



oakstand

## CSIRO Yarralumla (Forestry Place)

EPBC Referral Preliminary Documentation  
– Heritage Response

24 August 2022

Project No.: 0502267-07

Document details	
Document title	CSIRO Yarralumla (Forestry Place)
Document subtitle	EPBC Referral Preliminary Documentation – Heritage Response
Project No.	0502267-07
Date	24 August 2022
Version	2.1
Author	Elspeth Mackenzie
Client Name	Oakstand

#### Document history

Version	Revision	Author	Reviewed by	ERM approval to issue		Comments
				Name	Date	
Draft	00	E. Mackenzie	E. Finnegan	K. Bradfield		For client review
Final	01	E. Mackenzie	E. Finnegan	K. Bradfield	22.04.2022	
Final	02	E. Mackenzie		K. Bradfield	24.08.2022	

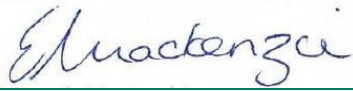
---

Signature Page

24 August 2022

## CSIRO Yarralumla (Forestry Place)

EPBC Referral Preliminary Documentation – Heritage Response



---

Elspeth Mackenzie  
Principal Heritage Consultant



---

Karie Bradfield  
Partner

Environmental Resources Management Australia Pty Ltd  
Level 15, 309 Kent Street  
Sydney NSW 2000

© Copyright 2022 by ERM Worldwide Group Ltd and/or its affiliates ("ERM").  
All rights reserved. No part of this work may be reproduced or transmitted in any form,  
or by any means, without the prior written permission of ERM.

## CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1 Authorship.....	1
1.2 Site Location .....	1
1.3 Proposed Action .....	1
<b>2. HERITAGE VALUES .....</b>	<b>2</b>
2.1 Heritage Status .....	2
2.2 Historic Heritage Values .....	2
2.3 Aboriginal Heritage Values .....	4
2.4 Natural Heritage Values.....	4
<b>3. HERITAGE CONSIDERATIONS FOR MASTERPLAN DEVELOPMENT .....</b>	<b>5</b>
3.1 Retention of All Heritage Buildings with High or Moderate Ranking .....	6
3.2 Individual Appraisal of Heritage Buildings with Low Ranking.....	8
3.3 Use of Existing Building Footprints .....	10
3.4 Retention of Open Spaces, Sightlines, and Overall Treescape .....	10
3.5 Individual Appraisal of Important Plantings .....	11
3.5.1 High Heritage Value Plantings/Landscape Elements.....	11
3.5.2 Moderate Heritage Value Plantings/Landscape Elements .....	11
3.5.3 Low Heritage Value Plantings/Landscape Elements.....	16
3.6 Consultation with Registered Aboriginal Organisations (RAO) .....	17
<b>4. PROPOSED IMPACTS TO HERITAGE VALUES AND ATTRIBUTES .....</b>	<b>19</b>
4.1 Direct Impacts.....	19
4.1.1 Demolition and Removal.....	19
4.1.2 Refurbishment and Renovation.....	19
4.1.3 Tree Removal .....	20
4.1.4 Alteration of Setting.....	20
4.1.5 Impacts on Aboriginal Values .....	20
4.2 Indirect Impacts .....	21
4.2.1 Change of Use to Buildings .....	21
4.2.2 Change of Use to Site.....	21
4.2.3 More People Using Site .....	21
4.2.4 Change to Social Significance of the Site .....	21
4.3 Mitigation Measures.....	22
4.3.1 Adaptive Re-use of Remaining Heritage Buildings .....	22
4.3.2 Tree Retention and Re-invigoration .....	22
4.3.3 Glasshouse Reconstruction .....	22
4.3.4 Archival (Photographic) Recording .....	23
4.3.5 Interpretation.....	23
4.4 Final Impact Assessment.....	23
4.4.1 Overall Impact Assessment to Australian Forestry School (former) (CHL #105426) ..	29
4.4.2 Overall Impact Assessment to the CSIRO Forestry Precinct (CHL #105595).....	30
<b>REFERENCES.....</b>	<b>31</b>
<b>APPENDIX A HERITAGE ASSESSMENT</b>	
<b>APPENDIX B ABORIGINAL CULTURAL HERITAGE ASSESSMENT</b>	
<b>APPENDIX C HERITAGE IMPACT ASSESSMENT</b>	

## EXECUTIVE SUMMARY

Information Request	Where Addressed in This Document
Detailed description of the future uses (adaptive re-use) of heritage-listed buildings.	<i>Section 4.3.1</i>
Further information on the alternative designs that were investigated.	<i>Section 3</i>
Justification of final design, including consideration of: <ul style="list-style-type: none"> <li>■ the Caretakers Cottage,</li> </ul>	<i>Section 3.2</i>
<ul style="list-style-type: none"> <li>■ the Divisional Headquarter Buildings,</li> </ul>	<i>Section 3.2</i>
<ul style="list-style-type: none"> <li>■ the Controlled Environment Laboratory,</li> </ul>	<i>Section 3.2</i>
<ul style="list-style-type: none"> <li>■ plantings of Atlas Cedar,</li> </ul>	<i>Section 3.5.2</i>
<ul style="list-style-type: none"> <li>■ plantings of Monterey Pine,</li> </ul>	<i>Section 3.5.2</i>
<ul style="list-style-type: none"> <li>■ plantings of Pine [Pin] Oak,</li> </ul>	<i>Section 3.5.2; 3.5.3</i>
<ul style="list-style-type: none"> <li>■ plantings of Giant Sequoia,</li> </ul>	<i>Section 3.5.2</i>
<ul style="list-style-type: none"> <li>■ plantings of English Oak,</li> </ul>	<i>Section 3.5.3</i>
<ul style="list-style-type: none"> <li>■ plantings of She Oak,</li> </ul>	<i>Section 3.5.3</i>
<ul style="list-style-type: none"> <li>■ plantings of Kurrajong,</li> </ul>	<i>Section 3.5.2</i>
<ul style="list-style-type: none"> <li>■ plantings of Stone Pine.</li> </ul>	<i>Section 3.5.2; 3.5.3</i>
Clearly state and discuss the direct and indirect impacts of the proposal on the heritage values of the place, in particular the key attributes listed under criterion (a) and social heritage values protected under criterion (g).	<i>Section 4</i>
Provide the ERM (2020) Heritage Assessment.	<i>Appendix A</i>
Provide the ERM (2020) Aboriginal Cultural Heritage Assessment.	<i>Appendix B</i>
Provide clear justification for proposed mitigation measures and how they will reduce adverse heritage impacts.	<i>Section 4.3</i>
Provide details on the archival recording of any heritage attributes that will be impacted and how the records will be made accessible.	<i>Section 4.3.4</i>
Details of consultation with Registered Aboriginal Organisations.	<i>Section 3.6</i>

## 1. INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) has been engaged by Oakstand Pty Ptd (Oakstand) on behalf of the Shepherd Foundation (the Client) (as a beneficiary for The Trustee for the Gunyar ACT Properties Trust) to prepare the heritage response of the Preliminary Documentation (PD) in regards to the EPBC Referral for the Commonwealth Heritage Place ‘The CSIRO Forestry Precinct’ and ‘Australian Forestry School (former)’, Banks Street, Yarralumla, Australian Capital Territory (ACT) known throughout this report as ‘Forestry Place’/or the Site. The Site is currently under consideration for future development.

The Client has engaged Oakstand to manage the range of discipline studies and conduct an assessment of potential future uses for the Site. The outcome of this assessment is a masterplan for a mixed use involving residential, commercial and community aspects. This masterplan is being considered the proposed action for the purpose of this EPBC Referral.

### 1.1 Authorship

This PD has been prepared by ERM Senior Heritage Consultant Elspeth Mackenzie. The attached Heritage Assessment (HA), Aboriginal Cultural Heritage Assessment (ACHA), and Heritage Impact Assessment (HIA) were also prepared by Elspeth as well as ERM Senior Heritage Consultant Toyah Morath. Technical review was undertaken by ERM Principal Heritage Consultant Erin Finnegan and a quality control review was undertaken by ERM Partner Karie Bradfield.

### 1.2 Site Location

The Site is a large ‘U’ shaped parcel of land situated in the suburban residential area of Yarralumla, ACT (Section 4 Block 7 Yarralumla). It is abutted by the Royal Canberra Golf Club to the west and north. It is bounded to the north by Banks Street, and its western cadastral boundary follows a general arc south towards Bentham Street. The Site comprises 10.93 hectares (ha) of land that includes groups of buildings mainly comprising the former AFS that are clustered around an oval, plant nursery and arboretum. The oval was originally part of the AFS, but no longer forms part of the Site and is now ACT Government land (and responsibility).

### 1.3 Proposed Action

The proposed action, as defined by the masterplan, is a redevelopment of the Site as combined residential and other uses. It has been developed with:

- High quality larger residential apartment and ageing-in-place options through assisted seniors living and aged care accommodation;
- A scale that follows the existing building footprints, limits the building heights to within the tree canopy, uses the site topography to limit impact on view corridors, and retains 60% open space;
- A plan to maintain and renew the heritage buildings and significant treescape into the future; and
- A density that complements the character of Yarralumla.

Specifically, it will involve the retention of the buildings with high and moderate heritage significance: Australian Forestry School, Museum, Seed Store, Tennis Courts, and Forestry House. These buildings will have a minimum 20 m curtilage placed around them where no residential development will be permitted. All other existing buildings on the Site will be demolished and be replaced by an aged care facility and 250 to 300 apartments in three storey plus attic buildings clustered in precincts around the existing building footprints and other disturbed areas of the Site. The majority of existing trees will be retained, however trees that have been identified as reaching the end of their life-span, poor quality, or weed species will be removed. The landscape management plan includes a renewal program for trees or copses that have been identified as high quality or having moderate to high heritage significance, and a large number of new trees will also be planted across the Site.

## 2. HERITAGE VALUES

### 2.1 Heritage Status

The Site holds significant historic heritage value, having been listed on the Commonwealth Heritage List (CHL) for its historic, research, aesthetic, representative, technical, social and associative values. The Site is recognised as having importance as the place of the earliest nationally coordinated forestry training, and as a key location of national forestry research throughout the twentieth century.

The Site comprises two Commonwealth Heritage Places:

- The Australian Forestry School (former) (Place ID 105426); and
- The CSIRO Forestry Precinct (Place ID 105595).

Other than contributing to the wider cultural landscape, the Site was not found to hold any Aboriginal heritage values.

Although it holds limited scientific value due to it containing 'experimental plantings and a significant genetic resource for Australia', the Site does not possess natural heritage values as defined by the Australian Natural Heritage Charter.

### 2.2 Historic Heritage Values

A recent comprehensive Heritage Assessment of the Site (ERM 2020) validated the CHL significance assessment, and also identified that the Site meets two additional CHL criteria: b) for rarity as the first and only national forestry school in the country and its importance in establishing plantings and afforestation throughout Canberra since 1913; and d) for its representative values as a place of forestry training and research. The Site has therefore been found to meet all criteria of the CHL significance assessment relevant to historic heritage values.

Three built elements were assessed as having high heritage significance:

- The Australian Forestry School (9);
- Former Museum (10); and
- Forestry House (2).

An additional three built elements were assessed as having a moderate heritage value:

- Former Seeds Store (17);
- Tennis Courts (30); and
- Former Nursery (no ID).

There are also seven built elements that were assessed as having low heritage value:

- Lavatory/Change Room (18);
- Meteorological Plot (8);
- Store (13);
- Caretaker's Cottage (5);
- Glasshouses Complex (4, 4a, 4b, 4c, 4d);
- Controlled Environment building (3); and
- Fire Wind Tunnel 'Pyrotron' (26).

There were also a number of plantings and plant groupings assessed as holding heritage value; including the high heritage value plant grouping:

- Roman Cypresses (Group 21/TGLP Tree 305 & 306).

There are also 10 moderate heritage value plant groupings and four individual plantings:

- Roman Cypresses (Group 20/TGLP Group 20);
- Chir Pine (Group 8/TGLP Group 6);
- Canary Island Palm (Group 7/TGLP Group 5);
- Pine species including: Aleppo Pine/ Calabrian Pine/Michocan Pine/Douglas Pine (Group 5/TGLP Group 4);
- Ponderosa Pine (Group 17 & Group 20/TGLP Group 19 & 20);
- Stone Pine (Group 23/TGLP Group 22);
- Pin Oaks/Pine species (Group 2);
- Atlas Cedar (Group 1);
- Monterey Pine groupings scattered throughout (Group 3, Group 13, Group 14/TGLP Group 3 & 10);
- Giant Sequoia (Group 6);
- Kurrajong (Group 12/TGLP Group 9);
- Pin Oak (Group 4);
- Tasmanian Blue Gum (within Group 22);
- Bunya Pine (within Group 22/TGLP Tree 581);
- Claret Ash (within Group 22); and
- Spotted Gum (within Group 10).

Plantings assessed as having low heritage value include:

- Pin Oaks (Group 11/TGLP Group 8);
- Flooded Gum/Rose Gum (Group 10);
- She-Oak x3 (between Groups 12 & 13);
- Stone Pine (Group 16/TGLP Group 18);
- English Oak (Group 9/TGLP Group 7); and
- Mexican Cypress (within wings of Building 1/TGLP Tree 1478 & 1479).

The Site contains a number of significant views and sight lines, with the most notable being the Australian Forestry School eastern façade and landscaped frontage as the termination of Schlich Street. Important view lines also include the spatial and visual relationship between the Australian Forestry School (9), former Museum (10) and Store (17), the view from Wilf Crane Crescent overlooking the oval and Forestry House, and from Forestry House looking onto the landscaped frontage, mature trees and manicured oval.

The Site also holds strong associations with two pioneers of forestry research and policy, Charles Edward Lane-Poole and Dr Maxwell Ralph Jacobs. The arboretum is also important for its association with Canberra's arboriculturalist Thomas Charles George Weston. The Site also holds social significance to the former students and scientists who trained or worked on the Site.



## 2.3 Aboriginal Heritage Values

An Aboriginal Cultural Heritage Assessment (ERM 2020) concluded that the Site contained no Aboriginal heritage values, tangible or intangible, and that the Site does not hold any cultural significance to Aboriginal people other than being part of the wider cultural landscape. This assessment was undertaken in accordance with the EPBC Act and Regulations requirements and heritage industry best practice guidelines.

## 2.4 Natural Heritage Values

The Heritage Assessment (ERM 2020) concluded that the Site does not possess natural heritage values as defined by the Australian Natural Heritage Charter, although it does have limited scientific values as it contains ‘experimental plantings and a significant genetic resource for Australia’ (ERM 2020: 98). The Heritage Assessment notes that the various tree species within the Site are not rare and it is unlikely that the Site could contribute further substantial information. The Site is also noted to have some aesthetic values through its mature pine forest setting, however it does not provide a sensory perception or the form, scale, colour, texture or landscape that is considered of natural aesthetic value.

### 3. HERITAGE CONSIDERATIONS FOR MASTERPLAN DEVELOPMENT

Oakstand began a future use options analysis by establishing a number of key considerations unique to the Site. These key considerations included:

- Public ownership of Forestry Oval, around which the site is located;
- Existing heritage buildings;
- Existing trees worthy of retention;
- Retaining the important views and sight lines to and from heritage buildings; and
- The Site topography, with the ground rising away from Banks Street and the oval particularly towards the west boundary.

Following on from a consultation process that highlighted relevant local community issues, an approximate ‘developable’ area of the Site was mapped by the Forestry Place team, which avoided buildings and trees ranked as having moderate or high heritage or ecological significance. From this data, various options for future uses were developed including: a renewed lease by CSIRO; new scientific research uses; educational uses; and two variations of combined residential and other uses. Further analysis of these options determined the following:

- CSIRO determined that they will not be seeking a renewed lease;
- An expanded campus style research facility was considered financially unviable due to the lack of demand for such a significant quantity of bespoke space, and the necessary built form would be undesirable due to increased floorplans which would necessitate the removal of a large number of trees;
- Educational use required a built form that was visible from the external streets and which would compromise heritage sightlines, substantial tree removal would be required, public accessibility would be reduced, and the traffic impact would be unacceptable; and
- A combined residential and other uses would provide a mix of active but low impact uses across the site, adaptive reuse of the two primary heritage buildings could be achieved with little impact to their heritage values, public accessibility would be retained, and residential buildings would allow a finer grain approach with smaller building footprints clustered in developable areas and located with respect to the existing trees and below the tree canopy.

For the purposes of a Heritage Impact Assessment (ERM 2020), two other heritage conservation options were also considered: mothballing and ‘do-nothing’. Neither of these options were deemed appropriate for this Site, as long-term mothballing or ‘do-nothing’ alternatives were not considered feasible in terms of future use acceptable to the current owner, the community, or positive heritage outcomes.

After reviewing all the concept plans and community consultation feedback, Oakstand determined that one of the options for combined residential and other uses was the most desirable outcome, as it best met the key considerations outlined above. A mixed-use masterplan was therefore developed.

### 3.1 Retention of All Heritage Buildings with High or Moderate Ranking

The retention of existing heritage buildings, respecting the existing heritage fabric and retaining this within the greater functionality of the Site, was a key consideration and core design tenet. With this in mind, the masterplan for the Site's future use was designed around the intention to retain all heritage buildings ranked as moderate or high significance.

The proposed future use of the Site, as defined by the masterplan, will involve the retention of the Australian Forestry School (9), Museum (10), Seed Store (17), Tennis Courts (30), and Forestry House (2). In order to mitigate any risk of impact to the heritage values of these buildings, they will have a minimum 20 m curtilage placed around them where no residential development will be permitted.

The detailed description of the future uses (adaptive re-use) of the heritage buildings retained is detailed below:

- Australian Forestry School (AFS) (9): The AFS building is a highly significant building with fabric of technical excellence, some of which is ranked of exceptional significance. The AFS building will be retained and continue to be used for community/commercial lease. Low impact community infrastructure such as a glasshouse may be built within the grassed area at the rear of the building. Utilising the AFS building for community/commercial lease is in keeping with its current use and is a soft impact approach that is both sympathetic to its heritage values and compatible with its original use.

Any future use that has the potential to impact the heritage values of the AFS building would be subject to development approvals and would require a project specific Heritage Impact Assessment. These would need to consider ongoing impacts to the heritage fabric through a change or increase in use of the building.

Significant fabric for this consideration would include:

- Any features of the Inter-War Stripped Classical style;
- Roof fabric (terracotta tile cladding) and roofline;
- Window fabric and vertical bay fenestration;
- Expressive entrance portal and stepped parapet wall;
- Cast iron rainwater heads, downpipes, fascia, and guttering;
- Internal layout;
- Internal timber detailing including wall skirting, panelling, and architraves; and
- Central foyer timber parquet flooring and wall, and ceiling details which are of exceptional significance.

- Industrial Museum/Forestry and Timber Bureau Offices (10): The former Museum building was established in 1938, and converted into offices in 1946. This conversion altered the internal layout somewhat, however the original flooring, walls and detailing was retained, along with original elements of the 1938 museum display rooms. Under the masterplan the former Museum building will be adaptively reused to form a resident/community recreation area alongside the Tennis Courts (30) and former Seed Store (17). The Museum building is of the same Inter-War stripped classical design as the AFS building and has a high degree of integrity. The Museum also forms a key element of the spatial and visual relationship between itself, the AFS and the former Seeds Store. Like the AFS, there will be no residential development encroaching the Museum building with a minimum 20 m protection curtilage. The approach to adaptively reuse the Museum building as part of resident/community recreation area is a soft impact approach which is sympathetic with the heritage values of the building. This use will not substantially alter the fabric of the building and ensure the visual and spatial relationship between buildings 9, 10 & 17 is conserved.

Any future use that has the potential to impact the heritage values of the Museum building would be subject to development approvals and would require a project specific Heritage Impact Assessment. These would need to consider ongoing impacts to the heritage fabric through a change or increase in use of the building. The features of significance which should be carefully factored into the adaptive reuse of the building include:

- Any features of the Inter-War Stripped Classical style;
  - The symmetrical façade and restrained wall treatment;
  - Roof fabric (terracotta tile cladding) and the roofline;
  - Window fabric, the vertical bay fenestration, and the face bricks;
  - Cast iron rainwater heads, downpipes, fascia, and guttering;
  - The formal landscape garden beds;
  - Timber skirting and picture railings; and
  - The original internal layout.
- Forestry House (2): Forestry House is an example of a modern post-war American Colonial style residential building. It was originally established as a residential building for Australian Forestry School students, and later converted for use as a CSIRO office and research facility. Later conversions have altered the internal fabric of Forestry House somewhat, though it has retained a high degree of integrity externally, and a moderate degree of integrity internally, particularly within the southern portion of the first level.

Forestry House is planned to be converted into a two-storey hotel. The development will involve the establishment of additional two-story hotel facilities behind Forestry House to the west at the location of the current carpark. This new building will be set back from the western façade of Forestry House and match the roofline, ensuring the protection of setting and views to and from the building from its prominent eastern façade. There will be no residential development within a minimum 20 m curtilage of Forestry House.

The adaptive reuse of Forestry House as a hotel is an ideal use for the continued conservation and maintenance of the building. It is also compatible with the original use of the building and sympathetic to its heritage values. The adaptive reuse design would be subject to development approvals and would require a project specific Heritage Impact Assessment. It should prioritise the careful conservation of the significant external and internal fabric, which includes:

- The building form and general layout;
- Roofline and terracotta tile cladding;
- Bronze and timber roof turret;

- Timber window fabric and brick sills;
  - Internal timber skirting and picture railing;
  - Original timber doors and flooring in dining hall;
  - Timber framed doors and transom windows; and
  - Exposed timber trusses in main conference room.
- Former Seeds Store (17): The former Seeds Store was constructed prior to 1938 as a carpenter's workshop, and later converted for use as a laboratory and seed store. The building holds similar design elements to the AFS and former Museum building, with hipped terracotta tile clad roof and timber framed double hung sash windows. It will be adaptively reused to form a resident/community recreation area alongside the Tennis Courts (30) and former Museum building (10). Like the AFS, former Museum and Forestry House, the former Seeds Store will not be impacted by encroaching residential development, as all new builds will be set back some distance from this building. This will again ensure the visual and spatial relationship between buildings 9, 10 and 17 is conserved.

The adaptive reuse of the former Seeds Store as part of a recreation area is a soft impact approach, and will ensure the ongoing conservation and maintenance of the building. The building has retained a high degree of integrity, being largely unchanged since its conversion into a Seeds Store in the 1930s/40s. The adaptive reuse design would be subject to development approvals and would require a project specific Heritage Impact Assessment. It should carefully consider the significant features and original and early fabric, which includes:

- General form and layout;
  - Roofline and terracotta tiles;
  - Timber cladding, internal timber flooring, joinery, and framing etc.; and
  - Window fabric.
- Tennis Courts (30): The Tennis Courts were constructed by the students of the Australian Forestry School in the 1930s when Charles Lane Poole recognised the need for a recreational facility. The Tennis Courts will be refurbished to form a resident/community recreation area alongside the former Museum building (10) and former Seeds Store (17). The continued use of the Tennis Courts will provide a continuity of use that is important to the conservation of heritage values. Ideally the Tennis Courts will be used by residents and be available to the wider community.

### 3.2 Individual Appraisal of Heritage Buildings with Low Ranking

While buildings with heritage value that have been ranked as high or moderate significance will be retained under the masterplan, removal of built elements ranked as having no or low heritage significance is planned to maximise the developable area of the Site by utilising as much as possible of the existing disturbance footprint. The positioning of new structures to correspond with the footprints of these removed buildings has been incorporated into the planning process in order to reduce the overall impact to the setting and visual appeal of the Site.

The built elements with identified heritage significance which are planned for removal are detailed below:

- Lavatory/Change Room (18): This building was constructed sometime during the 1940s and demonstrates typical design characteristics of that era. The Lavatory/Change Room is ranked of low heritage significance, as it is an element of early development phases at the Site. Its demolition is considered to have a minor impact on the heritage values of the Site overall. Mitigation measures will include undertaking an archival photographic record of the structure and developing interpretation signage to mark its position and significance to the Australian Forestry School.
- Meteorological Plot (8): The Meteorological Plot is the site of the former meteorological station established in 1927 and utilised up until 1981. The area has a low degree of integrity, with only remnants of concrete footings for instruments remaining. The Meteorological Plot is ranked of low heritage significance, as it is one of the remnants of the early scientific use of the Site. Its use as the location of new structures is considered to have a minor impact on the heritage values of the Site overall. Mitigation measures will include undertaking an archival photographic record of the area and developing interpretation signage to mark its position and significance to the Site.
- Store (13): The Store was established in 1949 and is typical of simple post-war design. The Store is ranked of low heritage significance, as it is an element of early development phases at the Site. Its demolition is considered to have a minor impact on the heritage values of the Site overall. Mitigation measures will include undertaking an archival photographic record of the structure and developing interpretation signage to mark its position and significance to the Australian Forestry School.
- Caretaker's Cottage (5): The Caretaker's Cottage was constructed concurrently with Forestry House and follows similar design characteristics being a brick masonry structure with hipped terracotta tiled roof, rendered masonry walls and brick face dado. The Caretaker's Cottage appears to have retained its original or early fabric. The Caretaker's Cottage contributes to the overall heritage significance of the Site for its association with the establishment of Forestry House and the expansion of the Australian Forestry School precinct following WWII. It is ranked of low heritage significance, however is the only low ranking built element that is closely connected to a high ranking building due to its concurrent construction and its matching design characteristics. For this reason, the demolition of the Caretaker's Cottage is considered to have a significant impact to the Site's overall heritage values. Removal of the Caretaker's Cottage will however allow the retention of trees with heritage significance that would otherwise need to be removed if the cottage was retained, namely the trees directly to the south of the cottage. The removal of the cottage would have no negative impact on the significant sightlines of the Site, as its location makes it most visible from the rear of Forestry House. Indeed its removal will enhance the treescape setting and view corridors of Forestry House. Mitigation measures will include undertaking an archival photographic record of the building and developing interpretation signage to mark its position and significance to the Site and its connection to Forestry House and the Australian Forestry School.
- Controlled Environment Building (3): The Controlled Environment Building was established in 1969 by the CSIRO as a purpose built laboratory for tissue culture experiments and growing plants. The building is ranked of low heritage significance as it is demonstrative of the later phases of CSIRO development on the site and an intact example of an early CSIRO scientific building. It is a bespoke building, and its function is no longer related to any current nor future use on the Site. This building is also identified as one that CSIRO is obliged to remove as part of its end of lease agreement with the current property owner. The removal of this building is considered to have a minor impact to the overall heritage values of the Site. Mitigation measures include undertaking an archival photographic record of the structure and developing interpretation signage to mark its position and significance to the CSIRO Forestry Precinct.

- Divisional Headquarter Buildings (1): The Divisional Headquarters Buildings were constructed in 1967 and the entire complex comprises three buildings linked together with enclosed walkways. The Headquarters buildings are citing in the CHL listing (Place ID105595) for the Site as a contributory element, however due to its substantial internal modifications and common modern design characteristics, subsequent significance assessments (ERM 2018; 2020) have determined that this building retains no heritage significance. It has now exceeded its useful life and offers limited opportunity for adaptive reuse as current scientific research activities require bespoke modern buildings such as those provided at CSIRO Black Mountain.
- Glasshouses Complex (4, 4a, 4b, 4c, 4d): The buildings within the Glasshouses Complex (West Zone) have already been removed as part of the CSIRO end of lease agreement under a separate EPBC Act approval.
- Fire Wind Tunnel 'Pyrotron' (26): The Fire Wind Tunnel 'Pyrotron' has already been removed as part of the CSIRO end of lease agreement.

### 3.3 Use of Existing Building Footprints

The impact to the Commonwealth Heritage values of Site by the removal of built elements ranked of low heritage significance have been reduced or mitigated by the careful consideration of the Site's most significant elements in the master planning. The masterplan has retained all buildings ranked as moderate and high heritage significance, retained and added to areas of important plantings, and designed the new residential blocks around the footprint of former disturbance and buildings to be removed. The locations of the new residential blocks were planned in this manner in order to limit additional disturbance and reduce the overall impact to the setting, and significant views and sight lines of the Site.

### 3.4 Retention of Open Spaces, Sightlines, and Overall Treescape

The retention of open spaces, sightlines, and the overall treescape was another key consideration for the Client when developing concept plans for the future use of the Site. As these elements of the Site were deemed important issues for the community, the masterplan was specifically designed to retain these features along with the retention of significant heritage buildings and important plantings throughout the Site.

The Urban Design report notes that:

- The planting plans and recommendations on landscape were determined following an extensive period of consultation with the Yarralumla community, the Institute of Foresters and the Friends of ACT Trees;
- The design intention is to rejuvenate rather than try to preserve all of the existing trees on site. That is, the intention is to 'actively' manage the landscape;
- Consistent with the above, the report outlines the intention to set in place an active management and maintenance regimes for the plantings;
- The intention is to retain all registered trees and other high quality trees; and
- The intention is to look to maintain a similar density of canopy over the site and to manage a staged removal of poorer quality trees.

In order to achieve this approach to 'revitalising the landscape' an Arboriculture Assessment of the trees within Forestry Place was carried out. 1,550 trees over 6m in height were assessed either as individual trees or in groups where appropriate. 24 tree groups were identified and each group assigned an overall Tree Quality assessment of either Exceptional, High, Poor or Weed Species. It is also noted that additional review of individual trees and tree groups was subsequently conducted with the Friends of ACT Trees and Institute of Foresters who provided their advice as well as support to the proposed future replanting program.

Open spaces and sightlines have been retained in the masterplan, with the proposed aged care facility and apartment buildings being developed on previous building footprints.

### 3.5 Individual Appraisal of Important Plantings

The retention of plantings and landscape elements that have been ranked of high and moderate heritage value was a key consideration for the development of the Site. These plantings and landscape elements were assessed from various perspectives to maximise the retention of the heritage values they represent and retain the forestry setting of the Site, while also addressing the current health of the trees and planning for their future replacement as they reach their natural end of life.

#### 3.5.1 High Heritage Value Plantings/Landscape Elements

##### *Retention*

- Roman Cypresses (east façade of AFS building (Group 21/TGLP Tree 305 & 306)): The Two Roman Cypresses flanking the stepped entrance to the AFS will be retained and included within the 20 m protection curtilage. These plantings are ranked for high heritage significance for their contribution to the significant view of the AFS as the termination of Schlich Street. These trees were planted during the original landscaping of the AFS and contribute strongly to its historic landscape. The potential impact to these important plantings is expected to be Nil, however significant trees should be protected from work activities through the use of signage and temporary fencing where required.

#### 3.5.2 Moderate Heritage Value Plantings/Landscape Elements

##### *Retention*

- Roman Cypresses (north of AFS building (Group 20/TGLP Group 20)): The two Roman Cypresses located to the north of the AFS are to be retained. These plantings are likely to be early plantings associated with Charles Weston's Westbourne Woods and contribute to the historic landscape of the Site. The plantings are in close proximity to the development of a new access road and the location of the proposed aged care facility and may be temporarily impacted by these works. Protection measures include:
  - Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring; and
  - Significant trees will be protected from nearby work activities through the use of Tree Protection Zones (TPZs), signage and temporary fencing where required.
- Tasmanian Blue Gum (West elevation AFS building (within Group 22)): The Tasmanian Blue Gum will be retained. This striking mature eucalypt contributes to the overall historic landscape value of the AFS and will be included within the 20 m protection curtilage. The potential impact to this important planting is expected to be Nil, however significant trees will be protected from work activities through the use of signage and temporary fencing where required.
- Bunya Pine (between north elevation of building 10 and building 17 (within Group 22/TGLP Tree 581)): The mature Bunya Pine will be retained. The Bunya Pine contributes to the overall historic landscape value of the AFS and will be included within the 20 m protection curtilage. The potential impact to this important planting is expected to be Nil, however significant trees will be protected from work activities through the use of signage and temporary fencing where required.



- Claret Ash (west elevation (behind) building 9 (within Group 22)): The Claret Ash along the west elevation of the AFS will be retained. This planting is associated with the early landscaping of the AFS and forms part of its historic landscape. This tree will be within the 20 m protection curtilage and the potential impact is expected to be Nil, however significant trees will be protected from work activities through the use of signage and temporary fencing where required.
- Chir Pine (north-east of building 3 (Group 8/TGLP Group 6)): The grouping of Chir Pines will be retained. This grouping contributes to the overall historic landscape value of the Site as a group of early plantings associated with AFS research into various exotic and native pine species. This grouping is within close proximity to a series of proposed residential apartment buildings and may be temporarily impacted by these works. Protection measures include:
  - Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring; and
  - Significant trees will be protected from nearby work activities through the use of TPZs, signage and temporary fencing where required.
- Spotted Gum (south-east of building 3 across access road (within Group 10)): The Spotted Gum will be retained. The Spotted Gum was planted by the Research Division of the Forestry and Timber Bureau in the 1950s and contributes to the overall historic landscape of the Site. This grouping has been assessed by a qualified arborist as being of high quality. This grouping is within close proximity to a proposed residential apartment building and may be temporarily impacted by these works. Protection measures include:
  - Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring; and
  - Significant trees will be protected from nearby work activities through the use of TPZs, signage and temporary fencing where required.
- Canary Island Palm (planted around building group 1 (Group 7/TGLP Group 5)): The grouping of Canary Island Palm will be retained. This grouping has been assessed by a qualified arborist as being of high quality. This grouping of Canary Island Palm is significant for its association with Charles Weston and Westbourne Woods, likely planted prior to 1920. The grouping was utilised for scientific research in the early years of the AFS and has been assessed as being a significant genetic resource. This grouping is within close proximity to a proposed residential apartment building within the southern corner of the Site and may be temporarily impacted by these works. Protection measures include:
  - Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring; and
  - Significant trees will be protected from nearby work activities through the use of TPZs, signage and temporary fencing where required.
- Pine species including: Aleppo Pine/ Calabrian Pine/Michocan Pine/Douglas Pine (Group 5/TGLP Group 4) (planted around building group 1): A series of pine species within the South Zone were planted prior to 1920, with some further plantings in the 1950s. This entire grouping of various mature pine species will be retained. This unique grouping is highly representative of the early forestry research being undertaken at the Site including research into various exotic and native pine species and as a significant genetic resource.

This grouping is within close proximity to a proposed residential apartment building within the southern corner of the Site and may be temporarily impacted by these works. Protection measures include:

- Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring;

- Significant trees will be protected from nearby work activities through the use of TPZs, signage and temporary fencing where required; and
- Developing interpretation signage to be placed in front of this grouping that provides information about the significance of the pine trees, the purpose of the grouping and their importance to early forestry research.

Ponderosa Pine (Group 17 & Group 20/TGLP Group 19 & 20) (either side of AFS building and north of Service Yard Group): There are a small number of mature Ponderosa Pine within the Site. These plantings have been assessed by a qualified arborist as being of high quality and will be retained. These groupings are associated with Charles Weston and Westbourne Woods, and likely to have been planted prior to the establishment of the AFS. There is a single Ponderosa Pine adjacent to the south elevation of the AFS, this planting will not be impacted by works. Group 17 is located north of the current CSIRO Pyrotron Complex/Service Yard Group which is proposed for removal to make way for a new aged care facility. Group 20 is clustered together with various pine species and located north of the AFS. Each grouping of the Ponderosa Pine and the individual planting has been assessed by a qualified arborist as being of high quality. Group 17 is within close proximity to the north elevation of the proposed aged care facility, similarly, Group 20 is located within close proximity to the proposed new access road to this facility and both groups may be temporarily impacted by these works. The poor quality pine species within Group 20 (of nil significance) will be removed to make way for this access road. Protection measures include:

- Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring; and
- Significant trees will be protected from work activities through the use of TPZs, signage and temporary fencing where required.

Stone Pine (Group 23/TGLP Group 22) (north boundary of Tennis Court (30)): The Stone Pine grouping will be retained. This Stone Pine Grouping has been assessed by a qualified arborist as being of exceptional quality. This grouping is an early planting associated with the scientific research by AFS students and contributes to the heritage landscape. Group 23 is located south of the proposed new aged care facility and may be temporarily impacted by these works. Protection measures include:

- Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring;
- Significant trees will be protected from work activities through the use of TPZs, signage and temporary fencing where required; and
- Developing interpretation signage to be placed in front of this grouping that provides information about the significance of the pine trees, the purpose of the grouping and their importance to early forestry research.

- Pin Oaks/Pine species (along southern end of Wilf Crane Crescent (Group 2)): The Pin Oak/Pine species along southern verge of Wilf Crane Crescent will be retained. The Pin Oak species is scattered in areas across the AFS and is significant as an early scientific planting. The plantings along Wilf Crane Crescent are likely to have been planted for landscape value rather than for scientific purposes. There will be no works within close proximity of this groups and the impact is expected to be Nil, however significant trees will be protected from work activities through the use of TPZs, signage and temporary fencing where required.

## Removal

- Atlas Cedar (Group 1) (east of building group 1 near Bentham Street): The grouping of Atlas Cedar along Banks Street is proposed for partial removal. This grouping is associated with Charles Weston and Westbourne Woods, and is believed to have been planted prior to the establishment of the AFS. The Atlas Cedar has been assessed by a qualified arborist as a medium quality group with a significant number of deadwood trees.

It is intended that the plantation remains largely intact, although some removal of individual trees that are either dead, moribund or have a poor form is intended. Removal of these individual trees will assist other trees in the plantation that are intended to be retained, providing increased room for growth. Note that the registered street trees within the western verge of Banks Street are preserved.

This area has been assessed as having moderate heritage significance due to both the age of the plantings, and also the fact that they are one of the two remaining areas on the site which have a formal and distinct ‘nursery’ planting layout, which demonstrates this particular aspect of the history of the site as a place of propagation as well as research. Thinning this area and removing a portion of the trees would have only moderate impact if the ‘nursery’ planting layout is retained.

Mitigation measures include:

- Retaining the ‘nursery’ planting layout when deciding on individual tree removal;
- The remaining trees will be protected from nearby work activities through the use of TPZs, signage and temporary fencing where required;
- Developing interpretation signage to be placed in front of this grouping that provides information about the significance of the trees, the purpose of the grouping and their importance to early forestry research.

- Monterey Pine groupings scattered throughout (Group 3, Group 13, Group 14/TGLP Group 3 & 10): The groupings of Monterey Pine across the Site are proposed for partial removal due to poor quality and the fact that they compromise an efficient layout of built form and new plantings.

The partial removal of Monterey pine will have a minor/low intensity impact to the Site overall. These groupings of Monterey pine are ranked as being of moderate significance for their association with Charles Weston during the establishment of Westbourne Woods. The species was also key to the research of prominent Forester Dr Maxwell Jacobs who began his early propagation experiments on the species from 1939. The Nursery was also in continued use for propagating Monterey pine from the 1940s – 1980s and as such, the Monterey Pine remains a significant contributory element to the Site overall.

While it is generally recommended that an offsetting strategy be implemented to mitigate the removal of trees with individual contributory value (such as replanting saplings of the same species), the Monterey pine is today considered an invasive weed species and its removal is therefore an acceptable outcome. It is noted that the ACT Government have recently removed stands of these trees adjacent to Weston Park and Banks Street further towards Lake Burley Griffin. As such, the removal of these groupings is considered to have a minor impact to Site’s CHL values overall.

Mitigation measures include:

- Developing interpretation content on the history of Monterey pine species in relation to its association with and significance to the Site;
- The Monterey pine is one of the most popular timber construction materials. In keeping with the intention of the AFS to illustrate uses of timber in technical construction, the removed trees could be used in the construction of future on-site builds (e.g. framing, moulding, doors, shelves, joinery, decorative panelling, and furniture construction); and

- Replacing some of the Monterey pine groupings with native alternatives to retain the overall forestry setting.

- Giant Sequoia (east façade of building 1 (Group 6)): The two mature Giant Sequoia located along the east façade of Building 1 group are proposed for removal due to extensive die back and poor form. The plantings are located on the site of a new residential complex within the South Zone. These plantings are believed to be associated with Charles Weston and Westbourne Woods, and may have been planted prior to 1920 due to their size. The plantings contribute to the overall historic landscape of the Site, however they are not individually representative of the scientific uses of the Site for forestry research. As such, the removal of these plantings will have a minor impact to its overall heritage values due to the loss of a mature planted element of its historic landscape.

The Giant Sequoia does not tend to do well in the Canberra climate and it does not make for good lumber, as it is a brittle wood with little strength. As such, mitigation through use of the timber may not be appropriate. The broader replanting program will largely mitigate the impact of the loss of these trees.

Mitigation measures include undertaking a replanting program including a mixture of appropriate exotic and native species in areas deemed appropriate across the Site.

- Kurrajong (large planting group located west of building 4) (Group 12/TGLP Group 9): A section within the large group of Kurrajong located west of the Glasshouses Complex is proposed for partial removal to make way for a residential apartment building. This grouping has been assessed by a qualified arborist as a medium quality group. These trees are native to Australia and are believed to have been planted between the 1920s and 1950s. They are associated with both the early forestry research by AFS students and later research by the Forest Research Institute tree growing trials. This grouping is significant as part of the historic landscape of the Site, and as a significant genetic native resource. It is also one of the last remaining groupings that demonstrate the ‘nursery’ planting layout.

This grouping will mostly be retained apart from two trees at the eastern extent of the group that are smaller and in poorer condition. The partial removal of this grouping is considered minor.

Mitigation measures include:

- Developing interpretation content on the history of the Kurrajong species in relation to its association with and significance to the Site; and
  - Undertaking a replanting program including a mixture of appropriate exotic and native species in areas deemed appropriate across the Site.
- Pin Oak (scattered south-east of building 1 group (Group 4)): The Pin Oak plantings scattered south-east of building 1 group are proposed for removal to make way for residential apartment buildings in the South Zone. These trees have been assessed by a qualified arborist as being healthy, and the retention of these trees was investigated. However, significant changes were required to the Masterplan in order to save a limited number of trees which would have in turn resulted in greater losses elsewhere on the Site.

The Pin Oak species is scattered in areas across the AFS and is significant as an early scientific planting as well as an early landscape planting. The Pin Oak’s in Group 4 however are not representative of forestry research and were more likely to have been planted as a landscape element, in comparison to the Pin Oaks that make up Group 11 (TGLP Group 8) that are demonstrative of a scientific grouping and will be retained. The removal of the Group 4 Pin Oaks is considered to have a minor impact to the overall heritage values of the Site.

The Pin Oak species is one of the most commonly used landscaping oaks in its native range due to its ease of transplant, relatively fast growth, and pollution tolerance. This species will be included as part of a replanting program.

### 3.5.3 Low Heritage Value Plantings/Landscape Elements

#### Retention

- Pin Oak (Group 11/TGLP Group 8) (north of Glasshouses Complex): The Pin Oak grouping will be retained. The Pin Oak species is scattered in areas across the AFS and is significant as an early scientific planting. This grouping was likely planted during the 1950s tree growing trials on the Site. It has been assessed by a qualified arborist as being of medium quality with deadwood present. This grouping is within close proximity to the proposed new access road to the hotel west of Forestry House and may be temporarily impacted by these road works. As these plantings have been assessed as having deadwood present, arboricultural work will be required by a suitably qualified arborist prior to works occurring. TPZ should also be employed where necessary.

Protection measures include:

- Engaging a well-qualified and experienced arborist as Project Arborist to assess the health of potentially impacted significant trees prior to works occurring;
  - Significant trees will be protected from nearby work activities through the use of TPZs, signage and temporary fencing where required; and
  - Developing interpretation signage to be placed in front of this grouping that provides information about the significance of the pine trees, the purpose of the grouping and their importance to early forestry research.
- Flooded Gum or Rose Gum (East of building 3 (Group 10)): The Rose Gum located east of building 3 will be retained. This gum species was planted in 1979 by the Research Institute to showcase the species of eucalypt. This planting is located along the west boundary and is not expected to be impacted by construction works, however significant trees will be protected from work activities through the use of TPZs, signage and temporary fencing where required.

#### Removal

- She-Oak (Casuarina) x3 (located between Groups 12 & 13): There are x3 She-Oak plantings within a larger Monterey Pine Grouping (Group 13) proposed for partial removal as they are small in size and in average to poor condition. The She Oak is native to Australia and usually grows on the south coast of south-west Western Australia. It is not specifically listed as a contributory element in the Heritage Assessment for Site as it was not identified as a scientific planting, however it has been mapped as low significance for its forestry landscape values.

The partial removal of these trees is expected to have a minor impact on the heritage values of the Site overall.

Mitigation measures include:

- The She-Oak species is a rare hardwood timber. In keeping with the intention of the AFS to illustrate uses of timber in technical construction, the removed trees could be used in the construction of future on-site builds (e.g. framing, moulding, doors, shelves, joinery, decorative panelling, furniture construction) or be provided as seating in park areas following treatment; and
- Undertaking a replanting program including a mixture of appropriate exotic and native species in areas deemed appropriate across the Site.

- Stone Pine (Group 16/ TGLP Group 18) (east of building 13): The large circular Stone Pine grouping in the North Zone of the Site comprise a relatively densely planted single stand of pines and is proposed for gradual removal. The intention is to thin these trees, removing dead trees or trees with die back in their canopies. Additional trees are also intended for removal for horticulture and amenity reasons, increasing light to new middle and lower storey plantings and inserting spaces for active use. It is noted, however, that the ‘intent’ of this stand of trees is retained.

This Stone Pine grouping was likely to have formed part of the early Charles Weston Nursery at the Site with plantings utilised by AFS students in later years. It has been assessed as having heritage significance due to both the age of grouping, and also the fact that it is one of only two remaining areas on the site which have a formal ‘nursery’ planting layout, which demonstrates this particular aspect of the history of the site as a place of propagation as well as research.

Mitigation measures include:

- Undertaking a replanting program of the Stone Pine species within the same area in a formal nursery layout in recognition of the early nursery planting;
  - Retaining a total of 20-30 Stone Pines (existing and new) as a distinct grouping, to maintain the heritage significance of the cluster; and
  - Developing interpretation content on the history of the Stone Pine species in relation to its association with and significance to the Site.
- English Oak (Group 9/TGLP Group 7) (east of Glasshouses Complex): The grouping of English Oak (Group 7) east of the Glasshouses Complex is proposed for partial removal. The grouping has been assessed by a qualified arborist as being of poor quality, in advanced decline and in poor form. The English Oak is not specifically listed as a contributory element in the Heritage Assessment for Site as it was not identified as a scientific planting, however it has been mapped as low significance for its landscape values. The partial removal of these trees is an acceptable outcome and will have a minor impact on the overall heritage values of the Site.

Mitigation measures include undertaking a replanting program including a mixture of appropriate exotic and native species in areas deemed appropriate across the Site.

- Mexican Cypress (within the wings of building 1 (TGLP Tree 1478/1479): The two mature Mexican Cypress within the wings of building 1 are proposed for removal. Building 1 will be demolished and replaced with a residential apartment complex. These two trees were planted in the late 1960s during the establishment of building 1 and have been assessed as low significance for their contribution to the Site’s overall historic landscape. The removal of these trees is an acceptable outcome and will have a minor impact on the overall heritage values of the Site.

Mitigation measures include undertaking a replanting program including a mixture of appropriate exotic and native species in areas deemed appropriate across the Site.

### 3.6 Consultation with Registered Aboriginal Organisations (RAO)

Under Section 14(7) of the Heritage Act 2004, the Minister for Territory and Municipal Services has declared four Aboriginal groups to be representatives of the Australian Capital Territory region. ACT Heritage provided a list of current Aboriginal stakeholders, and Aboriginal community consultation has been undertaken or attempted with each of the four Registered Aboriginal Organisations (RAO) for the Aboriginal Cultural Heritage Assessment of the Site (ERM 2020):

- Buru Ngunawal Aboriginal Corporation (BNAC);
- King Brown Tribal Group (KBTG);
- Mirabee (formerly the Little Gudgenby River Tribal Council); and
- Ngarigu Currawong Clan (NCC).

A letter was sent to each RAO, introducing the project and requesting information regarding availability and rates for a site inspection of CSIRO Yarralumla. Copies of the letter were also sent via email to the two RAOs with a listed email address. A phone call was then made to each RAO contact to follow up on the letter and organise an appropriate day for the site inspection.

BNAC and Mirrabee both expressed a desire to attend the site inspection, while NCC advised that they were currently unavailable for fieldwork but would provide any input they may have if provided with a draft of the report. No response was provided by KBTG.

A site inspection with BNAC and Mirrabee was therefore scheduled for 26 March 2020. Due to the COVID-19 social distancing requirements put in place by the ACT government just prior to this date, Mirrabee advised that they would not be attending the site inspection at this time, but would like to reschedule after the risk had passed. BNAC wished to continue with the site inspection as planned, and therefore Wally Bell attended site on 26 March 2020 with ERM Senior Heritage Consultant, Elspeth Mackenzie. The rescheduled site inspection with Mirrabee was conducted with Michelle House on 28 July 2020. Both NCC and KBTG were invited to attend this rescheduled site inspection but did not respond to the invitation.

Both the BNAC and Mirrabee representatives concluded that the Site had no identifiable tangible Aboriginal cultural heritage values, and stated that they were not aware of any intangible heritage values specific to the Site, beyond it being part of the wider cultural landscape of the Canberra region.

Copies of the draft Aboriginal Cultural Heritage Assessment were sent to each RAO for review prior to finalisation but no further comments were received.

## 4. PROPOSED IMPACTS TO HERITAGE VALUES AND ATTRIBUTES

The below section summarises the direct and indirect heritage impacts of the proposed development of the Site, as well as the mitigation measures that will be incorporated in order to reduce the impact to the heritage values of the Site.

### 4.1 Direct Impacts

#### 4.1.1 Demolition and Removal

The proposed action will permanently remove a number of built elements of contributory value to the overall heritage significance of the Site. All these elements have been assessed as having only low heritage significance, and their removal to have only a minor impact to the heritage values of the site, with the exception of the removal of the Caretaker's Cottage. As this building is the only contributory element proposed for removal which is directly connected to a high significance building (Forestry House), its removal has been assessed as significant. Removal of the Caretaker's Cottage will however allow the retention of trees with heritage significance that would otherwise need to be removed if the cottage was retained, namely the trees directly to the south of the cottage. The removal of the cottage would have no impact on the significant sightlines of the Site, as its location makes it most visible from the rear of Forestry House.

The removal of the buildings with nil or low heritage values allows redevelopment of the Site which will utilise existing disturbance footprints without encroaching on the open space and landscape setting. This setting is a key element of not only the heritage values of the Site, but also the amenity values of the existing Yarralumla residents and the future residents of Forestry Place. Redevelopment of the Site without removal of the buildings with nil or low heritage values would result in a significant and untenable impact to these values.

#### 4.1.2 Refurbishment and Renovation

All five built elements ranked as having high or moderate heritage significance will be retained and reused (see *Section 2.1* for details). The Forestry School building (9) is planned to retain its current use with no or minimal change to the building, however the remaining four elements will require some form of renovation or change to continue in use or be adaptively reused.

The Tennis Courts (30) will retain their original and current use, but will require some form of refurbishment. There is no significant fabric identified within the Tennis Courts, with their function being the attribute of their significance. Refurbishment would therefore act as a mechanism for the retention of these heritage values.

The former Museum (10) and Seed Store (17) would also likely require some refurbishment or minor change for their adaptive reuse as resident or community facilities. It is expected that these works would be minor in nature and at most would have only a minor impact on their heritage values. Any changes that have the potential to impact heritage values would be subject to the relevant development approvals.

Forestry House (2) will require substantial renovation in order to be converted into a public hotel. As previous renovations have already impacted on the integrity of the internal features of the building, future internal renovations are likely to have only a minor to moderate impact on the heritage values of the building. These works would be subject to the relevant development approvals which would assess if the level of impact was acceptable.

The continued or adaptive reuse of these buildings is considered to be compatible with, and sympathetic to the heritage significance of each building, and it is understood that the significant heritage fabric of each building will be conserved.



### 4.1.3 Tree Removal

The proposed action will remove some individual plantings and partially remove some planting groups that have been identified as having heritage significance. These plantings contribute to the overall historic, scientific, social, aesthetic and representative values of the Site, however carefully considered mitigation strategies will ensure that the overall contribution of plantings to the heritage significance of the Site is retained through the retention of other significant individual plantings and planting groups, and a landscape management plan which includes a large replanting program (see Section 4.4.2).

The plantings to be removed or partially removed include two individual plantings (two Giant Sequoia *Sequoiadendron giganteum*) and three planting groups (Atlas Cedar *Cedrus atlantica* grouping, Monterey Pine *Pinus radiata* groupings, and two of the Kurrajong *Brachychiton populneus* grouping) ranked of moderate heritage value, as well as five individual plantings (three She-Oak *Casuarina sp.*, two Mexican Cypress *Cupressus lusitanica*) and two planting groups (Stone Pine *Pinus pinea* grouping and English Oak *Quercus robur* grouping) ranked of low heritage value.

An ongoing tree maintenance program has been developed, which incorporates specific advice from Friends of ACT Trees and the Institute of Foresters, who will continue to work with the consultant landscape architect moving forward.

### 4.1.4 Alteration of Setting

The importance and history of the Site is largely understood through its forestry research setting, and the proposed change of use together with the construction of new buildings and removal of some significant planting groups and buildings of contributory significance across the Site, will have an impact to this setting and thus to the heritage values of the Site.

In saying this however, as mentioned previously, the proposed action allows for the sympathetic adaptive reuse of the retained heritage buildings and has incorporated landscaping that will respect the Site's history and many of the significant trees, along with the addition of a replanting program designed to reinvigate the 'forestry setting' of the Site.

The masterplan will not have an impact on the open spaces and significant views or sightlines of the Site. There will be a 20 m protection curtilage around the AFS where no residential development will be permitted, and the height and setback of the hotel complex has been carefully considered so as not to affect the external view of the original building.

The results of the public consultation show overwhelming support for the landscape design of the proposed action (Tania Parkes Consulting 2021).

### 4.1.5 Impacts on Aboriginal Values

As it has been concluded that the Site does not contain Aboriginal heritage values, tangible or intangible, and that the Site does not hold any cultural significance to Aboriginal people other than being part of the wider cultural landscape, there are no immediate direct (or indirect) impacts on Aboriginal cultural heritage values of the Site.

## 4.2 Indirect Impacts

### 4.2.1 Change of Use to Buildings

The masterplan includes the continued or adaptive re-use of the heritage built elements retained on the Site. Three buildings (Forestry House, the former Museum, and the former Seed Store) are planned to undergo a change of use. Adaptive reuse is considered to have a minor impact on the heritage values of these buildings, however the change is considered to be compatible with, and sympathetic to the heritage significance of each building. Participants of the public consultation program for the proposed action noted the importance of active and viable uses for the heritage buildings to facilitate the ongoing maintenance and upkeep of the buildings (Tania Parkes Consulting 2021).

### 4.2.2 Change of Use to Site

The development of aged care facilities and apartment buildings would lead to a significant change of use to the Site from being a training and research facility to a residential and commercial precinct. While a great deal of the heritage significance of the Site was held in the fact that it has a hundred years of continued use for the forestry industry, with the removal of CSIRO from the Site there is no future use alternative that would not impact this contribution to its heritage significance. However, the proposed masterplan has retained the built elements which best demonstrate previous use of the Site and has been designed to emphasise its forestry setting retaining 60% as open and treed space. The masterplan also includes elements such as the reinvigoration of the forestry aspect through re-planting and potential shared-garden programs linked to the reconstruction of a glasshouse in the style of those formerly used on the Site.

### 4.2.3 More People Using Site

The construction of residential apartments and an aged care facility will obviously result in an increase in people using the Site, and there will be in turn an indirect impact on the fabric of the Site. However, continued use of the Site also facilitates maintenance that otherwise may not occur if the buildings were no longer in use. With regular maintenance, the condition of the buildings and surrounding area will be more closely monitored and maintained and the Site elements will retain a better condition than if the Site saw a decrease in use.

### 4.2.4 Change to Social Significance of the Site

The social significance of the Site has been attributed to the connection that has been maintained by former AFS students and teachers, and former CSIRO staff. Although a change in use is being proposed, there would be no significant impact to the existing social significance of the Site as the key AFS features are being retained, including the oval which is outside of the proposed action area. While the later built CSIRO buildings are being removed, the use of the former AFS buildings by the CSIRO researchers is still represented, the forestry setting of the Site is being retained and reinvigorated, and the improved heritage interpretation will include the story of these researchers.

Participants of the public consultation program undertaken as part of the proposed action noted particularly “the respect shown to the heritage buildings and the important treescape, and a plan for their ongoing maintenance and management (Tania Parkes Consulting 2021: 6).” One attendee of the public consultation even suggested that telling the story of the trees and the re-use of felled trees for timber furniture and products would be a ‘value added’ service to residents and visitors to the Site. A targeted participant group of the consultation was the Institute of Foresters, of which many former AFS students and teachers and CSIRO forestry staff are members. These participants expressed no dissatisfaction with the proposed action and were actively involved in the development of the urban landscape plan, providing further advice regarding which trees should be removed in order to improve the overall health and appearance of the remaining treescape.

## 4.3 Mitigation Measures

The following mitigation measures will be implemented in order to ensure the heritage values of the Site are carefully conserved, enhanced and understood through the proposed action.

### 4.3.1 Adaptive Re-use of Remaining Heritage Buildings

Heritage places can be used to enhance the appeal of neighbourhoods by giving these places a new lease of life through adaptation. The retention of existing heritage buildings, respecting the existing heritage fabric and retaining this within the greater functionality of the Site, was a key consideration and core design tenet for the Client. With this in mind, the masterplan was designed around the intention to retain all built elements that were ranked of high or moderate heritage significance.

The proposed future uses of the Site, as defined by the masterplan, will involve the retention and continued or adaptive re-use of the Australian Forestry School (9), Museum (10), Seed Store (17), Tennis Courts (30), and Forestry House (2). These buildings and recreation facilities will be subject to continued or adaptive re-use that will be compatible with, and sympathetic to the heritage significance of each, as well as providing for the ongoing protection and conservation of these built elements, and the preservation of their spatial and visual relationships.

### 4.3.2 Tree Retention and Re-invigoration

The masterplan has taken into consideration the significant plantings across the Site and has included these plantings wherever possible in the overall landscape design. The proposed action will involve the removal of some trees and planting groups that have been assessed as contributing to the heritage significance of the Site, and where there is no prudent or reasonable alternative to removal, efforts have been made to retain a sample of the healthiest trees and replant the species in a similar pattern so as to not lose this important context to the Site's heritage values. All the trees across the Site have been assessed by an arborist, landscape architect, and members of the Institute of Foresters of Australia. The health of each tree and group of trees has been assessed and used to determine an appropriate landscape management plan that will retain all healthy trees outside of the development footprint, thin out groups that are too thickly planted for the optimum health of all individuals, replace dead or dying trees with saplings of the same species (when not considered a weed species by modern standards), and plant new saplings of complementary species where space and landscape design permits.

The overall number of trees in the Site will increase, which provides for the retention of the treescape, which is of importance to Yarralumla residents. The replanting and re-invigorating program is a positive way to enhance the values of the Site and to ensure it continues to be understood through its forestry setting. It provides continuity to this importance element of heritage significance, which is currently suffering as many trees are in poor health or reaching their natural end of life.

### 4.3.3 Glasshouse Reconstruction

As previously discussed, the CSIRO glasshouses have been demolished as part of their end-of-lease arrangements and prior to this proposed action. The CSIRO glasshouses' early design and use are a contributing factor to the heritage significance of the CSIRO precinct. In order to mitigate the impact of their removal, the proposed action intends to reconstruct a glasshouse sympathetic in design to the originals. This is a unique opportunity to reconstruct an important element of the Site's history and to utilise this element to capture the true essence and meaning behind the site overall, for learning about horticulture and propagation. The newly constructed glasshouse is planned to be integrated into a residential shared gardening program for future use.

#### 4.3.4 Archival (Photographic) Recording

An archival photographic record will be taken to ensure that a clear understanding of the heritage places or objects will be retained after demolition of structures/removal of plantings occurs. Archival photographic records are an important mitigation measure as it allows for the creation of a comprehensive record of the structure/object prior to the demolition of structures or removal of plantings. This recording will include details such as the elevations/details of the structures and internals. The archival photographic recording will be submitted to CSIRO for storage in the CSIRO Black Mountain Heritage Library. The archival photographic recording will be prepared following the best practice guideline below:

- NSW Heritage Office (2006) Heritage Information Series: Photographic Recording of Heritage Items Using Film or Digital Camera [online] available: <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Heritage/photographic-recording-of-heritage-items-using-film-or-digital-capture.pdf>

#### 4.3.5 Interpretation

The proposed action provides a unique opportunity for preparation of an Interpretation Plan that encompasses the whole of Site. While some interpretation panels (signage) currently exist across the Site, more will be added that provide interesting historical facts about the site and its significance and connection to both the history of the ACT and importance to the early years of national forestry research in Australia. There are a number of opportunities for enhanced interpretation across the Site that can be developed simultaneously with the adaptive reuse of the Australian Forestry School (9), former Museum (10), Seed Store (17), and Tennis Courts (30). These include installing additional interpretive signage, integrating the Site with the Canberra Tracks initiative, developing a website with walking tours, and the use of felled trees for on-site builds.

There are also opportunities to enhance the significance of the retained significant planting groups by providing contextual information about the importance of these plantings and connection to the Site overall.

Built elements that are to be removed will also benefit from an interpretation strategy, to be implemented once removal has occurred. Interpretive signage will be erected to connect the removed elements with the heritage elements that remain on the Site. This will ensure that an awareness and understanding of those removed elements is retained and the public is able to easily access this information while at the Site.

### 4.4 Final Impact Assessment

An assessment of the potential impacts to the identified heritage values at the Site with regards to the proposed action is provided below in *Table 4.1*, along with recommended mitigation measures and the re-assessed impact once these measures are implemented.

**Table 4.1 Final Heritage Impact Assessment Summary**

Heritage Attribute	Proposed Action	Potential Impact	Mitigation Measure	Re-Assessed Impact
<b>Built Elements</b>				
Australian Forestry School (AFS) (9) ■ Cited in Listing (High Ranking)	Continued or Adaptive Re-use	Minor	<ul style="list-style-type: none"> <li>■ CMP</li> <li>■ HIA and future development approval for any significant changes</li> <li>■ Interpretive signage</li> </ul>	Nil
Industrial Museum/Forestry and Timber Bureau Offices (10) ■ Cited in Listing (High Ranking)	Adaptive Re-use	Minor	<ul style="list-style-type: none"> <li>■ CMP</li> <li>■ HIA and future development approval for any significant changes</li> <li>■ Interpretive signage</li> </ul>	Nil
Former Seeds Store (17) ■ Cited in Listing (Moderate Ranking)	Adaptive Re-use	Minor	<ul style="list-style-type: none"> <li>■ CMP</li> <li>■ HIA and future development approval for any significant changes</li> <li>■ Interpretive signage</li> </ul>	Nil
Forestry House (2) ■ Cited in Listing (High Ranking)	Adaptive Re-use	Minor	<ul style="list-style-type: none"> <li>■ CMP</li> <li>■ HIA and future development approval for any significant changes</li> <li>■ Interpretive signage</li> </ul>	Nil
Caretaker's Cottage ■ Cited in Listing (Low Ranking)	Demolition / Removal	Severe	<ul style="list-style-type: none"> <li>■ Archival photographic recording prior to removal</li> <li>■ Interpretive signage</li> </ul>	Significant
CSIRO Divisional Headquarters (1) ■ Cited in Listing (Nil Ranking)	Demolition / Removal	Nil	<ul style="list-style-type: none"> <li>■ Archival photographic recording prior to removal</li> <li>■ Interpretive signage</li> </ul>	Nil
Controlled Environment Laboratory (3) ■ Cited in Listing (Low Ranking)	Demolition / Removal	Minor	<ul style="list-style-type: none"> <li>■ Archival photographic recording prior to removal</li> <li>■ Interpretive signage</li> </ul>	Minor
Tennis Courts (30) ■ Cited in Listing (Moderate Ranking)	Refurbished / Continued use	Minor	<ul style="list-style-type: none"> <li>■ Retain original use</li> <li>■ Interpretive signage</li> </ul>	Nil

Heritage Attribute	Proposed Action	Potential Impact	Mitigation Measure	Re-Assessed Impact
Nursery (former) ■ Cited in Listing (Moderate Ranking)	Demolition / Removal	Minor	<ul style="list-style-type: none"> <li>■ Archival photographic recording prior to removal</li> <li>■ Interpretive signage</li> </ul>	Minor
Lavatory/Change Room (18) ■ Low Ranking	Demolition / Removal	Minor	<ul style="list-style-type: none"> <li>■ Archival photographic recording prior to removal</li> <li>■ Interpretive signage</li> </ul>	Minor
Meteorological Plot (8) ■ Low Ranking	Demolition / Removal	Minor	<ul style="list-style-type: none"> <li>■ Archival photographic recording prior to removal</li> <li>■ Interpretive signage</li> </ul>	Minor
Store (13) ■ Low Ranking	Demolition / Removal	Minor	<ul style="list-style-type: none"> <li>■ Archival photographic recording prior to removal</li> <li>■ Interpretive signage</li> </ul>	Minor
<b>Plantings and Plant Groupings</b>				
Roman Cypressess (east façade of AFS building (Group 21/TGLP Tree 305 & 306)) ■ High Ranking	To be retained	Nil	<ul style="list-style-type: none"> <li>■ Signage and temporary fencing during work activities.</li> </ul>	Nil
Roman Cypressess (north of AFS building (Group 20/TGLP Group 20)) ■ Moderate Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing.</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ Tree Protection Zone (TPZ).</li> </ul>	Nil
Tasmanian Blue Gum (West elevation AFS building (within Group 22)) ■ Moderate Ranking	To be retained	Nil	<ul style="list-style-type: none"> <li>■ Signage and temporary fencing during work activities.</li> </ul>	Nil
Bunya Pine (between north elevation of building 10 and building 17 (within Group 22/TGLP Tree 581)) ■ Moderate Ranking	To be retained	Nil	<ul style="list-style-type: none"> <li>■ Signage and temporary fencing during work activities.</li> </ul>	Nil
Claret Ash (west elevation (behind) building 9 (within Group 22)) ■ Moderate Ranking	To be retained	Nil	<ul style="list-style-type: none"> <li>■ Signage and temporary fencing during work activities.</li> </ul>	Nil

Heritage Attribute	Proposed Action	Potential Impact	Mitigation Measure	Re-Assessed Impact
Chir Pine (north-east of building 3 (Group 8/TGLP Group 6)) ■ Moderate Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ TPZ</li> </ul>	Nil
Spotted Gum (south-east of building 3 across access road (within Group 10)) ■ Moderate Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ TPZ</li> </ul>	Nil
Canary Island Palm (planted around building group 1 (Group 7/TGLP Group 5)) ■ Moderate Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ TPZ</li> <li>■ Interpretive signage</li> </ul>	Nil
Pine species including: Aleppo Pine/ Calabrian Pine/Michocan Pine/Douglas Pine (Group 5/TGLP Group 4) (planted around building group 1) ■ Moderate Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ TPZ</li> <li>■ Interpretive signage</li> </ul>	Nil
Ponderosa Pine (Group 17 & Group 20/TGLP Group 19 & 20) (either side of AFS building and north of Service Yard Group) ■ Moderate Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ TPZ</li> <li>■ Interpretive signage</li> </ul>	Nil

Heritage Attribute	Proposed Action	Potential Impact	Mitigation Measure	Re-Assessed Impact
Stone Pine (Group 23/TGLP Group 22) (north boundary of Tennis Court (30)) ■ Moderate Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ TPZ</li> <li>■ Interpretive signage</li> </ul>	Nil
Pin Oaks/Pine species (along southern end of Wilf Crane Crescent (Group 2)) ■ Moderate Ranking	To be retained	Nil	<ul style="list-style-type: none"> <li>■ Signage and temporary fencing during work activities.</li> </ul>	Nil
Pin Oak (Group 11/TGLP Group 8) (north of Glasshouses Complex) ■ Low Ranking	To be retained	Minor	<ul style="list-style-type: none"> <li>■ Engage arborist to assess health of plantings prior to work commencing</li> <li>■ Signage and temporary fencing during work activities.</li> <li>■ Employ TPZ</li> <li>■ Interpretive signage</li> </ul>	Nil
Flooded Gum or Rose Gum (East of building 3 (Group 10)) ■ Low Ranking	To be retained	Nil	<ul style="list-style-type: none"> <li>■ Signage and temporary fencing during work activities.</li> </ul>	Nil
Atlas Cedar (Group 1) (east of building group 1 near Bentham Street) ■ Moderate Ranking	Partial removal	Moderate	<ul style="list-style-type: none"> <li>■ Retain 20-30 individual plantings in 'nursery' planting layout</li> <li>■ Signage and temporary fencing for remaining plantings during work activities.</li> <li>■ Employ TPZ</li> <li>■ Interpretive signage</li> </ul>	Minor
Monterey Pine groupings scattered throughout (Group 3, Group 13, Group 14/TGLP Group 3 & 10) ■ Moderate Ranking	Partial removal	Minor	<ul style="list-style-type: none"> <li>■ Interpretive signage</li> <li>■ Removed material to be used in the construction of future on-site builds</li> <li>■ Replace some groupings with native alternatives</li> </ul>	Minor
Giant Sequoia (east façade of building 1 (Group 6)) ■ Moderate Ranking	Removal	Minor	<ul style="list-style-type: none"> <li>■ Include species in replanting program</li> </ul>	Minor



Heritage Attribute	Proposed Action	Potential Impact	Mitigation Measure	Re-Assessed Impact
Kurrajong (large planting group located west of building 4) (Group 12/TGLP Group 9) ■ Moderate Ranking	Partial removal	Minor	<ul style="list-style-type: none"> <li>■ Interpretive signage</li> <li>■ Include species in replanting program</li> </ul>	Nil
Pin Oak (scattered south-east of building 1 group (Group 4)) ■ Moderate Ranking	Removal	Minor	<ul style="list-style-type: none"> <li>■ Include species in replanting program</li> </ul>	Minor
She-Oak ( <i>Casuarina</i> ) x3 (located between Groups 12 & 13) ■ Low Ranking	Partial removal	Minor	<ul style="list-style-type: none"> <li>■ Removed material to be used in the construction of future on-site builds</li> <li>■ Include species in replanting program</li> </ul>	Minor
Stone Pine (Group 16/ TGLP Group 18) (east of building 13) ■ Low Ranking	Gradual removal	Moderate	<ul style="list-style-type: none"> <li>■ Retain 20-30 plantings as distinct grouping</li> <li>■ Interpretive signage</li> <li>■ Include species in replanting program</li> </ul>	Minor
English Oak (Group 9/TGLP Group 7) (east of Glasshouses Complex) ■ Low Ranking	Partial removal	Minor	<ul style="list-style-type: none"> <li>■ Include species in replanting program</li> </ul>	Minor
Mexican Cypress (within the wings of building 1 (TGLP Tree 1478/1479)) ■ Low Ranking	Removal	Minor	<ul style="list-style-type: none"> <li>■ Include species in replanting program</li> </ul>	Minor

#### **4.4.1 Overall Impact Assessment to Australian Forestry School (former) (CHL #105426)**

The proposed action will result in an impact to the Australian Forestry School's Commonwealth Heritage values due to the removal of some significant contributory elements. However, all elements relating to the school with high heritage significance (Australian Forestry School (9), former Museum (10), Forestry School (2)) will be retained and adaptively reused, as will the two elements of moderate significance (Seed Store (17) and Tennis Courts (30)). Various plantings of high and moderate heritage significance will also be retained (Roman Cypresses (Group 21/TGLP Tree 305 & 306, and Group 20/TGLP Group 20), Tasmanian Blue Gum (within Group 22), Bunya Pine (within Group 22/TGLP Tree 581), Claret Ash (within Group 22), Chir Pine (Group 8/TGLP Group 6), Spotted Gum (within Group 10), Canary Island Palm (Group 7/TGLP Group 5), Pine species including: Aleppo Pine/ Calabrian Pine/Michocan Pine/Douglas Pine (Group 5/TGLP Group 4), Ponderosa Pine (Group 17 & Group 20/TGLP Group 19 & 20), Stone Pine (Group 23/TGLP Group 22), and Pin Oaks/Pine species (Group 2)). These key elements represent important phases in the Site's forestry training history, and remain to demonstrate the significance that this school had to the ACT and the Australian forestry industry.

The continued or adaptive re-use of the retained buildings will be sympathetic to the buildings' heritage values and previous uses. Any adaptive reuse of these buildings will be informed by a Conservation Management Plan and guided by ongoing specialist heritage advice.

The (former) Nursery, Lavatory/Change Room (18), Meteorological Plot (8), Store (13), Caretaker's Cottage (5) are the AFS elements with low heritage ranking which will be removed. The removal of these built elements will be mitigated through the implementation of archival photographic recording of each individual built element to ensure as much information about the element as possible is retained after removal. The removal of the Caretaker's Cottage is the only element considered to have a significant impact to the overall values, due to the Cottage having not only a historical association but a strong visual and design link to Forestry House and the Australian Forestry School. However, its removal will have no impact on the significant setting or sight lines of the Site, and will allow the retention of trees with heritage significance to the south of the cottage that would otherwise have been removed if the cottage were retained. Its removal also provides an important contribution to the developable space within existing disturbance footprints, the maximisation of which allows preservation of more trees and provides allows a generous curtilage to be provided to Forestry House and the elements around the Australian Forestry School, preserving evidence of the Site as a place of Forestry Education.

#### 4.4.2 Overall Impact Assessment to the CSIRO Forestry Precinct (CHL #105595)

The CSIRO Forestry Precinct is important for its array of features from different phases of development linked to the scientific research purpose of the site. These features include the significant Australian Forestry School attributes mentioned above, which were converted for use by the CSIRO, but also the Controlled Environment Laboratory (3), the Glasshouse complex (including glasshouses 4a, 4b, 4c, 4d and Workshop 4), Fire Wind Tunnel 'Pyrotron' (26), arboretum plantings and moveable objects of furniture, collections and historic timber hauling vehicles. As mentioned earlier, the glasshouse complex and pyrotron have been removed from the Site by CSIRO prior to this proposed action, as will the Controlled Environment Laboratory and the historic timber hauling vehicles and many other moveable objects.

Therefore the impact to the CSIRO Forestry Precinct from this proposed action will include the removal of all buildings assessed as having no heritage significance (including the CSIRO Divisional Headquarters), and some of the arboretum plantings.

Although the removal of contributory elements of the Site such as the lower significance built elements and plantings will result in a moderate cumulative impact on the Site's overall CHL values, Oakstand's 'soft impact' approach of retaining and re-using the moderate and high significance contributory elements of the Site will only have minor impacts on the overall CHL values of the CSIRO Forestry Precinct as a whole. For built elements that are removed, impacts to heritage values will be mitigated through the implementation of archival photographic recording prior to removal, as well as through interpretive signage that links the removed elements to the remainder of the built elements and increases public awareness.

The removal of significant plantings within the Precinct, while resulting in a reduction of overall CHL value, was included in the proposed action as most of the trees with identified heritage values are approaching an end-of-life scenario and many have been assessed as unhealthy or dying. The landscape planning of the proposed action not only retains most of the healthy examples of significant trees, but also incorporates a replanting approach which will retain species and groupings which are the main contributors to the heritage significance of the treescape, and increase the overall number of trees on the Site. The replanting program will also aim to continue the theme of forestry research throughout the Site. These measures will result in a reinvigoration of this aspect of the Site and its Commonwealth Heritage values as a whole.

## REFERENCES

ERM (2020) *(former) CSIRO Forestry Precinct Yarralumla – Heritage Assessment*, report prepared on behalf of Oakstand.

ERM (2020) *CSIRO Yarralumla – Aboriginal Cultural Heritage Assessment*, report prepared on behalf of Oakstand.

ERM (2021) *CSIRO Yarralumla (Forestry Place) – Heritage Impact Assessment*, report prepared on behalf of Oakstand.

Tania Parkes Consulting (2021) *Block 7 Section 4 Yarralumla Consultation Summary Report*, prepared on behalf of Oakstand.

## **APPENDIX A      HERITAGE ASSESSMENT**

## **APPENDIX B      ABORIGINAL CULTURAL HERITAGE ASSESSMENT**

## **APPENDIX C      HERITAGE IMPACT ASSESSMENT**

## **APPENDIX D      MITIGATION MEASURES SUMMARY**



## MITIGATION MEASURES SUMMARY

Potential Impact	Mitigation	Description
Loss of forestry setting through tree removal	Tree retention and re- invigoration	The masterplan has taken into consideration the significant plantings across the Site and has included these plantings wherever possible in the overall landscape design. The proposed action will involve the removal of some trees and planting groups, however efforts have been made to retain a sample of the healthiest trees and replant the species in a similar pattern so as to not lose this important context to the Site's heritage values. The overall number of trees in the Site will increase, which provides for the retention of the treescape that is currently suffering as many trees are in poor health or reaching their natural end of life.
Loss of representation of site's spatial relationship of existing treescape and buildings through tree removal, building demolition, and new construction	Archival (photographic) recording	An archival photographic record will be taken to ensure that a clear understanding of the heritage places or objects will be retained after demolition of structures/removal of plantings occurs. This recording will include details such as the treescape and the elevations/details of the structures and internals, and the relationship between these two elements of the site.
Loss of representation of site's historic continuity through tree removal and building demolition	Archival (photographic) recording;  Heritage interpretation	In addition to the measure above, there are a number of opportunities for enhanced heritage interpretation across the Site that include installing additional interpretive signage regarding demolished buildings, retained buildings, and significant plantings. Other opportunities include integrating the Site with the Canberra Tracks initiative, developing a website with walking tours, and the use of felled trees for on-site builds.
Neglect or inappropriate use of retained heritage buildings	Adaptive re-use of remaining heritage buildings	The proposed future uses of the Site, as defined by the masterplan, will involve the retention and continued or adaptive re-use of the Australian Forestry School (9), Museum (10), Seed Store (17), Tennis Courts (30), and Forestry House (2). These buildings and recreation facilities will be subject to continued or adaptive re-use that will be compatible with, and sympathetic to the heritage significance of each, as well as providing for the ongoing protection and conservation of these built elements, and the preservation of their spatial and visual relationships.
Loss of representation of early CSIRO element of site's history	Glasshouse reconstruction	As the CSIRO glasshouses have been demolished as part of their end-of-lease arrangements, the proposed action intends to reconstruct a glasshouse sympathetic in design to the originals. This is a unique opportunity to reconstruct an important element of the Site's history and to utilise this element to capture the true essence and meaning behind the site overall, for learning about horticulture and propagation. The newly constructed glasshouse is planned to be integrated into a residential shared gardening program for future use.

---

**ERM has over 160 offices across the following countries and territories worldwide**

Argentina	The Netherlands
Australia	New Zealand
Belgium	Norway
Brazil	Panama
Canada	Peru
Chile	Poland
China	Portugal
Colombia	Puerto Rico
France	Romania
Germany	Russia
Ghana	Senegal
Guyana	Singapore
Hong Kong	South Africa
India	South Korea
Indonesia	Spain
Ireland	Sweden
Italy	Switzerland
Japan	Taiwan
Kazakhstan	Tanzania
Kenya	Thailand
Malaysia	UAE
Mexico	UK
Mozambique	US
Myanmar	Vietnam

**ERM's Canberra Office**

Level 4  
35 Terminal Avenue  
Plaza Offices East  
CANBERRA AIRPORT ACT 2609  
AUSTRALIA

T: +61 2 5133 5374

[www.erm.com](http://www.erm.com)