

Response to Submissions – Further Information re Heritage Impact

1.0 Introduction

Alterations to the Australian Habitat and construction of a Wildlife Retreat are proposed at Taronga Zoo. Approval has been sought and the DA exhibited as SSD 7419. The Department's review of submissions received indicated that further information and assessment was required about heritage. Additional information was requested in a letter dated 2nd June 2016 from the Department of Planning namely:

Landscaping and trees

- *Clarification of the numbering of heritage listed trees in the Conservation Management Plan and the arboricultural report accompanying the EIS;*

Heritage

- *Further information and detailed plans showing where the Circular Kiosk (item 96B) will be relocated and how the 1917 fountain base will be incorporated into the lodge building;*
- *Provide a diagram showing the alignment of the Original and Early Paths (item 99L) overlaid on the project's architectural and landscape plans;*
- *Provide item specific mitigation measures for impacts on the Original and Early Paths; provide item specific mitigation measures for the partial removal of the Rustic Stone Garden Walling (item 149L);*
- *Clarify the impacts on the Rustic Stone Garden Wall near the Gardenia Thunbergia, including any necessary mitigation measures. The HIS states that this item will be retained but notes that the plans show an enclosure fence built on the wall, for which the item is not suitable; and*
- *An updated mitigation measure at Section 5.2 of the HIS to include an archaeological survey process of consistent rigour as the excavation permit process under the Heritage Act 1977 that could be incorporated into a condition of consent, should consent be granted.*

The following additional information has been prepared by Jean Rice, TSCA Senior Project Manager Heritage and refers to additional drawings prepared by Cox Associates and Green and Dale.

2.0 Landscaping – Clarification of the numbering of the heritage listed trees

The trees listed in the Landscape Management Plan and s170 Heritage Conservation Register have the same numbering but this differs from that used in the aboriginal report (included in the Environmental Impact Statement Concept Report by Green and Dale dated February 2016 - part of the SSD submission). The tables below clarify the numbering and what is proposed. Red indicates removal. Blue or green notations on the plan and table indicate tree condition and horticultural value and these trees are to remain. The Orange Jessamine (*Murraya* 197L) is to be removed, as is the wisteria (not assessed by the arborist). The *Murraya* is now not considered to be an Interwar planting or early ornamental planting, rather from the 1980s along with the wisteria (290L). The wisteria was not identified in the LMP. These plants are removed in the proposal but are common species that would be suitable to use in shelter and shrub plantings.

Heritage Item #	Items in the Site	Arborist # & Colour
165L	<i>Gardenia thunbergia</i> (Tree Gardenia)	220 Green
169L	<i>Podocarpus elatus</i> (Brown Pine)	122 Green
197L	<i>Murraya paniculata</i> (Orange Jessamine)	61 Red, remove
213L	<i>Magnolia Grandiflora</i> (Magnolia)	133 Green
214L	<i>Alphitonia excelsa</i> (Red Ash) This is identified in the arborist report as Eucalyptus species but is the same tree.	174 Blue
215L	<i>Lophostemon confertus</i> (Brush Box).	177 Green
216L	<i>Ficus macrocarpa</i> var. <i>Hillii</i> (Hill's Fig Tree). This is not shown on the arborist map as a heritage tree but is arborist number 93. A 3D survey has been done of this tree to assist with detailed design to minimise impacts.	93 Green
217L	<i>Ficus rubiginosa</i> (Port Jackson Fig). This is identified in the arborist report as <i>Ficus macrocarpa</i> but is the same tree.	179 Green
218L	<i>Acmena smithii</i> (Lilly pilly tree). This is identified as a different species of lilly pilly in the arborist report, <i>Syzygium paniculatum</i> but it is the same tree.	79 Green
219L	<i>Ficus rubiginosa</i> (Port Jackson Fig Tree) (removed prior to project)	NA
260L	<i>Lophostemon confertus</i> (Brush Box)	128 Green
275L	<i>Lophostemon confertus</i> (Brush Box)	184 Green
290L	Wisteria at Beastro. Not shown on arborist plan	Not assessed
	Items in the Vicinity	
171L	<i>Tabernaemontana orientalis</i> x3 (Tabernaemontana Trees)	Note 1
173L	<i>Eucalyptus Botryoides</i> (Bangalay)	1 Blue
211L	<i>Lophostemon confertus</i> (Brush Box)	Note 1
263L	<i>Acmena smithii</i> (Lilly pilly tree)	Note 1
281L	<i>Baloghia inophyllum</i> (Brush Bloodwood)	Note 2
282L	<i>Cryptocarya laevigata</i> var. <i>Bowiei</i> (Glossy Laurel)	Note 2

Note 1 This group of trees is south west of the site on the other side of a path and not within the area assessed by the arborist. They are around a restaurant, which will be retained in operation during the project. The trees are not affected other than to note that they should not be damaged during works.

Note 2 This group of trees is north west of the site on the top of a retaining wall and not within the area assessed by the arborist. They are adjacent a path which will be retained in operation during the project. The trees are not affected other than to note that they should not be damaged during works – as applies to all other vegetation and buildings in the vicinity.

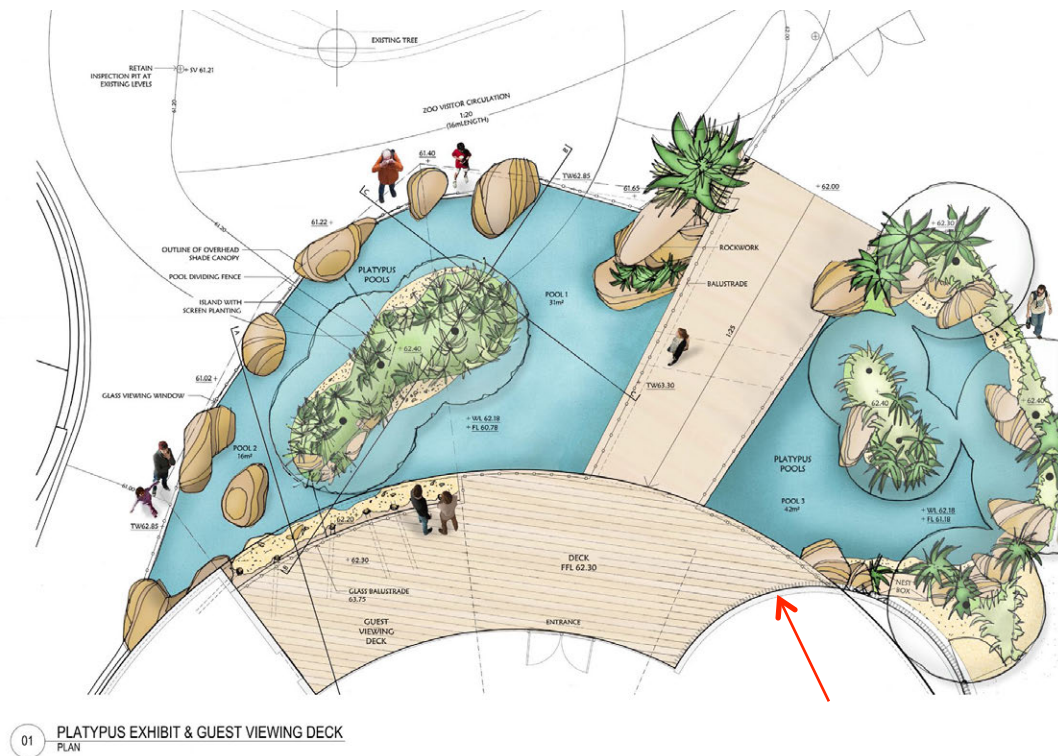
3.0 Heritage – Circular Kiosk Relocation (98B) and Fountain Base

Fountain Base

Detailed plans and perspective drawings have been developed showing in part how the 1917 fountain base will be incorporated into the lodge building. The fountain is proposed to become a reception area and office part with a circular external wall over and part forming the base of an internal counter. The ground levels are to be lowered around the former fountain to about the original levels exposing the side of the fountain to view. The adjacent entry to the building is to be via a “bridge” over platypus ponds, which will be at a lower level, to an entry deck. The interface of the deck and ponds with the fountain base is a matter for detailed design. The landscape concept shows a nesting box in front of the fountain base but this is a matter for detailed design. The perspective drawings following show the concept but the ground levels have not been reduced in the drawing though this is what is intended.



3.3 Guest Lodge & Platypus Pools



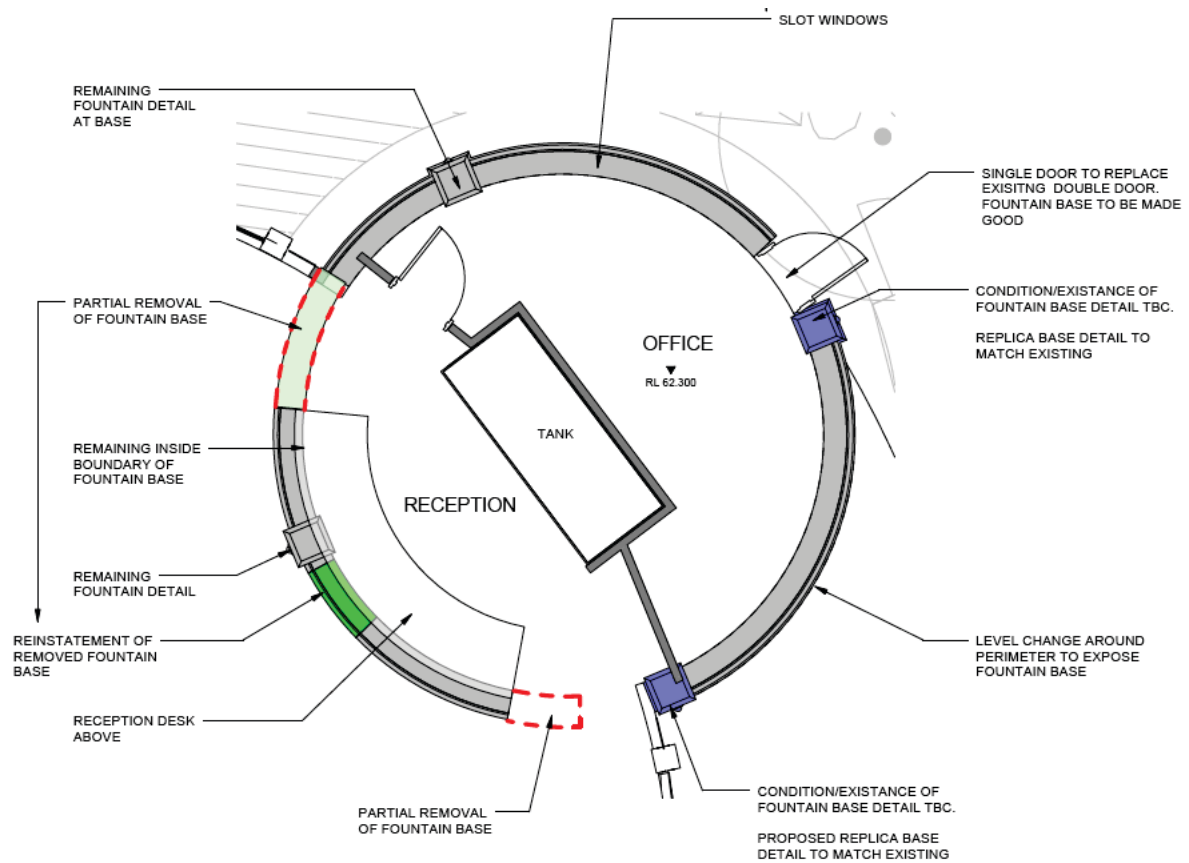
The location of the fountain base in the landscape concept plan (extracted from the EIS) above is arrowed.

The detailed drawing, following, shows the proposed changes to the fountain base. The masonry fountain base is generally to remain and the existing masonry wall above in part (the extent is a matter for detailed design). The new curved external wall is above the fountain base and is designed to read as a separate element distinct from the fountain base but reflecting its form. The interior floor will be approximately at the level of the existing base of the fountain, which is now buried below the existing kiosk floor slab. The curved edge of the interior of the former fountain at the junction of the floor and wall is to be retained. The hexagonal base in the centre of the fountain may be able to be retained in part as the base of the proposed fish tank but this cannot be determined until the structure is exposed after the demolition of the modern concrete floor and kiosk over.

The plan shows the existing fountain base and where openings have previously been made in the base. The two missing piers are proposed to be reinstated. The northeast existing door is proposed to be reduced to a single door enabling the missing pier to be reinstated. The south double door will be removed allowing the adjacent pier to be reinstated and a section of original fountain edge on the other side of the opening is to be removed to create access into the room. The existing opening to the southwest is proposed to be infilled to match. A new opening is proposed to the northwest to allow access to the space behind the counter.

The perspective drawing shows an interior view of the entry looking towards the former fountain. The portion facing the interior is proposed to be a counter. The modern wall now above the fountain base will be retained to the height of the underside of the counter. Fixings will be into that wall meaning fixings will not be required into the fountain base. The detail of the external wall has not been determined. The fish tank behind the counter is a reference to the former fountain – also a fishpond.





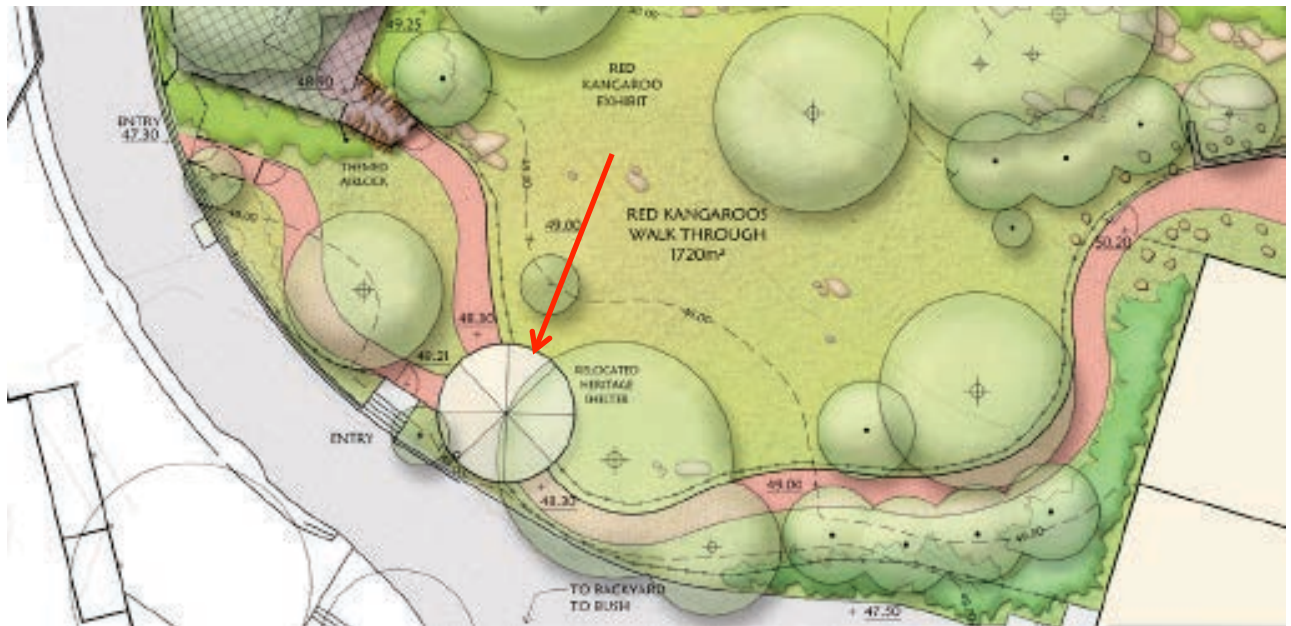
2 PROPOSED PLAN
 100928_001 SCALE 1:50



The plan shows the existing fountain base and where openings have been made in the base. The perspective drawing shows an interior view of the entry looking towards the former fountain. Source: Prepared by Cox Associates for additional information 2016.

Circular Kiosk

Development of construction details to relocate the kiosk / shelter will be undertaken as part of the detailed project design. This will require considerable further detailed, invasive investigation of the existing heritage structure that is inappropriate to do without DA approval. Archeological assessment of the proposed new site will also inform the detailed design and this cannot proceed until relevant approvals are obtained. The detailed architectural drawings for the relocated structure will include the concrete floor slab, circular masonry wall and connections to columns as well as the seating and openings in relation to the new paths and columns. The new location of the building will be on the Wollemi lawn and is shown on the landscape concept drawing (arrowed in extract below).

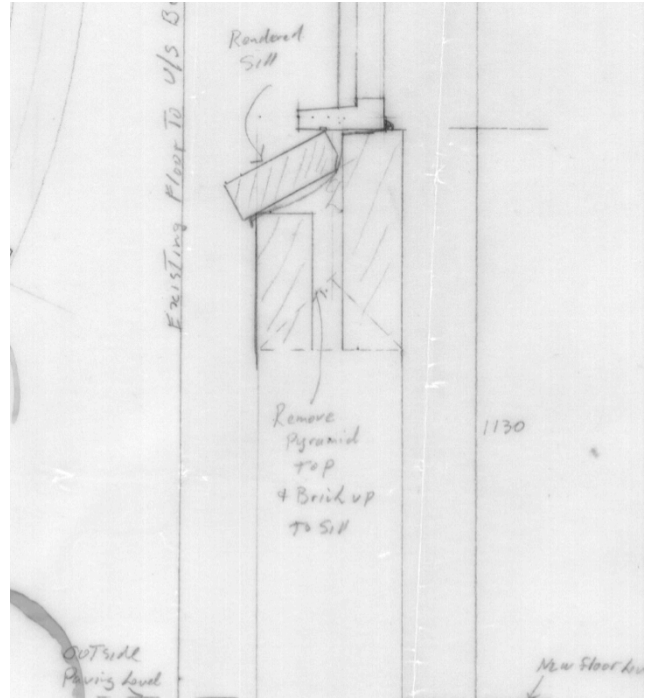


The structure will be rebuilt to match its former configuration as a shelter shed, using the evidence of historic photos (following) and careful assessment of the existing structure as it is being 'un-built' when original construction details may be revealed. Subject to engineering advice the roof will be removed as one element and craned to a temporary platform near its new location. At the new site a new circular concrete slab floor will be built with a footing for the central column which will match the existing hexagonal column. The walls will be masonry, either rendered brick or concrete, painted. The wall will be circular with openings at the paths designed to be between columns.

The profile of the top of the wall will match that shown in historic images unless alternate details are found during demolition at the current location. The form is triangular sloping to both the interior and exterior with rectangular column bases. It is not intended, nor considered appropriate, to recreate the fountain profile in the wall rather a plain wall at the base. The existing columns will be carefully dismantled and re-erected at the new site and the roof re-supported on them. The original colour scheme will be researched and recreated.



Historic image of shelter showing roof cladding detail and the wall prior to its infilling. The wall has an angled top and there is a block or column base under each column.



Historic construction detail for enclosure of shelter to form kiosk. The drawing shows dotted the profile of the then existing wall with a note "Remove pyramid top and brick up to sill".



Photo shows an opening in the wall (left) and the end section of the wall adjacent the opening. The curved timber seat is visible and a support for the seat adjacent the opening.



Photo shows the top of the wall and a column base and a small portion of the curved timber seat.

The current roofing material is not original and is in poor condition. Further research is needed on the original roofing material. It is possibly malthoid but there may be evidence of the original material under the current roofing. One drawing notes existing copper roofing and this may also be appropriate. The early photos and aerial photos show the layout of the rolls for the laps of the roofing material and this will be matched. It has not yet been confirmed but it is likely there was a finial on the roof. Subject to detailed research this will be rebuilt from photographic evidence (see below) and potentially physical evidence of the existing roof.

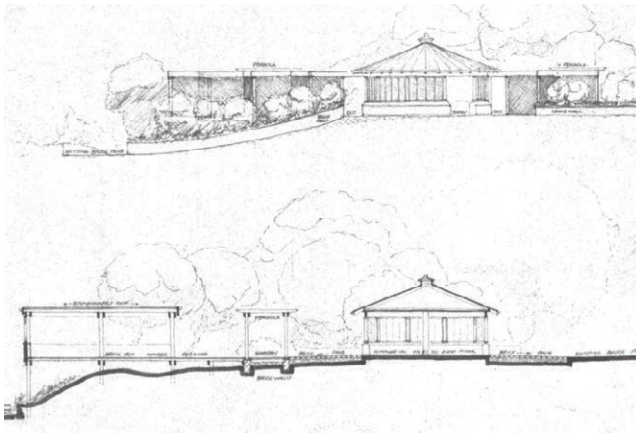
The building appears to have always had a ceiling but the existing ceiling is modern. The roof structure however is interesting and an option may be to leave it open. This requires further investigation. The bench seat around the inner edge of the shelter will also be replicated in the relocated building.



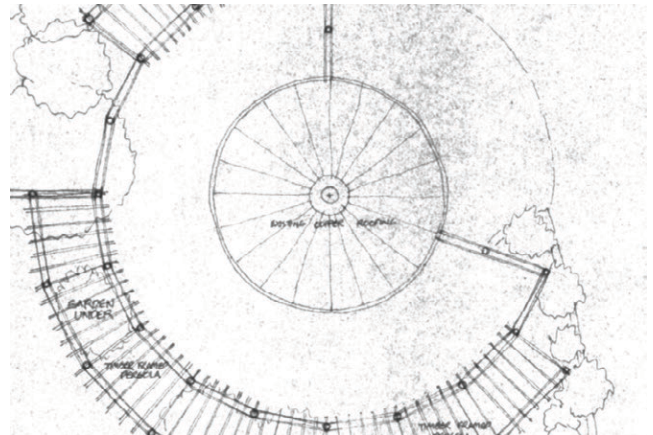
This image is poor quality but shows there is something at the top of the roof.



In the 1962 aerial something can be seen at the top of the roof and its shadow.



Extract of Zoo-Be-Que drawing shows a different detail at the top of the roof.



Extract of Zoo-Be-Que drawing refers to existing copper roofing.



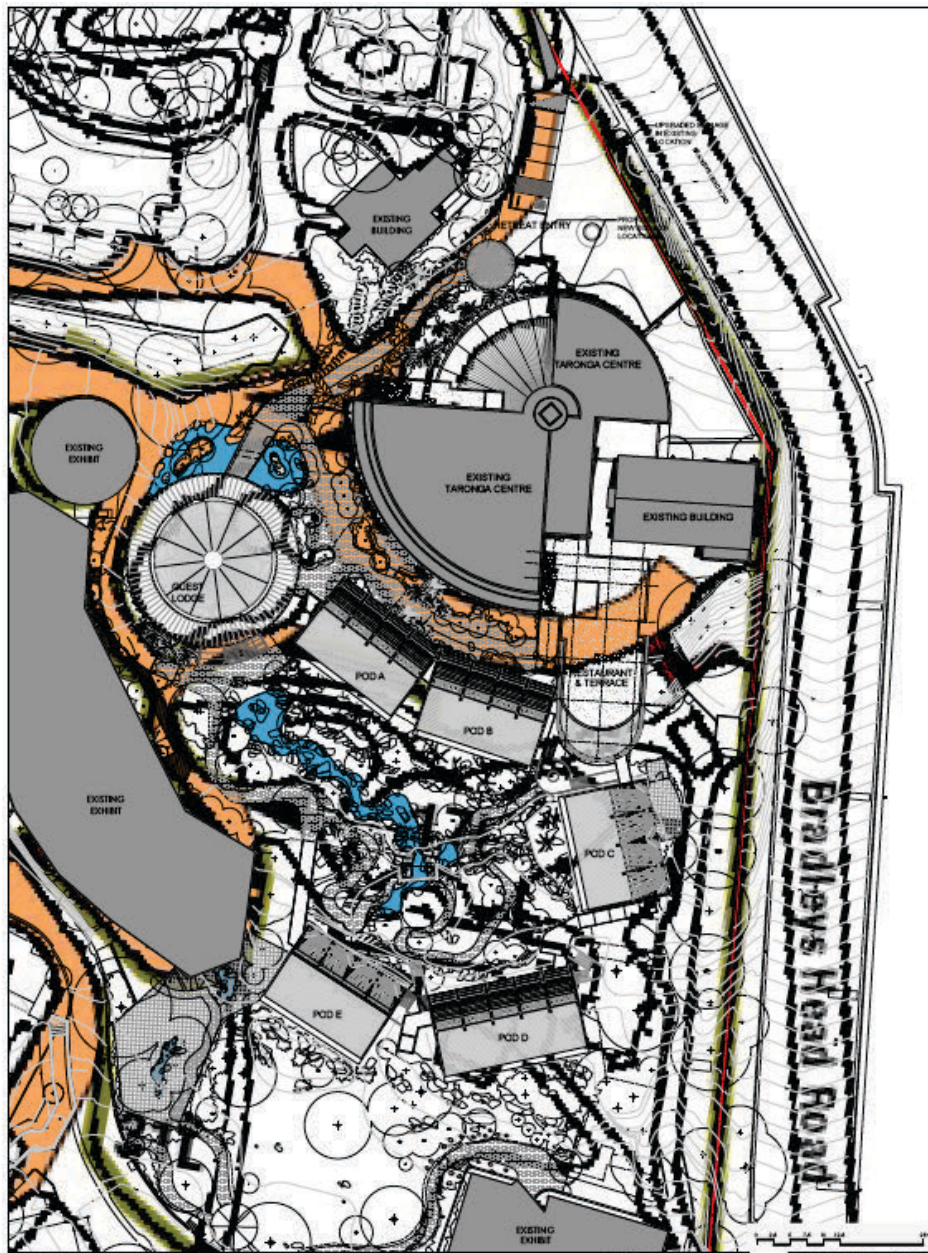
Finial on shelter to the west side of the Zoo.



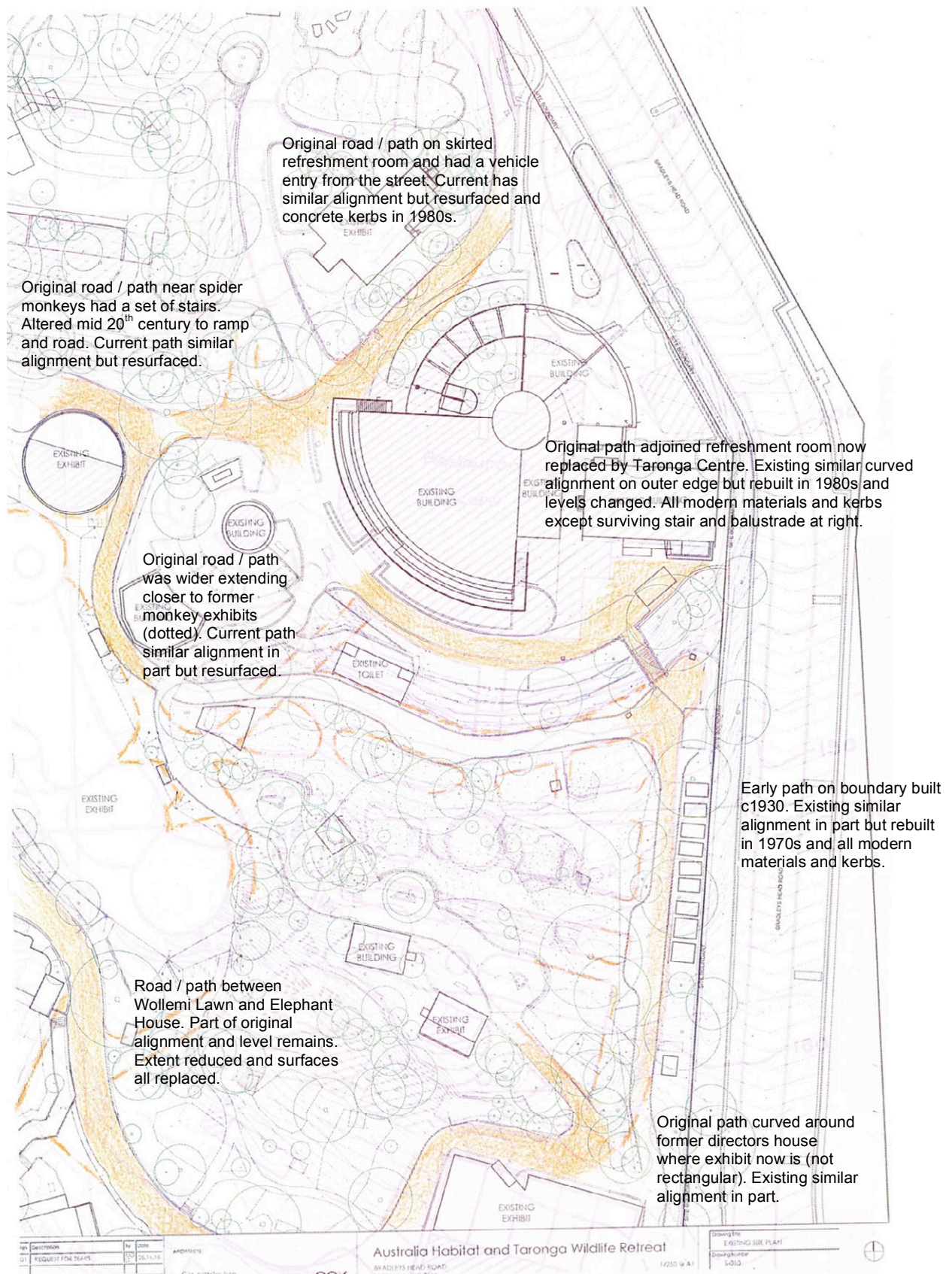
Finial on now demolished shelter.

4.0 Heritage – Original and Early Paths

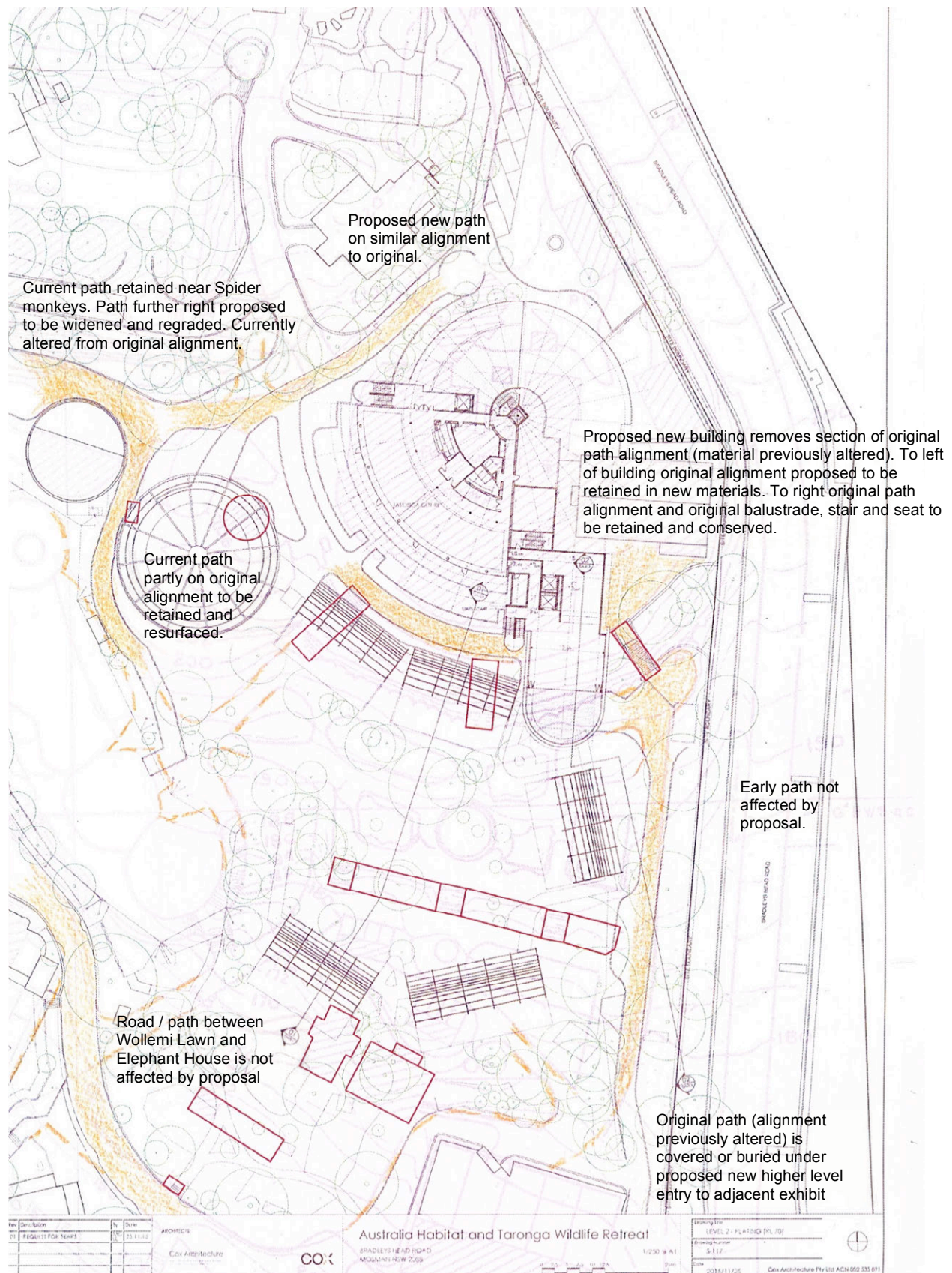
The diagram following shows the alignment of the Original and Early Paths (item 99L) from the CMS overlaid on the project's architectural plan. The dark lines are from the CMS drawing, which is at a smaller scale and does not have a high level of accuracy. Refer to Heritage Impact Statement.



The map of the original and early paths in the CMS is on a diagrammatic map and indicates the approximate extent. The extent differs in detail as the paths on the diagram are the “current” paths, which have in some cases changed from the original. The Heritage Impact Statement explains the development of the paths in this area and the detail of what has been altered at different times. Within the site all of the early paths have been resurfaced and levels changed but some alignments remain the most intact being at the top of the site (near spider monkeys) however the former steps have been removed and levels and alignment of one side changed. At the bottom of the site between the Wollemi Lawns and Elephant enclosure the path is at similar levels and alignment but the alignment on the west side is altered and the road crossing what is now the lawn has been removed. The original and early paths in the area of the project have been indicated following on an overlay of the 1975 survey and the current survey as well as on an overlay of the current survey and the architectural plans. The coloured paths indicate the areas where the alignment in part remains or is proposed to remain.



The 1975 survey is the purple lines showing the earliest detailed map available. The black lines are the 2015 survey. The coloured areas are where elements of the original or early path layout or alignment remains in part. Dotted lines indicate former extent of original or early paths near what remains.



The 1975 survey is the purple lines showing the earliest detailed map available. The black lines are the proposal. The coloured areas are where elements of the original or early path layout or alignment is proposed to remain as is. Dotted lines indicate former extent of original or early paths.

5.0 Heritage Impact Mitigation – Original and Early Paths

The original and early paths in and adjacent the site have been extensively altered as detailed in the Heritage Impact Statement. The curved alignment of the path around the Taronga Centre is significant and will be lost where the site is excavated for the new building linking to the Taronga Centre. Designers advise that the retention of the existing path and the terraced garden bed in this area is unavoidable. It allows the existing entry to be used and means a new and invasive opening is not required in the stone boundary wall.

Potential mitigation measures include an archaeological watching brief during construction, archival recording of any details found and interpretation. The option of interpreting the line of the removed curved path in the building is not practical due to the differing floor levels and the use of the space.

The curved line of the paths could be interpreted in a display or brochure or online information. Most visitors are unlikely to want detailed information about the past configuration however it should be available for those who do and for future planners and designers so information is not lost about the extent of change. The path alignment could be included as part of interpretation of the former refreshment rooms and the rockeries and gardens.

Options include information in a museum or similar setting (not yet setup at the Zoo), in physical signage on site that may have detail or may be brief and refer the visitor to information available elsewhere – such as online or in an electronic display at the site. The Zoo's website does have historical information and information about this part of the site could be added. Website information could be structured to enable printing as a leaflet. It is considered the best approach would be simple information on site with links to electronic information for those interested. The Zoo is currently reviewing all the heritage interpretation on site and may develop a new approach such as an app or a coordinated set of signs forming a walking trail.

Details of the current paths and any information revealed during construction should be added to the archival photographic record. The progress of excavation and demolition and any archaeological monitoring works should be photographed and the locations mapped. If evidence of the early paths is uncovered, the construction should be documented.

6.0 Heritage Impact Mitigation - Rustic Stone Garden Walling

The concept design for the walkway from the current Wollemi lawn to the Tasmanian Devils exhibit is shown following. The concept is not developed enough to resolve the impact on the heritage listed Rustic Stone Walls near the *Gardenia Thunbergia*. It is understood that the path will be at a higher level than the existing path and that the wall adjacent the path will be wholly or partially buried. Whole or partial burial intact can be reversible and allow future reversal. In about the location of the wall will be the enclosure fence and the row of 'tree trunks' lining the entry path. The stone walls within the garden bed will be unaltered and within the exhibit.

To mitigate impacts on the wall the detailed design should be adjusted so the footings of the fence and for the 'tree trunks' do not damage the wall. They should be on one side or the other of the wall and should be excavated and constructed using a methodology that protects the stone wall. It is noted a 3D survey has been undertaken of the wall to assist with the detailed design in this area.



The plan above shows the existing steep path left of the building is buried and there is a new realigned path that provides access at an improved grade from the former Wollemi lawn which is at a higher level than the old path / road. The location of the Rustic Stone Wall is arrowed. There are existing stone walls within the garden bed.



The perspective shows the concept design for the Tasmanian Devils entry which is intended to evoke walking through a Tasmanian forest. There is no indication of the fence that will be required to the left of the path nor of the rustic stone wall.

7.0 Heritage – Mitigation Measure Archaeological Survey

The mitigation measure in the Heritage Impact Statement at section 5.2 re archaeology is as follows:

Approval from the Heritage Council of NSW under Section 140 of the Heritage Act 1977 (NSW) is only required if archaeological remains are to be impacted upon, in accordance with the policies and recommendations outlined in the Taronga Zoo AMP. It appears that the fabric or the original paths and stairs has been removed in the past. There may be remains of the toilet blocks below Pods D & E and remains of the Athol Quarantine Station in the Wollemi Lawn. This may be impacted by works in the area including the relocation of the shelter. Additional research and documentation is needed to determine if there will be an impact. If there is a permit should be applied for and excavation undertaken by an archaeologist.

The following updated mitigation measures are recommended:

Approval from the Heritage Council of NSW under Section 140 of the Heritage Act 1977 (NSW) is required if archaeological remains are to be impacted upon, in accordance with the policies and recommendations outlined in the Taronga Zoo AMP. It appears that the fabric of the original paths and stairs has been removed in the past. There may be remains of the toilet blocks below Pods D & E and remains of the Athol Quarantine Station, particularly the rail track in the Wollemi Lawn. This may be impacted by works in the area including the construction of a concrete floor slab for the relocated shelter. Additional research and documentation is needed to determine if there will be an impact.

An archaeologist should be engaged to assess the site of the toilet blocks and Quarantine station as indicated in the overlays plans in the Heritage Impact Statement. If the archaeologist considers potential remains are likely in areas where excavation is proposed (pods D & E and the shelter) a research design methodology should be prepared. An archaeological watching brief should be undertaken during the construction process and, subject to the archaeologists advice, an archaeological excavation should be undertaken prior to the works. A watching brief would enable any unexpected details or material found during construction to be identified and recorded.

Should the archaeologist recommend an excavation a permit shall be sought and approval obtained prior to the excavation. Any archaeological investigation should record evidence of any original remains and their configuration and materials. If remains are found the design should be adjusted to minimise impacts or, if this is not possible, a record is to be made. If significant remains are found interpretative measures should be undertaken as part of the exhibit or elsewhere as appropriate.

It is understood that an archival photographic record is being made prior to the closure of the exhibits. This should be added to during the project recording the change and any details of original and early construction uncovered during works. Prior to work commencing, a dilapidation report will also be prepared by the contractor.

The progress of the archaeological excavation and monitoring works will be photographed and the locations excavated & monitored will be mapped. If evidence of the structures is uncovered, their construction should be documented.

Jean Rice, Senior Project Manager, Heritage, TCSA