

2 April 2020

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Mr Brendon Roberts  
A/Director, Regional Assessments  
NSW Department of Planning, Industry and Environment  
4 Parramatta Square  
Parramatta NSW 2150

**Section 75W Modification No. 8 to Concept Approval MP\_07\_0166  
Central Church Precinct, Wahroonga Estate**

We write on behalf of Capital Corporation Pty Ltd (the Proponent, formerly known as Capital Bluestone Pty Ltd) in relation to your letter dated 20 February 2020 in relation to the abovementioned matter. The purpose of our response is to provide the Department and the Independent Planning Commission (IPC) with the information required to determine this Modification Application.

Our response is informed by the expert advice of Cumberland Ecology (**Attachment B**) and Australian Bushfire Protection Planners (**Attachment C**), both of whom have been responsible for planning for the Wahroonga Estate since the original Concept Approval. The information provided by these experts confirms that the Central Church Precinct relies on an already-established Asset Protection Zone that is in accordance with the Biodiversity Management Plan that was prepared in accordance with Condition B4 of the Concept Approval and approved by the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA). Ecological advice confirms that no further vegetation removal is proposed as part of this Modification Application, and therefore their ongoing use for this purpose has no adverse ecological impact. A detailed response to the specific matters raised in the Department's letter are provided in **Attachment A** and ecological and bushfire statements (**Attachments B** and **C** respectively). It is proposed that the modification sought to Condition B5 is reworded to apply only to Precinct B: Central Church Precinct, consistent with the scope of the current application and technical studies.

We trust that the attached information is sufficient for the Department and the IPC to finalise their assessment and determine the Modification Application. We note that the project has particular importance in the current economic and social conditions caused by COVID-19 because it will:

- Directly support approximately 137 full-time equivalent (FTE) jobs in the construction industry, and support a further 219 FTE jobs in the broader economy, with the project creating a significant economic benefit to the local and broader NSW community in the form of additional employment and expenditure;
- Provide a commercial outcome for the charitable Australasian Conference Association, who invest in significant community services including important regional healthcare facilities (SAN Hospital and SAN Day Surgery), health sector education (Avondale Nursing College) and community outreach services associated with the Seventh Day Adventist Church; and
- Facilitate the timely delivery of 200 apartments in accordance with the approved Concept Plan to meet the housing needs of the local community.

Should you have any further queries, please do not hesitate to contact the undersigned.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'M Oliver', with a stylized, cursive script.

**Michael Oliver**  
Associate Director, Planning  
0402 644 681  
[moliver@ethourban.com](mailto:moliver@ethourban.com)

## Appendix A. Response to matters raised in DPIE letter

Comments	Response
<b>Matters raised by Independent Planning Commission</b>	
<ul style="list-style-type: none"> <li>the amendment to Condition B5, as currently proposed, relates to the entire concept approval area. However, the supporting documents submitted for Modification 8 relates only to Precinct B. In this context, the Proponent should provide a clear description of the extent of the proposed changes, and ensure that this scope is reflected in all supporting documents</li> </ul>	<p>In order to progress planning for the Central Church Precinct, we request that the requested amendment to Condition B5 be confined to the Central Church Precinct only. To this effect, we request that the Department and IPC considers the following amendment to Condition B5:</p> <p><i>All Asset Protection Zones are to be located outside for the conservation land as shown in the approved Concept Plan unless required for development constructed prior to the date of this instrument. <b>This requirement does not apply to Asset Protection Zones within the Central Church Precinct where these zones are in accordance with the Biodiversity Management Plan required by Condition B4 of this Concept Plan.</b></i></p> <p>The above amendment ensures that this Modification Application relates only to the bushfire and biodiversity management arrangements for the Central Church Precinct, which is consistent with the technical assessment information provided with this application. The Modification Application would not impact on the current Concept Approval requirements for the other Wahroonga Estate precincts that are not the subject of this Modification Application.</p> <p>Proposed Draft Condition B5(4) would continue to be redundant for the reasons outlined in our letter of 15 October 2019.</p>
<ul style="list-style-type: none"> <li>a survey plan clearly showing the vegetation affected by the proposed amendment described under point 1</li> </ul>	<p>As outlined in the Addendum Ecological Impact Assessment at <b>Attachment B</b>, no vegetation will be affected by the proposed amendment to Condition B5.</p> <p>Cumberland Ecology's statement includes a description of the existing vegetation in the locations between the Vegetation Transition Management Line (VMTL) and the E2 zone boundary. The Vegetation Management Survey Line which was provided with our letter of 15 October 2019 details the extent of these locations spatially, and is re-appended at <b>Attachment D</b> for information.</p>
<ul style="list-style-type: none"> <li>updated bushfire assessment report identifying the impact of the Asset Protection Zone (APZ) on the existing vegetation (with consideration of the imminent PBP 2019 requirements)</li> </ul>	<p>The Addendum Bushfire Statement prepared by Australian Bushfire Protection Planners (<b>Attachment C</b>) confirms that no additional vegetation removal or management is required as the APZ is already established under the Biodiversity Management Plan. Accordingly, no further bushfire assessment is required.</p> <p>Whilst PBP 2019 would result in a reduction in the width of the APZ required for the residential apartment buildings from 60 metres to 56 metres, this does not alter the existing requirements for an APZ for the Wahroonga Adventist School. The existing APZ for the Wahroonga Adventist School is covered under Development Consent SSD 5535, and any amendment to this APZ would require a new approval by the Commissioner of the NSW Rural Fire Service, preparation of a new Bushfire Safety Authority and a Section 4.55 Modification Application to the existing consent.</p>

Comments	Response
<ul style="list-style-type: none"> <li>supplementary advice from the ecological consultant, including the impact of the required APZ on existing vegetation and the additional parameters suggested by the Department (discussed below)</li> </ul>	<p>As outlined in the Addendum Ecological Impact Assessment (<b>Attachment B</b>), the reliance on the existing APZ for the residential buildings will not result in any impact on existing vegetation. The matters raised by the Department are addressed in the table below.</p>
<ul style="list-style-type: none"> <li>submission from the Proponent regarding the permissibility of APZ maintenance within the E2 zone.</li> </ul>	<p>Pursuant to Schedule 2 of the <i>Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017</i> (the Transitional Regulation), if Part 4 applies to the carrying out of the development, the development is taken to be development that may be carried out with development consent under Part 4 (despite anything to the contrary in an environmental planning instrument). Residential Accommodation and Educational Establishments, and any Asset Protection Zones required to facilitate these uses, are both permitted within the Central Church Precinct under the terms of the Concept Approval. The retention and ongoing reliance upon the APZs is in accordance with the approved Biodiversity Management Plan prepared in accordance with Condition B4 of the Concept Approval. Accordingly, the APZs are permissible in accordance with the clear terms of the Transitional Regulation and the Part 3A Concept Approval that continues to apply to the Wahroonga Estate.</p>
Department	
<ul style="list-style-type: none"> <li>description of the vegetation likely to be affected, including the areas, information on species, vegetation heights and ecological values of the area (including for example, whether the vegetation is an endangered ecological communities or fauna habitat)</li> </ul>	<p>No vegetation is affected by the proposed modification, as the areas of land in question are already established as APZs. The Addendum Ecological Letter (<b>Attachment B</b>) includes the information requested by the Department. It is noted that a full description of the broader nature of the ecological communities is also contained in the Biodiversity Management Plan that has previously been provided to the Department and IPC.</p>
<ul style="list-style-type: none"> <li>identification of the extent of vegetation management required for each area to meet APZ requirements. This includes (but is not limited to) details of the amount of understorey to be removed, whether changes to the canopy of trees are required and identification of the species likely to be affected by the works</li> </ul>	<p>No additional vegetation management is required as the area in question is already managed as APZ in accordance with the requirements of the Biodiversity Management Plan. No changes to tree canopy were required to achieve the APZ requirements for the purpose of implementing the BMP due to the historical use of this area for APZs prior to the approval of the Concept Plan. Further technical information is provided in the Addendum Ecological Impact Assessment (<b>Attachment B</b>) and Addendum Bushfire Statement (<b>Attachment C</b>).</p>
<ul style="list-style-type: none"> <li>an assessment of the ecological impacts of the vegetation removal compared to allowing these areas to regenerate to a natural undisturbed habitat, and compared to any impacts from the approved development and proposal as referred to the Commission.</li> </ul>	<p>No vegetation removal is proposed. Section A4.3 of the Addendum Ecological Impact Assessment (<b>Attachment B</b>) concludes that it is extremely unlikely that ceasing management of the APZs would result in any substantial level of natural regeneration, and over time native species richness and cover will further decline as weed regrowth occurs, unless extensive revegetation was undertaken. Due to the fact that this area has historically been managed as an APZ and is required to continue as an APZ for the Wahroonga Adventist School, revegetation is not practical or possible. In light of this, it is considered that there is no adverse ecological impact associated with the ongoing use of this area for APZ.</p>



## Appendix B. Addendum Ecological Impact Assessment

## Appendix C. Addendum Bushfire Statement

## Appendix D. Vegetation Management Survey

24 March 2020

Lucy Ford  
Assistant Development Manager  
Aoyuan International  
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Sydney NSW 2000

**Ecological Impact Assessment – Asset Protection Zones within E2 Zone – Central Church Precinct, Wahroonga Estate**

Dear Lucy,

As requested, please find attached our Ecological Impact Assessment for Asset Protection Zones for the Central Church Precinct of the Wahroonga Estate redevelopment. Our assessment provides further ecological information requested by the Department of Planning, Industry, and Environment, and assesses the ecological impacts associated with maintaining current Asset Protection Zones within an area zoned as E2 Environmental Conservation. The assessment consists of:

- Appendix A – Ecological Impact Assessment; and
- Appendix B – Photopoint Photographs.

Yours sincerely,

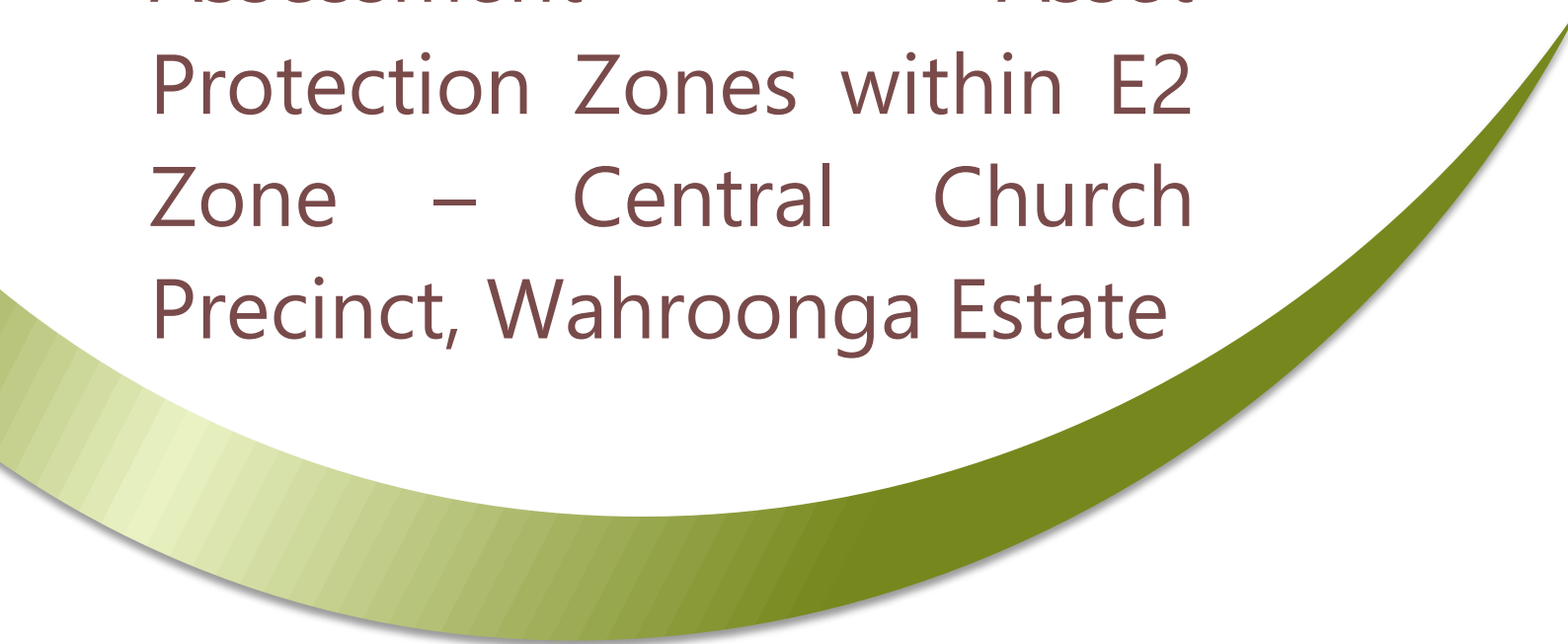


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# APPENDIX A :

Ecological Impact  
Assessment – Asset  
Protection Zones within E2  
Zone – Central Church  
Precinct, Wahroonga Estate



## A.1. Introduction

Cumberland Ecology was requested by Aoyuan International to assess the ecological impacts associated with maintaining areas of Asset Protection Zones (APZs), associated with the Central Church Precinct of the Wahroonga Estate Redevelopment (the 'Project', shown as the 'Subject Site' in **Figure 1**) within areas zoned as E2 Environmental Conservation (the 'Conservation Area'). The APZ areas subject to this assessment are those within the Central Church Precinct only, and not all APZs for the overall project. The relevant APZ areas mentioned above are shown in **Figure 1** and are the sections of land between the boundary of the Conservation Zone in the east and the Vegetation Protection Line (the outer boundary of the APZs) in the west. The APZ areas have to date been maintained as APZs under the approved Biodiversity Management Plan prepared for restoration and management of the Conservation Zone within the Wahroonga Estate by Cumberland Ecology in 2010, and updated in 2018 (Cumberland Ecology 2018).

The Biodiversity Management Plan has been approved by the Commonwealth Department of Agriculture, Water and the Environment (DAWE). The proponent for the Project is seeking to have the utilisation of areas of the E2 Conservation Area as APZs formally approved by the NSW Department of Planning Industry, and Environment (DPIE), and in order to do so, an application has been made to amend and clarify Condition B5 of the Project's consent. DPIE has subsequently requested further details relating to ecology in order to assess the application. The relevant requested details are:

- *Supplementary advice from the ecological consultant, including the impact of the required APZ on existing vegetation and the additional parameters suggested by the department;*
- *Description of the vegetation likely to be affected, including the areas, information on species, vegetation heights and ecological values of the area, including for example whether the vegetation is an endangered ecological communities or fauna habitat;*
- *Identification of the extent of vegetation management required for each area to meet APZ requirements. This includes (but is not limited to) details of the amount of understorey to be removed, whether changes to the canopy of trees are required and identification of the species likely to be affected by the works; and*
- *An assessment of the ecological impacts of the vegetation removal compared to allowing these areas to regenerate to a natural undisturbed habitat, and compared to any impacts from the approved development and proposal as referred to the Commission.*

The purpose of this letter report is to provide the details requested by DPIE.

## A.2. Methods

A Cumberland Ecology botanist undertook a site inspection on 19 March 2020 of all areas of the Project area within APZs associated with the Central Church Precinct (**Figure 1**) and additional nearby APZ areas within the Conservation Zone to the north. The site inspection consisted of undertaking fourteen rapid assessments of vegetation at photo points, starting with the northern extent of the area assessed and working towards the south. Each point was spaced approximately 20-30 m from the last and the data collected at and surrounding the point consisted of:

- Four photographs (North, East, South, and West);
- Estimate of height range of vegetation in canopy, sub-canopy and shrub strata;
- Canopy and sub-canopy species present;
- Any overlap in canopy and sub-canopy which may require trimming;
- General condition of each stratum (i.e. dominance of exotics);
- Dominant species in each stratum (Canopy, sub-canopy, shrub layer, and ground cover);
- An estimation of whether any removal is required to thin the shrub layer; and
- Fauna habitat.

Due to an error only one photograph was taken at Photopoint 12 (facing north).

## A.3. Results

### A.3.1. Vegetation Communities

The vegetation communities within the APZ areas assessed and the wider Conservation Area and subject site are shown in **Figure 2**. The majority of the vegetation present consists of degraded occurrences of two Threatened Ecological Communities, listed under both the NSW *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). These communities are:

- Blue Gum High Forest in the Sydney Basin Bioregion (BGHF) – Listed as Critically Endangered under the BC Act and EPBC Act; and
- Sydney Turpentine-Ironbark Forest in the Sydney Basin Bioregion (STIF) – Listed as Critically Endangered under the BC Act and EPBC Act.

Only STIF is present directly within APZ Areas associated with the Central Church Precinct.

Small areas of two additional non-threatened ecological communities are present in the north of the area assessed. These communities, as described under the broad-scale mapping scheme Native Vegetation of the Sydney Metropolitan Area (OEH 2016) are:

- Coastal Enriched Sandstone Moist Forest (CESMF); and
- Coastal Sandstone Gallery Rainforest (CSGR).

Areas of these communities within the APZ area assessed are highly degraded, predominately consisting of a native canopy only.

### A.3.2. Vegetation Condition

The results of the site survey, which detail the condition of vegetation at each photopoint, are presented in **Table 1** below. Photos for each photopoint are included in **Appendix B**.



**Table 1 Vegetation Condition at each Photopoint**

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
1	BGHF	Canopy	40 - 50 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy slightly overlapping by 1-2m</li> <li>Weeds in shrubs layer common and include <i>*Ligustrum sinense</i>, <i>*Cinnamomum camphora</i>, and <i>*Solanum mauritianum</i></li> <li>Groundcover mostly weeds</li> <li>No significant shrub layer to thin</li> </ul>
		Sub-canopy	5-10 m	<i>Callicoma serratifolia</i> <i>Pittosporum undulatum</i> <i>Tristaniopsis laurina</i>	
		Shrub	1-3m	<i>Melia azedarach</i> <i>*Cinnamomum camphora</i> <i>*Solanum mauritianum</i>	
2	CESMF/CSGR Interface	Canopy	40-45 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy separated by 2-5m</li> <li>Weeds in shrub layer include <i>*Ligustrum sinense</i>, and <i>*Ligustrum lucidum</i></li> <li>Groundcover comprised mostly of weeds, including <i>*Setaria parviflora</i>, <i>*Modiola caroliniana</i>, and <i>*Euphorbia peplus</i></li> </ul>
		Sub-canopy	5-10 m	<i>Euroschinus falcatus</i> <i>Pittosporum undulatum</i> <i>Tristaniopsis laurina</i>	
		Shrub	0.5-2 m	<i>* Ligustrum lucidum</i>	
		Ground		<i>Persicaria decipiens</i>	
3	STIF	Canopy	40-45 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy separated by 2-5m</li> </ul>

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
		Sub-canopy	5-15 m	<i>Pittosporum undulatum</i> <i>Syncarpia glomulifera</i>	<ul style="list-style-type: none"> <li>Some overlapping <i>Syncarpia glomulifera</i> in Sub-canopy</li> <li>Weeds in shrub layer include <i>*Ligustrum lucidum</i>, and <i>*Ligustrum sinense</i></li> <li>Groundcover mostly comprised of weeds including <i>*Setaria parviflora</i>, <i>*Modiola caroliniana</i>, and <i>*Euphorbia peplus</i></li> </ul>
		Shrub	1-Feb	<i>*Ligustrum lucidum</i>	
		Ground		<i>*Cardiospermum grandiflorum</i> <i>*Oxalis latifolia</i> <i>*Sida rhombifolia</i> <i>Germanium solanderi</i> <i>Persicaria decipiens</i>	
4	STIF	Canopy	40 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy separated by 2m</li> <li>Some overlapping <i>Syncarpia glomulifera</i> in sub-canopy</li> <li>Recent weed control apparent in shrub layer. Species include <i>*Ligustrum sinense</i> and <i>*Ligustrum lucidum</i></li> <li>Groundcover mostly native</li> </ul>
		Sub-canopy	5-15 m	<i>Pittosporum undulatum</i> <i>Syncarpia glomulifera</i>	
		Shrub	1-3 m	<i>Polyscias sambucifolia</i> <i>Pittosporum undulatum</i> <i>Zieria smithii</i>	
		Ground		<i>Oplismenus aemulus</i> <i>Sigesbeckia orientalis</i>	

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
5	STIF/BGHF Interface	Canopy	15-20 m	<i>Syncarpia glomulifera</i>	<ul style="list-style-type: none"> <li>Canopy separated by 2-5m</li> <li>Slightly overlapping <i>Syncarpia glomulifera</i> in sub-canopy</li> <li>Exotic vine <i>*Ipomoea indica</i> covering native shrub layer - comprised of <i>Pittosporum undulatum</i></li> <li>Groundcover mostly weeds, including juvenile <i>*Ligustrum sinense</i>, and <i>*Euphorbia peplus</i></li> </ul>
		Sub-canopy	5-10 m	<i>Pittosporum undulatum</i> <i>Syncarpia glomulifera</i>	
		Shrub	1-2 m	<i>Pittosporum undulatum</i>	
		Ground		<i>*Clivia miniata</i> <i>*Ehrharta erecta</i> <i>*Euphorbia peplus</i> <i>*Oxalis latifolia</i>	

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
6	BGHF	Canopy	35 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy slightly overlapping</li> <li><i>Syncarpia glomulifera</i> separated by 5m in sub-canopy</li> <li>Weeds in shrub and ground layer include <i>*Ligustrum sinense</i>, <i>*Ligustrum lucidum</i>, <i>*Cinnamomum camphora</i>, <i>*Nothoscordum gracile</i>, <i>*Sida rhombifolia</i>, <i>Cardamine hirsuta</i>, and <i>*Ipomoea indica</i></li> <li>Leaf litter thick</li> </ul>
		Sub-canopy	10-15 m	<i>Syncarpia glomulifera</i>	
		Shrub	1-2 m	<i>*Cinnamomum camphora</i> <i>Glochidion ferdinandi</i> <i>Pittosporum undulatum</i>	
		Ground		<i>*Lysimachia arvensis</i> <i>*Nothoscordum gracile</i> <i>*Sida rhombifolia</i> <i>Sigesbeckia orientalis</i>	
7	BGHF	Canopy	30 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy slightly overlapping</li> <li>Hollows present in lower branches of <i>Eucalyptus saligna</i> and higher up</li> <li>Sub-canopy separated by at least 2 m</li> <li>Weeds in sub-canopy include <i>*Cinnamomum camphora</i></li> </ul>

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
8	BGHF	Sub-canopy	5-15 m	<i>Angophora costata</i> <i>*Brachychiton acerifolius</i> <i>*Cinnamomum camphora</i> <i>Syncarpia glomulifera</i>	<ul style="list-style-type: none"> <li>Weeds in shrub layer include <i>*Ligustrum lucidum</i>, and <i>*Ligustrum sinense</i></li> <li>Leaf litter thick</li> </ul>
		Shrub	1-3 m	<i>*Brachychiton acerifolius</i> <i>Breynia oblongifolia</i> <i>Pittosporum undulatum</i>	
		Ground		<i>Commelina cyanea</i> <i>Euphorbia peplus</i>	
		Canopy	30-40 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy and sub-canopy separated by at least 2m</li> <li>Weeds infrequent in shrub layer</li> <li>Groundcover includes some weeds such as <i>*Ehrharta erecta</i> and <i>*Oxalis latifolia</i></li> <li>Leaf litter thick</li> </ul>
		Sub-canopy	15-20 m	<i>Eucalyptus resinifera</i> subsp. <i>resinifera</i> <i>Syncarpia glomulifera</i> <i>Melia azedarach</i>	
		Shrub	1-5 m	<i>Homalanthus populifolius</i> <i>Pittosporum undulatum</i>	

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
		Ground		<i>Commelina cyanea</i> <i>Einadia trigonos</i> <i>*Hedychium gardnerianum</i>	
9	BGHF	Canopy	30-40 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy separated by 2-5m</li> <li>Small hollow in a <i>Eucalyptus saligna</i></li> <li>Sub-canopy has at least 1 m separation</li> <li>Weeds abundant in ground cover</li> </ul>
		Sub-canopy	10	<i>*Brachychiton acerifolius</i> <i>Melaleuca styphelioides</i> <i>Pittosporum undulatum</i>	
		Shrub	1-5 m	<i>Pittosporum undulatum</i> <i>*Ehrharta erecta</i> <i>*Modiola caroliniana</i> <i>*Oxalis latifolia</i>	
		Ground			
10	BGHF	Canopy	30 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>No tree or shrub stems in the cleared area</li> <li>Weeds abundant in ground cover</li> <li>No habitat features</li> </ul>
		Sub-canopy	2-5m	<i>*Jacaranda mimosifolia</i>	
		Shrub		-	

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
		Ground		<i>*Ehrharta erecta</i> <i>*Oxalis latifolia</i> <i>*Modiola caroliniana</i> <i>*Paspalum dilatatum</i>	
11	STIF	Canopy	35-40 m	<i>Eucalyptus saligna</i>	<ul style="list-style-type: none"> <li>Canopy separated by 2-5m</li> <li>Sub-canopy separated by 1-2m</li> <li>Weeds significant in shrub layer</li> <li>Groundcover comprised of a mix of natives and weeds including <i>*Hedera helix</i>, and juvenile <i>*Cinnamomum camphora</i>, and <i>*Ligustrum sinense</i></li> </ul>
		Sub-canopy	12-25 m	<i>Angophora costata</i> <i>Syncarpia glomulifera</i>	
		Shrub	1-2 m	<i>*Cinnamomum camphora</i> <i>*Hedychium gardnerianum</i> <i>*Ligustrum sinense</i> <i>Pittosporum undulatum</i>	
		Ground		<i>Dichondra repens</i> <i>Lobelia purpurascens</i> <i>Ranunculus lappulacea</i>	
12	STIF	Canopy	10-20 m	<i>Eucalyptus saligna</i> <i>Syncarpia glomulifera</i>	<ul style="list-style-type: none"> <li>Canopy separated by 2-5m</li> <li>Overlapping <i>Syncarpia glomulifera</i> in sub-canopy</li> </ul>
		Sub-canopy	5 m	<i>Melaleuca styphelioides</i> <i>Pittosporum undulatum</i>	

Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
13	STIF	Shrub	1-2 m	<i>Solanum aviculare</i> <i>*Solanum pseudocapsicum</i> <i>Pittosporum undulatum</i>	<ul style="list-style-type: none"> <li>Weeds in shrub layer include <i>*Ligustrum sinense</i> and <i>*Ligustrum lucidum</i></li> <li>Groundcover mostly weeds including <i>*Setaria parviflora</i>, <i>*Modiola caroliniana</i>, and <i>*Euphorbia peplus</i></li> </ul>
		Ground		<i>*Conyza sumatrensis</i> <i>*Euphorbia peplus</i> <i>Geranium solanderi</i> <i>Lobelia purpurascens</i>	
		Canopy	10-15 m	<i>Syncarpia glomulifera</i>	
		Sub-canopy	2-3 m	<i>*Musa sp.</i> <i>Pittosporum undulatum</i>	
14	STIF	Shrub	1-2 m	<i>Solanum aviculare</i> <i>Pittosporum undulatum</i>	<ul style="list-style-type: none"> <li>Canopy and sub-canopy slightly overlapping by 1m</li> <li>Weeds in shrub layer and ground cover include <i>Euphorbia peplus</i>, <i>Cenchrus clandestinus</i>, <i>Solanum nigrum</i>, and <i>Cardamine hirsuta</i></li> </ul>
		Ground		<i>*Cenchrus clandestinus</i> <i>Rumex brownii</i> <i>Sigesbeckia orientalis</i> <i>*Solanum nigrum</i> <i>*Stenotaphrum secundatum</i>	
		Canopy	15-25 m	<i>Angophora costata</i> <i>Eucalyptus resinifera subsp. resinifera</i> <i>Syncarpia glomulifera</i>	



Photopoint	Vegetation Community	Stratum	Height	Species (Dominants)	Notes/Observations
		Sub-canopy	5-15 m	* <i>Brachychiton acerifolius</i> <i>Pittosporum undulatum</i> <i>Syncarpia glomulifera</i>	<i>Sida rhombifolia</i> , <i>Setaria parviflora</i> , and <i>Modiola caroliniana</i>
		Shrub	1-2 m	<i>Leucopogon juniperinus</i> <i>Notelaea ovata</i> <i>Pittosporum undulatum</i> * <i>Ochna serrulata</i> * <i>Sida rhombifolia</i>	
		Ground		<i>Carex inversa</i> <i>Dichondra repens</i> * <i>Ehrharta erecta</i> * <i>Euphorbia peplus</i>	

\* = Exotic or non-indigenous native species

It should be noted that dominant shrub species recorded at each photopoint were generally recorded in adjacent vegetation to the west of the Vegetation Protection Line outside of the APZ area, and were recorded to give an indication of the species that might be present if the area was not managed as an APZ, or they occurred as seedlings. Some shrubs were present at some locations, but at low densities. The APZ has been managed under the site BMP to preclude dense occurrences of shrubs for bushfire safety.

In general, with the exception of small areas in which common native species dominated the ground layer, the layer within the assessed APZ areas was degraded and dominated by exotic species, with native species only dominating the canopy/sub-canopy. It should be noted that the Vegetation Protection Line was created such as to exclude any high-quality areas of vegetation from within APZs.

Fauna habitat is generally limited to hollows in a small number of trees, with the exception of leaf litter in some areas, which would provide habitat for invertebrates and common, small reptiles.

## A.4. Discussion/Impact Assessment

### A.4.1. Vegetation Requiring Management to Conform to APZ Standards

The primary purpose of the site inspection and vegetation condition assessment reported in **Table 1** is to detail the current ecological values of the APZ areas within the Conservation Area.

The Project Bushfire Consultant, Australian Bushfire Protection Planners has reviewed vegetation within the assessed areas of APZs (ABPP 2020) and has concluded that no vegetation will be required to be removed in order to continue ongoing management of the areas as APZs under the former bushfire planning documents, the Rural Fire Service's *Standards for Asset Protection Zones* (NSW Rural Fire Service 2006b) and *Planning for Bushfire Protection* (NSW Rural Fire Service 2006a). A review was also made of the APZs against the 2019 version of the Planning for Bushfire Protection document (NSW Rural Fire Service 2019), which was legislatively enacted on the 1<sup>st</sup> of March 2020, and it was also concluded no vegetation is required to be removed under the current legislative requirements.

It is not expected that any individual shrubs are required to be removed, as shrub densities are below those required for an APZ. However, if any shrubs are required to be removed to reduce density, exotic species are present which can be preferentially removed.

### A.4.2. Impacts to Fauna Habitat

It is likely, particularly in the southern areas of the APZs, that some raking is required to remove leaf litter. This would reduce habitat available to invertebrates and small reptiles such as the Eastern Water Skink (*Eulamprus quoyii*) and the Common Garden Skink (*Lampropholis guichenoti*).

Due to the general lack of a shrub layer and the high likelihood of retaining all hollows within trees through preferential trimming of non-hollow limbs, if trimming is required to provide canopy separation, it is not expected that any significant fauna habitat, such as habitat for threatened species, is likely to be removed.

### A.4.3. Management as an APZ versus Allowing Regeneration

The Vegetation Protection Line was initially aligned to exclude areas of high-quality vegetation from the APZs. Prior to being managed as an APZ, these areas were already highly degraded as they were the interface between bushland and urban areas, including hard stand surfaces and lawns comprised of exotic grasses. Based on observations in adjoining areas to the APZs, there is unlikely to be any benefit to allowing natural regeneration without further management. Areas immediately adjacent to the APZs within the Conservation Area in which management has not yet been undertaken have a sparse to absent ground layer due to shading by the dense shrub layer and mid-storey of exotic species (Photograph 1), predominately *Ligustrum lucidum* (Broad-leaved Privet), *Lantana camara*, and *Ligustrum sinense* (Small-leaved Privet).

The combined fertility of the shale and shale influenced soils and introduced nutrients from the proximity of these areas to an urban catchment creek, has resulted in a situation in which the understorey has become dominated by exotic species. The density of regrowth of these exotic species (thousands of *Ligustrum sinense* seedlings are present in the ground layer of some of the APZ areas), if left unmanaged to regrow, would further prohibit regrowth of canopy species as well as native understorey and ground layer species through competitive exclusion.

Without extensive ongoing management, including both revegetation and long term weed management, it is extremely unlikely that ceasing management of the APZs would result in any substantial level of natural regeneration, and over time native species richness and cover will further decline as weed regrowth occurs.

We also note that, based on the advice of the Bushfire Consultant, permitting revegetation of this area is not possible as the full APZ is required to be maintained to ensure satisfactory fire protection requirements for the existing Wahroonga Adventist School.

**Photograph 1 BGHF with Privet dominated understorey adjacent to APZ Area Assessed**



## A.5. Conclusions

The areas assessed, in which APZs occur within the Conservation Zone, contain degraded vegetation in which exotic species are common to dominant in the lower strata. Due to current management as an APZ, continued management as an APZ is likely to result in very little impact to existing native vegetation. The Vegetation Protection Line denoting the external boundary of the APZs was created initially to exclude high quality areas of native vegetation from the APZs, and encompassed areas at the time which were substantially degraded due to acting as the interface between bushland and urban areas. If left unmanaged to regenerate, the understorey will quickly become dominated with regrowth woody weeds which will result in further decline to native cover and species richness, particularly in the lower strata.

## A.6. References

- ABPP. 2020. SPD Residential - 185 Fox Valley Road.
- Cumberland Ecology. 2018. Wahroonga Estate Redevelopment - Biodiversity Management Plan. Epping, NSW.
- NSW Rural Fire Service. 2006a. Planning for Bushfire Protection. NSW Rural Fire Service, Sydney.
- NSW Rural Fire Service. 2006b. Standards for Asset Protection Zones. NSW Rural Fire Service, Granville.
- NSW Rural Fire Service, editor. 2019. Planning for Bushfire Protection.
- OEI. 2016. The Native Vegetation of the Sydney Metropolitan Area - Volume 2: Vegetation Community Profiles. Office of Environment and Heritage Sydney.

# APPENDIX B :

## Photopoint Photographs



## B.1. Photopoint 1

Photograph 2 North



Photograph 3 East

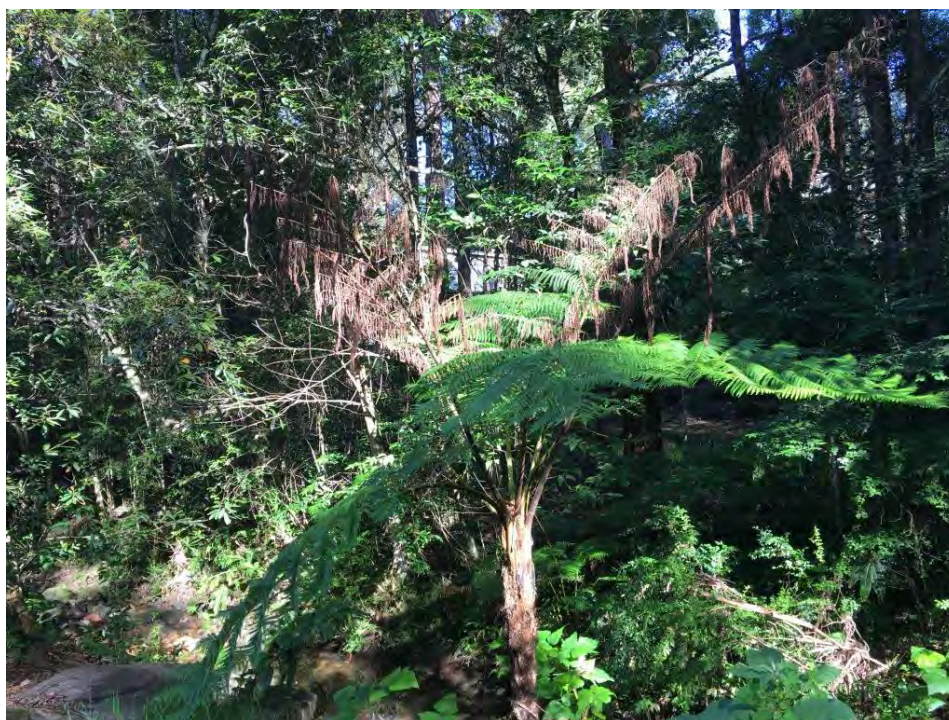




**Photograph 4 South**



**Photograph 5 West**





## B.2. Photopoint 2

Photograph 6 North



Photograph 7 East

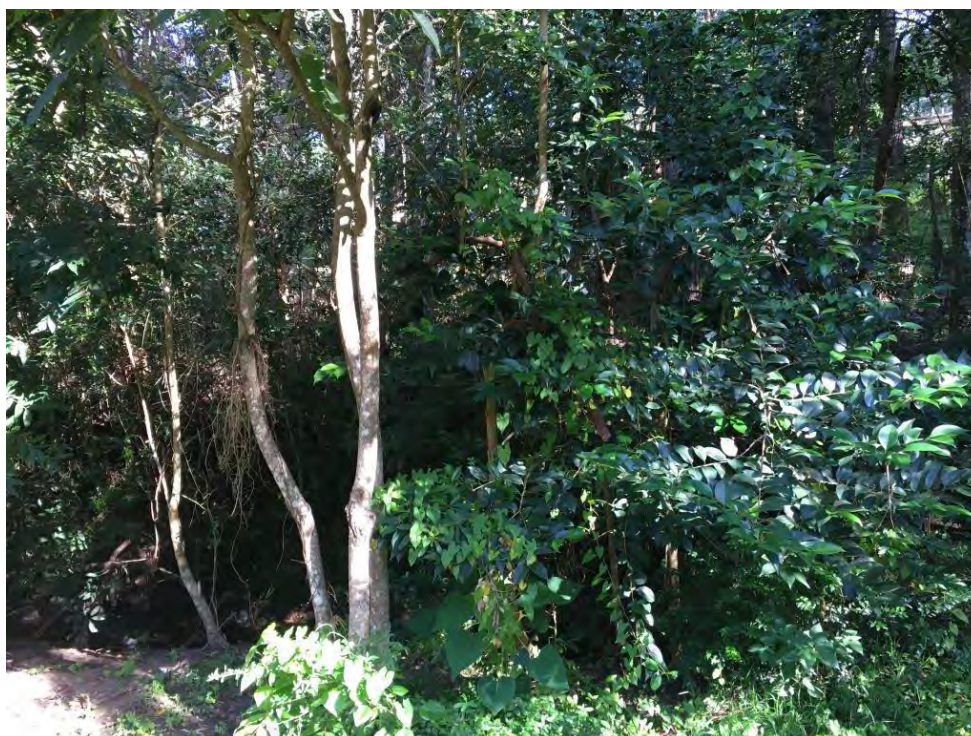




**Photograph 8 South**



**Photograph 9 West**





### B.3. Photopoint 3

Photograph 10 North



Photograph 11 East





**Photograph 12 South**



**Photograph 13 West**





## B.4. Photopoint 4

Photograph 14 North



Photograph 15 East





**Photograph 16 South**



**Photograph 17 West**





## B.5. Photopoint 5

Photograph 18 North



Photograph 19 East





**Photograph 20 South**



**Photograph 21 West**





## B.6. Photopoint 6

Photograph 22 North



Photograph 23 East





**Photograph 24 South**



**Photograph 25 West**





## B.7. Photopoint 7

Photograph 26 North



Photograph 27 East





**Photograph 28 South**



**Photograph 29 West**





## B.8. Photopoint 8

Photograph 30 North



Photograph 31 East





**Photograph 32 South**



**Photograph 33 West**





## B.9. Photopoint 9

Photograph 34 North



Photograph 35 East





**Photograph 36 South**



**Photograph 37 West**





## B.10. Photopoint 10

Photograph 38 North



Photograph 39 East





**Photograph 40 South**



**Photograph 41 West**





## B.11. Photopoint 11

Photograph 42 North



Photograph 43 East





**Photograph 44 South**



**Photograph 45 West**





## B.12. Photopoint 12

Photograph 46 North





## B.13. Photopoint 13

Photograph 47 North



Photograph 48 East





**Photograph 49 South**



**Photograph 50 West**





## B.14. Photopoint 14

Photograph 51 North



Photograph 52 East





**Photograph 53 South**



**Photograph 54 West**

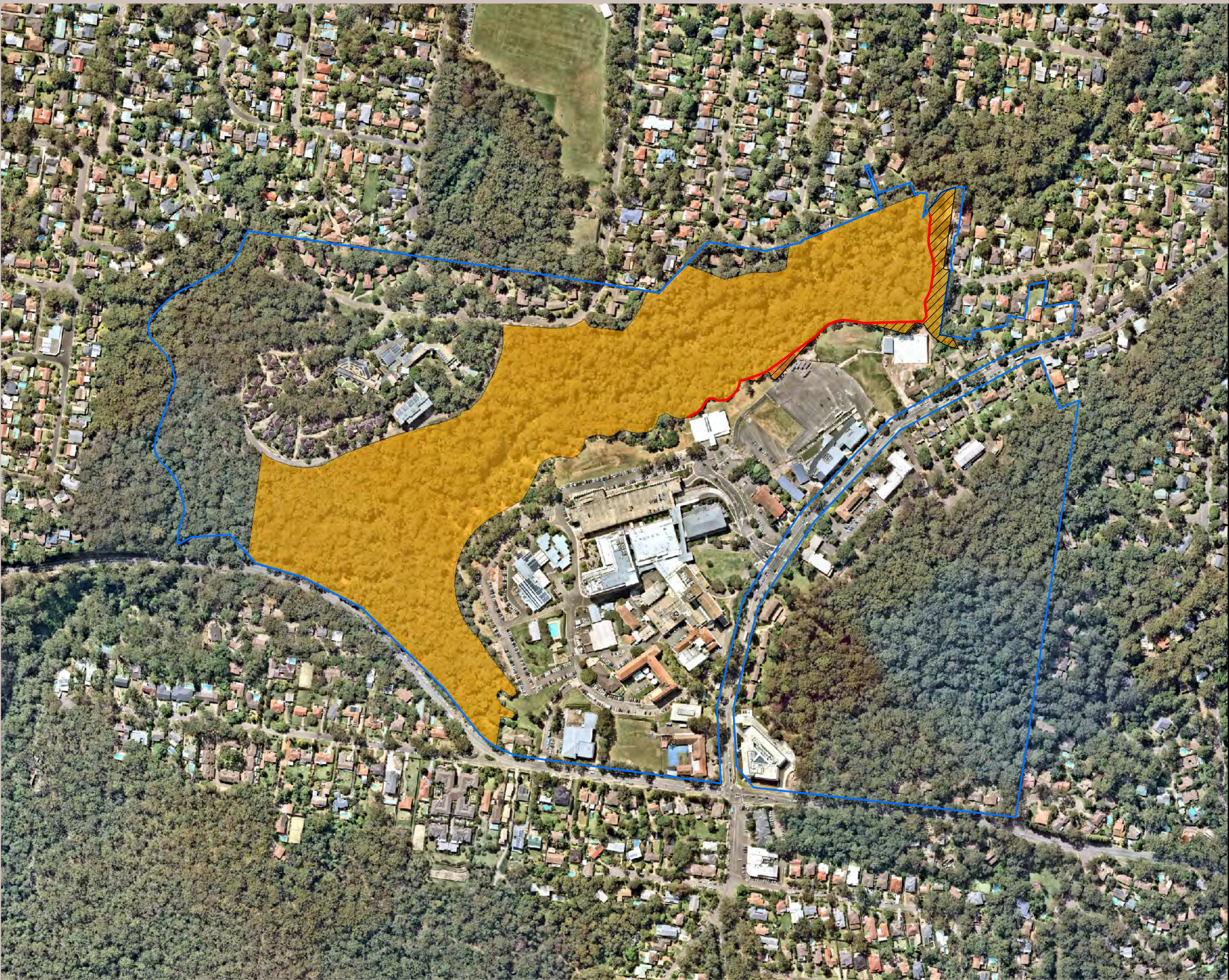




# FIGURES







- Legend**
- Subject Site
  - E2 Conservation Zone
  - APZ Area Assessed
  - Central Church Precinct APZ Areas
  - Vegetation Protection Line

Image Source:  
Image © NearMap 2020  
Dated: 28/2/2020

Data Source:  
NSW Government Spatial Services  
SIX Maps 'Clip and Ship'  
Ku-Ring-Gai LGA

Coordinate System: MGA Zone 56 (GDA 94)



Figure 1. Location of the E2 Conservation Zone and Vegetation Protection Line



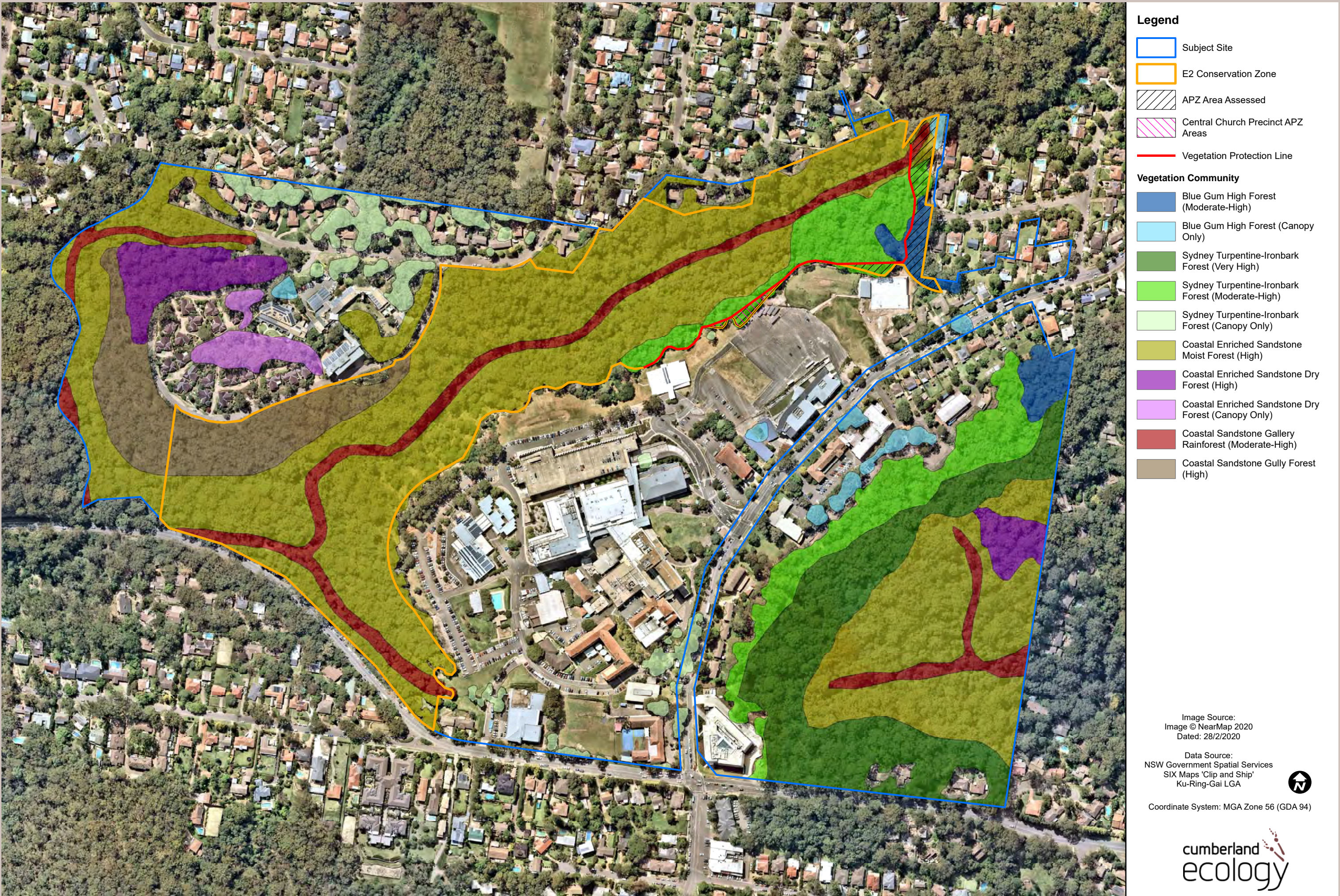


Figure 2. Vegetation communities within the E2 Conservation Zone





- Legend**
- Subject Site
  - E2 Conservation Zone
  - APZ Area Assessed
  - Central Church Precinct APZ Areas
  - Vegetation Protection Line
  - GPS Survey Tracks
  - Photopoint

Image Source:  
Image © NearMap 2020  
Dated: 28/2/2020

Data Source:  
NSW Government Spatial Services  
SIX Maps 'Clip and Ship'  
Ku-Ring-Gai LGA

Coordinate System: MGA Zone 56 (GDA 94)



Figure 3. Photopoint locations



Aoyuan  
Level 30  
420 George Street,  
Sydney  
NSW 2000

**Attention:** Lucy Ford

**Re: SPD Residential - 185 Fox Valley Road**



Dear Lucy,

Thank you for supplying a copy of the letter from the Department of Planning Industry & Environment (Reference MP 07\_0166 MOD 8, dated 20 February 2020) in reference to Wahroonga Estate Concept Plan Modification – Additional Assessment.

I am advised that Dot Points 1 & 2 of the request have been separately addressed.

**Dot Point 3** requires the preparation of an updated bushfire assessment report identifying the impact of the Asset Protection Zone on the existing vegetation (with consideration of the imminent PBP 2019).

***Comment:***

Planning for Bushfire Protection 2019 was released on the 1<sup>st</sup> March 2020.

Whilst the recently released document reduces the width of the Asset Protection Zone for residential development from the 60 metres required by PBP 2006 to 56 metres for PBP 2019, the Bushfire Safety Authority issued by the Commissioner of the NSW Rural Fire Service was issued on the basis that the Asset Protection Zone was to be 60 metres.

A reduction in the width of the Asset Protection Zone would require a new approval by the Commissioner of the NSW Rural Fire Service and a new Bushfire Safety Authority provided by the NSW Rural Fire Service. A Modification Application would also be required to be submitted and approved to amend the terms of the SSD DA for the Wahroonga Adventist School.

Given that the existing Asset Protection Zone is already established, that a reduction of 4 metres will still result in some of the APZ being located within the E2 Zone, and that the current 60 metre APZ does not require any removal of vegetation, undertaking these further bushfire applications is considered to be an unnecessary administrative burden for no practical benefit.

I would therefore recommend maintaining the existing 60 metre APZ width.

**Dot Point 3** also requires the preparation of an updated bushfire assessment report identifying the impact of the Asset Protection Zone.

**Comment:**

The preparation of an updated bushfire assessment report is not warranted as the site investigation and survey of the APZ line was undertaken to determine the area of extension of the APZ into the E2 zoned land which was, and still is, being managed to the standard of an Asset Protection Zone.

Furthermore, the determination of the APZ line was done on the basis that the extension of the APZ into the E2 zoned area would NOT REQUIRE MODIFICATION TO THE MANAGEMENT REGIME OR REMOVAL OF EXISTING VEGETATION.

**Dot Point 4** has been addressed by Cumberland Ecology.

**Dot Point 5** has been address by others.

**Dot Point 6** requires information on the description of the vegetation likely to be affected, including the areas, information on species, vegetation heights and ecological values of the area (including for example, whether the vegetation is an endangered ecological community or fauna habitat.

**Comment:**

Cumberland Ecology has responded to this request. However, the area likely to be affected has always been the area inspected by Dr David Robertson and me and determined to represent an area of the site which was being managed as an Asset Protection Zone which did NOT require and clearing or modification of the existing vegetation to achieve the standard of an Asset Protection Zone.

The Biodiversity Management Plan prepared by Cumberland Ecology, with assistance from ABPP, clearly identifies the areas of Asset Protection Zones, including the extension into the E2 zoned land and the management protocols to satisfy biodiversity and bushfire management requirements.

There is no conflict with the existing and continuing management of the Asset Protection Zone where it has been identified as extending into the E2 zone.

**Dot Point 7** requires identification of the extent of vegetation management required for each area to meet APZ requirements. This includes (but not limited to) details of the amount of understorey to be removed, whether changes to the canopy of trees are required and identification of the species likely to be affected by the works.

**Comment:**

The Biodiversity Management Plan prepared by Cumberland Ecology, with assistance from ABPP, clearly identifies the areas of Asset Protection Zones, including the extension into the E2 zoned land and the management protocols to satisfy biodiversity and bushfire management requirements.



The surveyed line of the Asset Protection Zone was determined by inspection on site and identified that NO understorey or changes to the tree canopy were required to achieve the standards of an Asset Protection Zone.

**Dot Point 8** requires an assessment of the ecological impacts of the vegetation removal compared to allowing these areas to regenerate to a natural undisturbed habitat, and compared to any impacts from the approved development and proposal as referred to the Commission.


***Comment:***

The Development Applications for the construction of extensions to the SAN Hospital, the Nurses College, the Sydney Adventist School and the commercial complex on the corner of Fox Valley Road and the Comenarra Parkway were all approved on the basis that the extent of the APZ defined by Dr David Robertson and included in the Biodiversity Management Plan prepared by Cumberland Ecology was approved by the Commonwealth Department of Agriculture, Water and the Environment (DAWE).

Section 5 of the Biodiversity Management Plan prepared for the Wahroonga Estate (Cumberland Ecology 2019) contains a Bushfire Management Plan, prepared by ABPP, which details the requirements for the continued management of the Asset Protection Zone to the extent of the surveyed line.

Appendix F of the BMP is the Fuel Management Plan for the Estate which identifies that the Asset Protection Zone extends to the surveyed line and that the area between the E2 zone boundary and the surveyed outer edge of the Asset Protection Zone and is a Vegetation Transition Management Area, managed as an Outer Protection Area (OPA) – to the prescriptions as defined in the Fuel Management Plan component of the Biodiversity Management Plan.

The area of the Asset Protection Zone located beyond the E2 zone boundary line, as defined by the survey line, does not require any vegetation removal in order to comply with the NSW Rural Fire Service standards for Asset Protection Zones.



Graham Swain.

Managing Director

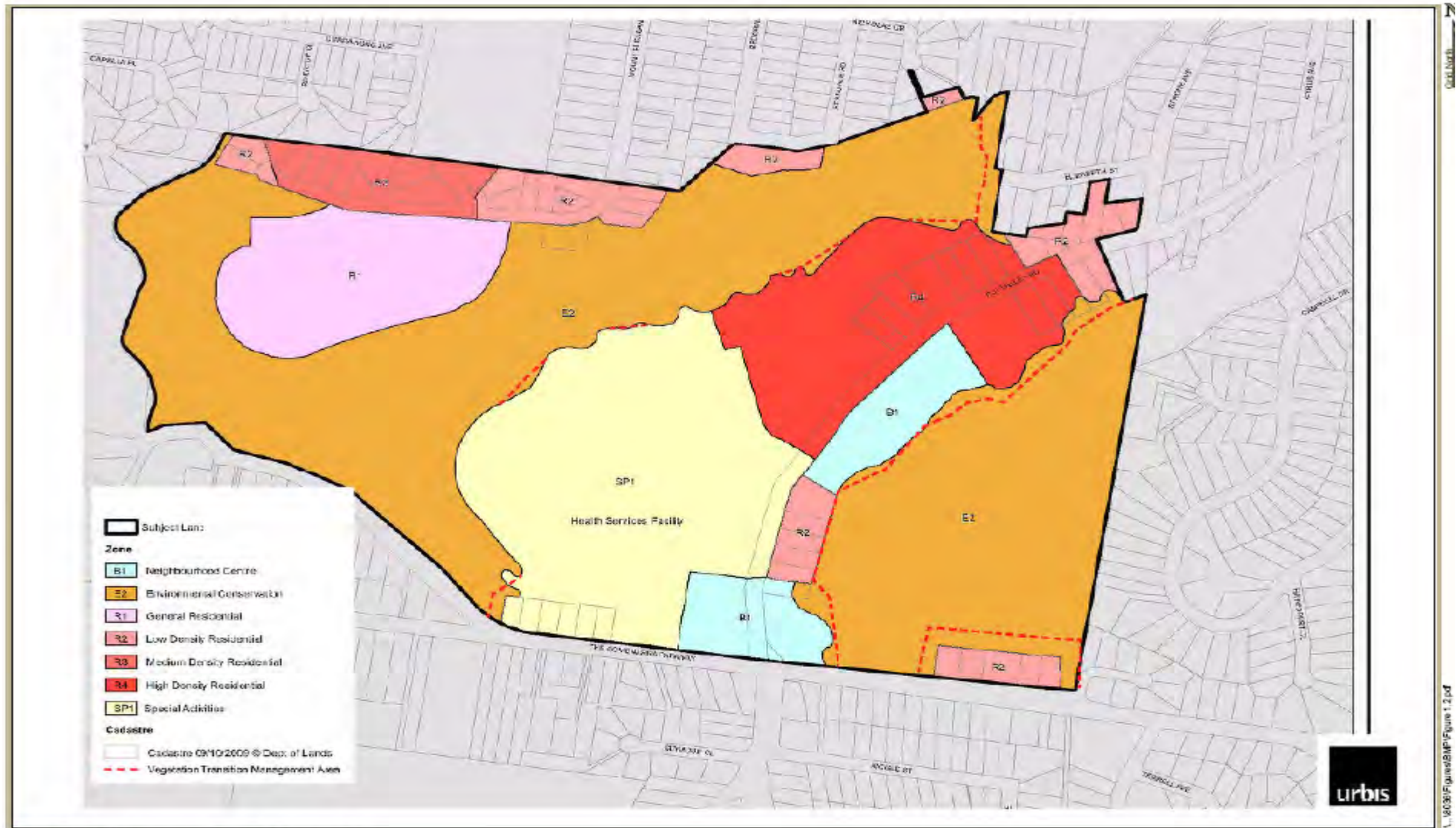
***Australian Bushfire Protection Planners Pty Limited***

26/03/2020.

***Fire Protection Association Australia Member No. 48781***



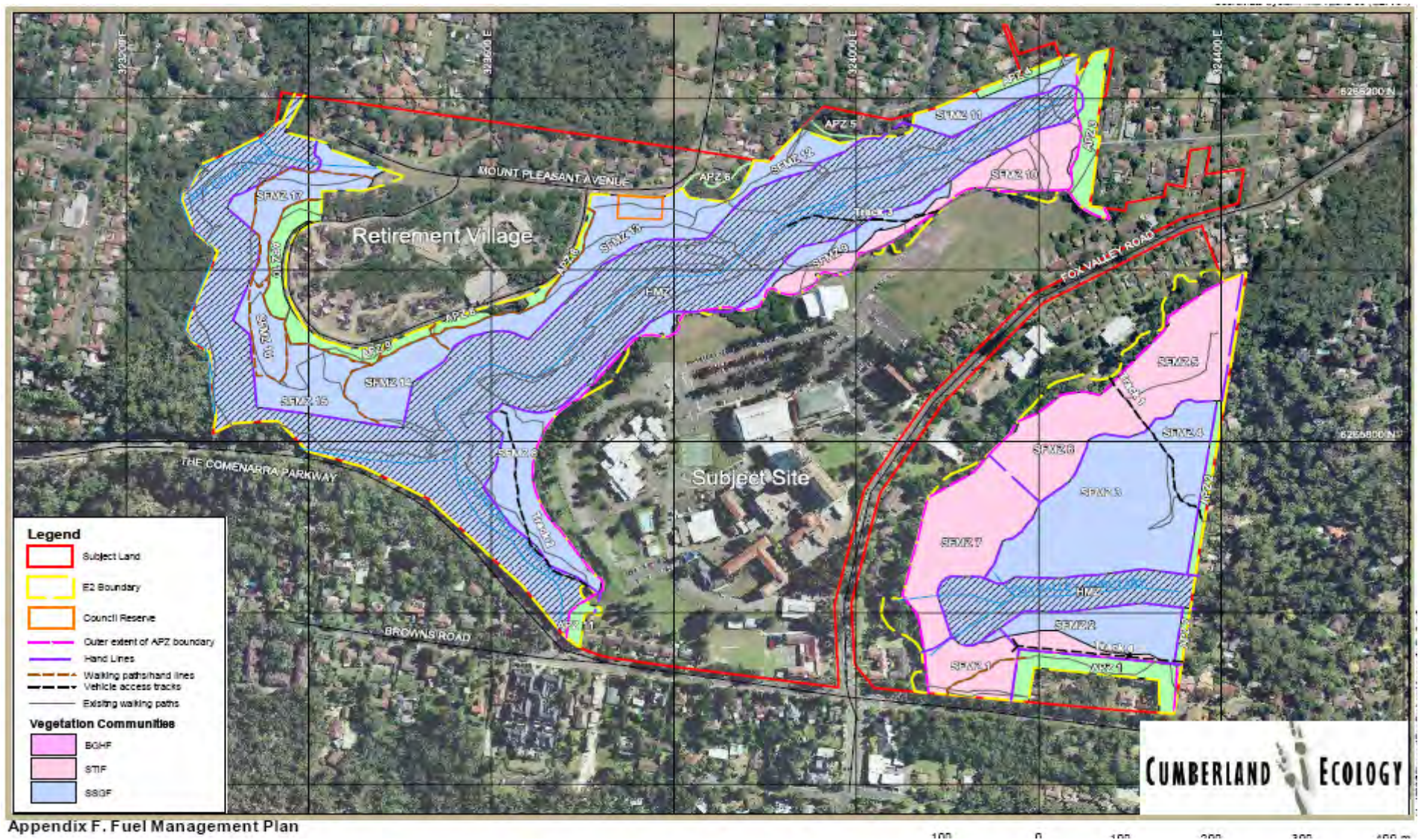
**Attachment B – Rezoning Plan showing the Vegetation Transition Management Area (Outer Protection Area)**



**Figure 1.2. Wahroonga Estate Rezoning Plan**

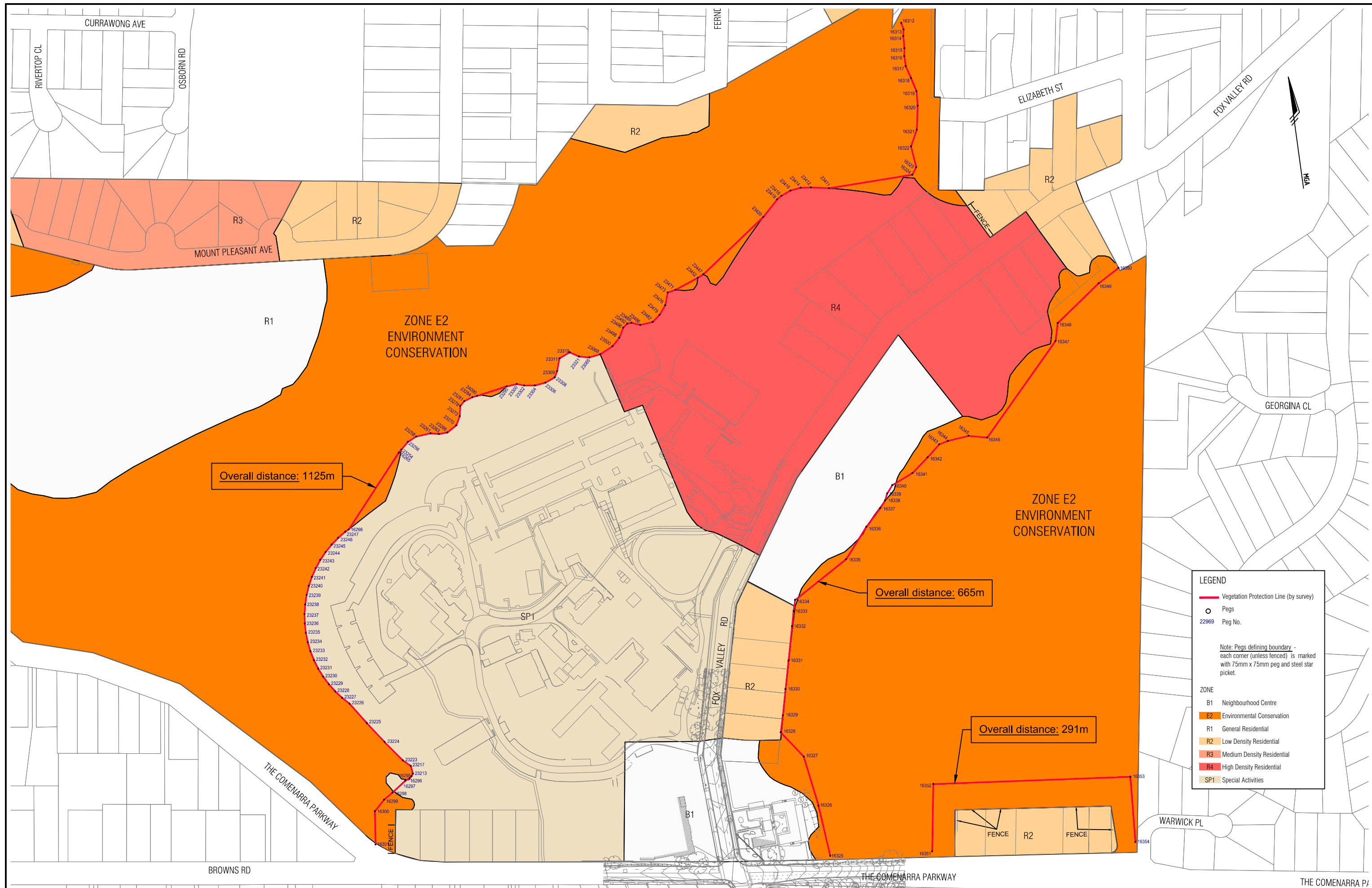


**Attachment C – Fuel Management Plan showing the outer edge of the APZ boundary.**



Appendix F. Fuel Management Plan





REVISIONS						
	B	11-04-2012	Recent survey data added at NE cnr Fox Valley Road & Comenarra Pkwy	CFW		
	A	29-06-2011	Original Issue	CFW		
	No.	DATE	REVISION DETAILS	BY		

**NOTES**

- Cadastre - Digital Cadastral Database (DCDB) © 2007 NSW Land and Property Management Authority (LPPMA).
- Detail survey information within Sydney Adventist Hospital (SAH) site and adjoining roadways sourced from various InSites detail surveys, dated June 2010, August 2010 & March 2012.
- Zoning information digitised from Planning NSW zoning image (ref: *SEPP (Major Developments) 2005 Wahroonga Estate Land Zoning Map (shw/ L27 011)* which was georeferenced to DCDB. Position is approximate and indicative only.
- Vegetation Management Transition boundary line pegged by InSites in June 2011.

**SCALE:** 1:1500

**LONG SECTION:**

H: N/A  
V: N/A

**CROSS SECTION:**

H: N/A  
V: N/A

**PREPARED BY**

Whelans Insites Pty Ltd  
ACN: 088 148 743

**SURVEYING**

**INSITES**

insites.com.au

INCORPORATING  
**WALLIS & MOORE**

**DATE:** N/A

**DATUM:** N/A

**CLIENT:**

**Johnson Property Group**

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Sydney, NSW 2000  
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F: 02 9262 0511

Level 1, Suite 2, 668 Princess Hwy  
Sutherland, NSW 2232  
DX 4522 Sutherland  
T: 02 9542 1177  
F: 02 9542 4631

**TITLE**

**Pegs Placed Along  
Vegetation Management Transition  
Boundary Line  
Sydney Adventist Hospital, Wahroonga**

**JOB No:**

**G630SW**

**ISSUE**

**B**

**SURVEY:** B.F.

**DRAWN:** C.F.W.

**DESIGNED:** N/A

**APPROVED:** B.F.

**DATE OF SURVEY:** Various

**DATE OF PLAN:** 29-06-2011

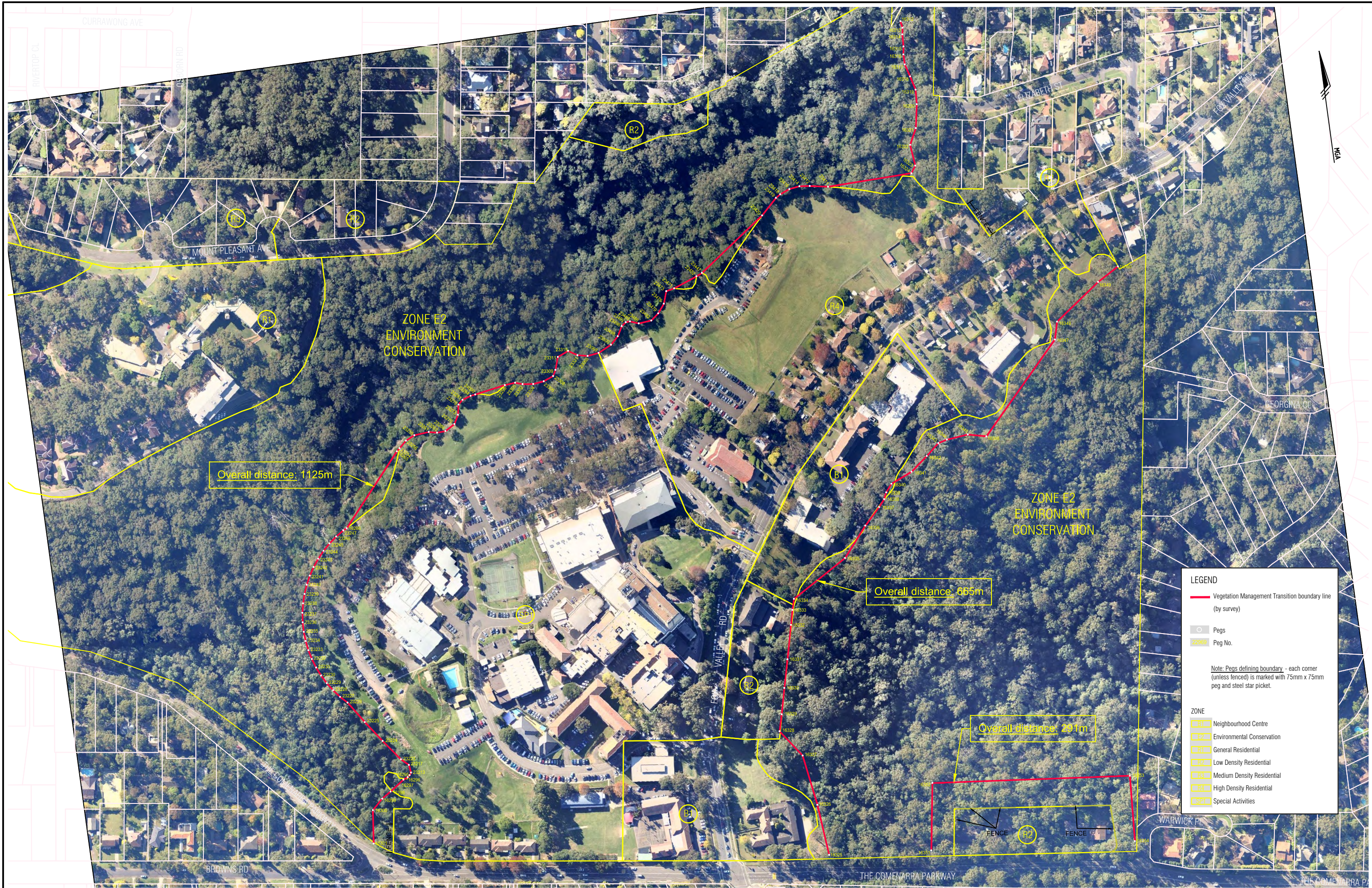
**DATE LAST SAVED:** 11-04-12

**DATE APPROVED:** 29-06-2011

**SHEET 1 OF 2 SHEETS**

**SIZE**





**LEGEND**

— Vegetation Management Transition boundary line (by survey)

○ Pegs

22988 Peg No.

Note: Pegs defining boundary - each corner (unless fenced) is marked with 75mm x 75mm peg and steel star picket.

**ZONE**

- R1 Neighbourhood Centre
- R2 Environmental Conservation
- R3 General Residential
- R4 Low Density Residential
- B1 Medium Density Residential
- B2 High Density Residential
- CSB1 Special Activities

REVISIONS			
No.	DATE	REVISION DETAILS	BY
B	11-04-2012	Recent survey data added at NE cnr Fox Valley Road & Comenarra Pkwy	CFW
A	29-06-2011	Original Issue	CFW

- NOTES:**
- Cadastre - Digital Cadstral Database (DCDB) © 2007 NSW Land and Property Management Authority (LPMA).
  - Detail survey information within Sydney Adventist Hospital (SAH) site and adjoining roadways sourced from various InSite detail surveys, dated June 2010, August 2010 & March 2012.
  - Zoning information digitised from Planning NSW zoning image (ref: SEPP (Major Developments) 2005 Wahroonga Estate Land Zoning Map (sheet 1/2N 001) which was georeferenced to DCDB. Position is approximate and indicative only.
  - Vegetation Management Transition boundary line pegged by InSites in June, 2011.

**SCALE:** 1:1500

**DATUM:** N/A

**LONG SECTION:** H: N/A V: N/A

**CROSS SECTION:** H: N/A V: N/A

30 15 0 30 60 90

SCALE IN METRES AT ORIGINAL REDUCTION RATIO

**PREPARED BY:**

**insites**

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Whitlam Insites Pty Ltd  
ACN: 088 148 743

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DX 4522 Sutherland  
T: 02 9542 1177  
F: 02 9542 4631

CLIENT:			
Johnson Property Group			
SURVEY:	B.F.	DATE OF SURVEY:	Various
DRAWN:	C.F.W.	DATE OF PLAN:	29-06-2011
DESIGNED:	N/A	DATE LAST SAVED:	11.04.12
APPROVED:	B.F.	DATE APPROVED:	29-06-2011

**TITLE**

Pegs Placed Along  
Vegetation Management Transition  
Boundary Line  
Sydney Adventist Hospital, Wahroonga

**JOB No:** H928SW

**DWG No:** P01

**SHEET** 2 OF 2 SHEETS

**ISSUE** B

**SHEET** A1