3 OCTOBER 2023
MEMORANDUM – CLEARING OF VEGETATION ASSESSMENT FOR HANDS OVAL STAGE 2 REDEVELOPMENT

1. INTRODUCTION

The Hands Oval Redevelopment Project is planned to deliver a sustainable, multi-purpose sports facility to accommodate year-round sport, recreation and community activities. The Project will enhance the facility's reputation as the Australian Football League destination in the region, providing improved change rooms, club facilities and an enhanced spectator experience.

Stage 1 of the Project has commenced which includes the demolition of the existing northern grandstand and the construction of a new grandstand and carpark at the corner of Spencer Street and Clarke Street. Five (5) trees were cleared during these works, which were assessed and approved through the Joint Development Assessment Panel (JDAP) process.

Stage 2 of the Project primarily involves upgrading the existing ring-road around the oval, inclusive of drainage, bitumen, line marked parking bays, a new pedestrian pathway, upgrades to seating and a new dual lane entry way off Halsey Street. Vegetation associated with Stage 2 of the Project is the subject of this application.

2. ENVIRONMENTAL ASSESSMENT

Natural Area Consulting Management Services (Natural Area) was commissioned by the City to undertake an ecological survey of Hands Oval (the Site) in 2021. Ecological Surveys included a basic flora, vegetation and fauna survey, as well as a targeted survey for Western Ringtail Possum (WRP) and Black Cockatoos (Natural Area, 2021).

The Hands Oval Ecological Survey identified the following relevant environmental aspects:

- The survey area consisted of cleared parkland with isolated native and non-native trees over maintained grassed areas. The vegetation condition was determined to be 'Completely Degraded'.
- 13 flora species from six families, of which nine were introduced and four were native were identified.
- No threatened or priority flora species or ecological communities were recorded during the survey. Due to the degraded condition, past clearing and current land use as a public open space, it is unlikely to provide suitable habitat for conservation significant flora species or communities.
- A total of 41 habitat trees (DBH >500mm) were recorded within the Site during the survey, of which 20 are considered suitable roosting sites for Black Cockatoos, with one Tuart Tree (*Eucalyptus gomphocephala*) exhibited hollow potentially large enough for black cockatoos (Habitat Tree #17).
- Habitat for the Critically Endangered Western Ringtail Possum (WRP) (*Pseudocheirus occidentalis*), in the form of 17 peppermint trees (*Agonis flexuosa*), were identified. These are likely to be used transiently for shelter and foraging (Natural Area, 2021).

3. VEGETATION CLEARING ASSESSMENT

The clearing of six trees has been determined as necessary as part of Stage 2 of the Project, including the removal of two (2) non-native Eucalypts (*Eucalyptus sp.*) and four (4) native peppermint trees (*A. flexuosa*). Proposed vegetation clearing is summarised in **Table 1** and depicted in **Figure 1**, with further details provided in **Table 2**.

The re-design of the development footprint has aimed to minimise the clearing of vegetation and avoid impacts to trees, notably a large peppermint tree (*A. flexuosa*) (Habitat Tree #40) in the northern portion of the site, and the large tuart (*E. gomphocephala)* (Habitat Tree #17) at the entrance point off Halsey Street. Impacts to Habitat Tree #40 were avoided through reducing the local road width and adjusting the design levels to avoid impacts on the root zone. Impacts to Habitat Tree #17 were avoided through re-design of the entry way.

Designs showing 'before' and 'after' avoidance of impacts to Habitat Tree #17 are provided in **Figure 2**. The 'before' design shows a dual driveway with the 'exit' lane proposed in close proximity to the tree. The revised 'after' design utilises the existing single lane driveway as the 'exit' lane, which will undergo some improvements. Advice received from the City of Bunbury Tree Officer confirmed that there will be no significant impacts to the root zone from construction of the entry way or improvements to the 'exit' lane.

Table 1: Proposed Vegetation Clearing

	Peppermint Trees (*Agonis flexuosa*)	**Non-native Eucalypt** (*Eucalyptus sp.*)	**Total**
Total area of clearing proposed (hectares of canopy cover)	**0.0244 ha**	**0.0073 ha**	**0.0317ha**
Total number of Habitat Trees to be impacted	**4**	**2**	**6**

Table 2: Details of Trees Proposed for Clearing

Tree No.	Species	Fauna assessment	Vegetation assessment	Photo
HT6	*Agonis flexuosa*	1 hollow visible No hollows were identified in the Natural Area Ecological Assessment (2021), however, a small hollow was visible during a site visit on 30/08/2023 (not suitable for black cockatoos) No dreys or scats were visible during a site visit on 30/08/2023.	This tree will be located within the trafficable lane, which was designed to a minimum aisle width in alignment with Australian Standards. Therefore, this tree was unable to be avoided through re-design.	
P1	*Agonis flexuosa*	No visible hollows, dreys or scats during a site visit on 30/08/2023.	This tree will be located within the trafficable lane, which was designed to a minimum aisle width in alignment with Australian Standards. Therefore, this tree was unable to be avoided through re-design.	
P2	*Agonis flexuosa*	No visible hollows, dreys or scats during a site visit on 30/08/2023.	This tree will be located within the trafficable lane, which was designed to a minimum aisle width in alignment with Australian Standards. This tree will require heavy pruning and potential removal during construction (to be determined on site). This tree may be retained, if possible, through on-ground avoidance measures.	

Tree No.	Species	Fauna assessment	Vegetation assessment	Photo
P3	*Agonis flexuosa*	No visible hollows or dreys during a site visit on 30/08/2023. Possum scats were observed during a site visit on 30/08/2023.	This tree will be located within the batter associated with parking on the eastern boundary of the oval and the ring-road, which is required to allow vehicles to back out. Due to the sloped topography, excavation associated with the batter is required and the removal of this tree is unavoidable.	
E1	*Eucalyptus sp.*	No visible hollows, dreys or scats during a site visit on 30/08/2023.	This tree will be located within the batter associated with parking on the eastern boundary of the oval and the ring-road, which is required to allow vehicles to back out. Excavation associated with the batter is required and the removal of this tree is unavoidable. However, another tree (*Eucalypt sp*.) located approximately 2 m behind E1 was able to be retained by shaping the batter around the root zone.	

Tree No.	Species	Fauna assessment	Vegetation assessment	Photo
E3	*Eucalyptus sp.*	No visible hollows, dreys or scats during a site visit on 30/08/2023.	This tree will be located within the batter associated with parking on the eastern boundary of the oval and the ring-road, which is required to allow vehicles to back out. Excavation associated with the batter is required and the removal of this tree is unavoidable.	

4. FAUNA IMPACT ASSESSMENT

A City of Bunbury Environmental Officer attended site on 30/08/2023 to inspect selected trees for WRP dreys and scats. No dreys were identified in the trees proposed for clearing. One drey and scats were confirmed at Habitat Tree 40 which was subsequently avoided through re-design. WRP scats were observed at another peppermint tree on the eastern fence line (P1).

It is proposed that during clearing activities, a fauna specialist will be engaged to inspect the area immediately prior to, and for the duration of clearing activities, for the presence of WRP. If any WRP are encountered during the clearing activities, all works will cease until the individual has moved on from the area or has been removed by a WRP specialist.

5. TEN CLEARING PRINCIPLES

An assessment against the Ten Clearing Principles is included in **Table 3**.

It was identified that the proposed clearing may at variance to 'clearing principle B', regarding potential impacts to WRP foraging habitat.

Table 3: Assessment against 10 Clearing Principles under Schedule 5 of the Environmental Protection Act 1986

Principle		Assessment	Outcome
A	Native vegetation should not be cleared if it comprises a high level of biological diversity.	The vegetation to be cleared will consist of 6 individual trees located in a highly degraded park land area. It is not considered to support a high level of biological diversity (Natural Area, 2021). The proposed clearing is not likely to be at variance to this Principle.	Not likely to be at variance
B	Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant fauna indigenous to Western Australia	The vegetation to be cleared includes four peppermint trees (*A. flexuosa*), one of which had WRP scats observed at the base. This suggests that the peppermint trees are likely to be used transiently by WRP and comprise foraging habitat. It is unlikely that the habitat is necessary for the survival of the species (Natural Area, 2021). The proposed clearing may impact on Western Ringtail possums and therefore may be at variance to this Principle.	May be at variance
C	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora	No Threated flora species were listed under the EPBC Act and/or BC Act were recorded during the Flora and Vegetation Survey report (Natural Area, 2021). Given the 'Degraded' and 'Very Degraded' vegetation condition identified for the majority of the Project area, it is unlikely that the application area contains or comprises habitat for rare flora species. The proposed clearing is not likely to be at variance to this Principle.	Not likely to be at variance
D	Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for, the maintenance of a threatened ecological community.	No Threatened Ecological Communities were recorded within Hands Oval (Natural Area, 2021). The proposed clearing is not at variance to this Principle.	Not at variance
E	Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	Regional vegetation was mapped by Heddle *et.al.* (1980), based on majority geomorphic units on the Swan Coastal Plain. The Heddle *et.al* (1980) mapping indicated the Site sits within the following vegetation complexes: • Vasse Complex: Mixture of the closed scrub of Melaleuca species fringing woodlans of *Eucalyptus rudis* (Flooded Gum) – Melaleuca species and open forest of *Eucalyptus gomphocephala* (Tuart) – *Eucalyptus marginata* (Jarrah) – *Corymbia calophylla* (Marri). • Yoongarillup Complex: Woodland to tall woodland of Eucalyptus gomphocephala (Tuart) with Agonis flexuosa in the second storey. Less consistently an open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia	Not likely to be at variance

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<td>calophylla (Marri).

The current extents of the Yoongarillup Complex is 35.81% at the SWA IBRA Bioregion and 10.89% at the LGA. The current extents of the Vasse Complex is 31.40% at the SWA IBRA Bioregion and 5.29% at the LGA.

Table 5.1: Extent of vegetation complexes on the Swan Coastal Plain mapped in the Site
<table>
<tr><th>Vegetation Complex</th><th>Pre-European extent (ha)</th><th>Current Extent (ha)</th><th>Proportion pre-European Extent remaining in Swan Coastal Plain (%)</th><th>Proportion of current extent remaining in all DBCA Management Lands (%)</th></tr>
<tr><td>Vasse</td><td>15,691.63</td><td>4,926.91</td><td>31.40</td><td>14.62</td></tr>
<tr><td>Yoongarillup</td><td>27,977.93</td><td>10,018.14</td><td>35.81</td><td>18.41</td></tr>
</table>
Table 5.2: Extent of vegetation complexes within City of Bunbury LGA mapped within the Site
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<tr><th>Vegetation Complex</th><th>Pre-European Extent in LGA (ha)</th><th>Current Extent in LGA (ha)</th><th>Remaining extent at LGA (%)</th><th>Proportion of the vegetation complex within the LGA (%)</th></tr>
<tr><td>Vasse</td><td>782.73</td><td>41.37</td><td>5.29</td><td>4.99</td></tr>
<tr><td>Yoongarillup</td><td>1,435.65</td><td>156.36</td><td>10.89</td><td>5.13</td></tr>
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The proposed clearing of 6 individual trees within a highly degraded area is not representative of these vegetation complexes. It is considered the proposed clearing is not likely to be at variance to this principle.</td>
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<td>Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.</td>
<td>The Site does not intercept any watercourse or wetlands categorized as per the following accessed from Data WA:
- DBCA’s Directory of Important Wetlands in Australia (DBCA-045)
- Ramsar Sites (DBCA-010)
- RIWI Act River (DWER-036)

It is considered the proposed clearing is not at variance to this principle.</td>
<td>Not at variance</td>
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<td>Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.</td>
<td>The Site was assessed as being within the Spearwood soil landscape sub systems and having a moderate to low risk of acid sulphate soils.

The clearing of vegetation within the Site has the potential short term impacts during construction, however based on the ‘Degraded’ and ‘Very Degraded’ condition of the majority of the Site, it is unlikely to appreciable deterioration in the quality of the land.

It is considered that the proposed clearing is not likely to be at variance to this principle.</td>
<td>Not likely to be at variance</td>
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<td>Native vegetation should not be cleared if the clearing of the</td>
<td>The Site is surrounded by urban environment that has been extensively cleared. The nearest conservation area is Big Swamp, which is located approximately 650m to the north-west. Maidens Reserve, Hay Park and Manea Reserve are all part of the Kalgulup Regional Park and located within approximately 2.5 km to the south of the Site.</td>
<td>Not at variance</td>
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	vegetation is likely to have an impact on the environmental values of adjacent or nearby conservation area.	The removal of the 6 individual trees is not expected to have an impact on the environmental values of adjacent or nearby conservations areas. The proposed clearing is not expected to be at variance to this Principle.	
I	Native vegetation should not be clearing if the clearing of vegetation is likely to cause deterioration in the quality of surface or underground water.	The clearing of vegetation within the Site has the potential for short term impacts to surface-water run-off during construction, however the implementation of mitigation planting and soil stabilization will help to mitigate any ongoing impacts. No dewatering is required as part of the construction. It is considered that the proposed clearing is not likely to be at variance to this principle.	Not likely to be at variance
J	Native vegetation should not be clearing if the clearing of vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	The clearing of vegetation within the Site is not deemed likely to cause, or exacerbate the incidence or intensity of flooding. It is considered that the proposed clearing is not at variance to this principle.	Not at variance.

6. MITIGATION PLANTING

The City will undertake mitigation planting in the eastern portion of the Site (as depicted in **Figure 1**). The intent is to plant at a ratio of 1:3, including 2 peppermint trees (*Agonis flexuosa*) and 1 tuart (*Eucalyptus gomphocephela*) per individual tree to be removed.

The mitigation planting of the peppermint trees aims to replace foraging habitat for WRP and also provide increase connectivity of the canopy within the immediate area. The proposed inclusion of the tuarts is to provide habitat for other local native fauna and to retain native tree species diversity at Hands Oval.

The location of this mitigation planting will be developed as part of the final project designs and will take into account future develop of the site to ensure the removal of these plants does not occur.

7. CONCLUSION

The total number of trees being assessed for removal as part of this submission includes two (2) non-native Eucalypts (*Eucalyptus sp.*) and four (4) native peppermint trees (*A. flexuosa*). An assessment against the Ten Clearing Principles identified that the proposed clearing may at variance to 'clearing principle B', regarding potential impacts to WRP foraging habitat.

Potential impacts to WRP are minimal, considering no dreys were present in the trees indicating that the trees are used transiently for foraging. In addition, there is a lack of understorey and ground cover, further limiting the site's function as a significant fauna habitat linkage (Natural Areas, 2021).

Further, the proposed mitigation planting will offset the loss of WRP foraging habitat, and increase the canopy continuity across the Site and connectivity to other local habitat areas. Overall, impacts to native vegetation were significantly minimised through re-design to avoid two significant habitat trees (#17, #40).

A fauna specialist will be engaged immediately prior to, and for the duration, of any clearing activities to ensure the presence of WRP. If any WRP are encountered during the clearing activities, all works will cease until the individual has moved on from the area or has been removed by a WRP specialist.

8. REFERENCES

Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

Natural Areas Consulting Management Services (Natural Areas) (2021) *City of Bunbury – Hands Oval Ecological Survey*.

Figures

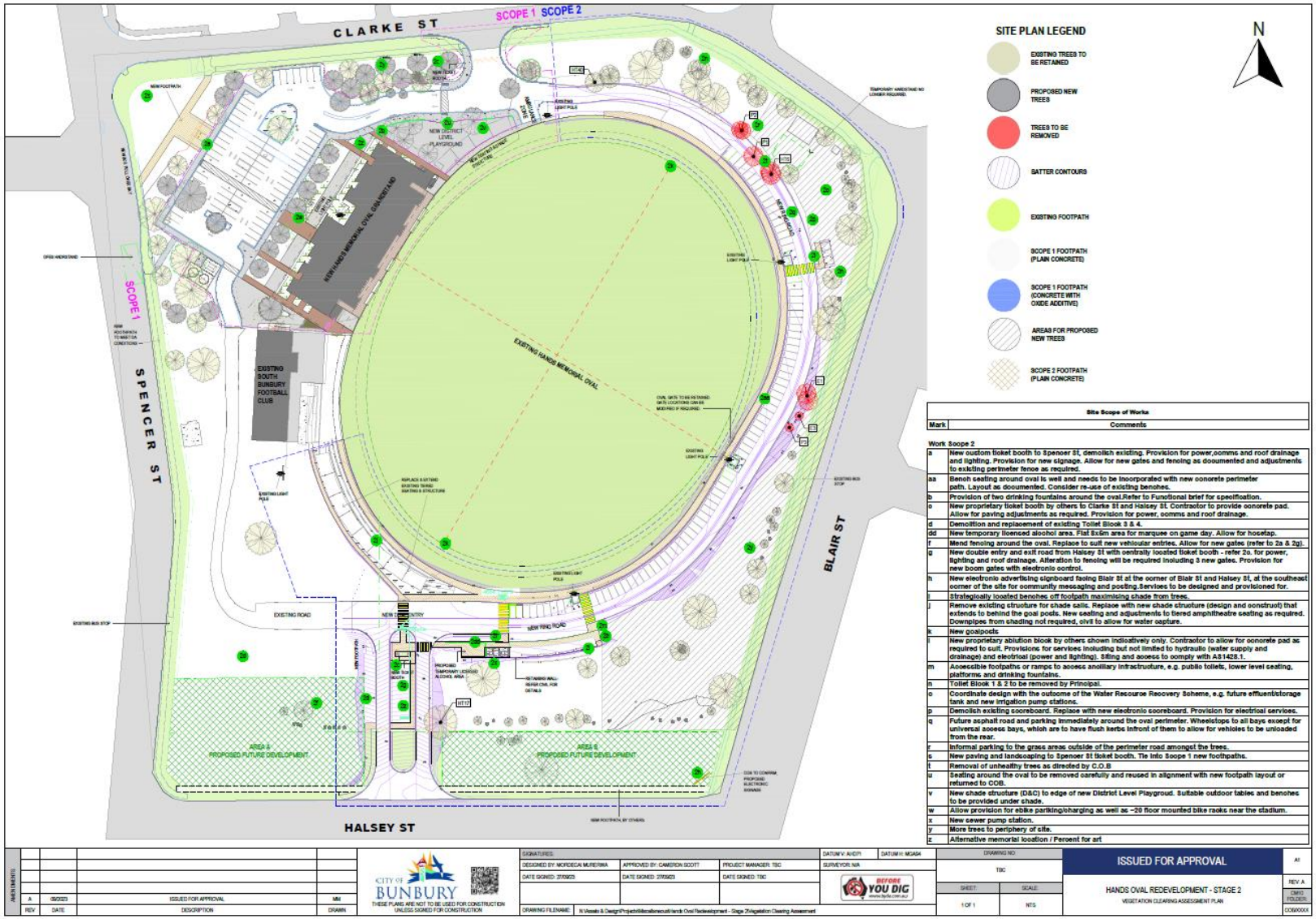

Figure 1: Site plan indicating proposed vegetation clearing.

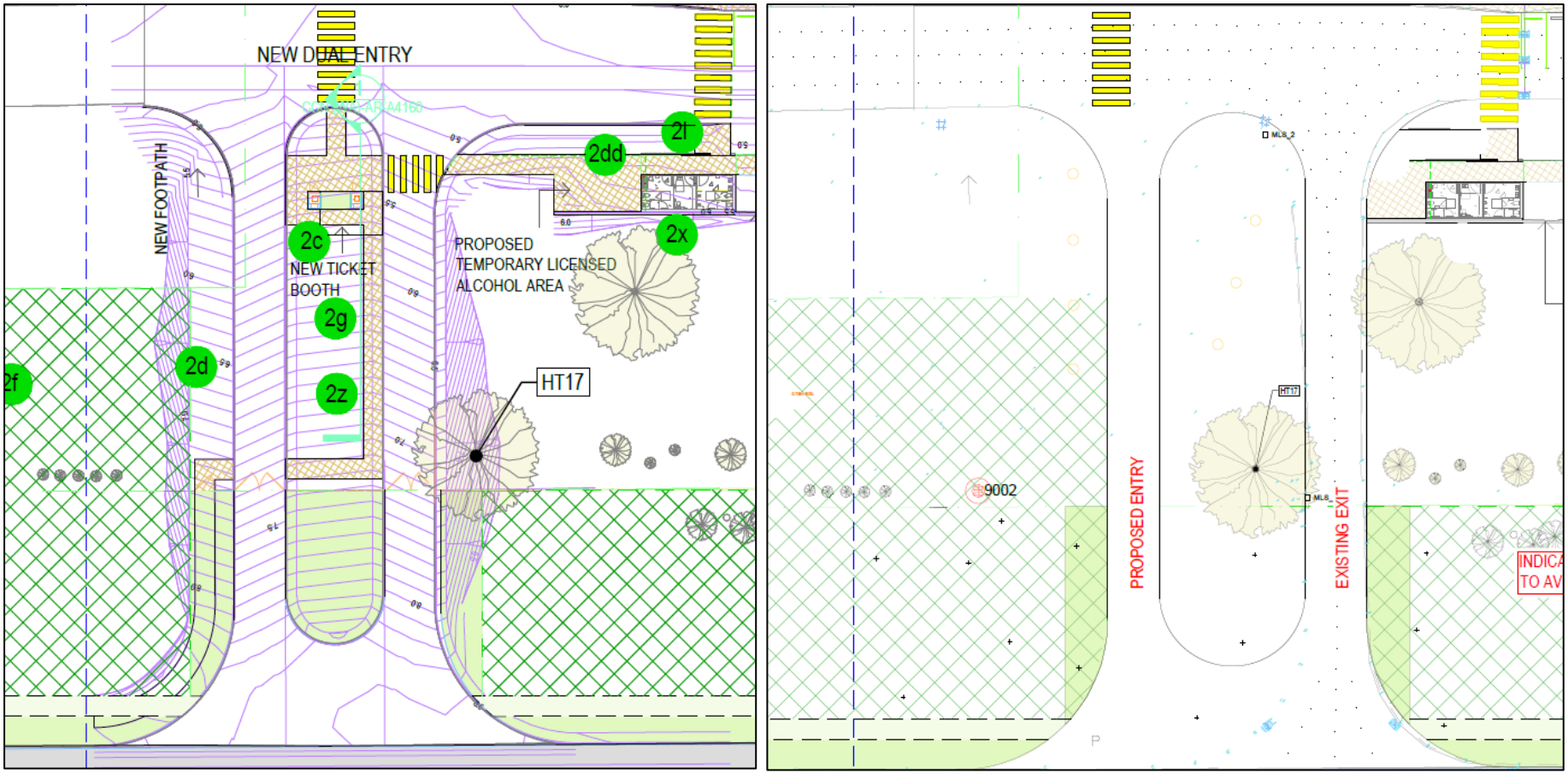

Figure 2: Designs showing 'before' and 'after' avoidance of impacts to Habitat Tree #17