. No new structures or landscape elements should be erected which would impact on the setting of the place and views to and from the site”.

The ground level of the proposed new building is unlikely to be seen from outside the zoo site though the upper levels may be visible in some view prospects from beyond the site including parts of the harbour. This would be a potential issue in the context of numerous other Zoo buildings being already visible from these vantage points and so contribute to the overall cumulative impact of the development. This aspect is addressed by others in separate reporting as part of this SSDA submission. As the proposed building would project higher than the top of the rear brick boundary wall of the Chimpanzee Park by some 9 – 10m, it is likely that the traditional setting of the chimpanzees would be affected.

Some of the existing incidental views out to the harbour, bridge and the Sydney CBD from the back-of-house access road (**Figures 40 and 41**) will be lost as will related views from further up the same road (Views 34 and 35 shown in **Figure 69**). Of these latter views both are listed on the s170 register (Views 534V and 535V respectively). View 534V would be affected by the proposed new Nutrition Centre project (a separate SSDA) while View 535V would be lost to the present project proposal.

New Work

Of relevance to the proposed Taronga Wildlife Hospital is Policy 12.4.8 which states that *“proposals for new development should be considered on the basis of a thorough understanding of the impact on the significance of the place. As a place valued by a wide range of communities, the sense of place and familiarity inherent in the fabric of the Zoo for these communities, within an ever-changing environment, must be considered an important attribute to be retained and reinforced in future development concepts... The potential impact of any new design as a focal point or landmark within the Zoo – and possibly the harbour – should be considered as part of any development. New work will need to blend harmoniously with the surrounding environment including the setting of nearby heritage items”*.

This policy relates back to the need for new structures within Taronga Zoo site to take into account individual and cumulative visual effects on the overall Mosman setting, ensuring that new development does not become unduly assertive over the established traditional forested setting of the north shore landscape. This specific consideration is again addressed by others in separate reporting for this SSDA submission.

6.1.7 Consistency with the Taronga Zoo Heritage Asset Management Strategy 2006

In 2006 the Capital Works & Infrastructure Division of the zoo prepared a brief strategy for the management of its heritage assets (HAMS) on behalf of the then Zoological Parks Board (ZPB) of NSW (now Taronga Conservation Society Australia). The strategy states that the “ZPB’s commitment to cultural heritage is embodied in its endorsed Conservation Strategy (CS)(2002) and Archaeological Management Plan (AMP) (2004)”. The following principles for the ongoing management of its heritage assets reflect the key conservation policies identified in these documents:

- (i) ZPB recognises Taronga Zoo as a significant place for the State of NSW and will endeavour to ensure the management of its heritage items is reflective of community values and aspirations for its heritage.
- (ii) The Zoo is to be conserved and adapted in accordance with the best practice heritage management principles outlined in the Australia ICOMOS Burra Charter.
- (iii) The responsibility for the management of the ZPB heritage assets resides with the General Manager of Capital Works & Infrastructure (CWI) division. The Project Manager, Heritage Specialist, will provide specialist input, and build the heritage management capacity within the CWI Division to account for these responsibilities.
- (iv) The retention, conservation and adaptation of items of Exceptional, High and Some significance will be facilitated.

- (v) The preparation of further Management Plans and Heritage Impact Statements will continue to inform future development at the Zoo.
- (vi) The ZPB will actively seek compatible re-use options for the adaptation of items no longer suitable for the original designed use.
- (vii) The CWI Division will be responsible for maintaining those items on the Section 170 Heritage and Conservation Register in accordance with the Minimum Standards of Maintenance and Repair.
- (viii) Heritage asset maintenance requirements will be integrated into the refinement of the Computerised Maintenance Management Strategy (CMMS).
- (ix) Procedures for maintenance works will be updated to incorporate conservation principles.
- (x) The conservation of the heritage assets will be adequately resourced.
- (xi) Where specialist skills or trades, beyond the capacity of the CWI Division, are required, appropriate consultants will be engaged.
- (xii) Archaeological resources will be managed in accordance with the endorsed AMP.
- (xiii) Maintenance records of significant items will be recorded in the CMMS.

The proposed Taronga Wildlife Hospital development appears to be consistent with these policies.

6.1.8 Consistency with the Taronga Zoo Landscape Management Plan 2006

The 2006 LMP represents the most comprehensive document to date dealing with the detailed landscape elements within Taronga Zoo. Apart from recording its many features and assessing their relative significance, condition and integrity, the LMP provided various policies to guide future development at the zoo. While having regard to the zoo as a whole, there are many policies that are pertinent to the proposed Taronga Wildlife Hospital site area. These include:-

** (Policy 2.1.5) The layout, structure, cultural plantings and built landscape elements surviving from Le Souef's original landscape design for the place should be retained, conserved, respected, managed and maintained so that the character of the early zoo landscape is not lost or overwhelmed by new development.*

The only surviving elements of the Le Souef-era are the woodland vestiges and these are proposed for retention.

** (Policy 2.1.8) The zoo landscape should continue to evolve and adapt to suit changing zoological management philosophies and practices in order to maintain the zoo's world class standing. However, all changes should respect and accommodate the significant aspects and elements of the existing landscape as identified in this report [ie. the LMP report].*

** (Policy 2.1.9) In particular, the historic and aesthetic character of the areas identified as significant in fig 5.8 should be conserved and respected in the design of new site developments (including new exhibits, precincts and/or facilities) within or adjacent to those areas.*

** (Policy 2.1.11) The original path layout should be conserved and respected. New paths may be introduced, but should be sinuous in form and should continue to respect the natural topography of the site.*

** (Policy 2.1.12) The natural rock outcrops occurring across the site should be retained and respected, and may continue to be integrated into the design of new exhibits and the general*

landscaping of the zoo. ... The surviving early sandstone walling (both ashlar and rustic walling) should be retained, conserved and respected and sandstone should continue to be used as a building material for landscape walling within the site.

** (Policy 2.1.13) Both the cultural plantings and indigenous vegetation communities of the zoo should be conserved, managed and maintained as important components of the zoo landscape (see **Figure 84**).*

** (Policy 2.5.1) Significant built landscape elements should be conserved in accordance with their significance gradings and the following policies:*

Elements graded Exceptional:

Retain and conserve all elements of exceptional significance in their existing configuration. Removal or demolition of these elements is not permitted.

Retain and conserve the significant qualities of the setting and context of these elements. Changes or alterations to these elements are not encouraged, but if found to be necessary, should be minimal and should only be permitted where the changes will support and strengthen the significance of the elements. The elements should not be obscured nor their significance diminished. The integrity of the elements should be retained and respected. All changes, alterations or repairs must retain and respect as much as possible of the original fabric, detail and significant qualities of the element. These elements should be entered on the Section 170 register for Taronga Zoo.

The only site attribute currently noted as having exceptional cultural significance in relation to the proposed Taronga Wildlife Hospital site is the Koala House (Item 77B). Both the Koala House and that part of the original Zoo path network (Item 99L) passing near the site are both noted as being significant at a State level, though both are also in the vicinity of the site rather than within the site.

Elements graded High:

Retention and conservation of all elements of high significance in situ is preferable to their relocation. Demolition and removal of these elements is not permitted. Retain and conserve the significant qualities of the setting and context of these elements. Changes or alterations to these elements may be permitted provided the changes support and strengthen the significance of the elements. The integrity of the original fabric and the original design intent should be respected and if possible strengthened. These elements should be entered on the Section 170 register for Taronga Zoo.

** (Policy 2.5.3) Significant fabric from all periods of the place must be respected, with evidence of all phases of the history and use of the place kept in situ in accordance with the policies in this document.*

** (Policy 2.5.5) Where intervention of significant fabric for non-conservation purposes is unavoidable, the loss of cultural significance should be minimised. Within these areas, fabric of a lower relative significance should be disturbed in preference to fabric with a higher relative value.*

Elements of high cultural significance noted on the s170 register within the proposed Taronga Wildlife Hospital site are those relating to the remnant woodland vegetation community – Items 187L and 240L. Beyond these, the main access path (Item 99L) and the Chimpanzee Park (Item 100B) are noted as having high significance while the Serpentina complex (Item 102B) is of moderate significance – mainly because it is a more recent development.

7.13: Vegetation Management Zones



Figure 84 Extract from the 2006 Landscape Management Plan indicating policy recommendations for the various landscape management zones throughout the Zoo campus. Of particular relevance to the proposed Taronga Wildlife Hospital site is the need to maintain a high level of site coverage for the locally indigenous vegetation communities (open hatched areas). (Courtesy Design 5 architects et al)

6.1.9 Consistency with the Mosman Local Environmental Plan 2012

Relevant sections of the Mosman LEP 2012 with respect to heritage considerations at Taronga Zoo are Part 5.9 Preservation of Trees or Vegetation and Part 5.10 Heritage Conservation (**Table 6.1**) each of which is now considered below.

In relation to Part 5.9, some vegetation is proposed to be removed as part of the development of the Taronga Wildlife Hospital development. In some cases it may be possible to salvage the more valuable plantings associated with the Serpentina site. All other trees are proposed for retention.

Aspects of Part 5.10 of the LEP are considered in the following table.

Table 6.1 MOSMAN LEP 2012 PART 5.10 HERITAGE CONSERVATION	
	RECONCILIATION AGAINST THE PROPOSAL
(1) The objectives of this clause are as follows: (a) to conserve the environmental heritage of Mosman, (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,	Most of the subclauses here have at least some relevance to this proposal. Items identified in this report as having cultural significance are examples of Mosman's environmental heritage and should therefore be conserved according to this clause.

(c) to conserve archaeological sites, (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.	
(2) Requirement for consent Development consent is required for any of the following: (a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance): (i) a heritage item, (ii) an Aboriginal object, (iii) a building, work, relic or tree within a heritage conservation area, (b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item, (c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed, (d) disturbing or excavating an Aboriginal place of heritage significance, (e) erecting a building on land: (i) on which a heritage item is located or that is within a heritage conservation area, or (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.	The proposal is included within the area listed as a heritage item under the MLEP 2012 – see Figure 3 – and therefore requires comment from Mosman Council.
(3) When consent not required However, development consent under this clause is not required if: (a) the applicant has notified the consent authority of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development: (i) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and (ii) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site	While the Taronga Wildlife Hospital development is classified as a 'State Significant Development' the comment of relevant stakeholders is still required. One such stakeholder is Mosman Council.

or heritage conservation area, or	
(4) Effect of proposed development on heritage significance <i>The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).</i>	This HIA report provides a basis for considering the context of the proposal and enables informed decisions.
(5) Heritage assessment <i>The consent authority may, before granting consent to any development:</i> (a) on land on which a heritage item is located, or (b) on land that is within a heritage conservation area, or (c) on land that is within the vicinity of land referred to in paragraph (a) or (b), require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.	This HIA report provides a basis for assessing the extent to which the proposal would affect the site.
(6) Heritage conservation management plans <i>The consent authority may require, after considering the heritage significance of a heritage item and the extent of change proposed to it, the submission of a heritage conservation management plan before granting consent under this clause.</i>	There have been various heritage studies undertaken of Taronga Zoo that include various components of the proposed development. These include the 2002 Conservation Strategy (GML), Archaeological Management Plan 2004 (GML) and the Landscape Management Plan 2006 (Design 5) all of which combined would provide a sound basis with which to consider the proposals.
(7) Archaeological sites <i>The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the State Heritage Register or to which an interim heritage order under the Heritage Act 1977 applies):</i> (a) notify the Heritage Council of its intention to grant consent, and (b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.	Refer to the Archaeological Management Plan 2004 (GML) and archaeological reporting by Urbis 2021.
(8) Aboriginal places of heritage significance	Refer to the Archaeological Management Plan

<i>The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:</i> <i>(a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and</i> <i>(b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.</i>	2004 (GML) and archaeological reporting for this SSDA by others.
<i>(9) Demolition of nominated State heritage items</i> <i>The consent authority must, before granting consent under this clause for the demolition of a nominated State heritage item:</i> <i>(a) notify the Heritage Council about the application, and</i> <i>(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.</i>	Although no items of State heritage value are proposed to be demolished or relocated, the Heritage Council of NSW should still be notified as an interested stakeholder of the overall Zoo site (which, collectively, is regarded as having State heritage value to the present and future communities).

Table 6.1 Reconciliation of the proposed Taronga Wildlife Hospital development against Section 5.10 of the Mosman Local Environmental Plan, 2012

6.2 Statement of Heritage Impact

After carefully considering the Taronga Wildlife Hospital development proposal in relation to the assessed cultural significance of Taronga Zoo, this review finds that only one current item listed on the Taronga Zoo Section 170 Heritage and Conservation Register would be substantially affected in physical terms. This is the existing 1990s reptile/amphibian complex known as Serpentaria. To make way for the new development, the existing reptile/amphibian complex would need to be removed. Other listed items (Items 77B, 99L, 123L, 187L and 240L) within the designated development area would not be substantially affected by the proposal.

There are up to four listed s170 items (Items 60B, 97B, 100B and 168L) in the immediate vicinity of the proposed Taronga Wildlife Hospital development and three of these items would not be unduly affected by the proposal. The fourth item is the existing large Chimpanzee Park (s170 Item 100B) located immediately to the south of the proposed development site and this is discussed further below.

Since the beginning of the 21st century, many cultural heritage assessments of Taronga Zoo have recognised that one of the longstanding hallmarks of the Zoo campus has been its defining landscape characteristic of a dominant vegetated or park-like setting within which mostly pavilion-type buildings have been sited. Over recent years this landscape-orientated character has begun to change with more larger-scaled, multi-storied buildings being introduced such that parts of the Zoo campus are assuming a more consistently urban character over the traditional landscape-dominated character.

The present proposal has the potential to add to this trend as it involves locating a substantial building immediately behind the Chimpanzee Park – which, for security reasons, is unable to have tall trees planted within its grounds – where the upper stages rise a further 9 to 10 metres above the top of the rear boundary wall of the Chimpanzee Park. This has the potential to affect both the setting of the Chimpanzee Park as well as the overall Zoo setting in views from beyond the Zoo campus (such as Cremorne Point and Sydney Harbour).

There are few opportunities to introduce large canopy trees between the proposed building and the Chimpanzee Park or at the western end of the site so mitigating options involve retaining as much of the remnant *Angophora costata* woodland to the immediate east of the building site, restoring the woodland to encourage the regeneration of more locally indigenous canopy trees and extending this across the front of the site to link with the solitary Bangalay in that location. Further mitigatory measures would include ensuring there are no large reflective surfaces and ensuring the materials and colour selections for the new building are visually recessive.

7 Recommendations

7.1 Minimising Visual Impact

In view of observations made throughout this assessment of heritage impact (**Section 6**), the following recommendations are made:-

- 7(i) Ensure the new building is visually recessive within its immediate context by continuing to refine the building design and finishes and avoiding highly reflective surfaces visible both from within the Zoo campus and from beyond the Zoo. Particular attention should be given to the relationship between the public's appreciation of the setting of the Chimpanzee Park (s170 Item 100B) environment and those parts of the new building that would be visible above the rear boundary wall of the Chimpanzee Park. (Refer to the **dwp Architect Design Statement**, Sections 5.4, 5.7 and 5.8.)
- 7(ii) Ensure all feasible opportunities are taken to extend the planting of upper canopy trees (preferably using only locally indigenous species) across the entry to the site in order to link the remnant *Angophora costata* woodland (s170 Item 240L) with the existing solitary Bangalay (s170 Item 187L) near the Chimpanzee Park.
- 7(iii) Ensure appropriate protection throughout the project's construction phase of all existing trees proposed for retention in proximity to any building works and monitor to ensure the ongoing viability of the trees.

7.2 Conservation Actions for the Remnant *Angophora costata* Woodland (s170 Item 240L)

The 2006 Landscape Management Plan recognised the importance of the remnant *Angophora costata* woodland (s170 Item 240L) that features across the eastern side of the proposed development site; identified specific management issues; and made various recommendations for its recovery (as advised by botanist Dr Ben Wallace). In relation to the area's significance it was noted that, at the time, it contained a large population of *Crowea exalata* (**Figures 46 and 47**) – the largest gene pool of this showy species within the Zoo campus – and that the vegetation typical of the *Angophora costata* woodland association is similar in both structure and floristics to communities inhabited by koalas in the wild, and thus a regenerated form of this plant community would be thematically appropriate for the adjacent Koala House.

The *Crowea* population is now less than was the case in 2006 but it is persisting as **Figure 85** shows. That the present few seedlings of this species have germinated spontaneously points to a continuing viable seed bank within the upper soil level that needs to be carefully protected from further disturbance.

Specific issues noted for the area were raised inputs of water and dissolved minerals that have shifted the soil ecology towards a higher nutrient status and favoured the establishment of weedy rainforest species such as *Polyscias elegans* and *Pittosporum undulatum*. These have shaded the lower levels of the community, and led to a darker, more humid, understorey and moister upper soil and humus layer, eliminating indigenous species adapted to a brighter, drier microhabitat of lower nutrient status. *Eucalyptus robusta* has been planted and *E. punctata* as well, or has established from the Taronga feral population.

In 2022, it was noted weedy species continue to establish in the remnant woodland area, particularly where irrigation is still undertaken. It was also noted that there have been previous attempts to remove some of these adventive species but the trees have simply regrown from the intact rootstock and tree base. It requires a more thorough and targeted weeding program to properly eliminate these opportunistic species. Additionally, the local population of Australian brush-turkeys has also increased markedly since 2006 and the species' habit of raking away soil

may also represent a threat to the successful regeneration of some desirable woodland species. (This aspect of the local ecology warrants further investigation.)

On the basis of these observations the following recommendations are given:-

- 7(iv) Ensure no further plantings within the 240L area of any species that are not from the locally indigenous *Angophora costata* woodland species assemblage.
- 7(v) Further irrigation of the area from existing watering systems should stop altogether.
- 7(vi) Ensure a staged removal of all adventive weed species from the 240L area, and generally allow as much sunlight to the ground as possible.
- 7(vii) Ensure the removal of any excess of leaf mould and nutrient-holding material.
- 7(viii) Relocate away from the 240L area all horticultural species not appropriate to the Koala and *Angophora* Association themes. Retain the existing eucalypts where possible.
- 7(ix) Plant *Angophora costata* and indigenous understorey species of local provenance.
- 7(x) Ensure the interpretation of the ecology and any regeneration actions being undertaken within the 240L area.
- 7(xi) Where there is currently important regeneration of the highly desirable *Crowea exalata* (see **Figures 85** and **86**) within the 240L area, ensure the effective protection of all individuals where these coincide with the proposed boardwalk route through the area. Protection in some cases may mean relocating individual plants away from the direct construction zone and strict management of construction activities and access. Disturbance to the topsoil layer containing the viable seed bank should be minimised and strictly controlled.
- 7(xii) Specifically in relation to the proposed boardwalk through the remnant woodland area, the detailed design of all structures within this area should be further developed and coordinated between relevant disciplines to minimise impacts on the desirable plants, critical topsoil and natural rock features – especially where desirable plants are currently regenerating.
- 7(xiii) Potential construction impacts, including ground vibration, should be minimised and where necessary, carefully monitored to ensure no damage to vulnerable rock overhangs that are an important part of the intrinsic character of the area.

7.3 Salvage of Interpretive Material/Artworks

The present reptile/amphibian complex contains a number of artworks and commissioned interpretive works and material that could be beneficially salvaged for future reuse elsewhere within the Zoo. Most of these are documented in the inventory prepared by Taronga Zoo staff in 2021 (**Appendix B**).

- 7(xiv) Where feasible, ensure the careful salvage of all commissioned or gifted artworks and interpretive material within the existing reptile/amphibian complex.
- 7(xv) Where such salvage is not possible (for example, the extensive hand stencilled area by La Perouse Public School students), ensure the work is archivally recorded and properly archived for future reference.

7.4 Salvage of Valuable Site Vegetation

It was noted in **Sections 3.4.1** and **4.6** that the present reptile/amphibian complex contains a number of valuable plant species that could be readily and beneficially salvaged for future reuse elsewhere within the Zoo.

- 7(xvi) Where feasible, ensure the careful salvage of the more valuable or unusual plantings within the existing reptile/amphibian complex.

7.5 Site Remediation

Figures 31 and **33** of this report indicate that there was an underground fuel storage tank (as well as an above ground fuel storage tank) located at the northwestern corner of the former 1934 hospital/quarantine area and that the present 1990s Serpentaria building was built over this location. Both fuel tank sites may have been remediated as part of the construction process for the 1990s development. However, it is recommended that this area is further reviewed following demolition of the existing building and before the proposed building is commenced.

- 7(xvii) Ensure the former fuel storage tank sites are properly investigated before construction of the proposed new Taronga Wildlife Hospital.

7.6 Updating the s170 Register

- 7(xviii) Update information on the Zoo's Section 170 Register under Item 123L to reflect that, for the Item 123L area in the vicinity of the Koala House only, this is more relevantly subsumed under Item 240L. (What now remains of Item 123L on site is of little significance.)

7.7 Archival Recording

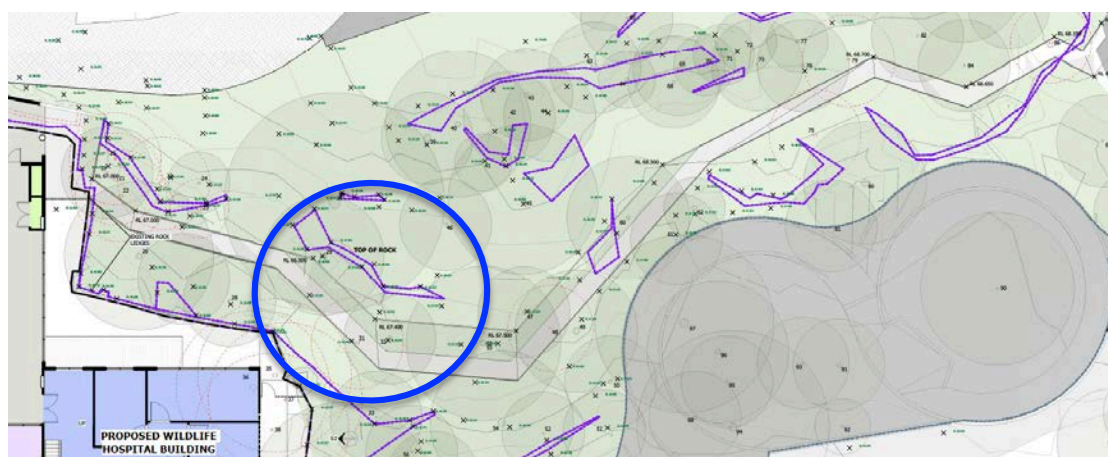
The existing Serpentaria building is assessed as Moderate cultural significance and is listed as an item of environmental heritage on the Zoo's s170 Register (s170 item 102B). Given that this proposal entails the complete removal of the 1990s building complex, it is appropriate for it to be suitably recorded photographically as an archival reference.

- 7(xix) Prior to the demolition of the present 1990s Serpentaria building complex (including all of its integral site elements), ensure the place is archivally recorded and the records kept in appropriate storage for ready future reference.

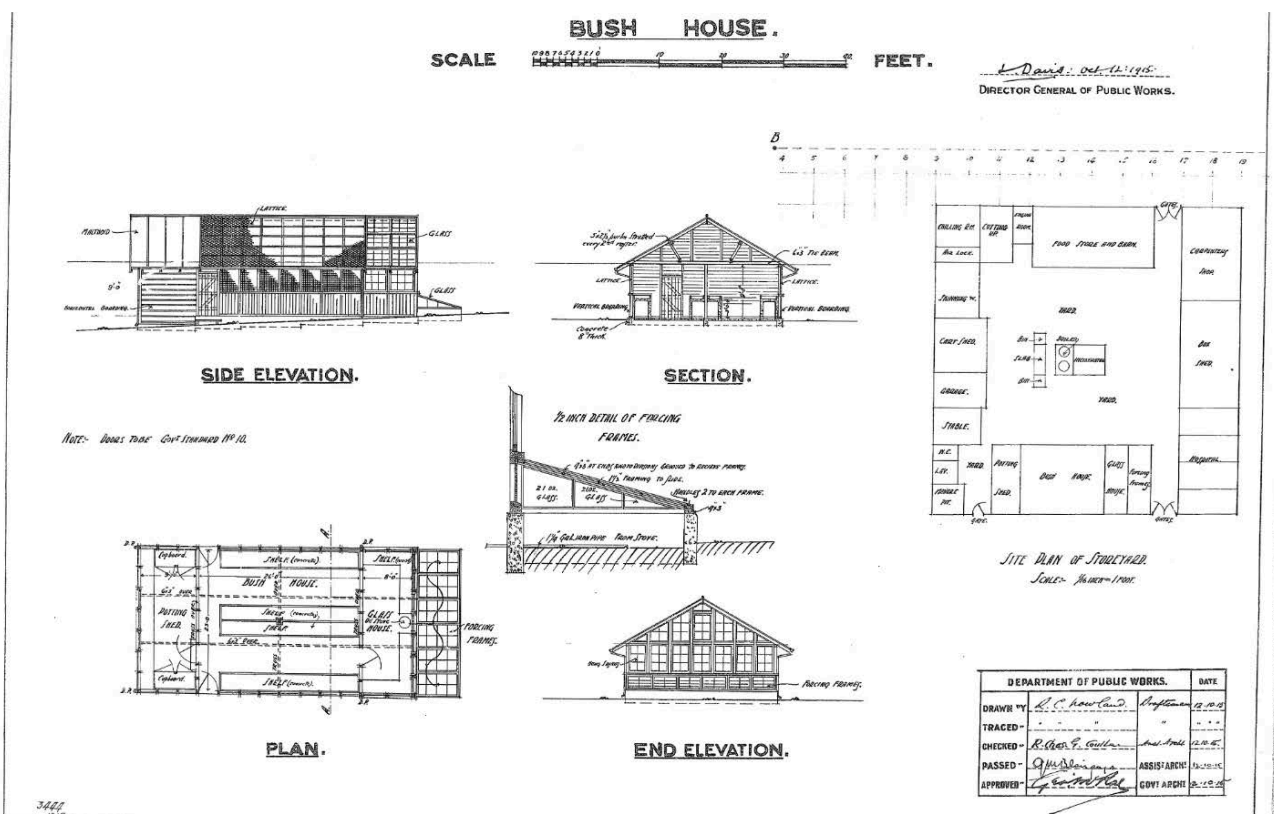
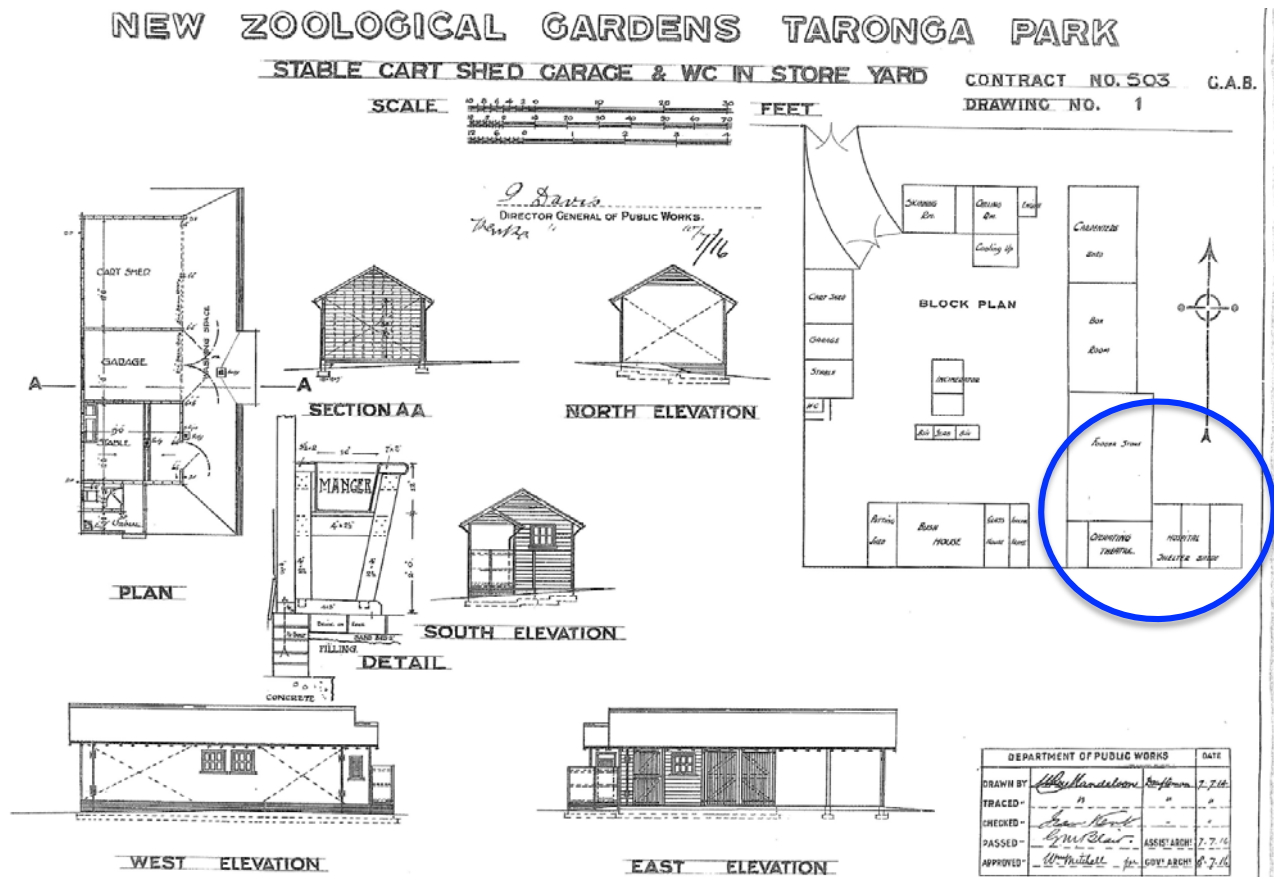


Figure 85 ABOVE An area of recent regeneration of the locally indigenous woodland shrub *Crowea exalata* within the remnant woodland area (Item 240L). These individual plants appear to be very close to where the new boardwalk is proposed to link the TISL building with the proposed TWVH building.

Figure 86 BELOW An extract from SSDA drawing AA-HI204 showing the approximate location of the area (circled in blue) of *Crowea exalata* regeneration noted above. (Courtesy of **dwp** architects)



Appendix A 1916 Public Works Department Drawings for the Original Yard Area



Note the Zoo's first hospital & operating theatre, bottom right of the block plan. See Figure 9 for location.

Appendix B TCSA Inventory of Reptile World Interpretive Elements for Salvage (2021)

COMMUNITY CONSERVATION & ENGAGEMENT INTERPRETIVE BRIEF



Job: Reptile World Interpretive Elements Salvage

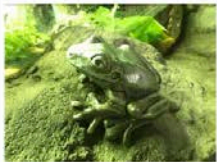
Context: With the development for the new Reptile and Amphibian Conservation Centre (RACC) and Taronga Wildlife Hospital (TWH) we are preparing the sites for development. There are several interpretive elements within the existing Reptile World that can be carefully removed and salvaged for reuse either elsewhere at our sites (Sydney & Dubbo) or included in the design of the new RACC.

Scope: See table below.

ELEMENT	PHOTO REFERENCE	LOCATION	COMMENTS
Komodo Dragon Sculpture		Precinct and trail entrance - rock in garden bed	Approx. dimensions 3400mm X 800mm Material Fibreglass
Freshwater Crocodile Sculpture		Precinct and trail entrance - garden bed	Approx. dimensions 2300mm X 1100mm Material Fibreglass

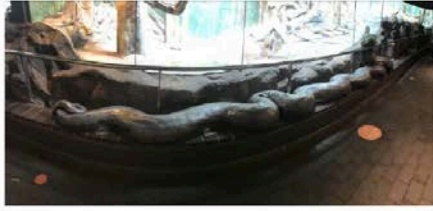
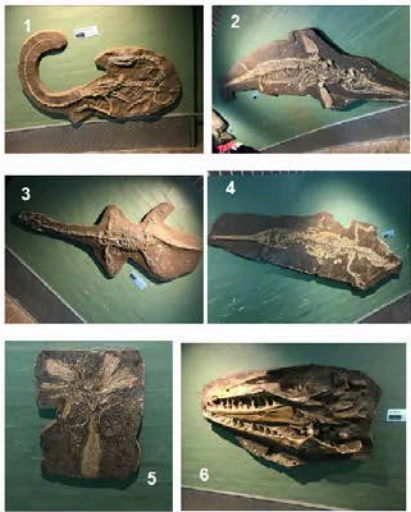
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Page 1

Python Sign		Precinct and trail entrance - one wall	Approx. dimensions 1300mm X 1500mm Material Corten steel
Ancient Amphibian Sculpture - <i>Paracyclotusaurus davidi</i>		Outside entrance to Forest species path - garden bed	Approx. dimensions 1900mm X 1000mm Material Fibreglass
Frog Sculpture		Forest species path - exhibit side	Approx. dimensions 140mm X 200mm Material Stainless Steel
Toad Sculpture		Forest species path - exhibit side	Approx. dimensions 160mm X 140mm Material Stainless Steel

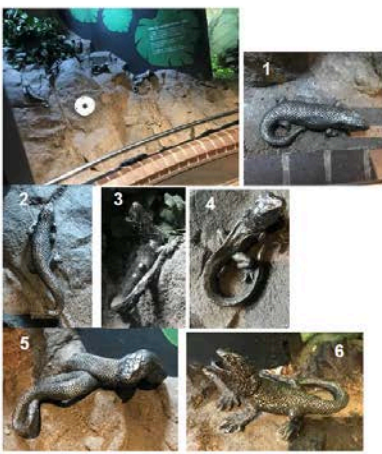
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Page 2

Reticulated Python Sculpture		Forest species path - exhibit side	Approx. dimensions 5500mm X 650mm (at widest point) Material Fibreglass
Dinosaur Fossils X 6 pieces - 1. Flesh-eating Dinosaur <i>Coelophysis bauri</i> - 2. Ichthyosaur <i>Ichthyosaurus communis</i> - 3. Plesiosaur <i>Plesiosaurus hawkinsi</i> - 4. Crocodile <i>Steneosaurus bollensis</i> - 5. Archaeopteryx <i>Archaeopteryx lithographica</i> - 6. Mosasaur <i>Mosasaurus hoffmani</i>		Forest species path - wall side	Approx. dimensions - 1. 1500mm X 1000mm - 2. 2400mm X 900mm - 3. 1800mm X 800mm - 4. 2200mm X 800mm - 5. 450mm X 550mm - 6. 2400mm X 900mm Material All pieces are Fibreglass

CC+E

Page 3

Turtle & Tortoise Sculptures X 2		Forest species path - exhibit side	Approx. dimensions Both 200mm X 150mm Material Stainless Steel
Ectothermic Installation 6 x Sculptures (5 lizards and 1 snake)		Forest species path - exhibit side	Approx. dimensions - 1. 260mm X 130mm - 2. 260mm X 90mm - 3. 220mm X 40mm - 4. 220mm X 40mm - 5. 350mm X 230mm - 6. 260mm X 170mm Material All pieces are Stainless Steel

CC+E

Page 4

Python Skeleton		Forest species path - wall side	Approx. dimensions 1020mm diameter Material Assume real skeleton in acrylic box
Gecko Sandstone Sculpture		Tropical dome path - garden bed	Approx. dimensions 1050mm X 500mm X 170mm Material Sandstone
Turtle/Tortoise Nest Sculpture		Tropical dome path - garden bed	Approx. dimensions Nest 1000mm X 600mm X 600mm Eggs 700mm X 450mm Material Concrete

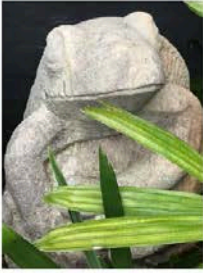
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Page 5

Iguana Sculpture		Tropical dome path - exhibit side	Approx. dimensions 420mm X 200mm Material Stainless Steel
Gecko Sandstone Sculpture		Outdoor Exhibit Path - on paved footpath	Approx. dimensions 1300mm X 450mm X 400mm Material Sandstone
Turtle Sandstone Sculpture		Outdoor Exhibit Path - garden bed	Approx. dimensions 650mm X 450mm X 250mm Material Sandstone

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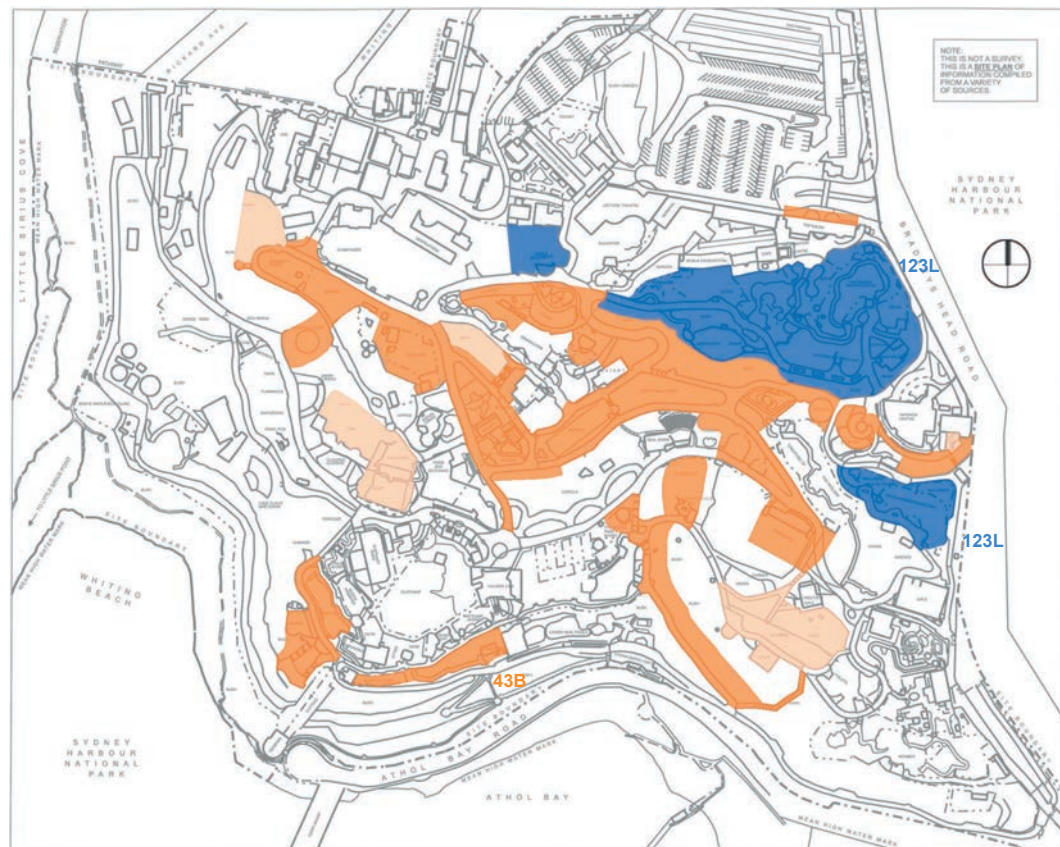
Page 6

Amphibian Sandstone Sculpture		Outdoor Exhibit Path - garden bed	Approx. dimensions 350mm X 350mm X 900mm Material Sandstone
Ntaria Our Country ceramic tile mural		Desert species path - exhibit side	Approx. dimensions Each tile 170mm X 170mm Mural 3020mm X 1100 Material Ceramic

Appendix C Significant Landscape Zones in 2006

5.8: Landscape Zones of High or Exceptional Significance (Design 5)
This map should be read in conjunction with previous maps 5.2 - 5.7.

- Areas of Edwardian & Inter-war landscape of Exceptional Significance. These areas include substantial remains of early layout and hard landscape elements. Plantings may be more recent.
- Areas of Edwardian & Inter-war landscape of High Significance
- 1970s Australian landscape sections of High Significance



DESIGN 5 - ARCHITECTS, GEOFFREY BRITTON & DR BEN WALLACE
REPORT NOVEMBER 2006

TARONGA ZOO, MOSMAN
Landscape Management Plan | 91

Extract from the 2006 Landscape Management Plan indicating zones within the Zoo campus of Exceptional or High cultural significance. Of particular relevance here is the zone indicated in blue and especially that to the west associated with the Koala House (s170 Item 123L). When the Koala House was constructed the bushland to the north was modified with additional plantings and a 'back-of-house' pathway for keepers though, in 2022, these additions are now no longer evident. In fact the Item 123L landscape additions and modifications at the time of the 1970s were probably less than ideal in the context of what is now known to be an important *Angophora costata* woodland association remnant (Item 240L). While the veracity of Item 123L is certainly clear for other parts of this zone within the Zoo campus, the nature of Item 123L in the vicinity of the intact Koala House is that Item 240L is actually far more important such that ecosystem recovery and ongoing conservation of the remnant should be the management priority.