

EXTENT

HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC



Wollondilly Shire LGA Appin, Thirlmere, Warragamba, Menangle – Heritage Study Main Report

Client: Wollondilly Shire Council

Version: Final V3

Sydney
Melbourne
Brisbane
Perth

extent.com.au

EXTENT HERITAGE PTY LTD

ABN 24 608 666 306
ACN 608 666 306
info@extent.com.au
extent.com.au

SYDNEY

3/73 Union Street
Pyrmont NSW 2009
P +61 (0)2 9555 4000
F +61 (0)2 9555 7005

MELBOURNE

13/240 Sydney Road
Coburg VIC 3058
P +61 (0)3 9388 0622

BRISBANE

7/757 Ann Street
Fortitude Valley QLD 4006
P +61 (0)7 3667 8881

PERTH

1/191 St Georges Tce
Perth WA 6000
P +61 (0)8 9381 5206

Document information

Extent Heritage project no.:	0220193
Client:	Wollondilly Shire Council
Project:	Wollondilly Shire LGA Appin, Thirlmere, Warragamba, Menangle – Heritage Study Main Report
Site location:	Wollondilly Local Government Area (LGA)
Heritage advisor(s):	Ben Calvert, Helen Munt, Jenifer Castaldi, Domonic Caron
Author(s):	Ben Calvert

Document control

Version	Internal reviewer	Date	Review type
Draft 01	Eleanor Banaag	January 2021	Technical/QA
Final	Eleanor Banaag	February 2021	Technical QA
Final V2	Eleanor Banaag	March 2021	Technical QA
Final V3	Jennifer Castaldi	April 2021	Technical QA

Copyright and moral rights

Historical sources and reference materials used in the preparation of this report are acknowledged and referenced in figure captions or in text citations. Reasonable effort has been made to identify, contact, acknowledge and obtain permission to use material from the relevant copyright owners.

Unless otherwise specified in the contract terms for this project Extent Heritage Pty Ltd

- vests copyright of all material produced by Extent Heritage Pty Ltd (but excluding pre-existing material and material in which copyright is held by a third party) in the client for this project (and the client's successors in title);
- retains the use of all material produced by Extent Heritage Pty Ltd for this project, for its ongoing business, and for professional presentations, academic papers or publications.

Contents

1.	Introduction.....	4
1.1	Project brief.....	4
1.2	Purpose of this study	4
1.3	Methodology	5
1.4	Limitations.....	12
1.5	Terminology	12
2.	LGA identification.....	14
2.1	Wollondilly and demographics.....	14
2.2	Study area	15
3.	Thematic history	19
3.1	Purpose of a thematic history.....	19
3.2	Thematic framework	20
3.3	Themes.....	26
4.	Heritage places.....	88
4.1	Places	88
4.2	Place types	93
4.3	Appin Road Heritage Conservation Area	98
5.	Planning context	101
5.1	Environmental Protection and Biodiversity Conservation Act 1999 (Cwlth)	101
5.2	Heritage Act 1977 (NSW).....	102
5.3	National Parks and Wildlife Act 1974 (NSW).....	104
5.4	Aboriginal Land Rights Act 1983 (NSW)	104
5.5	Environmental Planning and Assessment Act 1979 (NSW).....	104
6.	Heritage management – risks and opportunities	108
6.1	The value of heritage	108
6.2	Cost of heritage projects	108
6.3	Development pressures	109
6.4	Development risks	112
6.5	Opportunities for heritage places	124
6.6	Funding and support	125
7.	Recommendations.....	127
	Bibliography	129

List of figures

Figure 1. Overview of Wollondilly LGA, showing Appin, Menangle, Thirlmere and Warragamba outlined in red. These suburbs constitute the boundary of the Study Area. Source: Extent Heritage, 2020.....	18
Figure 2. Joseph Lycett, View upon the Nepean River at the Cow Pastures, New South Wales, published 1825, London, source: nla.gov.au/tarkine/nla.obj-135702836.....	28
Figure 3. Elladale cottage, Appin, c1920s, with the Taylors: lynnesheritage.wordpress.com/2008/07/17.	30
Figure 4. Appin survey 1938, State Library NSW, FL3711306, Government map cartographic.....	32
Figure 5. Thirlmere Main Street, 1940, National Archives of Australia C4076.....	34
Figure 6. Menangle General Store, Curry & Son, c1930-1939, Campbelltown City Council 001760.....	35
Figure 7. Aerial view of Menangle 1935, National Library of Australia.	36
Figure 8. An Appin postcard featuring the new Cataract Dam.	37
Figure 9. A typical cottage built for the workers, National Archives of Australia A1200 L35678.....	38
Figure 10. Promotional poster for the 2017 Menangle Milk Shake Up.	40
Figure 11. map of the Cow Pastures, Sydney Morning Herald 1932.....	44
Figure 12. Hamilton Hume, Fairfax collection, <i>Goulburn Post</i> 10 April 2017.	48
Figure 13. Elizabeth Macarthur Onslow, portrait at Camden Park House.	51
Figure 14. Winter Morning, Thirlmere, by James Auld.	53
Figure 15. German workers at Warragamba Dam, 1958, National Archives of Australia, A12111 1-1958-16-59.....	55
Figure 16. Construction of dam wall, Warragamba Dam, 1953, National Archives of Australia A1200 L16397.....	57
Figure 17. Menangle Railway Bridge, c1902, Campbelltown City Council Library 000237.....	59
Figure 18. Menangle Railway Station 1963, Campbelltown City Council Library.....	60
Figure 19. NSWGR passenger train pulled by locomotive 1308 at Thirlmere station, NSW, 1938 nla.gov.au/tarkine/nla.obj-155122364.....	61
Figure 20. Warragamba Post Office, c1971, National Archives of Australia, B5919 2239.....	62
Figure 21. One of the Macarthur's glasshouses at Camden Park, Camden Park House collection.	64
Figure 22. Menangle Creamery/Butter Factory, c1900, Camden Library.	65
Figure 23. Rotolactor c.1957, Campbelltown City Council 010361.	67
Figure 24. Final milking day at Rotolactor, tourists included the local nuns, Government Print Office IE2687880-3-40230, 12 January 1977.	68
Figure 25. Final milking day at Rotolactor, inside the Rotolactor, Government Print Office IE2680119-3-40218, 12 January 1977.	68
Figure 26. Warragamba Kindergarten, 1960, National Archives of Australia A1200 L35681.....	72
Figure 27. St Bedes Church Appin, 1840s, National Library Australia, Dupain, IE16312177. ...	73
Figure 28. Former Estonian Church, Oaks Rd, Thirlmere, 2010, Wikimedia Commons.....	74
Figure 29. the Macarthurs' Gibulla Homestead, Campbelltown City Council 004090.....	75
Figure 30. Opening of the Estonian Senior Citizens, 10 September 1961, National Archives of Australia, A12111-1-1961-13-20.....	76

Figure 31. The old Appin Royal Hotel right and the new one under construction left, 1930, Australian National University.....	77
Figure 32. Tourists at Warragamba Dam, National Archives of Australia, A1200 L49407.....	78
Figure 33. Inside the deteriorated Rotolactor today, Extent Heritage, 2020.	79
Figure 34. the memorial stone at the Appin Massacre Site, www.sbs.com.au/nitv/explainer/explainer-appin-massacre	83
Figure 35. the 50th anniversary of Warragamba Dam, www.waternsw.com.au	83
Figure 36. hand drawn map of the Menangle RAAF base and airfield, including the squadron living quarters bottom centre, Alan Hicks, 1987	87
Figure 37. Proposed Appin Heritage Conservation Area curtilage	100

List of tables

Table 1. Criteria for assessing cultural heritage significance	8
Table 2. Grading of condition.....	10
Table 3. Place identification table showing the suburb, heritage study ID number, heritage study number (if present) and item name.....	88
Table 4. Risks thresholds for items in the Study Area.....	113
Table 5. Appin risk thresholds	114
Table 6. Thirlmere risk thresholds	116
Table 7. Menangle risk thresholds.....	119
Table 8. Warragamba risk thresholds.....	122
Table 9. Heritage items for targeted additional consultation	124

1. Introduction

1.1 Project brief

Extent Heritage Pty Ltd (Extent Heritage) was commissioned by Wollondilly Shire Council (the 'Council') to prepare a limited Heritage Study for the suburbs of Appin, Menangle, Thirlmere, and Warragamba, located within the Wollondilly Local Government Area (LGA). As per the project brief, the key outcomes of the heritage study are the:

- a. Preparation of a thematic history identifying the influential factors around the development of Appin, Menangle, Warragamba, and Thirlmere.
- b. Identification and documentation of places, sites, buildings and cultural landscapes that illustrate the identified significant themes.
- c. Prepare a standardised inventory for individual sites.
- d. Assessment of heritage values for the listing of potential items around Warragamba, specifically places associated with the construction of Warragamba Dam and the establishment of the Warragamba township.
- e. Review of existing heritage assets, including recommendations around appropriate level of heritage listing/protection based on significance.
- f. Provide advice regarding the establishment of a Heritage Conservation Area for the Appin township.
- g. Assessment of significance for new and existing items using the NSW *Assessing Heritage Significance* criteria.
- h. Provide advice and recommendations around planning controls and guidelines for protecting heritage places in the Wollondilly Shire.
- i. Engage with local community groups regarding the project outcomes.

1.2 Purpose of this study

The purpose of this report is to identify the boundary of the study area, present the thematic history for those places, and prepare a review of the statutory and heritage management contexts for heritage items in the study. Apart from the thematic history, the main report collects data and analysis to provide recommendations for the management of heritage in the LGA. A core component of the study is the preparation of listing sheets for individual items, which contain within them the historical context and physical descriptions necessary to identify the significance of the site and any apparent management recommendations.

1.3 Methodology

Best practice guidelines

The methodology used in the preparation of this heritage study is in accordance with the principles and definitions set out in the guidelines to *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*.¹ This study was also prepared in accordance with the New South Wales heritage manual *Assessing Heritage Significance*.²

Thematic history

The preparation of the thematic history has considered specific themes relevant to the local circumstances, within their chronological phases. It allows related events to be considered in terms of their chronological, social and geographic relationships, where the historical events and processes are considered in the context of a specific topic or theme. The selection of the relevant themes reflects an overall understanding of the chronological history of the area. The use of these themes operates to arrange the information into categories that facilitate comparisons and illustrate the relationships between historical development across the whole area. The thematic history is not an exhaustive history of the Wollondilly LGA.

The Wollondilly LGA is comprised of a number of districts, which themselves are comprised of a greater number of suburban and township areas. Ultimately these boundaries are based on an administrative decision and not on historical or geographic grounds. This study has identified significant growth areas within the LGA using historical maps and overlays.

Research has been informed by the guidelines included in the NSW Heritage Office Heritage Information Series on *Historical Research for Heritage* (2000). A review of relevant background documentation, heritage studies and assessments has been undertaken in the preparation of this Thematic History. This has included the review of previous thematic histories and studies that have been prepared either for Wollondilly specifically or the greater western Sydney region. Further research of both primary and secondary sources as well as consultation with local community groups and individuals has also been pivotal in informing the themes and stories.

As indicated, the Thematic History does not take in the whole of the Wollondilly Shire but only focuses on the four townships of Appin Thirlmere, Warragamba and Menangle. However, rather than provide separate thematic histories for each of these townships, and mindful that the intention of the Council is to undertake a broader Heritage Study in the future that will cover the whole of the shire, a holistic approach has been adopted. The Thematic History therefore presents the themes and stories that relate to the whole Shire in order to provide an overarching context to the history and development of the four townships, and then highlighting those aspects that are particular to the individual townships. The inevitable narrative gaps in this Thematic History will be addressed following the integration of the entire Shire into its scope.

¹Australia ICOMOS, *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Burwood, Vic.: Australia ICOMOS, 2013).

² NSW Heritage Office, *Assessing Heritage Significance* (Sydney: Office of Environment and Heritage, 2001).

Review of existing inventory of heritage items

The review of existing heritage within the Wollondilly LGA has three key aims:

1. To update the listing sheets of items that are to remain in the inventory, ensuring that information is current and accurate, and to provide management recommendations suitable for controlling future development.
2. To identify items that are appropriate for State heritage listing under the New South Wales heritage criteria, based on a review of the item and its historical context.
3. To identify existing items that do not meet the New South Wales heritage criteria for listing and are therefore appropriate for delisting.

To undertake this review, the following key actions have occurred:

- a review of listings to ascertain which items have been demolished or substantially altered, warranting removal from the Wollondilly LGA;
- A fieldwork program, including a site inspection of each heritage item (fieldwork was organised by suburb and included photography from the public domain, ground truthing of existing listing sheet information);
- A review of the quality of information provided on each heritage inventory listing sheet, sourced either from the State Heritage Inventory (SHI) database or from Council records; and
- An update of information on the heritage inventory (or 'listing') sheet in a new, revised template prepared on Microsoft Word (the inventory sheet included an update to existing listing sheets of the heritage items property details, an annotated curtilage and location map, a statement of significance, physical description, historical context, set of recommendations, and reference list).

Physical investigation

Review of existing inventory of heritage items and the preparation of potential heritage items saw a fieldwork program undertaken to observe the current condition of places. The aims of this physical review were to provide accurate descriptions of items, become familiar with the surrounding setting and environment and evaluate the condition of elements through visual observation.

Observation from this program have been incorporated into both the Heritage Study main report and appended listing sheets. Within the main report, these observations have been used to inform descriptions of places in Section 4.2 Place types and to inform individual risk assessments in Section 6.3 Development risks. Appended listings sheets have used these observations to inform the physical description of each item as well as to note changes to material fabric and otherwise identify the condition of fabric in of a place.

The fieldwork program incorporated four site visits which included, where practicable, consultation with historical societies, including access to physical repositories. Fieldwork was undertaken on the following dates and included visitation to the following areas:

- Site inspection undertaken on 18 November 2020 and included visual inspection and photography of heritage items in Appin and Thirlmere. This also involved consultation with the Appin Historical Society and visitation of their physical records.
- Site inspection undertaken on 25 November 2020 and included visual inspection and photograph of heritage items in Warragamba and Thirlmere.
- Site inspection undertaken on 26 November 2020 and included visual inspection and photography of Menangle. This also included consultation with John Wriggley from the Camden Historical Society.
- Site inspection undertaken on 13 December 2020 and included visual inspection and photography of Appin and Thirlmere.

The fieldwork program was organised to include assessment of specific items by registered architect and involved co-ordination by the following staff:

- Jennifer Castaldi – Senior Associate and Registered Architect;
- Ben Calvert – Heritage Advisor; and
- Dominic Caron – Research Assistant.

Preparation of inventory of potential heritage items

The preparation of an inventory of potential heritage items commenced with a high-level assessment of potential heritage items, identified through community consultation, previous reporting, and fieldwork. All items were added to a spreadsheet and an assessment was made with regards to whether, through a desktop analysis of its form, condition, and any other available historical background information, the item had the potential to demonstrate any of the significance values in accordance with the Heritage NSW, '*Heritage Assessment Criteria*'.

Based on the findings of the high-level assessment, 32 potential heritage items were identified for further assessment. The assessment involved the following activities:

- A fieldwork program, including a site inspection of each heritage item (fieldwork was organised by suburb and included photography from the public domain, 'ground truthing' of existing listing sheet information and completion of an inspection form to capture any new, undocumented details);
- Meetings with key stakeholders to review submissions for potential heritage items within each locality. The following stakeholders were contacted:
 - Appin Historical Society;
 - Camden Historical Society

- Picton Historical Society;
- Local experts in Warragamba's history.
- Local experts in Thirlmere's history; and

In addition, The Oaks Historical Society/Wollondilly Heritage Centre and Museum was contacted for assistance with the Thematic History, though was not included in consultation meetings.

- A review of available supporting documentation provided by Council on particular properties, including past heritage studies, Conservation Management Plans, and Heritage Impact Statements;
- A review of National Trust records, previously collected for significant properties. Including obtaining copies of data entry sheets and sheet ID information;
- Historical research, including investigation of secondary sources and some limited primary source research. Research involved investigation of State and municipal repositories, as well as local historical society records. Research was assisted by council and community consultation; and
- A heritage assessment on the heritage inventory (or 'listing') sheet in a new, revised template prepared on Microsoft Word. (the inventory sheet includes potential heritage items property details, an annotated curtilage and location map, a statement of significance, physical description, historical context, set of recommendations, reference list, and at least one current photograph).

Assessment of significance

The NSW heritage assessment criteria was developed by the (predecessors of the) Heritage NSW, Department of Premier and Cabinet (formerly known as the Office of Environment and Heritage) to provide the basis for an assessment of heritage significance of an item or place. This is achieved by evaluating the place's or item's significance in reference to eight criteria, which can be applied at a State or local level.

Table 1. Criteria for assessing cultural heritage significance

Criterion	Description
Criterion (a) - Historic	An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area):
Criterion (b) - Associative	An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);
Criterion (c) – Aesthetic	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);
Criterion (d) – Social	An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;

Criterion	Description
Criterion (e) – Technical / Scientific	An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);
Criterion (f) - Rare	An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);
Criterion (g) – Representative	An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments. (or a class of the local area's cultural or natural places; or cultural or natural environments.)

Each potential heritage item was assessed against the Heritage NSW assessment criteria. The item needed to meet at least one criterion to meet the threshold for local listing on the Wollondilly LEP. It should be noted that meeting more than one criterion does not make a place more significant, it simply means that the place is significant for a variety of reasons.

Where a criterion was not met, a note stating 'The place does not meet this criterion' was added. Places that did not meet all of the criterion were generally of:

- no cultural or natural historic value;
- no rarity value;
- no research or archaeological value;
- low integrity, such that it did not represent a class of place or retain aesthetic value;
- no technical value for a particular period of time;
- no social, cultural or spiritual value to a community or group; and/or
- no special association with a person or groups of persons of importance.

Where a criterion was met, the reasons for this were specifically provided as relevant to the specific criterion being addressed. The results of the tabulated assessment were used to formulate the full Statement of Significance for the nomination.

Assessment of integrity

Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. Examining the conditions of integrity, therefore requires assessing the extent to which the property:

- a) includes all elements necessary to express its outstanding universal value;
- b) is of adequate size to ensure the complete representation of the features and processes which convey the property's significance;

c) suffers from adverse effects of development and/or neglect.

Broadly, the integrity of elements and relationship with other elements should be considered in management decisions. To manage the significance of the place, it is important to define what elements of the site contribute to that significance. Depending on the nature of the significance of the place, this may include buildings and building elements, freestanding structures, or landscape elements. This is presented as a statement of integrity.

Assessment of condition

Another important aspect in assessing the significance of a property is a consideration of overall condition. Condition assessments can assist in identifying significant fabric and what maintenance or repair work may be required to maintain that significance. Condition assessments were undertaken through public domain inspections, assessment of photographs and reviews of previous relevant reports, if available. A condition grading was provided for each assessment based on the definitions outlined below.

Table 2. Grading of condition

Grading	Description
Good	Little to no maintenance and repair works required.
Fair	Some maintenance and repair work required.
Poor	Significant maintenance and repair works required.

Mapping

A set of GIS mapping data was provided by Council at the beginning of the project. This set of data related to existing heritage items listed on Schedule 5 of the Wollondilly LEP, within the Study Area. Extent Heritage undertook mapping updates using QGIS to present potential items for listing and alter or extend boundaries on existing items, as necessary.

Consultation

Stakeholder Consultation

Extent Heritage were present at three formal stakeholder consultation sessions for the completion of this project. In advance of the meetings, an introductory letter and explicatory letter were provided to stakeholders, identifying the intended outcomes of the study. A heritage identification form was also provided to allow stakeholders the opportunity to nominate places for listing on the heritage register either prior to, during, or after a consultation session.

An overview of each of these formal consultation sessions is provided below:

1. Introductory stakeholder meeting held on 2 November 2020. Consultation included introductions, discussion of the aims of the heritage study, and intended outcomes from working with stakeholders. Stakeholders were able to identify places, historical sources and other groups with information pertinent to the study.

2. Second stakeholder meeting held on the 9 November 2020. Consultation included discussion of historical themes, identification of places for heritage listing, and integration of fieldwork schedule with onsite visit to historical societies. Stakeholders identified the need for Extent Heritage to undertake physical investigation of historical society repositories for relevant historical information.
3. Final stakeholder meeting held on the 19 of November 2020. Consultation included notification of the end of formal consultation, though contact with the study group was encouraged if further information was thought pertinent to the study. File sharing services were provided to facilitate contact with stakeholder groups.

Council and Councillor Consultation

Extent Heritage were present at five formal consultation sessions with either Council or Councillors for the completion of this project. These consultation sessions pertained to the progression of the project and the inclusion of important items. Extent Heritage provided updates on the status of the project and changes to the methodology to account for shifting priorities in project output or the inclusion of pertinent information.

1. Council staff inception meeting held on 9 October 2020. Meeting included an introduction with council staff conducting the project, review of the project context, and required outcomes. This included a review of Extent Heritage's methodology and additional information to be provided by Council, for extent to undertake project commencement.
2. Wollondilly Shire Councillor briefing session held 13 October 2020. Meeting included a presentation of Extent Heritage's project methodology to Councillors for review and critique. Councillors made mention of sites for inclusion in the listing sheet as well as identifying a need for stronger controls.
3. Wollondilly Shire Internal Working community consultation held 11 November 2020. Prior to meeting, Extent Heritage provided a working draft version of listing sheets for comment. Extent Heritage presented a current state of the project to the councillor team, including items to be proposed for the completion of the project and a strategy for listing items, based on requirements for further consultation with stakeholder groups. Internal Council group was able to provide additional heritage items to be incorporated into the study. Feedback on listing sheets was provided at later date.
4. Second Wollondilly Shire Councillor consultation session held 1 December 2020. The meeting included a presentation of the Heritage Study's progress, with councillors to provide critique and input into the study. Councillors were able to identify additional heritage items inside Thirlmere to be incorporated into the study. Questions were raised about the inclusion of certain items in Warragamba and Thirlmere.
5. Wollondilly Shire Heritage Working Committee session held 9 December 2020. The meeting included a presentation of the Heritage Study to date to working members. The presentation included an overview of the background research, consultation and fieldwork

done to date. The working committee asked for a clarification of the types of specific recommendations to be included in listing sheets.

1.4 Limitations

The sites were inspected and photographed by the authors of this report throughout November and December 2020. Access to all heritage items was limited to a visual inspection from the public domain, or private invitation, if offered. For the most part, only publicly accessible areas were assessed: the interiors of buildings and inaccessible areas such as rear gardens were not assessed as part of this heritage study, unless visible.

Condition and site modification assessment was limited to a visual inspection undertaken from the public domain, or occasional private invitation. This information should be used as a guide only and should be supported with additional research and physical investigation, prior to any development decisions.

Unless additional research was required, historical research for all heritage items was based on the Thematic History (refer to Section 3 below), existing information in former heritage listing sheets or primary source information provided stakeholders and, where available, heritage documents such as Statement of Heritage Impacts and Conservation Management Plans.

In the listing sheets associated with this project, GIS mapping represents the suggested heritage curtilage of the item, as identified by Extent Heritage. Where an item has been identified for delisting, the curtilage otherwise represents the former boundary of the item and serves to simply identify the place.

1.5 Terminology

The terminology in this report follows definitions presented in the *Burra Charter*. Article 1 provides the following definitions:

Place means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions.

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the *place* itself, its *fabric*, setting, *use*, *associations*, *meanings*, records, *related places* and *related objects*. Places may have a range of values for different individuals or groups.

Fabric means all the physical material of the place including elements, fixtures, contents, and objects.

Conservation means all the processes of looking after a *place* so as to retain its *cultural significance*.

Maintenance means the continuous protective care of a *place* and its *setting*.

Maintenance is to be distinguished from repair which involves *restoration* or *reconstruction*.

Preservation means maintaining a *place* in its existing state and retarding deterioration.

Restoration means returning a *place* to a known earlier state by removing accretions or by reassembling existing elements without the introduction of new material.

Reconstruction means returning a *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material.

Adaptation means changing a *place* to suit the existing *use* or a proposed use.

Use means the functions of a *place*, including the activities and traditional and customary practices that may occur at the place or are dependent on the place.

Compatible use means a *use* which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.

Setting means the immediate and extended environment of a *place* that is part of or contributes to its *cultural significance* and distinctive character.

Related place means a *place* that contributes to the *cultural significance* of another place.

2. LGA identification

2.1 Wollondilly and demographics

The Wollondilly Shire Local Government Area (LGA) is situated approximately 75 kilometres west of Sydney CBD and is within the Western City District. The LGA covers an area of 2,557 square kilometres.³ It incorporates an area including the Blue Mountains National Park to the north-west and the Woronora Plateau to the south-east. The LGA is defined as peri-urban and mostly consists of small, urbanised townships and farmland on the fringe of south western Sydney. It is physically bound by Blue Mountains City Council and Penrith City Council to the North; bound by Liverpool City Council, the Camden Council, Campbelltown City Council and Wollongong City Council to the east; bound by Wingecarribee Shire Council to the South; and bound by the Goulburn-Mulwaree Council and Oberon Council to the west.

The population of the Wollondilly LGA is currently estimated at 53,149 people, equivalent to a population density of approximately 0.21 persons per hectare. Two thirds of the population live in Wollondilly's urban localities while the remaining third occupies the semi-rural surrounds. Approximately 90% of Wollondilly's 2,557 square kilometres is used as national parkland, bushland, water catchment rural lands (including gorges, ranges and plains).⁴

The LGA is divided into thirty-two smaller localities identified by the geographical Names Board as suburbs. Within the LGA, some of the smaller suburb boundaries fall into adjacent LGAs and are only partly administered by Council (refer Figure 1). The following suburbs are identified in the LGA:

- | | | |
|--------------------------------|------------------------|-------------------|
| ▪ Appin | ▪ Darkes Forest (part) | ▪ Silverdale |
| ▪ Bargo (part) | ▪ Maldon | ▪ Tahmoor |
| ▪ Belimbla Park | ▪ Menangle | ▪ The Oaks |
| ▪ Brownlow Hill | ▪ Mount Hunter | ▪ Theresa Park |
| ▪ Blue Mountains National Park | ▪ Mowbray Park | ▪ Thirlmere |
| ▪ Buxton | ▪ Nattai | ▪ Wallacia (part) |
| ▪ Camden Park | ▪ Oakdale | ▪ Warragamba, |
| | ▪ Orangeville | ▪ Werombi |

³ Profile ID. 2021. *Wollondilly Shire Council - Community Profile*. Melbourne: Profile ID. <https://profile.id.com.au/wollondilly>.

⁴ Profile ID. 2021. *Wollondilly Shire Council – Population and Dwellings*. Melbourne: Profile ID. <https://profile.id.com.au/wollondilly/about>; Profile ID. 2021. *Wollondilly Shire Council – How do we live*. Melbourne: Profile ID. <https://profile.id.com.au/wollondilly/how-do-we-live>.

- Cataract (part)
- Cawdor (part)
- Couridjah
- Douglas Park
- Pheasants Nest
- Picton
- Razorback
- Wilton
- Yanderra

2.2 Study area

Suburb boundaries, within the LGA, are formally reviewed and gazetted by Council for submission to the NSW Geographical Names board. The suburb boundaries are generally defined following a number of criteria, including community recognition and natural geography. These formal boundaries have been provided to define the extent of the Study Area; however, they do not strictly reflect changes in land development. There are many places outside the boundaries of these suburbs that have historical links to the study area, though they are not identified for inclusion on the Wollondilly heritage register. Where a place has a historical connection to the study area, it has been identified and the connection is explained within the Thematic History (see Section 3 below).

Characterisations of each suburb within the study area are provided below, identifying their boundaries, any major urban centres, any major infrastructure, and any major topographical features.

Appin

The suburb of Appin is located in the east of the LGA. It is bound to the north by the Campbelltown LGA, bounded to the east by the Wollongong LGA, bound to the south by the suburbs of Wilton and Cataract and bound to the west by Douglas Park.

The eastern portion of Appin largely contains the Dharawal National Park, the West Cliff Colliery and Appin East Colliery and associated lands. The Dharawal National Park contains a number of important natural features, including the O'Hares Creek, Minerva Pool and parts of Georges River. These areas are accessed through a series of formalised trails managed by NSW National Parks and Wildlife Services. The centre of the locality includes the semi-urbanised landscape of Appin. The town of Appin was formalised in 1834 but did not see much urban development until the late twentieth century. Since then, the town has expanded a number of times to include housing estates and enhanced services, such as supermarkets and service stations. Growth in the town has been promoted by local industry, such as coal mining, and previous small scale housing developments. In the west of the suburb are small to medium sized farms, with some older farming estates attached to them. More modern research based agricultural industries have begun to expand into the area since the twentieth century. The Upper Canal has also characterised the western portion of the locality, remaining the most substantial infrastructure development in the area.

Appin forms part of the Greater Macarthur Growth Area. Greater Macarthur was declared a growth area by the NSW Government on 6 December 2019 and has been identified as a State-led

strategic planning project that will involve early investigation and high level planning. The realisation of Greater Macarthur will see long-term significant changes around Appin with an estimated 15,000 new homes, new centres, open space, environmental corridors and transport infrastructure.

Menangle

The suburb of Menangle is located in the east of the LGA. It is bound to the north by the suburbs of Camden Park and Menangle Park, bound to the east by the Campbelltown LGA, bound to the south by the suburb of Douglas Park and bound to the west by the Suburbs of Razorback and Cawdor.

Menangle is still a largely rural landscape. The eastern portion of Menangle contains the existing residential area and large transport corridors such as Southern Highlands railway line and the Hume Highway. This portion of the suburb also contains the village of Menangle, which, though announced in the nineteenth century, became more formalised throughout the twentieth century. Recent development has seen the construction of a retirement village to the south of the village and there is a relatively large residential and commercial development planned surrounding the Menangle railway station. The northern portion of the town contains a number of large industrial structures associated with agriculture. The rural surrounds include small to large sized farming blocks with most of the farms to the south and west of the site having modern or contemporary housing complexes and small dams. To the north and west of the suburb, the Elizabeth Macarthur Agriculture Institute owns and manages a 1600-hectare demonstration site. This area includes a number important research areas, operated from a central complex located at its centre. Places within the demonstration site range from reserves, bushlands, grazing paddocks, dams, riparian forest lands, and rejuvenation areas.

Thirlmere

The suburb of Thirlmere is located in the south of the LGA. It is bound to the north by the suburbs of Picton and Mowbray Park, bound to the east by the suburb of Tahmoor, to the south by the suburb of Couridjah, and to the west by the suburb of Lakesland.

The north and east sides of the suburb is highly developed, with an urbanised area where the town of Thirlmere is located. The centre of the town is focused on the Thirlmere Railway Station and NSW Rail museum. Earlier street layouts are centred around the western portion of the town, while more modern housing estates are in the east. The rural landscape around Thirlmere consists largely of small sized landholdings, with some medium sized landholdings on the periphery of the suburb. Intensive poultry farming in the twentieth century has seen much of the area heavily subdivided into smaller lots. Despite this past, many of the rural structures present in the suburb have been built within the last forty years and reflect a shift in the farming practices surrounding Thirlmere. Likewise, most of the dwellings on these smaller rural lots have sizable modern houses that show a preference for living in a large domestic block, rather than on small-scale farm. To the south and west of the suburb is the Thirlmere Lakes National Parks. The National Park includes a number of important natural features such as the Thirlmere Lakes, wetland reserves and Blue Gum Creek.

Warragamba

The suburb of Warragamba is located in the north of the LGA. It is bound to the north and the west by the Blue Mountains National Park and it is bound to the east and the south by the suburb of Silverdale.

Warragamba is one of the smallest suburbs in the Wollondilly LGA. It largely contains the planned town of Warragamba and part of the Warragamba Dam and surrounds, located in the northern portion of the suburb. The southern portion of the suburb includes the Lake Burragorang Water Catchment Reserve. The dam broadly includes two areas; the bulk water storage and movement infrastructure in the north of the suburb, and the parkland reserve and recreational areas in the south of the suburb. The township is defined by mid twentieth century structures, originally built as temporary structures to house and service people that worked on the dam. The town has a civic and commercial core, with housing mostly located in the north.

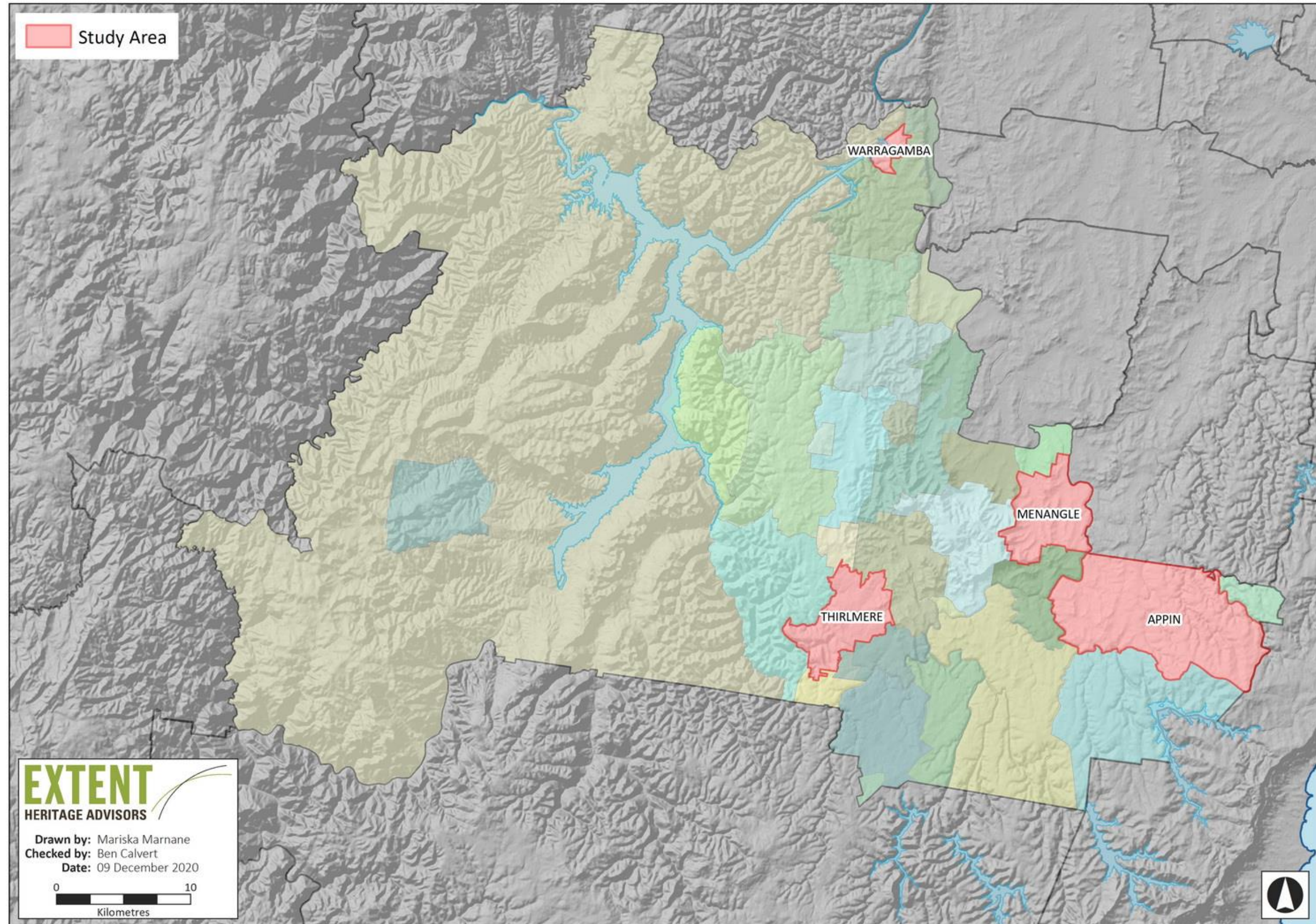


Figure 1. Overview of Wollondilly LGA, showing Appin, Menangle, Thirlmere and Warragamba outlined in red. These suburbs constitute the boundary of the Study Area. Source: Extent Heritage, 2020.

3. Thematic history

3.1 Purpose of a thematic history

A thematic history is not intended to be an exhaustive history of a study area and all the individual places (or items) within it from a defined beginning to an end point. Rather it is an analysis of a place in relation to the evidence of change and development, its inhabitants and features, as well as its economic, cultural and social structure and makeup. A thematic history attempts to identify and explain the major elements and events that have influenced the history of an area and shaped its identity as a series of themes or stories that are distinctive and significant to that place and its people. A thematic history is therefore not strictly set out as a chronological history or necessarily divided into distinct timeframes or years, as themes can cover and overlap multiple periods.

A thematic history can be a helpful mechanism to support a broader Heritage Study of heritage items within a local government area. Groups of related as well as disparate places or items can be considered at both a localised as well as wider context, and examined in terms of how their stories of establishment and development relate to broader historical themes. It also reflects on how heritage items are or might be perceived by the local community as well as those from outside or visitors to the place that can help understand the heritage significance attributed to them. In many cases, these items can be represented by either just one theme or by a multitude of themes.

In the case of this Thematic History, the focus is mainly on the cultural environment in the post-colonial period. However, as a cultural environment, this study area has been greatly informed by the natural environment and its original Aboriginal inhabitants - the Traditional Owners. Reflection on these aspects of its past have also been included in the themes and narratives.

A thematic history can only capture the “story so far” and to a great degree is influenced by the interpretation of history at the time it was prepared. It is not a static document but needs to allow room for the stories and the themes to continue to evolve and change and to be re-assessed. It is therefore an organic and ongoing process which, in the passing of time, presents opportunities to revisit and re-evaluate the themes in the context of how a place has changed and developed and been influenced by new and different impacts and perspectives.

3.2 Thematic framework

3.2.1 Developing a thematic framework

The thematic history has been underpinned by the development of a thematic framework that identifies and sets out historic themes as a suite of stories or chapters specific to the Shire of Wollondilly. The key themes are supported by a set of topics or storylines that succinctly capture the essence of each theme and can be considered the hooks from which each story hangs.

The process has involved identifying which themes in the Australian Heritage Council's *Australian Historic Themes* and the NSW Heritage Branch *Historical Themes* table relate to the study area and its heritage items.⁵ Existing local and regional thematic studies that fall within the study area have also been drawn upon and revised. From here, a new thematic framework was formed and overlaid onto the other established themes, aligning the themes to regional stories in Greater Western Sydney and, more broadly, New South Wales and Australia. The thematic framework can also be used to position each of the heritage items that have been identified in the Heritage Study under their relevant themes.

Although the focus of this thematic history has been Non-Aboriginal heritage, themes and stories in this thematic history acknowledge that the record of the area began prior to British colonisation of New South Wales. When the British arrived, the natural and cultural environment had already been developed and shaped by the Traditional Owners—including stories relating to Aboriginal people who are connected to this place. By acknowledging that their history and culture did not stop at colonisation but has endured and continues to the present day, the selected themes hold greater depth and meaning.

As this thematic history only focuses on the four townships of Appin, Thirlmere, Warragamba and Menangle, some of the themes and key messages identified in the thematic framework cannot yet be captured in this study, and there are inevitable gaps in the key stories and narratives. A more holistic thematic history prepared in the future that covers the entire shire should be prepared to address these gaps. Similarly, preparing a thematic history for the whole shire may also reveal new themes and stories that will require amalgamation into the thematic framework.

⁵ Australian Heritage Commission, *Australian Historic Themes: A framework for use in heritage assessment and management*, Commonwealth of Australia, 2001; and Heritage Council of New South Wales, *New South Wales Historical Themes*, 2006.

3.2.2 Thematic framework

Local Key Themes and Stories	Australian Historic Themes and Sub-themes	New South Wales' Historical Themes
Theme One: From Natural Environment to Cultural Landscape <ul style="list-style-type: none"> The Natural Environment Early Exploration, Surveying and Mapping Establishing Colonial Settlement Creating Towns and Villages Second Phase of Settlement Developments in the Twentieth Century An Urban and Rural Environment Naming the Landscape 	1. Tracing the evolution of the Australian environment 2. Peopling Australia 3. Developing Local, Regional and National Economies 4. Building Settlements, Towns and Cities 8. Developing Australia's Cultural Life	Environment – naturally evolved Aboriginal cultures and interactions with other cultures Ethnic influences Migration Agriculture Environment – cultural landscape Exploration Pastoralism Science Technology Towns, suburbs and villages Land tenure Utilities Education Domestic life Creative endeavour
Theme Two: The People of Wollondilly <ul style="list-style-type: none"> The Traditional Owners First Contact and Tensions Early British Settlers 	2. Peopling Australia 3. Developing Local, Regional and National Economies 4. Building Settlements, Towns and Cities 5. Working 8. Developing Australia's Cultural Life	Aboriginal cultures and interactions with other cultures Convict Ethnic influences Migration

Local Key Themes and Stories	Australian Historic Themes and Sub-themes	New South Wales' Historical Themes
<ul style="list-style-type: none"> Making Wollondilly Home Multiculturalism and Diversity 	9. Marking the Phases of Life	Towns, suburbs and villages Domestic life Creative endeavour Social institutions Birth and death Persons
Theme Three: Movement and Motion <ul style="list-style-type: none"> The Waterways Early tracks, pathways and stockroutes Forming Roads and Bridges Building a Railway Network Other Modes of Transport and Communication 	1. Tracing the evolution of the Australian environment 2. Peopling Australia 3. Developing Local, Regional and National Economies 4. Building Settlements, Towns and Cities	Environment – naturally evolved Aboriginal cultures and interactions with other cultures Agriculture Commerce Communication Environment – cultural landscape Exploration Science Technology Transport Towns, suburbs and villages Utilities Labour
Theme Four: Managing, Farming and Working the Land <ul style="list-style-type: none"> Traditional Land and Food Management 	2. Peopling Australia 3. Developing Local, Regional and National Economies 5. Working	Aboriginal cultures and interactions with other cultures Convict Ethnic influences

Local Key Themes and Stories	Australian Historic Themes and Sub-themes	New South Wales' Historical Themes
<ul style="list-style-type: none"> Developing Primary Production Farming in the Twentieth Century Creating a Sustainable Future 	6. Educating 8. Developing Australia's Cultural Life	Migration Agriculture Commerce Environment – cultural landscape Fishing Forestry Pastoralism Science Technology Transport Towns, suburbs and villages Land tenure Utilities Labour Education
Theme Five: Administering Wollondilly <ul style="list-style-type: none"> Traditional Boundaries Imperial Governance Law and Order Establishing Local Government Providing Essential Services Rural and Town Planning 	2. Peopling Australia 4. Building Settlements, Towns and Cities 7. Governing 8. Developing Australia's Cultural Life	Aboriginal cultures and interactions with other cultures Communication Health Transport Towns, suburbs and villages Utilities Defence

Local Key Themes and Stories	Australian Historic Themes and Sub-themes	New South Wales' Historical Themes
		Government and administration Law and order Welfare
Theme Six: Industries and Workforces <ul style="list-style-type: none"> Convicts, Work Gangs and Transient Labour Timber Getting and Milling Milling Grain Mining and Quarrying Expansion into Manufacturing 	2. Peopling Australia 3. Developing Local, Regional and National Economies 5. Working	Convict Ethnic influences Migration Agriculture Commerce Forestry Industry Mining Pastoralism Science Technology Utilities Labour
Theme Seven: Community and Cultural Life <ul style="list-style-type: none"> Schools and Places of Learning Worshipping Caring for Community Leisure, Hospitality and Tourism Sport and Recreation 	2. Peopling Australia 3. Developing Local, Regional and National Economies 4. Building Settlements, Towns and Cities 6. Educating 8. Developing Australia's Cultural Life 9. Marking the Phases of Life	Aboriginal cultures and interactions with other cultures Ethnic influences Migration Events Health Towns, suburbs and villages

Local Key Themes and Stories	Australian Historic Themes and Sub-themes	New South Wales' Historical Themes
<ul style="list-style-type: none"> Cultural and Community Clubs and Activities Honouring and Commemorating 		Accommodation Education Creative endeavour Leisure Religion Social institutions Sport Birth and death Persons
Theme Eight: External Influences <ul style="list-style-type: none"> The Growth of the Sydney Metropolis Government Policy War and Conflict Economic Impacts Advances in Technology 	3. Developing Local, Regional and National Economies 6. Educating 7. Governing 8. Developing Australia's Cultural Life	Commerce Communication Transport Towns, suburbs and villages Utilities Defence Government and administration

3.3 Themes

3.3.1 From natural environment to cultural landscape

The natural environment

Wollondilly Shire is situated on the south western outskirts of Sydney, at the foothills of the Southern Highlands on the Cumberland Plains. Geographically, it is bounded by Bargo in the south, Appin and Menangle in the east, Warragamba in the north with the Nattai wilderness, Yerranderie and Burragorang Valley to the west.⁶

The gorge country of the Wollondilly is amongst the steepest in New South Wales and the gently undulating plateau top presents a dramatic contrast to the narrow, deeply incised valleys. The landscape ranges from undulating to flat and open plains. The numerous and significant rivers, and their tributaries, lakes and creeks such as Nepean, Georges, Warragamba, Burragorang, Coxs, Cataract and Bargo, have made Wollondilly a major water catchment area. Although rainfall is relatively low in this southern part of the Cumberland Plain compared to the north, the rainfall that is received is channeled into numerous valleys, cutting deeply into the sandstone. The waterways provide alluvial strips of fertile soil along the valley floors while underneath are extensive deposits of rich black coal. The chief tree species indigenous to the area include the grey box, narrow-leaved ironbark and forest red gum, and otherwise includes Hawkesbury sandstone vegetation.⁷

The natural environment has great cultural, spiritual and economic significance to its Traditional Owners, the Gundungurra language group (also spelled Gandangara or Gundangurra) and the Dharawal (also spelled Tharawal) and Dharug (also spelled Dharuk or Darug) people. The natural and cultural landscape reflects the intimate and shared knowledge the Traditional Owners had developed of their country over many thousands of years. The Gundungurra refer to the period when the landscape, animals, plants and laws were created as the gun-yung-ga-lung or 'far past times'. The geological development and creation of this diverse and dramatic landscape was believed to be the work of Gu-Rang'atch (Gurrangatch) who was part fish and part reptile. The water courses, ranges and water holes were all formed from the burrowing and tunnelling of Gurrangatch when it was being pursued by the quoll Mirragan from the upper Wollondilly River to the Joolundoo waterhole in the upper Fish River in Oberon.⁸ The many waterholes along the Wollondilly and Cox Rivers are believed to be the various resting places of Gurrangatch.

For many thousands of years, the Traditional Owners of this region drew upon and maintained the rich and diverse local natural resources. Water, food, shelter, lotions, medicines, tools and clothing were all provided for by the local rivers, lakes and tributaries as well as the numerous

⁶ Wollondilly Shire Council. 'About Us.' Accessed 5 January 2021.

<https://www.wollondilly.nsw.gov.au/council/about-us-2/>

⁷ Whitaker, A.M. 2005. *Appin: The Story of a Macquarie Town*. Alexandria, NSW: Kingsclear Books.

⁸ Smith, J. 2009. 'New Insights into Gundungurra Place Naming.' In *Aboriginal Placenames: Naming and Renaming the Australian Landscape*, edited by L. Hercus and H. Koch, 87-114. ACT: ANU Press.

streams and swamplands and the forest lands. Local fauna were hunted for food and skins such as possums, lizards, kangaroos, echidnas and wallabies. There was an abundance of fish and shellfish in the rivers, and the inland lagoons were a source of frogs, yabbies, tortoises and eels. Birds also provided meat and eggs. Other resources came from foraging for yams, fruits, roots, berries and seeds. They mined sites for the natural clays and ochres, and certain stones were important for making tools and implements. Natural shelters such as caves, overhangs and ledges formed by the erosion over time of the sandstone, were important for shelter, protection and warmth. They were also important for cultural reasons, with the walls often decorated with images and hand stencils using the local red ochre, white clay or charcoal. In the areas the flat, open plains, the Traditional Owners lived in open campsites.

After the arrival of the British colonists, the geography and environment of Wollondilly shaped its development and informed the main and enduring industries of farming, timber, water harvesting and mining.⁹ However, these industries, along with creation of townships and the building of major infrastructure to service these towns and industries, have irrevocably and permanently changed the natural landscape as well as impacted on the indigenous flora and fauna and ecosystems. Much of the native woodland was removed to make way for paddocks, roads and railway and also felled for its timber with only remnant bush surviving in pockets; silver and coal mines and quarries were carved into the earth, and the harvesting of water and construction of dams not only altered the natural waterways but resulted in the flooding and subsequent disappearance of large sections of land.

Early exploration, surveying and mapping

The first ventures of the British to this area were very much associated with a particular event in the early history of the colony of New South Wales. This was when cattle brought over with the First Fleet in 1788 strayed from the Farm Cove settlement in Sydney. Search parties sent out to try and locate the lost cattle ventured to this region where the cattle were eventually discovered in 1795. The area became known as The Cow Pastures, and the tracking down of the cattle was the start of British exploration and subsequent settlement in what would become Wollondilly Shire.

Early explorations were also made for the purposes of identifying and recording local flora and fauna, good farming land and other resources. One of the earliest explorers into the Wollondilly area was George Cayley. Cayley was sent by Sir Joseph Banks to Sydney in the early 1800s to collect specimens of local flora and fauna to be shipped back to London. A gardener by trade, Cayley embarked on expeditions in the country all around Sydney from his base in Parramatta, keen to find all manner of new specimens to send Banks. Cayley also was the first European to record the Appin Falls. Through information received from a local Aboriginal man, Cayley set out to find this landmark on the Nepean River just up from the Cow Pastures which he referred to as a Cataract. Cayley found the falls, which was parochially known as Cayley's 'frightful' cataract, because the local Aboriginal people considered the precipice '...frightful to look down' especially with the rocks dangerously slippery near the edge.¹⁰ Cayley recorded the Aboriginal

⁹ Op. cit. Whitaker, p.2

¹⁰ Ibid, p. 3.

name for the falls, Carrung-gurrung. The falls would become called the Appin Falls and his reference to the Cataract would be the name given to the Cataract River and, later, the dam.



Figure 2. Joseph Lycett, View upon the Nepean River at the Cow Pastures, New South Wales, published 1825, London, source: nla.gov.au/tarkine/nla.obj-135702836.

Shortly after settling into his Government House in Parramatta, one of Governor Macquarie's first intentions was to explore the surrounding country around this seat of governance to locate the best land from which food could be grown to feed the growing colony. In the early days, the most productive area was found to be around the Hawkesbury River. However severe and regular flooding of the Hawkesbury caused great losses in crops and stock and forced the early colonists to look elsewhere for viable and sustainable farming land.¹¹ Macquarie's attention turned to the land that lay between the Nepean and Georges Rivers which he proceeded to survey in 1810/1811. This new district, boarded by the Georges, Nepean and Cataract rivers, was named by Macquarie as Airds, or Appin.

In 1812, George William Evans made the first overland journey from the Shoalhaven and Illawarra to Appin and back to Sydney.¹² During his journey he relied upon the hospitality and

¹¹ Syd, P. 1992. *Chronicles of Appin*. Campbelltown, NSW: Campbelltown and Airds Historical Society, p.7

¹² Op. cit. Whitaker, p.3

advice of the new colonists who had just established the first farms in the area, William Broughton and John Kennedy.

Another explorer of note was early settler to the Appin area, Hamilton Hume. Hume's family was one of the first to take up land in Appin along with the Kennedys and Broughtons. As a young man Hume began exploring the country beyond Sydney and developed into a good bushman. In 1814 he and his younger brother John set off on an exploration of the area to the south of Appin, and were the first of the British colonists to cross Razorback Range. His explorations of New South Wales continued and took him further afield, making important discoveries often with the assistance of Aboriginal guides. Having developed a keen ability to communicate with the local Aboriginal people and in tracking animals meant he was highly regarded by other surveying parties and often invited to join with them. This included fellow Appin resident, Surveyor General John Oxley, Charles Throsby, Deputy Surveyor-General James Meehan and Charles Sturt.¹³

Establishing colonial settlement

By the early nineteenth century, the Sydney gentry started to look out beyond Sydney town to the regional areas in which to establish estates, not only where they could make money from agriculture and pastoralism but also to confirm their place in Sydney society as part of the gentry class. These first British settlers relied on being granted land by Governor Macquarie and therefore being in his favour. Macquarie gave many grants of land of varying sizes in order to initiate the development of the area and secure it for future settlers. The first land grant in the area issued in 1811 was to Sydney magistrate and acting/Deputy Commissary General William Broughton which he named "Lachlan Vale" in deference to Macquarie. Broughton's brother-in-law, John Kennedy's also received his first land grant soon after which became Teston Farm. The other of the first landholders in the Appin area were the Humes, who named their estate Hume Mount.

On a visit to inspect the Cow Pastures in 1815 Macquarie called in at Appin. During his visit he recorded his observation of the progress being made by these early settlers. He noted that Broughton had cleared a considerable portion of his farm and had planted wheat was in the process of building '...a large one storey weather boarded house with two wings, on a very lofty eminence commanding a very extensive prospect'.¹⁴ Kennedy had made significant improvements with a good farmhouse and garden cleared timber and planted extensive wheat crops. On the basis of that Macquarie then granted Kennedy further land making Kennedy a significant landholder. Similarly, the Broughtons and Humes were also issued further land grants, indicating that Macquarie was pleased with their progress.

Nearby to Kennedy, Alexander Riley was granted land, naming his homestead situated on Elladale Creek and named "Elladale", which adjoined Broughton's other property "Macquarie Dale". Next to Kennedy was William and Sarah Sykes' "Mount Brittain", at the time the most southern property in Appin, with Macquarie also later granting them more land.¹⁵

¹³ Ibid, pp. 14-15.

¹⁴ Ibid, p. 9.

¹⁵ Op. cit. Percival, p. 10.



Figure 3. Elladale cottage, Appin, c1920s, with the Taylors: lynnesheritage.wordpress.com/2008/07/17.

The northern boundary of Appin is the property “Mount Gilead” which was originally granted to Reuben Uther. Uther established his farm on the slope of a hill and his house on the summit. It was later purchased by Thomas Rose, a Sydney businessman.¹⁶

On the southern boundary of the Cataract River was a place known as Jordan’s Crossing, which was James Jordan’s grant. The road that crossed the river would later become Picton Road. Adjoining Jordan’s land was Laurence and Mary D’Arcy’s farm “Spring Valley”. John Anderson’s property that he named “Ousedale”, the creek that ran through it still bearing this name.

Joseph Creighton, who came from the Lakes District of England, received a substantial land grant near to what would become Thirlmere.

There were several grants of smaller amounts, made by Macquarie on condition that after five years the land would revert back to the Crown unless sufficient progress had been made in cropping and stocking. Fortunately, the success of many of these early grants, particularly in grain growing, secured their tenure beyond the five years and also resulted in the district becoming a major supplier of wheat, corn and barley for the broader colony. One of these properties belonged to Moses and Michael Brennan. In 1816 they acquired their land grant in Appin which they named “North Farm”. Although only a small grant, the land was ideal for growing grain and, by 1822, the Brennans were supplying wheat for the NSW Government stores.

¹⁶ Ibid, p. 8

Near to the Brennans, Richard Tress acquired land in 1819 which he named “South Farm”. This marked the beginning of some diversification in the land use. With a sizeable amount of land, Tress was one of the first to establish his farm for grazing rather than grain production. Also in 1819, Daniel Millar established dairying on his grant. Tress sold a portion of his land to Millar in 1829 with the remaining “South Farm” property staying in the family until it was sold in 1838 to Mathew and Catherine Healey.

Other settlers who acquired small grants in this first wave of British settlement were John Firth, Edward McGee, John Trotter, Nicholas Bryan and Matthew Pearce, John and Elizabeth Dwyer, William and Ellen Crowe, and James and Sarah Byrne and Andrew Byrne.¹⁷

By the late 1820s, the Hume and Kennedy families were well established in Appin owning large tracts of land. However, by now another significant family were also making their mark in the region. From 1820 onward, the Macarthurs attentions were largely transferred from their original property Elizabeth Farm in Parramatta to their Camden Park estate. Lieutenant John Macarthur arrived in Sydney with the New South Wales Corps. He was initially posted inland where he and his wife Elizabeth and sons James and William lived at their first home in New South Wales, Rose Hill. In 1792, they moved to Parramatta where they established Elizabeth Farm. It was here the Macarthurs – mainly through the efforts of Elizabeth – firmed their reputation in the sheep and wool industry. In 1795, Macarthur was promoted to Captain.

In 1805, Macarthur was granted 10,000 acres in the Cowpastures area with frontage to the Nepean River, which was regarded as the best land in the Colony. An adjoining 2000 acre grant was also later incorporated into Macarthur’s grant. The property was named Camden Park after Colonial Secretary Lord Camden, a powerful ally of Macarthur’s who was instrumental in him receiving this land grant and also in having his Court Martial case dismissed. Having resigned from the Corps, Macarthur focused his attentions on farming with Camden Park quickly becoming the country’s most highly regarded and admired sheep station and experimental farm. Camden Park drew much curiosity and interest from other farmers to whom the Macarthurs would invite to visit the property and inspect the work being done there.

Initially living in a cottage on the property, in 1831 Macarthur commissioned colonial architect John Verge to design a stately home for the Camden Park estate. Although the family moved into one of the wings as soon as it was completed, John Macarthur, never saw his home completed as he died in 1834, a year before its completion. By the late 1830’s the land holding had expanded to around 28,000 acres.

Creating towns and villages

Although there was significant development of land grants in the Appin area from the 1810s, the townsite to support the local population was not formally created until 1834. The other townsites or villages of Menangle and Thirlmere soon followed. A significant change in the type of settlers coming to the area also started around this time with former convicts starting to take up land from where they could start their new life and freedom.

¹⁷ Ibid, p. 10.

In 1834, the town of Appin was designed in line with Macquarie's 1829 regulations for small towns and villages. The town was laid out on a former Crown Reserve where a church site and glebe had already been surveyed. Street names, the names of grantees and landowners, reserves for civic uses including the Roman Catholic chapel, glebe, school, hospital, burial ground, gaol, court house and a market place, as well as town allotments between the road and the George's River were all marked out.¹⁸ Among the first buildings constructed in Appin were two public houses, a timber lock-up, two churches – St Bede's Roman Catholic and St Mark's Anglican churches - a rectory, and two combined cottages and shops.



Figure 4. Appin survey 1938, State Library NSW, FL3711306, Government map cartographic.

Menangle was the result of a private development enterprise of brothers James and William Macarthur in the 1830s to create associated villages out of their Camden Park Estate, which the other one being Camden to the north. Proposals to build a private village at the Camden Park Estate were opposed by John Macarthur. It was not until after his death in 1834 that his sons, James and William Macarthur, supported a private subdivision that began in 1841 and which would become Menangle. Once the private-venture village was approved, a street plan was drawn up and parcels of land went on the market.

¹⁸Wollondilly Shire Council. 1993. *Wollondilly Heritage Study*. Report prepared by JRC Planning Services. Sydney: JRC Planning Services, p. 85.

In contrast to the private village of Menangle, and more in line with the town model established at Appin, Thirlmere was initially developed by the arrival of the pastoralists and agriculturalist in the 1820s who needed a town to support them. These included farmers on small acreages producing horse feed, poultry and vegetables to supply both the local community as well as to sell at the markets in Sydney.¹⁹

Menangle, Thirlmere and Appin, however, only provided the most basic services, and other services still had to be sourced from larger centres such as Liverpool and, in some cases, Sydney.²⁰ Although Appin would later grow into a more significant townsite, the further development of Menangle occurred once bridges for road and rail over the Nepean were built which went hand-in-hand with the development of the dairy industry. For Thirlmere it was the construction of the Picton to Mittagong loop rail line, which was part of the Great Southern Railway, that would stimulate further growth.²¹

Second phase of settlement

By the mid-1800s, Appin had become a principal town for Wollondilly (along with Picton). Most of its public buildings, including churches, schoolmaster's residence and stone police station with detached lockup, had all been constructed by the 1860s.²²

Wheat had become one of the main agricultural products grown in Wollondilly. The success of wheat had also stimulated the establishment of a number of mills around Appin. One well-known mill was built at "Middle Farm", Appin, by Edward Larkin in 1846. It was named "Windmill Hill" after Larkin's mill built on the highest part of his property. "Windmill Hill" became a prominent locality, eventually incorporating a number of properties along with Larkin's "Middle Farm": the Brennans' "North Farm", Tress's "South Farm" and the Stevens' homestead. Larkin's mill gave great service for many years. However, the wheat industry was devastated by the emergence of rust in the 1860s, forcing many farmers in the Appin area to completely switch from wheat to other agricultural ventures such as dairying and grazing.

Thirlmere was originally part of the Bargo Bush. Although early explorers took an interest in the large freshwater lakes they found there, the area remained a secluded locality for some time. More significant settlement did not really gain momentum until the mid-1860s. This was due to the construction of the Great Southern Railway which saw gangs of railway fettlers basing themselves in Thirlmere in temporary accommodation, making them the first inhabitants of the town. The Great Southern Railway originally opened from Picton to Mittagong via a loop line in 1867. A railway siding was built in Thirlmere (originally called Redbank) to facilitate the supply of timber from the area to Sydney.²³ In addition to the railway, the development of Thirlmere was largely shaped by its strong ties with the timber industry. Thirlmere had one of the largest timber dumps in NSW and numerous sawmills which specialized in milling railway sleepers and

¹⁹ Ibid, p. 87.

²⁰ State Heritage Register Project. Kass, T. *Western Sydney Thematic History*. Report prepared by Kass, T. Sydney: State Heritage Register Project, p. 74.

²¹ Op. cit. JRC Planning Services, p. 21.

²² Ibid, p. 85.

²³ Ibid, p. 87.

mine props as well as block-wood. Local timber cutters in the area also supplied large quantities of “bundle-wood”.²⁴

Despite the flurry of activity associated with the timber industry and the building of the railway, up until the 1880s, Thirlmere was little more than a small outpost. Most of the housing was temporary – being tents or slab huts - there were no roads to Thirlmere with the only link to other towns being the single railway line. By the mid-late nineteenth century much of the old woodland had been removed both for the purposes of land-clearing but also because of the intense timber felling, eventually signaling the demise in this industry too. More permanent settlement began to take place after 1880 when Joseph Creighton’s large land grant was carved up between 1882-1884 into the first Lakesland subdivision as orchard blocks. The basis of Thirlmere’s settlement pattern was formed at this time and is still evident today.²⁵ Thirlmere would become an important railway town and boasted more permanent and substantial buildings including a town hall, a hotel (the Welcome Inn), public school, railway station and shops. Thirlmere’s growth continued from the 1890s and up until World War I.



Figure 5. Thirlmere Main Street, 1940, National Archives of Australia C4076.

In the first half of the nineteenth century, Menangle was still little more than a small parish village, lightly populated with mostly small farms located along the Nepean River. Some of the early land holders included William Howe and James Harrex who took up small grants of land with the intention of gradually building up large estates. However, the poor soils there hindered the success of these early farms. Menangle’s development and growth was directly connected with the success of Camden Park and the patronage and wealth of the Macarthurs. Menangle

²⁴ Ibid, p. 85.

²⁵ Ibid, p. 87.

provided a place for their workers to live and for essential supplies and services. Many of the fine buildings in Menangle were an outcome of this symbiotic relationship including St James Church, the General Store, the Camden Estate Central Creamery and the village school. The General Store was originally established as the buying agent for the Camden Park Estate to supply provisions such as stores, seeds and fuel. Even after the influence of the Macarthurs had dissipated, the store would continue on as a general store for the local community.²⁶



Figure 6. Menangle General Store, Curry & Son, c1930-1939, Campbelltown City Council 001760.

The arrival of the Great Southern Railway also contributed to Menangle's success. In 1865 a railway line was built through the eastern farms and a railway station set down at Menangle. The Macarthurs' headquarters were then moved from Camden Park Estate to Menangle. The railway quickly became the commercial focus of the village facilitating the growing dairy industry and changing the historic character from a village to a railway centered town by the late nineteenth century.²⁷ Numerous of these early dairy farms survive, such as the wooden dairy at Windmill Hill, Appin

Early farms in Menangle had mostly concentrated on sheep however after the opening of the railway, many, like Camden Park, turned to dairy cattle. Menangle was to benefit from the Macarthurs' continued success with the brothers James and William and their descendants continuing the innovative enterprises started by their parents, developing Australia's first

²⁶ Ibid, p. 76.

²⁷ Ibid, pp. 75-76.

commercial vineyard and laying the foundations for what would be ‘...Australia’s finest orchard and largest dairy’.²⁸

Developments in the twentieth century

Over the years, many of the original farming properties established in the earliest years of colonial settlement had changed hands, changed purpose, or been merged or subdivided. Farming practices adapted from grain growing to grazing and dairying as determined by local conditions, disease (such as rust in wheat), market demand, and the boom and decline of other non-sustainable industries such as timber felling.

Villages like Menangle had retained a simple “English style village” feel, with its village railway station, a church on the hill a grand manor, and creameries and workers’ cottages dotted around the landscape.²⁹ Writers, artists and poets noted the English nature of the town. In 1927, the visiting Duchess of York stated: ‘It’s Little England, a model of an old English village...[just] like home’.³⁰



Figure 7. Aerial view of Menangle 1935, National Library of Australia.

²⁸ Trench, B. ‘Welcome to the Menangle Community Website.’ *Menangle, the Birthplace of Australian Agriculture* (blog), accessed 5 January 2021. <http://menangle.com.au/>

²⁹ Willis, I. 2018. ‘Utopia or Dystopia: A Contested Space on Sydney’s Urban Frontier.’ Paper presented at the 14th Australasian Urban History Planning History Conference 2018, Melbourne, 30 May. Viewed 5 January 2021, <https://ro.uow.edu.au/lhapapers/3490/>.

³⁰ Sydney Morning Herald, 4 April 1927, cited in Willis, Ian Dr, ‘Utopia or Dystopia: A Contested Space on Sydney’s Urban Frontier’, School of Humanities and Social Inquiry, University of Wollongong, p.1.

There was, however, the emergence of another industry in the region that would dictate and direct its future development. The harvesting of water and construction of dams. The construction of the Cataract Dam between 1903 and 1907, did result in a noticeable boost to the local population and economy of Appin. However, the early hopes of Appin becoming a more significant townsite after the construction of the dam remained largely unrealised.

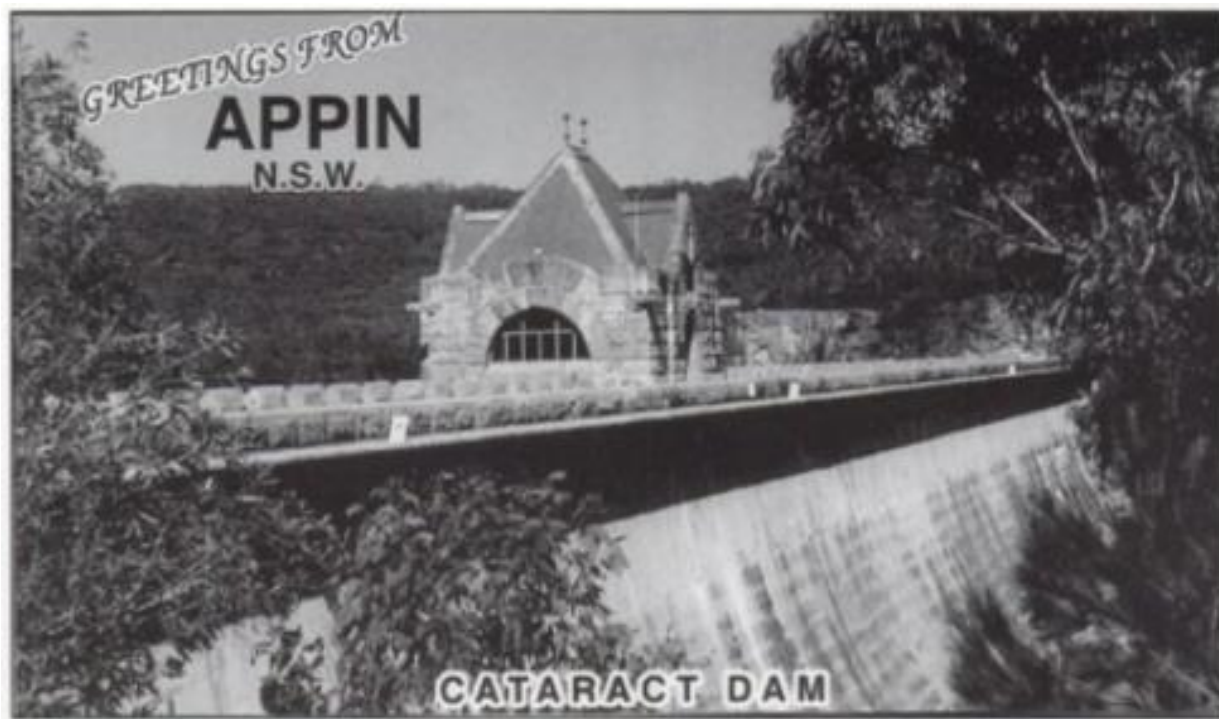


Figure 8. An Appin postcard featuring the new Cataract Dam.

After World War Two, the advent of coal mining stimulated some development and encouraged the building of houses in Appin for miners. However, despite these two important phases of its development, they weren't so great as to significantly change the cultural landscape of the original Appin townsite laid out in the mid-nineteenth century.³¹

Another new town was to emerge after World War Two. Warragamba, unlike Appin, was established around the construction of a dam. Up until now, Warragamba had only served as a temporary construction camp for employees working for the Sydney Water Board on the construction of the Nepean dam as well as other dams in the region. Camps such as these sometimes provided the accommodation as well as stores and pubs for the workers but in many situations workers had to provide their own accommodation and once the dam work was complete '...the camps dissolved and disappeared from the landscape'.³² When the temporary camp closed, Warragamba essentially remained as a wilderness landscape. When construction of the Warragamba Dam commenced in 1948, the more traditional construction camp was replaced with the notion of a permanent townsite that would support and sustain a local community. Warragamba townsite sprung up almost overnight.

³¹ Op. cit. JRC Planning Services, p. 85.

³² Op. cit. State Heritage Register Project, p. 68.

Warragamba was designed and built by the Sydney Water Board to accommodate workers and staff associated with the construction of the dam. From its inception, Warragamba was a complete model-community. Living conditions were exceptionally good for the period with accommodation comprising a combination of cottages and barracks, with over 500 free-standing houses for married couples and families, and barracks and mess for the single men. The town was developed to be entirely self-sufficient with its own purpose-built infrastructure and services including shops, a post office, school, churches, medical centre, police station, pre-school, kindergarten, oval, tennis courts and combined town hall/picture theatre.³³ The town had its own reticulated water supply, sewerage system with secondary sewerage treatment plant and garbage service and the streets were all kerbed and guttered.³⁴

Once construction of the dam was completed in 1960, most of the construction workers left the town to follow other projects. However, personnel associated with the dam's operation and Water Board administration stayed on as well as maintenance and wages staff, many of whom purchased their cottages from the Board at cheap rates.³⁵

Ironically, the creation of the Warragamba Dam and the establishment of that townsite resulted in the loss of other townships and villages. People living in valleys such as Burragorang, were forced to move out their homes, to close down their businesses, and to relocate their lives as the landscape was submerged to create Sydney's water supply.



Figure 9. A typical cottage built for the workers, National Archives of Australia A1200 L35678.

³³ Op. cit. JRC Planning Services, p. 89.

³⁴ Ibid., p. 89.

³⁵ Andrea Oehm 2005, *Wollondilly Local Government Area Thematic History*, prepared for Wollondilly Shire Council, pp.51-52

An urban and rural environment

The Macarthur region became one of the fastest-growing regions in the Sydney metropolitan area, and was generally regarded as an area ‘...where the city of Sydney meets rural countryside of regional New South Wales’.³⁶ By the mid twentieth century, the encroachment of the Sydney metropolis in outlying regions such as Wollondilly, shifts in the economic and environmental viability of traditional farming lands, and the noticeable changes in long-standing ownership of many historic properties was starting to be felt and have long-term impacts.

In 1968, the Sydney Regional Outline Plan was released. Major urban planning initiatives such as this, combined with declining farming profits and sustainability, encouraged many significant property owners to sell their properties. In 1969, the substantial property “Windmill Hill” in Appin, now owned by the Wintons, was sold to the Windmill Pastoral Company. The land was no longer an operating farm, although some of the original buildings remained. After some years of languishing, in c.1990s, the property was subdivided, with the western slope developed as a water treatment facility.³⁷ However, the significant role Windmill Hill played in the development of Wollondilly was given due regard in 2014, when the group of properties that formed Windmill Hill were collectively given State Heritage Listing:

The collection of building ruins and landscape features has a high level of significance as they demonstrate varying construction techniques and vernacular styles from the early to late nineteenth century, which have the ability to provide information on the relative construction periods and also the fortunes of the early settlers that occupied them.³⁸

The other major change in property ownership was the Macarthur family at Camden Park. In the early 1970s, the agricultural enterprise of the Macarthur-Onslow family underwent upheaval with a large portion of the estate being sold to developers in the 1980s. This included selling off the famous Rotolactor which had been a major drawcard to the region as well as the private village of Menangle. However, Quentin Macarthur-Stanham, who had been living at Camden Park with his family since 1947, retained Camden Park House and its surrounding land in the Macarthur ownership with the intention of maintaining this historic estate and retaining it in the family. At this time, Quentin established the Camden Park Preservation Committee which consisted of both family members and non-family members. The purpose of the committee was to bring together the right skills in order to protect the property and take on responsibility for managing Camden Park House and its extensive gardens. The committee was later supported by the formation of the Camden Park Nursery Group consisting of volunteer gardeners.

From as early as 1978, the heritage significance of Camden Park was being recognised – first with the Register of the National Estate through to 1999 where it was entered in the State Heritage Register, with numerous and varied conservation reports prepared for the site covering the buildings and landscape. In 1990 the Heritage Council made a \$200,000 grant and a \$50,000 loan to the Camden Park Preservation Committee to assist the restoration of Camden

³⁶ Pocket Oz Travel and Information Guide. ‘Beyond Sydney: Macarthur District.’ Accessed 5 January 2021. <http://www.visitsydneyaustralia.com.au/beyond-macarthur.html>

³⁷ NSW Office of Environment and Heritage. ‘Windmill Hill Group.’ Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4580168>

³⁸ Ibid.

Park House. The next generation of family members have continued to live there as stewards of this important and historic place. Its rich and substantial collection of furniture and fine arts from its early days have made Camden Park Estate a major tourism destination and valuable historic archive for research.

However, in contrast to the well-preserved Camden Park Estate, the situation was not so positive at Menangle. By the early twenty-first century, growing concerns over the now vastly deteriorated Rotolactor stirred action by the Menangle Community Association who organised the “Milk Shake Up Festival” in 2017. The purpose of the festival was to promote the memory of the Rotolactor and use it as a deterrent to stop development that did not consider the cultural context of the village. Today, Menangle has specific development controls in the Wollondilly Development Control Plan for the distinct uprose of preserving its important natural landscape and built environment. Heritage items in Menangle include the two churches St James and St Patrick’s, the old store, creamery, and Rotolactor, the station, bridge and viaduct associated with the railway.

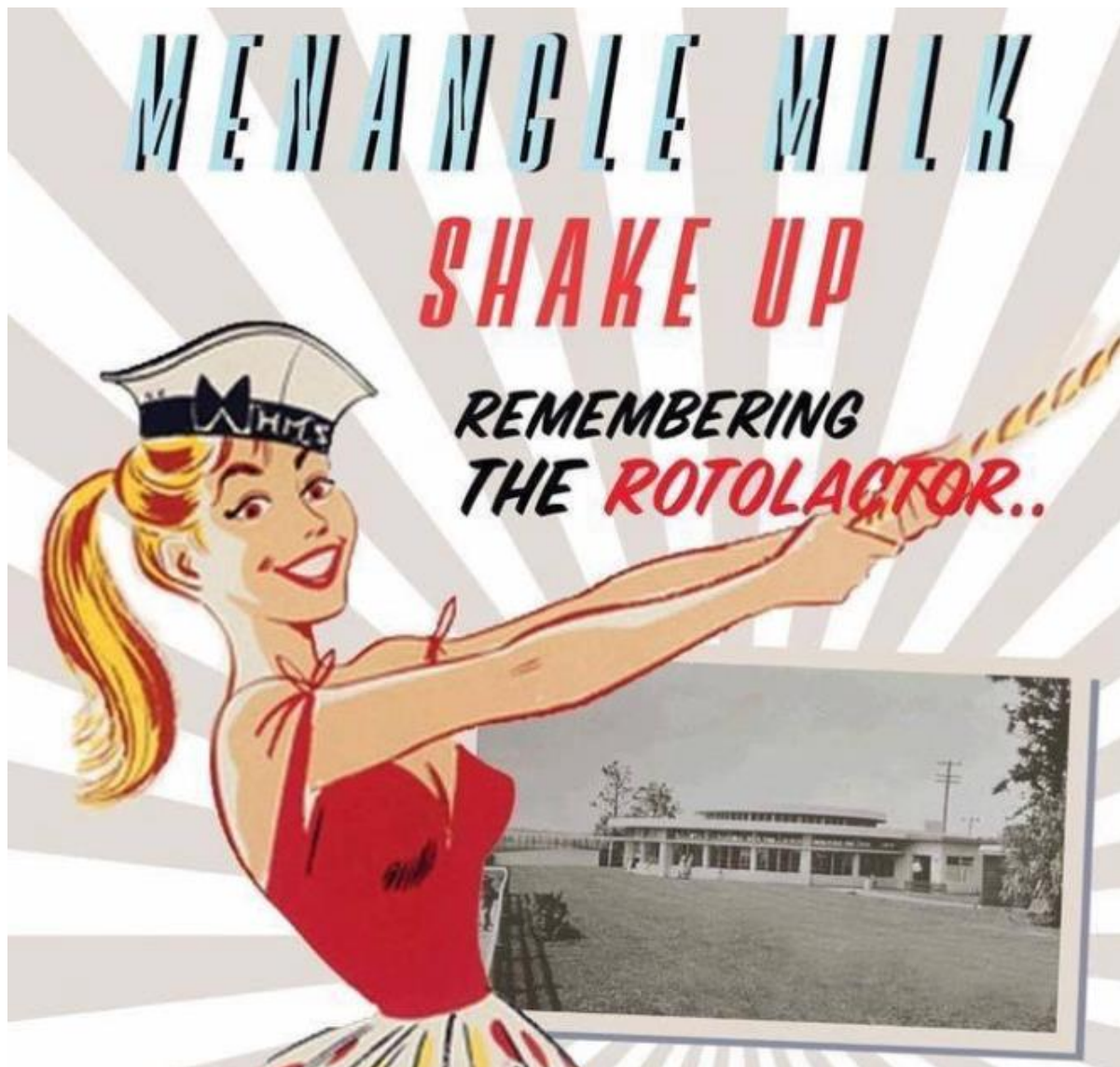


Figure 10. Promotional poster for the 2017 Menangle Milk Shake Up.

Another major landowner to enter the scene in Menangle was the NSW Department of Primary Industries, which had acquired a large portion of the original 1805 Camden Park land grant of John and Elizabeth Macarthur. In 1990, they established the Elizabeth Macarthur Agricultural Institute on this land as a Centre of Excellence for Plant and Animal Health.

Throughout the shire there has been increased residential development, with new housing estates being constructed around existing towns and villages. However, the growth of tourism has also stimulated change and a refocus for the Wollondilly residents and for business. Being conveniently located close enough to the metropolis, it is ideal for short holidays, weekend getaways and day trips for Sydney's population. Its small villages provided a respite from the big city and its dramatic and scenic natural and cultural landscape, such as the Warragamba Dam, provided popular sightseeing and adventure opportunities. Similarly, the decline in rail with the rise of private motor car ownership and road transport would lead to a new purpose for towns fundamentally built upon the State's railway network such as Thirlmere. Here, the NSW Rail Transport Museum was established which is home to the State's most important railway collection.

Naming the landscape

Many of the placenames given by the Traditional Owners derived from words in everyday use for trees, plants and animals as well as common topographic features including rivers, confluences and waterholes. Wherever there was an abundance of a particular plant or animal or a special geographic feature the name would reference that species or feature. These landmarks would inform meeting, hunting and gathering places, places of sustenance, and of spiritual, social and cultural significance.³⁹ For example, the name Wollondilly is attributed to the Gundungurra people and having three meanings including; "a place where spirits dwell" and "water trickling over rocks" and the third meaning is connected to a legend about the burning black coal that was carried inside the skull of a bunyip, within a basket woven of waratah stems. "Worron" means black coal and "dilly" means carry basket.⁴⁰

Some original Aboriginal names were recorded by the British colonists in early explorations and surveys but many were later Anglicized by them. The naming of estates, towns and village was part of the British imperial practice of placing English names on the landscape; a political act of possession, or dispossession, and an active part of settler colonialism. As British colonists seized territory through the sanctioned processes of grants and purchases, more English place names were imposed on the countryside. As names were applied to the land, so too did the natural landscape evolved into a cultural landscape, modelled on English ideals of gentrified estates. Wollondilly Shire became interspersed with small, enclosed villages, formal gardens and cultivated pastures and fields and bringing with them the plants and animals from home.

Governors of the day were to have enormous influence over the nomenclature of the region. The Nepean River, which the Traditional Owners called Yandha, was given its British name by Governor Arthur Phillip in 1789 in honour of Evan Nepean, a British politician. Governor Macquarie also played a significant role in the early nomenclature of the region. The name

³⁹ Op.cit, Smith, Jim, p. 6.

⁴⁰ Op.cit Cit. Wollondilly Shire council.

Appin references “Airds House”, Appin in Argyllshire, Scotland, where Macquarie’s wife, Elizabeth, was born, and because it reminded Macquarie of the Scottish landscape of Airds. There were other places also named by Macquarie’s association with Elizabeth, including Campbelltown – Campbell being her maiden name.

As a gesture of acknowledgement to for granting him land, Broughton named his property “Lachlan Vale” (now called “Northhamptondale”). A second land grant on the Nepean River was made to Broughton in 1816 which, in the same vein, he named “Macquarie Dale”. Similarly, the Macarthur name was given to the region in which Wollondilly Shire sits with the Elizabeth Macarthur housing estate, developed in the 1960s (but later renamed Camden South).

In 1804, George Cayley recorded the Aboriginal name for the Appin Falls which they called Carrung-gurrung. The falls would nonetheless later be called Appin Falls by British colonists. His reference to the Cataract would be the name given to the Cataract River and, later, the associated dam. Toggerai or Tuggerah was the Aboriginal name for the river that would be named the Georges River.

Others early settlers also made links back to their homelands or to their own family names. Kennedy named his property Teston Farm, the name Teston being his home county in Kent. The Hume family, established “Hume Mount” in 1812, and later “Beulan” and “Rockwood” (renamed “Meadowvale”). Hamilton Hume’s own property was named “Humewood”.

However, Aboriginal names were recorded in later periods and, in some cases, these names would be formally adopted. Menangle, the Dharawal name of which means place of swamps and lagoons, was originally called Riversford in the 1840’s until around the 1860s when it was called Menangle – sometimes also spelt as Manangle and Manhangle.⁴¹

The Warragamba River was first recorded by the British in the early 1800s, first by explorer George Evans, then Macquarie in 1815. The name for the river was originally recorded as Waragombie, which for the Gundungurra language group was believed to translate as ‘water tumbling over many boulders’. Another source records the word “Warra” as swamp and “Gamba” as ti-tree. In a survey by Surveyor General Oxley in 1825 records the river as Warragamba.⁴²

In his personal papers, grazier Alfred Leonard Bennett recorded traditional Gundungurra stories, words, placenames and placename meanings which he published in c.1908-1914. The information came from local aboriginal man, Werriberrie, also known as Billy Russell who lived around the Burratorang Valley and Southern Highlands. Werriberrie was named after the creek in this landscape that was known for its werriberri or tree ferns.⁴³

Thirlmere was originally called Redbank when the Great Southern Railway railway line was constructed in the 1860s. However, this caused confusion with another Redbank not far away

⁴¹ Pers. comm., John Wrigley, Vice President, Camden Historical Society, 26 November 2020.

⁴² *The Water Supply, Sewerage and Drainage of Sydney*, Chapter XIV “The Warragamba Development”, 1959.

⁴³ Op.cit Smith, Jim, p.12.

in Upper Picton, so the name was soon changed to Thirlmere, named after Lake Thirlmere in the Lake Districts, England. Its aboriginal name in the Gundungurra language is 'Couridjah' which means honey or white ants. This name was later given to a hamlet on the railway line not far from Thirlmere.

3.3.2 The people of Wollondilly

Traditional owners

The Wollondilly area is the Country of the Gundungurra language group (also spelled Gandangara or Gundangurra) and the Dharawal (also spelled Tharawal) and Dharug (also spelled Dharuk and Darug) people. Although different clans, with a variety of different traditions, beliefs, and behaviours, all have a rich connection to Country and close cultural, social and economic ties, including some intermarriage.

For the Gundungurra, Dharawal and Dharug, totems, or kinship creatures, are symbols taken from nature which are an important part of their identity. These totems symbolize the relationship the clan members have to each other, to their ancestors, to their past, and to particular sites or places. They are often depicted in engravings on the walls of caves and other rock shelters/faces. The lyrebird is the traditional totem of the Macarthur region. The whale is the main totem for the Dharawal people, and eels also feature in numerous images represented in stone engravings throughout the national parks. There are other local totems including kangaroo. Individuals would also have had their own totem, usually bestowed on them by their mother while still in the womb. These totems informed their everyday life, such as what to hunt or eat, their relationships, ceremonies, connections with their ancestors, and to act as a guide and support during difficult or dangerous times. Totems are also important indicators and reminders in the post-colonial environment of what were naturally occurring, indigenous flora and fauna for the region.

First contact and tensions

The first significant contact in this area between the Gundungurra Dharawal and Dharug people and the British colonists can be dated back to the arrival of the First Fleet of British military and colonists in 1788. However, being inland of the settlement at Sydney Cove, significant contact with the Traditional Owners around Wollondilly or at least the initial impacts of settlement was not really felt for some time. The first significant contact can be dated back to when the cattle brought over with the First Fleet escaped and found their way to the area.

The cattle were not located until 1795 in the area now known as the Macarthur region. The cattle had since grown into a substantial herd, having benefited from the good pastureland developed over many years by the Traditional Owners. The place was therefore given the name 'Cow Pastures', and the local clan of the Dharug people were hereon referred to by the British as the "Cowpastures tribe".



Evidence of the local Dharawal peoples' encounter with the cattle is found in sketchings on the walls of a nearby sandstone shelter now known as the 'Bull Cave'. The animals are depicted with no horns which confirms them as the Cow Pasture cattle as their horns had been removed for the voyage from England. Early accounts allude to how strange these animals were to them:

From the accounts of other tribes, the first encounter with cattle was a terrifying experience, and this fear is evident by the size of the Campbelltown drawings, where the bulls dominate the walls of the rock shelter. Governor King commented that the Aborigines climbed trees until the animals had passed.

Contact with the colonists' lost cattle in many ways signified the changes that were to come, changes that would greatly disrupt their traditional way of life, impact on their population, physically dispossess them from their traditional lands and would ultimately lead to tragic consequences. The British colonists began concerted moves into the southwest regions of Sydney from the early 1800s after it was realised that floods on the Hawkesbury-Nepean River would always jeopardise farms and food supplies there and after discovering and naming the Cowpastures area. From then on, wealthy settlers started taking up thousands of acres as grazing estates and staffed them with convict and ex-convict workers, while ex-convict small settlers farmed small grants clustered around creeks.⁴⁴

These early land holdings blocked the access of the Traditional Owners to important food sources such as the yams that grew on the riverbanks. When the new settlers denied passage across their land holdings, attacks would follow and then reprisals. Compounding this, these new settlers were not only bringing strange animals and plants with them but new diseases which, as they travelled further inland, would infect the Gundungurra, Dharawal and Dharug people who had little, or no, immunity to them.

Initially, Macquarie seemed committed to avoiding any acts of aggression between the colonists and the Traditional Owners. When Governor Macquarie first visited Appin in 1810, he and his wife Elizabeth were met by the Dharawal people at Cow Pastures who performed a dance for them. Several of the first families who settled in Appin such as the Kennedys Humes and Throsbys, even developed close, practical and sympathetic connections with the local Aboriginal people. But despite some relatively harmonious relationships, the arrival of the British could not compensate for the ongoing dispossession of the Traditional Owners from their Country.⁴⁵

By 1814, severe drought conditions, resulted in growing tensions and, even worse, violence with deaths of both sides. The Gundungurra would come down from the mountain areas to the plains to take corn and other food supplies from the local farms. During one of these raids a young Gundungurra boy was shot and killed by three soldiers. The Gundungurra men retaliated immediately killing one of the soldiers. In the wake of this, relations between the local settlers and the Gundungurra quickly deteriorated further, with serious attacks and acts of aggression taking place.⁴⁶

Local settlers either armed themselves further while others moved from their farms, resulting in Macquarie sending out additional troops to offer some protection to his British subjects and a law enforcement presence. However, the violence and unrest continued, and relations between the Aboriginal clans and Governor Macquarie's government irreparably broke down. Macquarie

⁴⁴ Karskens, Grace, "Appin Massacre", in *Dictionary of Sydney*, NSW Office of Environment and Heritage, Aboriginal Heritage Projects, 2015.

⁴⁵ Ibid.

⁴⁶ Ibid.

was being agitated to settle the issue once and for all. By March 1816, Macquarie - in his letter to the Secretary of State for the Colonies, the Earl of Bathurst - made it clear that he believed he had no choice but to take serious action as "...Nothing Short of Some Signal and Severe Examples being made will prevent their frequent Recurrence".⁴⁷ Macquarie's directive became known as the Appin Massacre of April 1816, regarded as the first formally government sanctioned military engagement of Aboriginal people in this country.⁴⁸ Macquarie ordered the despatch of three military regiments into the Nepean Region, led by Captain Schaw of the 46th Regiment and Captain Wallis, a British Naval Officer. Their orders were to seek out those Aboriginal people who were specifically identified and wanted in relation to violence, but further to this, all Aboriginal people they encountered were to be captured including women and children.⁴⁹

On the evening of 16 April 1816, Wallis's regiments set out to a campsite near William Broughton's farm. In the early hours the next morning they found evidence of the camp and, venturing further into the bush, fired upon the Aboriginal people. Those that weren't shot were driven towards the cliff edge where several perished falling off the precipice. The official death toll of the massacre was 14 and included old men, women and children from both Dharawal and Gundungurra clans however, many others are believed to have perished. At least five prisoners were also taken including Doual, the guide who had accompanied Hamilton Hume on his explorations.⁵⁰ William Byrne, who was from one of the original British settler families in Appin, was only a child at the time of the massacre happened but his recollections were published almost 90 years later. Byrne wrote that three bodies were hung on McGee's Hill and further to this their heads were cut off and sent to Sydney.⁵¹

Despite Macquarie's encouraging report back to the Earl of Bathurst of the outcomes of the massacre, of better and more peaceful times being experienced, in reality this was far from the truth. Only some Dharug and Gundungurra were taken on as employees by landholders, and the peace – or supposed truce - was not the result of a more harmonious co-habitation but because Aboriginal people continued to be cut off their land and mortality rates ever increasing. After the Appin Massacre it was believed that the resistance of the Gundungurra was broken but due to their occupation of rugged country, they were able to survive and became the core of the groups which survived successfully in the Burratorang Valley. However, the loss of population amongst the Dharug and weakening of their resistance by the loss of food sources made them less successful in maintaining their presence than the Gundungurra.⁵²

⁴⁷ Macquarie, L. 1816. Correspondence from Governor Macquarie to Henry Bathurst, third Earl of Bathurst and the Secretary of State for the Colonies, 18 March 1816. Textual records, SRNSW: NRS 4518 [4/10583, pp74-77]. NSW State Archives and Records.

⁴⁸ Gavin Andrews, Dharawal man and local historian, quoted in

⁴⁹ NITV, Explainer. 2019. 'Explainer: The Appin Massacre.' SBS (website). Last modified 17 April 2019. <https://www.sbs.com.au/nitv/explainer/explainer-appin-massacre>

⁵⁰ Wallis, J. Diary of Captain James Wallis. Textual records, SRNSW: NRS 4/1735. NSW State Archives and Records.

⁵¹ Byrne, William, 'Old Memories: General Reminiscences of Early Colonists – II', Old Times, May 1903, in Karskens, Grace, "Appin Massacre", in Dictionary of Sydney, NSW Office of Environment and Heritage, Aboriginal Heritage Projects, 2015.

⁵² Op.cit State Heritage Register, p.12.

Early British settlers

The Broughton, Kennedy and Hume families, all of Irish descent and related by marriage, were the first of the British settlers to explore and take up land in Appin.

William Broughton arrived in NSW in 1788 on the First Fleet. In 1810, Broughton married his second wife, Elizabeth Simpson, a widow and they settled in Appin. Elizabeth was a Kennedy and her brother John also lived in Appin with his wife Caroline, as did her cousin Hamilton Hume whose mother was Elizabeth (nee Kennedy). After William Broughton died, Elizabeth and their five children who stayed on in Appin.

Hamilton Hume's family was among the first of the British settlers to make their home in Appin, and Hamilton was born in the colony of New South Wales, at Parramatta in 1797. His father, Andrew Hamilton Hume, initially came to Australia from Ireland in 1790 as a superintendent of convicts, then stayed on as a free settler. His mother was Elizabeth Moore Kennedy, the daughter of Rev. John Kennedy of the Kennedy family who established "Teston Farm" in Appin. Hamilton and John's cousins were Elizabeth Broughton (nee Kennedy) and John Kennedy.

Hamilton Hume became known as a notable explorer. As a young man Hume began exploring the country beyond Sydney and developed into a good bushman. Hume married Elizabeth Dight, and they eventually settled in the Yass district where Hume became a successful pastoralist.⁵³

Another well-known local settler was Edward Larkin and his wife who took up land in Appin where he constructed his mill in 1846. It was Larkins' mill from which the name Windmill Hill was derived.

Predominantly, the early local settlers in the Appin area were Irish and Catholic, with English Protestants mostly accounting for the other settlers. The community was a mix of free settlers, convicts, former soldiers and some represented first generation New South Wales born. Some of these early settlers were:

- John Butcher – soldier
- Robert Higgins – soldier
- Edward Fletcher – constable
- Charles Ward – free settler
- Thomas Smith – constable
- Owen Laragy – constable
- Patrick Callaghan - publican

⁵³ The Late Mr Hamilton Hume.' *Australian Town and Country Journal*, 17 May 1873.



Figure 12. Hamilton Hume, Fairfax collection, *Goulburn Post* 10 April 2017.

There were also those amongst the early migrants to New South Wales who didn't stay on but their accounts in diaries and letters of their short time still provide important insight into what life was like for these early settlers. Rachel Biddulph Henning is remembered for her letters and sketches which describe rural life in Australia, including when she spent a short time in Appin, staying with her brother who was renting Alexander Riley's property "Elladale". Like other new settlers – particularly those who were not able to enjoy the comforts of the more gentrified classes - she missed her old home and initially found little endearing about her new home. Her letters from Appin reveal this experience:

I am glad [Biddulph] is going to leave Appin, however, for I am sure he will never make any money on this farm. Do you remember our saying that there must certainly be something the matter with it, when he wrote word of how low the rent was, that there must be a want of water or that nothing would grow? There are both these drawbacks here. The soil is wretchedly poor, and this is said to be the very driest part of Australia. Frequently, when there have been torrents of rain at Wollongong and Sydney, on each side of us, we have not had a drop here. There are no springs on the farm, only a waterhole, and that was dry for nearly six weeks in the summer, and then we had to fetch water from the river three miles off. It is a pity Biddulph ever took this farm; still, he has gained some experience here, and, as his expenditure was chiefly in cattle and furniture, he has not lost much...We can get nothing to grow in this dry soil, and the fowls scratch up the little there is.⁵⁴

Other members of the local community that found their way into the history books for more nefarious reasons were the notorious bushrangers. One bushranger was Daniel Morgan, best known as "Mad Dog Morgan" was born in Appin about 1830. Bushrangers such as Morgan, were particularly active in the first half of the nineteenth century and gained their notoriety mainly by stealing stock and robbing banks and coaches, but some also elevated their crimes to murder. Morgan's territory was mainly around the eastern Riverina and western slopes of New South Wales, but he also ventured further afield into Victoria. He was eventually tracked down by armed vigilantes near Wangaratta Victoria and died of a gunshot wound to the back in 1865 and was buried at Wangaratta cemetery. In 1975, the story of Morgan was made into a movie "Mad Dog Morgan" filmed on location, with famous American actor Dennis Hopper starring as Morgan.

Another bushranger connected to Appin was Patrick Burke, who targeted travellers along the Appin to Illawarra road. In 1830, Hamilton Hume apprehended Burke and handed him to the authorities. However Hume was badly injured in the affray but was rewarded for his efforts with a further land grant by Governor Darling. Burke, however, escaped his incarceration and continued his lawless activities around Appin and Illawarra. Burke was finally apprehended again in 1832 by Corporal Lane of the 39th Regiments at Little Bullie in the upper part of Illawarra.⁵⁵

⁵⁴ Henning, R. *Letters of Rachel Henning*. North Ryde, NSW: Angus and Robertson, 1986.

⁵⁵ Op. cit. Whitaker p. 17

The first families to take up land in Thirlmere, as identified on the Parish Map, were the Scroggies, Rogers, Peachey, Shoebridge, Chiddy, Kelly, Dawes, Hislop and Roberts. Later were families including the Pickards, Manns, Catts, Bains, Davis, Evans and Wherritts.⁵⁶

The Macarthurs

Lieutenant John Macarthur arrived in Sydney with the New South Wales Corps. He was initially posted inland where he and his wife Elizabeth and sons James and William lived at their first home in New South Wales, Rose Hill. In 1792 they moved to Parramatta where they established Elizabeth Farm. It was here the Macarthurs – mainly through the efforts of Elizabeth – firmed their reputation in the sheep and wool industry. In 1795 Macarthur was promoted to Captain.

In 1805, Macarthur was granted 10,000 acres in the Cowpastures area with frontage to the Nepean River, which was regarded as the best land in the Colony. An adjoining 2000 acre grant was also later incorporated into Macarthur's grant. The property was named Camden Park after Colonial Secretary Lord Camden, a powerful ally of Macarthur's who was instrumental in him receiving this land grant and also in having his Court Martial case being dismissed. Having resigned from the Corps, Macarthur focused his attentions on farming with Camden Park quickly becoming the country's most highly regarded and admired sheep station and experimental farm.

John Macarthur died in 1834, just before the family's stately home on the Camden Park estate was completed. Seven generations of John and Elizabeth Macarthur's descendants – variously Macarthurs, Onslows and Stanhams - lived at Camden Park and continued to manage and develop the estate and confirm the Macarthur's enduring legacy.

Elizabeth Macarthur Onslow, the grand-daughter of John and Elizabeth Macarthur, was one of the most instrumental of the Macarthurs in the later successes of the Camden Park Estate, and in turning it into a serious business enterprise at a time when their fortunes could have turned the other way. After being widowed in 1882, she took over control of Camden Park. Under her skilful management the family estate was clear of debt by 1890 and in 1899 she formed the Estate into a limited liability company Camden Park Estate Pty Ltd, with her six children as the shareholders. They built up the co-operative dairy farms on the estate that were operated by share farmers, the creameries at Camden and Menangle, as well as orchards and a piggery.⁵⁷

Another of the Macarthurs who would build upon the successful model dairies set up by Elizabeth Macarthur Onslow and transformed the agricultural operations at Camden Park was Lieutenant-Colonel Edward Macarthur-Onslow who had commissioned the building of the Rotolactor at Camden Park which was a system of mechanised mass milking.⁵⁸ This trail-blazing technology enjoyed initial success and put Camden Park and the village of Menangle on the map, not just for the dairy industry but also for tourism.

⁵⁶ Styles, L. 'Our Past: Thirlmere.' Wollondilly Advisor', <https://wollondillyadvertiser.com.au/story/3168708/our-past-thirlmere>, article published 24 June 2015.

⁵⁷ <https://camdenhistorynotes.wordpress.com/category/camden-park-house-and-garden>

⁵⁸ Camden Park Rotolactor – NSW Office of Environment and Heritage <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2690295>



Figure 13. Elizabeth Macarthur Onslow, portrait at Camden Park House.

Quentin Macarthur-Stanham, who had been living at Camden Park with his family since 1947, secured the future of Camden Park Estate. In the early 1970's when a large portion of the estate was sold to developers, Quentin retained Camden Park House and its surrounding grounds in the Macarthur ownership with the intention of maintaining this historic estate and retaining it in the family.

Making Wollondilly home

As well as pursuing agricultural ventures, other settlers who came to the area were often engaged in major infrastructure and public works projects such as railways, timber milling and dam construction. The building of the Great Southern Railway in the 1860s saw the arrival of railway and work gangs around the region. In Thirlmere, gangs of railway fettlers based themselves in the townsite. Although many only stayed for the duration of the construction, once Thirlmere had its own railway station, people were drawn to the town more permanently to either work for the railways or to take advantage of the rail connection to transport goods to market as well as now being connected to other towns and Sydney.

In addition to the railways, or as a direct outcome, Thirlmere also attracted a significant population engaged in the timber industry. This was either working and operating the many timber mills that had been constructed along the railway line or as local timber cutters. More settlers also moved to Thirlmere after three land subdivisions were created in 1882 after Creighton's original large land grant was carved up.

Villages like Menangle attracted more settlers who took advantage of the success of the Macarthurs' Camden Park Estate and the expansion of its business enterprises in the late nineteenth and early twentieth centuries, and the work and lifestyle opportunities it offered, particularly in dairying, fruit growing and viticulture. These opportunities, such as the model dairies set up by the Macarthurs not only provided individuals with employment but whole families.

Initially, temporary construction camps were set up the Sydney Water Board for the workers engaged in various dam constructions around Wollondilly and the greater Macarthur region. However, at Warragamba, a more permanent townsite was established. At its peak, the Warragamba townsite had a population of 3,500, single men, married couples and families.⁵⁹ Beyond the work associated with the dam construction, a community also developed at the townsite as workers would socialise after their shifts with drinks or dinner, as well as create friendships through the local school, church and community groups and services. Although many of workers left the town once construction of the dam was completed in 1960, some personnel were required to stay on such as administration, maintenance, and wages staff.⁶⁰ In addition, many children had also been born at Warragamba when their parents were living there during the dam construction, with the town becoming their home. Enough workers and their families therefore remained to keep the township viable and today, Warragamba is home to around 1,500 people many of whom are still connected with the dam and/or the Water Board.⁶¹

There were others who later moved to Wollondilly to seek out the quiet of the rural communities and landscape and make a new home. One was artist, James Muir Auld who moved to Thirlmere in c.1930 and whose work is an important historical record of the landscape as well as the people. Auld had been living in Sydney's northern beaches trying to eke out a living as a full-time artist. However, when he became infected with tuberculosis and with his marriage ended,

⁵⁹ Op.cit, JRC Planning Services, p. 89.

⁶⁰ Op.cit, Wollondilly Heritage Study, pp.51-52.

⁶¹ Ibid, pp.51-52.

he took on board medical advice and relocated to Thirlmere to live in the bush where he hoped the quiet and isolation would help him to recuperate:

... it was not until the last years of his life when, broken in health he retired to Thirlmere, that his best work was produced. Here, except for the periodical visits of his sister and a few good friends, he lived for eleven years virtually alone. Children of a neighbour did odd jobs for him, brought him a hot meal. He was quite cut off from the art world, saw few books, would not even have a wireless in his small cottage.⁶²

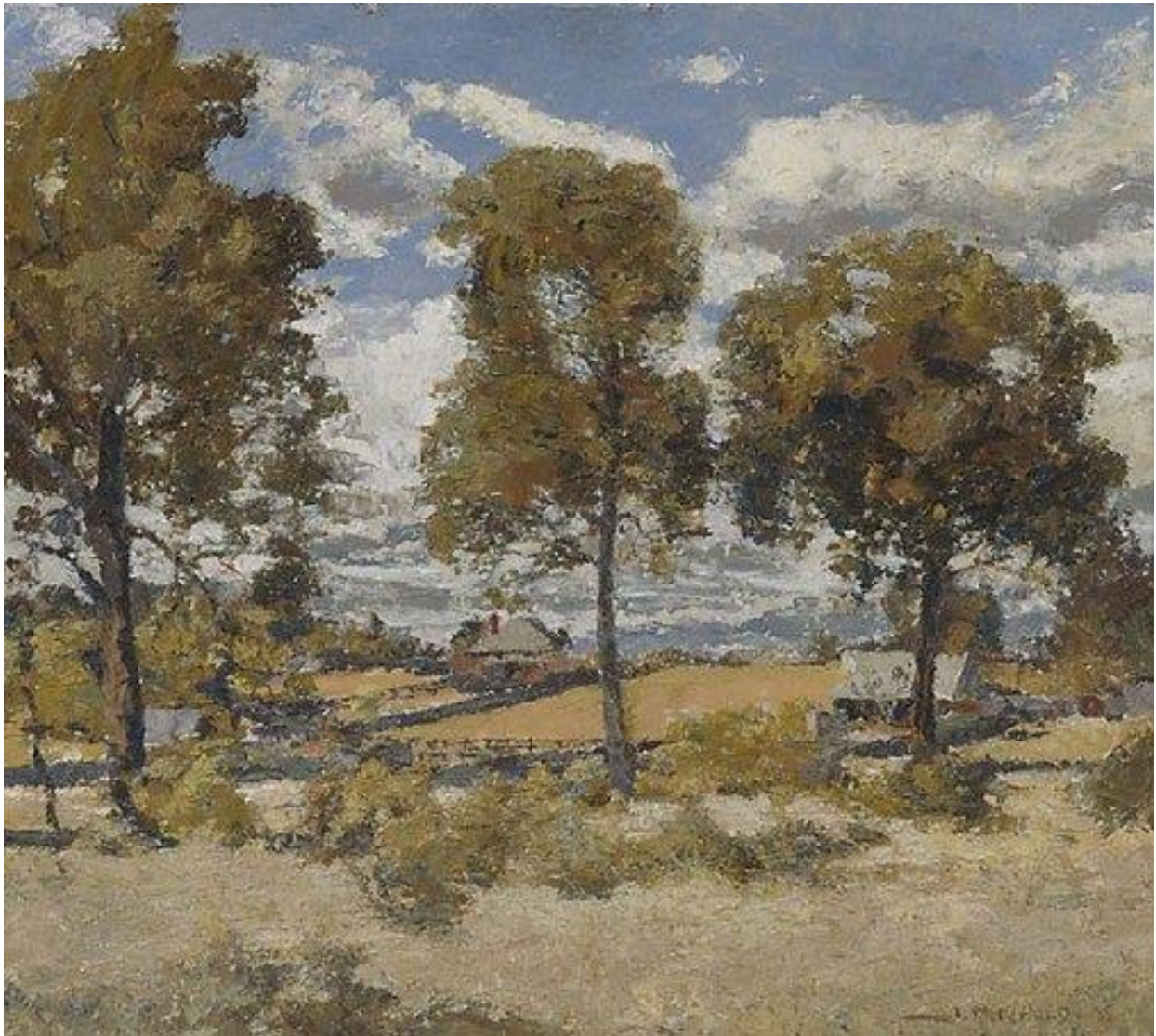


Figure 14. Winter Morning, Thirlmere, by James Auld.

Auld painted the landscape around him, mainly from his studio on the back verandah, although he also ventured to other towns such as Picton which is depicted in some of his paintings.⁶³ In

⁶² Wakelin, R. *Society of Artists Book 1942* in Clifford-Smith, S. Design and Art Australia Online. 2009. 'James Muir Auld.' Design and Art Australia Online (website). Last modified 2009.

<https://daao.library.unsw.edu.au/bio/james-muir-auld/biography/>

⁶³ Ibid.

1935, he won the Wynne Prize for his oil landscape *Winter Morning*. On the back of this success, he went on to hold a solo exhibition at Macquarie Galleries which included some of the landscapes he had painted at Thirlmere. Auld also painted portraits, as well as the children of his neighbours. As Auld's health further declined, the children ran messages for him around town and he would exchange his paintings for groceries. Auld died in 1942 at Camden Hospital, and a memorial exhibition was held for him the same year, featuring many of his Thirlmere and Picton paintings.⁶⁴

Multiculturalism and diversity

From the late 1920s, there was an increase in immigrants coming to Australia from Europe in the wake of the conflict of World War One, the cusp of the worldwide economic depression and growing unrest and uncertainty that would eventually lead to World War Two. Thirlmere experienced an unexpected boom in its community with a notable influx of migrants from Estonia. In 1928, an Estonian teacher arrived in Thirlmere to live and in turn encouraged their family and friends to join them. During the 1930s, around 20 Estonian families arrived in Thirlmere and a further 120 people came after World War Two. This new immigrant community created a distinctive enclave particularly focused on the Lakesland area, and made their mark in both local industry as well as the cultural and community diversity:

The Estonians established their own community in the Lakesland area, concentrating on growing fruit and vegetables and raising poultry. The Estonian settlement includes two churches, a co-operative society, a club and a geriatric hospital and retirement village.⁶⁵

Other places experienced a more diverse multicultural influx. More than 30 different nationalities worked on the Warragamba Dam construction in the 1940s through to the 1960s. The workforce included European migrants, particularly from Eastern Europe/Baltic states, and many Polish ex-servicemen from World War Two who had been staying at the Bathurst Migration Centre. There were also a number of Aboriginal people employed on the dam construction.⁶⁶ While most of the media coverage talked of the workers living in harmony, other reports suggested it wasn't always a harmonious relationship with some newspapers of the time reporting stories such as "Workers on the Warragamba Dam and pipeline project are perturbed at a water board proposal to establish a community of Balts on the dam." The article suggests some favouritism towards the migrant worker with each of them receiving two blankets, two sheets and eating utensils whereas 'ordinary' workers were only issued with blankets.⁶⁷ However, many of the new migrants stayed on at Warragamba town even after construction was completed.

⁶⁴ Source: Jan Ross, newspaper article of 3 October 2003.

⁶⁵ Ibid., p. 85.

⁶⁶ Purdy, H.N.D. 'Dam Builders of Warragamba.' *Walkabout Magazine*, 1 February 1965, p. 35.

⁶⁷ 'Balts Get More Smokes than Ex-Diggers.' *The Workers Star*, 11 June 1948, p. 3.



Figure 15. German workers at Warragamba Dam, 1958, National Archives of Australia, A12111 1-1958-16-59.

3.3.3 Motion and movement

The Waterways

Water is a very important part of Wollondilly's natural, cultural and social landscape and has greatly influence the shape of development in the area. There are numerous and significant rivers, such as Nepean, Georges, Burragorang, Warragamba, Coxs, Cataract and Bargo, as well as their tributaries, creeks and lakes such as Thirlmere Lakes. For many thousands of years, the local rivers, lakes and tributaries as well as the numerous streams and swamplands provided the Traditional Owners with nearly all they needed for water, food and other resources. There was an abundance of fish and shellfish in the rivers, and the inland lagoons were a great source of frogs, yabbies, tortoises and eels.

The waterways of Wollondilly were also highly valued by British colonists, both in their natural form but also in their manipulation to increase water supplies. The first steps in harvesting water occurred in the early nineteenth century. At the northern boundary of the Appin district is the property known as "Mount Gilead", which was originally granted to Reuben Uther and later purchased by Thomas Rose, a Sydney businessman. Rose was credited with building the first dam for water conservation in the colony at "Mt Gilead" in 1824. Although Rose constructed the dam at his own expense, and received no recompense from the Government, he generously let his neighbours draw on his supply to water their stock in very dry times.⁶⁸

Many local water schemes were initiated in and around Wollondilly for the Public Works Department Country Towns Water Supply scheme (later Sydney Water). However, this was not necessarily to supply local towns and villages. The presence of its many abundant rivers and their proximity to Sydney combined with their floodable gorges essentially made Wollondilly the main water catchment, with the Shire providing 97 percent of Sydney's water supply. The shallow V-shaped valleys were ideal locations for the dams initially of the Upper Nepean Scheme that were built on the tributaries to the Nepean, the Cordeaux, Avon, and Cataract and later the Warragamba River.

The Warragamba River was first recorded by the British in the early 1800s, first by explorer George Evans and then Macquarie, later in 1815. The Gundungurra name for the river was recorded by Macquarie as Waragombie - believed to translate as 'water tumbling over many boulders'. The name Warragamba appeared in the 1825 survey by Surveyor General Oxley. The Warragamba River joins the Nepean River and was identified early as the most important water source available to Sydney. The first sketch plans for Warragamba Dam were drawn up in 1867, but plans were deferred and initially shelved with the construction of the Upper Nepean dams from 1907-35. A population boom after World War I followed by the worst drought in recorded history, from 1934 to 1942, again placed immense pressure on Sydney's water supply.

With water supplies running dangerously low for Sydney, the Warragamba Emergency Scheme was initiated. The scheme involved building a weir and pumping station on the Warragamba River. In 1942, investigations began to find the best site to build Warragamba Dam. By 1948, construction had finally commenced and the project was completed in the 1960s. In the late 1980s the dam wall was strengthened and raised by five metres to meet modern dam safety

⁶⁸ Op. cit. Percival, p. 8.

standards. In the early 2000s an auxiliary spillway was built to divert floodwaters around the dam in a rare and extreme flood so as to protect the dam and ensure it remains safe in an extreme flood. A deep-water pumping station was built in 2006 to improve water access from lower down in the lake during times of drought.



Figure 16. Construction of dam wall, Warragamba Dam, 1953, National Archives of Australia A1200 L16397.

As well as the major rivers, there are also significant lake systems in the area. The lakes at Thirlmere were discovered by British explorers, Wilson in 1798 and then Caley in 1802. Originally referred to as the Picton Lagoons, Thirlmere Lakes comprises five main lakes: Lake Gandangarra, Lake Werri Berri, Lake Couridjah, Lake Baraba and Lake Nerrigorang. However, the abundant water supply in the lakes was also a valuable commodity for the Great Southern Railway. A pumping station was built at the third lake from which water was drawn and pumped to Couridjah for the early steam trains, and a watercourse was also constructed between the lakes to allow a greater flow of water for this purpose. This was later decommissioned.⁶⁹ Today Thirlmere Lakes is one of the rare pristine natural wetlands close to the Sydney Basin and home to many wetland birds. Thirlmere Lakes State Park was gazetted in 1972 and later became a national park. In 2000, Thirlmere Lakes National Park was inscribed as part of the UNESCO World Heritage-listed Greater Blue Mountains Area.

The waterways have also facilitated access and transport for goods and people, such as ferry services, particularly before decent roads and bridges and the railways were built.

⁶⁹ The original engine from the pumping station is now in the Powerhouse Museum collection.

Forming Roads and bridges

The earliest roads were often created out of necessity by individual landholders to service access in and out of their properties and to link to Sydney and other specific townsites and destinations. In the early years of British settlement, farmers travelled by bullock or horse teams, with the return trip from towns like Appin to the market at Sydney taking up to four days.

One of the earliest roads to appear in the landscape in Appin was the track made by the Broughtons and Kennedys to access their land grants. This road connected Appin with Campbelltown. As more people settled in the area, the reliance on sea and river transport declined in favour of having a road linking Appin with Illawarra and Sydney. The first road from Sydney to Picton went via Menangle

Charles Throsby constructed a rudimentary road from the King's Falls in Appin through to Bulli in 1815 which although adequate for horses was not adequate for wagons, in particular those carrying goods and was not favoured by travellers in the area.

A few years later, in 1821, Cornelius O'Brien, the nephew of Charles and William Browne of Appin, constructed a road that went from Sydney to Illawarra, passing through Appin. This was funded by cattle owners mostly in the Illawarra area who needed to transport stock to market in Sydney. Governor Macquarie travelled on both Throsby and O'Brien's roads, favouring O'Brien's which he said made a good bridle road and having more potential to upgrade into a road that could well service carts and wagons.⁷⁰ From 1836, a track connecting Sydney and Bulli was also being used, noticeably cutting the travelling time from Wollongong to Sydney.

For the next 50 or so years, O'Brien's original road would service the area well, attracting services and passing trade along the route that would in turn stimulate the development of Appin as a village but also its farmlands. In 1868, the track from Sydney to Bulli was formalised into a proper road.

As settlement moved across the Nepean River into the County of Camden other new settlements also emerged and Appin Road, to the south-west and toward the Illawarra became a very important route.

Bridges were one of the earliest public infrastructures needed to overcome the problems with access owing to the numerous waterways, particularly the Nepean River. A series of bridges and viaducts started appearing across the area from the 1850s. Many of these early bridges proved inadequate and were often swept away during floods such as the one at Menangle, built in 1856, which wasn't replaced until the mid-1870s.⁷¹ Many of the early timber bridges were gradually lost and replaced with concrete in order to meet the demands of increased traffic and loads.

⁷⁰ Op. cit, Whitaker p. 15

⁷¹ Op. cit. State Heritage Register Project, p. 58.



Figure 17. Menangle Railway Bridge, c1902, Campbelltown City Council Library 000237.

The bridges were not just for road traffic but eventually to accommodate the trains of the Great Southern Railway. One of the first railway bridges over the Nepean was constructed at Menangle in 1863. Although the bridge had been originally designed with a metal girder, there was pressure from the government to keep costs low by using as much local material as possible and the engineer John Whitton substituted this with an all timber bridge. However, after the flood of 1860, which saw the waters rise some 18 metres above the proposed rail level, Whitton changed the design to iron and brick. The bridge, completed in 1863, ended up as a high level, large span bridge flanked by long timber approach viaducts. Costing over £94,000, it was a massive structure for its time and the first large iron railway bridge erected in New South Wales.⁷²

Before bridges were built some ferry services enabled the crossing the rivers and continued in to the early 20th century. In 1929, Tom Uglys built a bridge over the Woronora River, thereby superseding the ferry service that had been in operation.

Building a railway network

One of the most significant impacts to the region was the introduction and later expansion of the railways. Though the earliest trains were slow by modern standards, journeys to and from Sydney were reduced from days to hours. By the 1860s, the railway network needed to be expanded to connect Sydney with the major rural railways across the Blue Mountains to Bathurst and across the Southern Highlands to Goulburn. The railway extension for the Great

⁷² NSW Office of Environment and Heritage. 'Menangle Railway Station Group.' Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5012101>

Southern Railway was constructed under the direction of John Whitton, Engineer-in-Chief of the NSW Railways, who would later be referred to as the 'father of the railways'. The new lines would be a boom in the range and influence of the railways across New South Wales, and more than double the total length of the railway line. So too, passenger numbers would also increase substantially. Between 1870 and 1880, not long after its completion, the number of passengers travelling increased from approximately 700,000 to over 5 million.



Figure 18. Menangle Railway Station 1963, Campbelltown City Council Library.

In 1865 a railway station was established at Menangle. In 1867, the 'Great Southern Railway' was officially opened from Picton to Mittagong via a loop line. Most of the towns and villages along the network now had their own railway station or at least a siding. A railway siding was built in Thirlmere in 1867. It was originally called Redbank but, following confusion with another Redbank at Upper Picton, the name was changed to Thirlmere. The siding was constructed mainly to service the supply of timber to the Sydney market.⁷³ In 1919, the Thirlmere section of the main Southern Railway was deviated to a less steep alignment that would also provide easier grade. This became the Picton Loop Line. Thirlmere was also used as the main construction trading centre for the building of the railway deviation.

In regional areas, towns that had a railway station or siding thrived because of ready access to markets. Most of the state's farming areas would never have been profitable without the railways which transported wheat, dairy, livestock and fresh fruit and vegetables to the lucrative Sydney

⁷³ Op. cit. State Heritage Register Project, p. 87.

markets before spoiling.⁷⁴ It also stimulated population growth because people could now live further away from their place of employment if they had access to railway stations. Mining was the other big driver of the growth of the railways, especially coal mining as rail was the best and most efficient way to get coal from pit to port. Tourism and leisure travel was also revolutionised by the introduction of trains making short or long holidays possible for the average person.



Figure 19. NSWGR passenger train pulled by locomotive 1308 at Thirlmere station, NSW, 1938 nla.gov.au/tarkine/nla.obj-155122364.

Communications

After the post office was established in Wollongong in 1832, a daily mail service was established from Campbelltown and passing through Appin to Wollongong and Dapto. Initially the service was run on horseback, but by the 1860s a mail coach service was running 6 days per week and also carrying passengers. Unfortunately, the mail service would occasionally fall victim to the notorious local bushrangers, with mail bags and passengers frisked for valuables, sometimes even the coach being stolen. Post offices were eventually established in Appin, Thirlmere and Warragamba.

⁷⁴ NSW Rail Museum, Teachers Notes guidebook, developed by the Powerhouse Museum, the Office of Rail Heritage and NSW Rail Museum, 2017.



Figure 20. Warragamba Post Office, c1971, National Archives of Australia, B5919 2239.

Traditional land and food management

Seasonal rhythm governed the lives of the Gundungurra, Dharug and Dharawal people. Their traditional land management practices were not about the value or exploitation of the natural resources from an economic perspective, or for economic gain, but rather involved the nurturing and conservation of these resources as fundamental to survival. Further to this, they took on a custodial role to ensure that these resources were looked after and managed for the benefits of the broader eco-system – for the animals, insects, fish and plants.⁷⁵

Fire was used by Traditional Owners as a tool for both land management and hunting. They would burn out the undergrowth and then catch animals as they fled. The smoke would also encourage germination which in turn would attract grass-eating animals ensuring a seasonal food supply. These regularly controlled fires kept the vegetation in check, thereby minimising the incidence and scale of bushfires. The open parklike landscapes which Traditional Owners created attracted kangaroos who would come to graze on the grassland. It was no coincidence that cows from the First Fleet moved into these fields on the Nepean River floodplain, later becoming land known as the Cow Pastures. This managed landscape also attracted the first pastoralists. However, over time the traditional landscape would be obscured and replaced by a new cultural landscape with the imposition of different and new land management practices

⁷⁵ Op. cit. State Heritage Register Project, p. 37.

in order to produce a food supply and also with substantial land clearing to create roads and railways and establish farms, villages, towns and suburbs.

Another important natural resource and food was fish. The Dharug and Gundungurra caught freshwater fish in the Parramatta, Hawkesbury-Nepean and Georges Rivers. Lagoons along these rivers such as Pitt Town Lagoon, Yarramundi Lagoon and those at Menangle were also valued for freshwater shellfish, mullet and eels.⁷⁶ Similar to the land, the resources of these rivers, creeks and lagoons would also be stretched and altered once the British settlers started fishing from the same waterways.⁷⁷

Developing primary productions

Early British settlers, namely the Macarthurs, established significant wool, wine and wheat industries resulting in the Macarthur region being regarded as 'the birthplace of the nation's wealth'.⁷⁸

Wheat

Wheat was the first major industry established through colonial settlement of the area and in the early nineteenth century, nearly all early farmers relied, at least partially, on wheat crops. This was particularly true of the dense agricultural development around Appin. However, dependence on wheat ended in the 1860s when rust virus broke out and, within a decade, it had destroyed production in areas east of the dividing range, where climatic conditions helped the disease to flourish.⁷⁹ As a result, wheat and other cereal crops had to be abandoned and farmers switched to hay which, fortunately, brought good returns.⁸⁰

The success of wheat growing had also stimulated the complimentary industry of flour-milling which, even after the outbreak of rust grain, continued as an alternative industry. In 1836, Thomas Rose built a huge stone windmill at his property of "Mount Gilead". This mill was one of the largest of its kind and gave great service for many years grinding the wheat grown in the surrounding areas. In those early years, in a good season, yields in some areas were as high as 45 bushels to the acre. The four-storey tower of the original windmill is still standing but has been converted to a water tank and the top hammer and sails have long-since disappeared.⁸¹ Another well-known mill was built at Edward Larkin's "Middle Farm" – also called Windmill Hill – in Appin, in 1846 which was in service for many years.

Wool

John and Elizabeth Macarthur are regarded as being largely responsible for establishing one of Australia's most dominant industries, wool. From the time they arrived in the young colony, John

⁷⁶ Ibid, p. 36.

⁷⁷ Ibid, p. 36.

⁷⁸ NSW Office of Environment and Heritage. 'Cataract Dam.' Accessed 5 January 2021.

<https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2690295>

⁷⁹ Op.cit, NSW Heritage Office Windmill Hill.

⁸⁰ Walker, F. 'Appin Village: Where History was Made.' *The Sydney Morning Herald*, 12 November 1938.

⁸¹ Op. cit Percival pp. 8; 27.

Macarthur firmly believed that the future lay in the development of the fine wool industry. Originally starting their ventures at Elizabeth Farm in Parramatta, from 1820 onwards the focus switched to Camden Park. John's sons, James and William, continued to develop the family's wool growing further. Another son, John, who lived in London, also contributed to the families' success by keeping them apprised of marketing opportunities abroad, advances in the industry and the political landscape.

Fruit and Viticulture

A vast range of fruits, vegetables and plants, including rare and exotic trees and shrubs were grown at Camden Park. The undertaking was driven largely by the enthusiasm and knowledge of John and Elizabeth's son, William Macarthur. Owing to commercial necessity, William had created a nursery at Camden Park in the early 1840's. He built glasshouses and propagation houses to facilitate and improve his production. On a periodic basis throughout the 1840s and 1850s, he also produced sale catalogues of the plants he grew at Camden Park and donated plants to Botanic Gardens including the Sydney Botanic Garden. By the middle of the nineteenth century Camden Park was probably the most important plant nursery in Australia. William had become an outstanding commercial botanist importing, growing and distributing plants throughout the colonies.



Figure 21. One of the Macarthur's glasshouses at Camden Park, Camden Park House collection.

Camden Park was also at the centre of the development and growth of the fledgling wine industry in Australia, with John and his sons James and William leading the way. On a visit to Europe in 1815 and 1816 they collected vine cuttings and studied winemaking and viticulture. Returning to Camden Park, armed with both knowledge and plants, they planted the first vineyards.. Early trials were not so successful but by the 1830s they were producing wine that was being sold across NSW and, by the mid-1850s, their wine was receiving international recognition. They also were selling cuttings and providing advice to other up and coming

viticulturalists. With the death of William in 1882, compounded by the subsequent outbreak of phylloxera in 1885, the Macarthurs' wine-making ventures all but ceased at Camden Park.

For many years the Camden Park orchard was one of the largest commercial orchards in Australia, producing an enormous range and variety of fruits. The orchards survived until the late 1970's. Commercial orchards were also established at other areas in Wollondilly from the 1890s, including at Thirlmere.⁸²

Dairying

After the disastrous impacts of the rust virus on wheat growing in this area, other opportunities arose and were realised, not least of which was dairying. Camden Park played an important role in the development of the Australian dairy industry. From the early 1820's, Camden Park was leading the way in the breeding of dairy cows. Butter production was particularly successful and a growing business.

The arrival of the Great Southern Railway in the 1860s and later advances in refrigeration technology also firmed Wollondilly's success in the dairy industry. In 1865, a railway line was built through the eastern farms and a railway station set down at Menangle. The Macarthurs' headquarters were then moved from the Old Homestead at Camden Park to Menangle.

It was not only the railway that triggered the diversification into dairying on a commercial basis but also the advances in refrigeration and other developments in mechanization.⁸³ The 1890's was led by John and Elizabeth Macarthur's granddaughter, Elizabeth Macarthur-Onslow, and was marked by innovation, growth and quality control. Elizabeth established a series of dairies operated by share farmers. The growth in milk production was supported by the construction and operation of creameries and investments in refrigeration and in the opening of a butter factory.



Figure 22. Menangle Creamery/Butter Factory, c1900, Camden Library.

⁸² Op.cit. JRC Planning Services, p. 22.

⁸³ Ibid, p. 21.

Farming in the twentieth century

Farming started in the early years of colonisation with wheat and sheep, but by the end of the nineteenth century, the focus switched to dairying and mixed farming both out of necessity (owing to disease and climactic conditions) as well as opportunity (railway and refrigeration). By 1900, a network of creameries and butter factories had been established across New South Wales including at Menangle, to process the products of the local dairy farms. Camden Park was a notable dairy estate with a network of creameries serving it.⁸⁴ Throughout the early 1900's Camden Park and associated entities and co-operatives now played a central role in the supply of milk to the Sydney market. Central to the success in the milk business was the commitment to milk quality and herd hygiene.

From the mid 1920's, another advancement in the dairy industry was made, again lead by Camden Park which opened a series of "Model Dairies". The eight model dairies - the term reflecting the commitment to quality and best practice - were operated by families, with the feed grown on the estate by other family workers. Camden Park also continued to be a leader in dairy innovation in Australia with the introduction of artificial insemination during the 1940's.

By the 1950s, the Camden Park Estate was producing the Camden Park Special Pasteurised Milk distributed through the agency of the Dairy Farmers' Coop Milk Co. which ensured it complied with the requirements of the *Milk Act 1931*. Although there were great efficiencies with the model dairies set up under the auspices of the Camden Park Estate, the Macarthurs still had some difficulty in securing enough labour to maintain the growing herds and demands in milk production. Addressing this need would lead to one of the most significant developments in the dairy industry - the rotary milking shed known as the Rotolactor.

During a trip to America in the late 1940s, Lieutenant-Colonel Edward Macarthur-Onslow came across the inspiration behind the Rotolactor. This technology had been developed in the United States in the 1920s. After returning from the U.S., Macarthur-Onslow commissioned plans to be drawn up for a local operation that would be built near Camden Park in Menangle.⁸⁵ After 3 years of planning and construction, the first stages of the Rotolactor were opened in 1952.⁸⁶

The Rotolactor was a circular concrete, steel, aluminium and glass building which housed standard vacuum milking machines that were installed on a revolving platform. The metal platform was mounted on steel wheels which was powered by two electric motors. Cows were held in a holding yard nearby and at milking time led up the ramp into the Rotolactor. With one rotation every ten minutes, up to 50 cows at a time could be milked, washed and fed. The milk was captured by containers that were regularly emptied into refrigerated tanks. After milking

⁸⁴ Op.cit. State Heritage Register Project, p. 51.

⁸⁵ NSW Office of Environment and Heritage. 'Camden Park Rotolactor.' Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5051469>

⁸⁶ Willis, I. Camden History Notes. 'Menangle Milking Marvel.' Camden History Notes (website). Last modified, 19 July 2019. <https://camdenhistorynotes.wordpress.com/2019/07/19/the-menangle-rotolactor/>

they exited via a tunnel underneath the platform and up to the exit ramp as the next lot of cows were brought in.⁸⁷

The Rotolactor was located close to the milk receiving factory at Menangle. The milk from the Rotolactor was then piped to the factory where it was cooled then put into stainless steel vats and transported. The Rotolactor not only increased production but quickly became a major showpiece of the district and put Menangle on the tourist map.⁸⁸ As the first of its kind in Australia, and only the third built in the world, the Rotolactor attracted many visitors, especially school children who came to see it in operation, but most of all to enjoy an icecream or milkshake from the milkbar.⁸⁹

Although the Rotolactor was innovative for its time, as with any new technology it suffered from technical problems, particularly as it aged, eventually proving inefficient and falling into disrepair. When Camden Park Estate went into bankruptcy in the late 1970s, the Rotolactor was earmarked for closure. The last day of milking on 12th January 1977 attracted many visitors and the event was documented by a photographer from the Government Print Office.⁹⁰



Figure 23. Rotolactor c.1957, Campbelltown City Council 010361.

⁸⁷ Camden Park Rotolactor – NSW Office of Environment and Heritage, source: <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2690295>

⁸⁸ Op.cit. State Heritage Register Project, p. 51; Op.cit. Andrea ohem 2006 p. 50.

⁸⁹ Op.cit Camden Park Rotolactor – NSW Office of Environment and Heritage.

⁹⁰ Camden Park Rotolactor – NSW Office of Environment and Heritage, source: <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2690295>



Figure 24. Final milking day at Rotolactor, tourists included the local nuns, Government Print Office IE2687880-3-40230, 12 January 1977.



Figure 25. Final milking day at Rotolactor, inside the Rotolactor, Government Print Office IE2680119-3-40218, 12 January 1977.

The Estonian immigrants and refugees who had moved into Thirlmere in the 1930s established another successful farming industry to the region: poultry farms. Within a few years the Estonians poultry farms had become the largest egg producers in the state and special feed trains used to make regular runs to Thirlmere to supply them. They even established their own cooperative store - Kungla Farmers – which was the largest in the town.⁹¹

Creating a sustainable farm

Only some farming and agriculture enterprises are still present in areas such as Menangle. There are few dairies left, and industry in the region is now struggling. The Menangle General Store is the only commercial building in Menangle where locals can obtain provisions, with the next closest towns being Camden or Campbelltown. The emergence of hobby farms has changed the character of farming in the area, though influenced the continued village nature of Thirlmere, Appin and Menangle.⁹²

Unfortunately, the thriving poultry farming industry established by the Estonians in Thirlmere was not continued by the next generations. As they became unsustainable many of the poultry farms and associated facilities gradually closed down.

However, there has been a significant addition to the area of academic research, investigation and experimentation. Opened in 1990, Elizabeth Macarthur Agricultural Institute (EMAI), Menangle, is the result of an alliance between the NSW Department of Primary Industries (DPI) and the University of Sydney School of Veterinary Science to set up a Centre of Excellence for Plant and Animal Health. EMAI is located on 1600 hectares that were part of an original 1805 Camden Park land grant of John and Elizabeth Macarthur.⁹³ The EMAI is a global hub for veterinary science, agriculture and soil research, and is NSW's premier quarantine and biosecurity facility, especially in the area of detecting emerging or exotic farm animal diseases.

It is staffed by world recognised research scientists who are specialists in research and diagnosis in the fields of animal pathology, virology, microbiology, immunology, and parasitology. It also offers training opportunities for students of the university. Its animal breeding program and its cereal rust laboratory have lead to '...new and sustainable capabilities in animal, soil and plant science, supporting innovative academic activity, enhanced public service delivery and deeper industry links'.⁹⁴

⁹¹ The Wollondilly Region of NSW. 'Thirlmere.' The Wollondilly Region of NSW (website). Accessed 5 January 2021. <https://www.stonequarry.com.au/towns/thirlmere.html>

⁹² Op.cit. JRC Planning Services, p. 24.

⁹³ Department of Primary Industries. 'Elizabeth Macarthur Institute, Menangle.' Department of Primary Industries (website). Accessed 5 January 2021. <https://www.dpi.nsw.gov.au/about-us/research-development/centres/emai>

⁹⁴ The University of Sydney. 'Planning starts for global agricultural science hub in Sydney.' The University of Sydney (website). Last modified, 18 December 2018. <https://www.sydney.edu.au/news-opinion/news/2018/12/18/planning-starts-for-global-agricultural-science-hub-in-sydney.html>

3.3.4 Industries and workforces

Convicts, work gangs and transient labour

Convict traces are relatively minimal in Wollondilly, with most buildings and infrastructure built by free labour. However, there are some buildings in Appin such as the police station, built in 1864, that reused convict-cut blocks from an earlier lock-up built by convicts on another site. The George IV inn was built using convict labour in 1839. The original road bridge over Stonequarry Creek was convict-built but this was replaced in 1899 by a new bridge. In Menangle, the ghost of a convict was believed to haunt an old mill.⁹⁵

Early landowners were also faced with land that was still heavily vegetated. The interference of colonial settlement on the traditional land management practices of Dharug resulted in areas of land reverting to scrub. Wealthy landowners therefore paid for convict labour to help with clearing. Eventually, former convicts also started to take up farming land from where they could start their new life and freedom.

Work gangs and transient labour were also attracted to the area to work on major projects such as the Great Southern Railway, in the timber milling industry that emerged from the railway construction, and the many dams that were built in the region. Temporary camps were set up, providing a short-term boost to the local economies of the towns and villages. Most of these workforces, such as timber fellers, construction workers and railway fettlers, came and went. This trend continued with large scale construction projects in the early twentieth century, with dam workers at Cataract Dam between 1903 and 1907. Although only a temporary presence, these camps still stimulated a noticeable boost to the local population and economy of Appin. However, some did stay on having secured more enduring work and to become part of the local community. For example, the railway workers at Thirlmere and the dam construction workers and Water Board personnel at Warragamba.

Tenant farmers

A growing trend after the first wave of settlement was for substantial landowners to acquire additional small grants to add to their properties or divide up their vast holding into smaller farms which they would then lease to smaller farmers.⁹⁶ This was often initiated by clearing leases in which part of an estate was let to tenants who were required to clear the land but who would be allocated an income from any crops.⁹⁷

The private villages of Menangle and Camden were mostly divided up into tenancies, with the farms owned and managed by the Macarthurs but the labour provided by the tenant farmers. Although monetary remuneration was relatively meagre, the Macarthurs would provide their tenants with year-round work as well as homes and firewood and in turn the farmers would benefit from the success of the Macarthurs with the development of the villages and other services.

⁹⁵ "Shudders at Witching Hour; thrilling ghost stories" in *Riverine Herald*, 14 March 1947, p. 3.

⁹⁶ Op. cit. State Heritage Register Project, pp. 70-71.

⁹⁷ Op. cit. State Heritage Register Project, p. 18.

When Camden Park Estate was owned and managed by Elizabeth Macarthur Onslow in the late nineteenth century, she also set up co-operative dairy farms on the estate that were operated by share farmers.

Timber getting and milling

Timber getting was a major industry for the area. Nearly every town in Wollondilly had a timber mill located in proximity to a railway siding along the Great Southern Railway. A lot of small-time workers could make a reasonable living from cutting timber for owners, including local Aboriginal people, who were employed in this industry. The establishment and development of villages such as Thirlmere relied heavily on the timber industry.

Timber was needed for bridges, railway sleepers, housing and was also used as fuel for trains and domestic stoves and fireplaces. Larger timbers were used for structural purposes while the finer cuts of timbers were used for lathe and plaster (walls and ceilings) and weatherboard cladding. Local timber cutters also earned a living through providing wood bundles for fires and other domestic uses.

However, timber was a finite resource and its intensive harvesting eventually led to much of the old woodland being felled. When the Waterboard took over much of the land in the 1960s, timber was no longer allowed to be cut. However, new materials and resources had by now been developed. Concrete took over from timber for bridges and sleepers and electricity and gas took over as fuel sources both domestically and in industry.

Mining and quarrying

Initially, silver mining was the main extraction industry in Wollondilly, emerging from the late nineteenth century, mainly in the Burragorang Valley. After World War Two, as silver mining declined, coal mining took over and mines were opened in the Wollondilly district, including at Appin. This stimulated some growth in Appin, with further residential dwellings built to house miners. Coal mining is still a main industry in Appin today.

The building of the dams, such as at Warragamba, led to significant quarrying operations including sandmining and gravel mining at several locations around Wollondilly to provide the material needed for the dam walls.⁹⁸

⁹⁸ Op. cit. State Heritage Register Project, p. 47.

3.3.5 Community and cultural life

Schools and places of learning

Schools were established as part of the early development of towns and villages, either through private means (such as the churches) or by the Colonial Government. They were important not only as places of education, but also as places important for both the students and their parents in providing work for teaching staff, as places of social and cultural interaction and where early friendships and a sense of community was formed.

The Anglican school in Appin was one of the earliest buildings erected in the town and it is still standing today. This school erected about 1815 was where the first generation of children born in Appin received their education.⁹⁹ Mr Joll was the first schoolmaster, and as was common in these small regional villages, the schoolmaster also had the role of the local postmaster.¹⁰⁰ The first village school, built by the Macarthurs, was opened in Menangle in 1867 and Thirlmere Public School was established in 1888. When Warragamba Dam began construction in 1948, the townsite was developed to be entirely self-sufficient and a school, pre-school and kindergarten were all established almost immediately.



Figure 26. Warragamba Kindergarten, 1960, National Archives of Australia A1200 L35681.

⁹⁹ Op. cit. Percival, p. 7

¹⁰⁰ Op. cit. Percival p. 7; Walker, F. 'Appin Village: Where History was Made.' *The Sydney Morning Herald*, 12 November 1938.

Elizabeth Macarthur Agricultural Institute (EMAI), Menangle, was established in 1990 by the NSW Department of Primary Industries (DPI) and the University of Sydney School of Veterinary Science. Its remit was to become a Centre of Excellence for Plant and Animal Health. Today it is a global hub for veterinary science, agriculture and soil research. As well as its important role in research and academic opportunities, EMAI offers practical training for students of the university.¹⁰¹

Worshipping

Appin was laid out on a former Crown Reserve where a church site and glebe had already been identified. When Appin was surveyed a Roman Catholic chapel, glebe and burial ground appeared on the plans. The Roman Catholic chapel would be St Bede's Catholic Church, built in 1837. An Anglican Church soon followed - St Mark's Anglican Church built in 1840. The village also boasted a fine Rectory.



Figure 27. St Bedes Church Appin, 1840s, National Library Australia, Dupain, IE16312177.

As the Macarthurs were an Anglican family, the majority of early settlers in Menangle were also Anglican, though some members of the catholic faith still resided in the village. The St James

¹⁰¹ Op. cit, The University of Sydney. <https://www.sydney.edu.au/news-opinion/news/2018/12/18/planning-starts-for-global-agricultural-science-hub-in-sydney.html>

Anglican Church in Menangle was established in 1871. Built as a centrepiece for the Macarthur's Menangle Village, today it is one of the regions finest churches and continues to be a prominent structure in the townscape. In 1887, the first Catholic priest came to live in Menangle. by 1895, the St Patrick's Church had been built, designed by the architect R. T. Dennehy of Sydney.

St Joseph's Church was Thirlmere's first church. Built in 1888, the construction was made possible through the financial support of the Pickard family, who also assisted in the building of Thirlmere's school. New migrants from other parts of Europe, particularly after the first and second world wars, also led to the establishment of other churches such as the Estonian Church, which has recently been demolished.



Figure 28. Former Estonian Church, Oaks Rd, Thirlmere, 2010, Wikimedia Commons

At Warragamba, by 1951, the increasing population was in need of its own church. The establishment of a church was made possible by the efforts of Father Thomas Everard who bought the building from the Sydney Waterboard. The building was originally the Town Hall and later a cinema for the old Warragamba townsite, located on Silverdale Road. The building was transported in three sections and trucked to its present location where it was re-assembled. The Sacred Heart Church at Warragamba was blessed and officially opened by Bishop Lyons on Sunday, 23rd November 1952, with Father Everard as the first Parish Priest.¹⁰²

¹⁰² Sacred Heart Parish: Luddenham – Warragamba. 'Welcome.' Warragamba Parish

Caring for community

The homestead residence “Gilbulla” was built on the Macarthur’s Camden Park Estate property by Major-General the Hon. James William Macarthur-Onslow in the 1890s as a family home for him and his wife Mrs Enid Macarthur Onslow. Gibulla replaced an earlier 1818 cottage. In 1932 James and Enid moved out and James’ unmarried sister, Sibella, moved into the house. Known as “The Lady of the Manor of Menangle” Sibella was the last Macarthur to occupy the house. Sibella had wide community interests and worked actively for many causes which included the Red Cross. After Sibella died in 1943 Gilbulla became a Red Cross rehabilitation centre.¹⁰³ In 1949 the Church of England acquired the house and it was repurposed as a conference and retreat house and as a memorial to the wartime work of the clergy of the Church of England, particularly the chaplains during World War Two.¹⁰⁴



Figure 29. the Macarthurs' Gibulla Homestead, Campbelltown City Council 004090

Caring for community

With a large Estonian community now established in Thirlmere since the first families started arriving in the 1930s, there was an aging population that needed special care. In 1961, the Estonian Senior Citizens Home was built, and was the first senior citizens home especially for members of the Estonian community in Australia:

About 200 spectators came from Thirlmere itself, where many former Estonians had established farms. The £13.000 home accommodates 12 elderly former Estonians without relatives in Australia. They live in centrally heated rooms at a cost of 12/- to 15/- a week. The

¹⁰³ Red Cross Farm, Menangle, *Murrumbidgee Irrigator*, 27 February 1948

¹⁰⁴ NSW Office of Environment and Heritage. ‘Gilbulla.’ Accessed 5 January 2021.

<https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2690092>

initiative for building of home was taken by the Estonian Relief Committee, an organisation set up in 1945 to help needy Estonians in Europe. With the arrival of many Estonians in Australia as settlers, the committee widened its scope, and besides sending parcels and help to Estonian invalids and children still in refugee camps in Europe, it now assists Estonians in need in Australia.¹⁰⁵



Figure 30. Opening of the Estonian Senior Citizens, 10 September 1961, National Archives of Australia, A12111-1-1961-13-20

¹⁰⁵ 'Elderly Estonians Home at Thirlmere.' Good Neighbour, 1 December 1961, p. 7.

Leisure, hospitality and tourism

The dramatic gorge country of the Wollondilly contrasted by the gently undulating plateau, deeply incised valleys and flat open plains have always drawn a tourist market. So too have the numerous and significant rivers - the Nepean, Georges, Burragorang, Coxs, Cataract, Warragamba and Bargo - and the many tributaries, lakes and creeks. The Thirlmere Lakes, originally known as the Picton Lagoons, have always attracted visitors and now as a National Park it has become an even more popular destination for bushwalkers and nature enthusiasts being one of the last undisturbed freshwater lakes in the Sydney region, and as a place valued for swimming and canoeing.

In the past, hotels also supported not just the local communities but also tourists. In Appin, the first hotel was called the Governor Bourke, built in the late 1830s. The Royal Hotel in Appin was built and became a familiar landmark for travellers and an important stopping place for the horse-drawn coaches before the railway was built. The railway brought a new generation of travellers and tourists to the region and the first hotel built in Thirlmere in 1885 still stands today.

In 1930, in response to the growing tourism, the original Royal Hotel in Appin was demolished and replaced with a new, modern hotel. Now with their own private motor cars, visitors would take advantage of the good roads and venture from hotels such as The Royal to the popular tourist spots of Broughton pass and Pheasant's Nest.



Figure 31. The old Appin Royal Hotel right and the new one under construction left, 1930, Australian National University.

The other major contributing factor to the endurance of towns such as Warragamba and their sense of permanency was their capacity to capture a tourist market. Since the construction of the dam, the place has attracted visitors and tourists. Around half a million visitors arrive each year, coming to experience the natural beauty of the area as well as the human intervention and marvel at these massive feats of engineering:

The wild rocky grandeur of Warragamba dam set in its valley provides a stark contrast between the massive smooth man-made concrete wall of the dam and the rough hewn

rocky valley in which it is grounded and almost achieves the nineteenth century quality of the sublime bringing thoughts of man's insignificance in the cosmos.¹⁰⁶

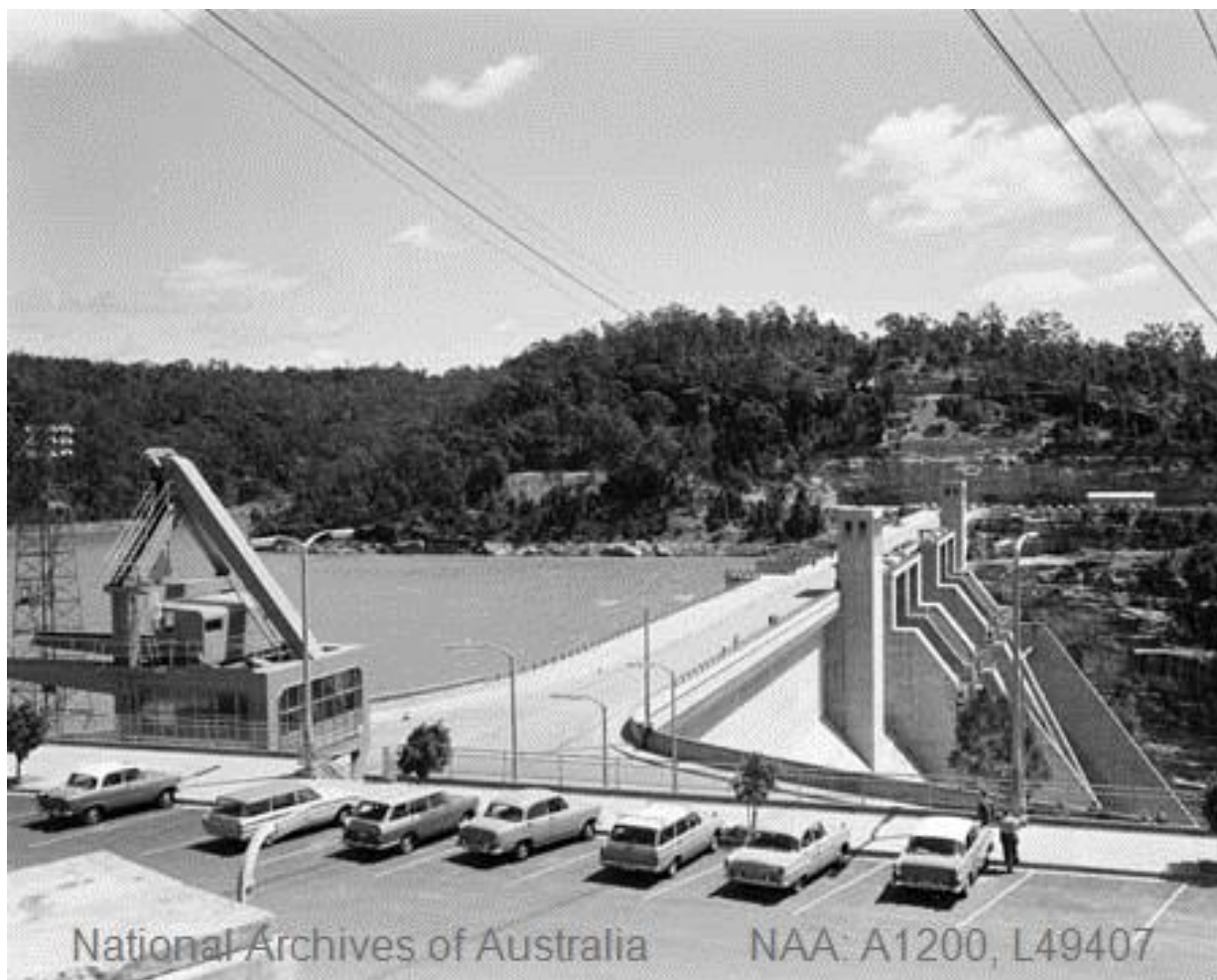


Figure 32. Tourists at Warragamba Dam, National Archives of Australia, A1200 L49407.

The Sydney Water Board also provided picnic grounds and barbecues and other conveniences for visitors.¹⁰⁷ Further afield however, before Warragamba Dam was opened, there was a thriving tourism industry based on guesthouses particularly in the Burragorang Valley, that dated back to the 1880s. Many of these were lost when the landscape was flooded by the dam.¹⁰⁸ Other tourism at Warragamba included the Lion Park, which later became the Safari Park.

Other attractions such as the Rotolactor at Menangle also led to tourism becoming an essential part of these towns' economies. Tourism was also a useful way to establish goodwill in this new technology. The Rotolactor captured the imagination of people '...at a time when scientific marvels instilled excitement in the general public'.¹⁰⁹ As soon as it started milking, it became

¹⁰⁶ Op. cit. State Heritage Register Project, pp. 29-30

¹⁰⁷ Op. cit. Purdy, H.N.D., p. 37.

¹⁰⁸ Op.cit JRC Planning Services, p. 26.

¹⁰⁹ Op. cit. Willis.

one of the largest tourist attractions to the local area in the mid-twentieth century. It was a boom to Menangle, creating local employment. In 1953, it was attracting 600 visitors on a weekend in with up to 2000 visitors a week at its peak including children on school excursions.¹¹⁰ The local joke was that the only part of the Rotolactor that actually made money was the milk bar (especially during drought, when feed was expensive).¹¹¹ Even after its closure, the local community at Menangle maintained a very strong sentimental connection to the past operation of the Rotolactor and embraced it as an important part of their history and heritage. With growing concerns over its apparent demolition by neglect, in 2017 the Menangle Community Association organised a festival to celebrate the history of the Rotolactor. It was called the “Menangle Milk-Shake Up”. The Festival exceeded the expectations of the organisers when it attracted over 5000 people to the village from NSW and inter-state locations.¹¹² The event drew in an evocative crowd “So many visitors came dressed up in their original 50s clothes, and all those wonderful well selected stall holders. It was pure joy”.¹¹³

The Rotolactor, Camden Park Central Creamery building, and accompanying structures are proposed to be restored as part of the nearby planned residential and commercial development.



Figure 33. Inside the deteriorated Rotolactor today, Extent Heritage, 2020.

Museums are also an important factor in tourism, whether they are purpose-built or are repurposed historical buildings. Since Camden Park House became open to the public in the

¹¹⁰ *The Land*, 27 March 1953, cited in Camden History Notes, “Menangle Milking Marvel”, 19 July 2019.

¹¹¹ Pers. comm. John Wrigley, Vice President, Camden Historical Society, 26 November 2020.

¹¹² *Wollondilly Advertiser*, 18 September 2017, cited in Camden History Notes, “Menangle Milking Marvel”, 19 July 2019.

¹¹³ Op. cit. Willis.

1970s-1980s, visitors have been able to experience tours of the house and grounds as well as view the rich collection of historic furniture and fine arts of the Macarthur family. Functions and events are also held at the estate. Thirlmere is also home to the NSW Rail Museum. In 2007, a master plan was prepared by the Office of Rail Heritage for the State's core rail heritage collection. A multifunctional exhibition building and workshop was built at Thirlmere and opened in 2011 as Trainworks. The Loop Line also enabled heritage trains, called the Heritage Express, to operate beyond the local area and to run on a line clear of operational trains. In 2017, Transport Heritage NSW merged Trainworks and Heritage Express and rebranded it the NSW Rail Museum. The museum and heritage railway confirms the importance the construction of the Southern Railway had on Thirlmere and all the associated dependent industries and has given this small village a new focus as well as a major tourism asset.¹¹⁴

Sport and recreation

Many of the early sporting clubs were formed by workers in the various industries in the region. The association with the timber industry was so prevalent in Thirlmere that members of the local football team were called "wood bugs."¹¹⁵

Water sports has also been a popular and enduring recreational pursuit in Wollondilly. The Hawkesbury River attracted many water sport enthusiasts, as did places such as the Thirlmere Lakes and Prospect Reservoir.¹¹⁶

Despite its proximity to Menangle Park raceway, the association with horses in Menangle was more in relation to horse riding clubs and for personal use and leisure, not so much for racing.

Appin has a strong sporting culture. There are forms of racing with the Appin Greyhound Track and the Appin Motocross Circuit. Tennis courts and a sportsground are located at Wonson Oval and the Appin United Soccer Club have their home ground at the Gordon Lewis Oval. Appin is home to the Appin Dogs Rugby League Football Team as well as a women's rugby team which was established in 2010, the Appin Touch Association runs competitions in the summer season for the locals of Appin as well as residents of the surrounding areas. Appin also has its own Netball team, the Appin Netball Club.

Cultural and community clubs and activities

The Macarthurs' Camden Park Estate has long been the cultural centre of the region, with various family members starting up and taking part in many community and cultural activities and functions. Elizabeth Macarthur Onslow has been remembered as a Victorian philanthropist and was a strong supporter of a number of local community organisations. She was instrumental in establishing the Camden AH&I Society which became the Camden Show Society.

At Warragamba, there was much community spirit fostered with committees, clubs and associations set up as well as a local paper and people volunteered for various fundraising

¹¹⁴ Andrea Ohem, pp. 50-51.

¹¹⁵ Ibid., p. 85.

¹¹⁶ Op. cit. State Heritage Register Project p. 104.

activities with balls, fetes and “card parties”.¹¹⁷ Clubs such as the Warragamba Workers Club were established to support workers and provide them with an important social outlet.

Culture and the arts as represented by new technologies such as the moving picture have also been important components of community life. With the growing popularity of movies – starting with silent movies and then moving to the talkies and the Hollywood blockbusters - places such as the Thirlmere Town Hall were converted to a cinema. In some instance Hollywood came to Wollondilly. A buzz of excitement was experienced for Menangle locals when the film “Smithy” was filmed in 1945. The film, portraying the life of famous pioneering aviator, Sir Kingsford Smith, included residents of Menangle, Menangle Park (where the scenes were being shot at the airfield) and Campbelltown as extras.¹¹⁸

The excitement of television also came to Wollondilly. Popular television series *Always Greener* was filmed at Thirlmere from 2001 to 2003. The show prominently featured the main street of Thirlmere, including many shots of the pub, local stores, railway station, and surrounding countryside.

Multicultural groups who had made Wollondilly home also set up their own cultural and community activities and services. One such group was the Estonians at Thirlmere. Estonian independence celebrations became a regular annual event in Thirlmere:

The Estonian residents in Thirlmere celebrated their National Day last Saturday night at Mr. E. Liire's farm. A speech was given by Mr. Ojamets in Estonian and translated by Mr. Kaljusto. Children danced folk dances in National costumes, which were quite colourful, also, a mixed choir conducted by Mr. Ojamets, sang some of the old songs to commemorate this particular day. After the ceremony everyone danced and music was provided by Mr. E. Hunt, at the piano, and Mr. Meinhard Pilt, with his accordion. It is believed all had a merry time until about 3 a.m. Their costumes had been made for this occasion, also many hours had been given to their dancing division.¹¹⁹

The Estonians also contributed to and participated in other cultural events celebrated by the broader community. In the 1950s they helped organise the annual Thirlmere Festival and also participated, providing some of the entertainment with their own choir. From 1st-3rd January 1954, the first Estonian Days festival was held in Australia – in Sydney. As Thirlmere had the largest population of Estonians, the Estonians from Thirlmere not only participated in the Sydney program, but several events were held in Thirlmere.

In 1949, the Estonian community received formal permission from the Government to publish the first Estonian newspaper in Australia: *Meie Kodu* meaning Our Home. It was published in the Estonian language only and provided news of the latest developments in Europe as well as Australia.¹²⁰

¹¹⁷ Op.cit, Purdy, H.N.D., 1965, p. 36.

¹¹⁸ *Camden News*, 29 November 1945, p. 5.

¹¹⁹ *Picton Post*, 8 July 1948, p. 5.

¹²⁰ Van-Wall, Silvi, *The Citizen*, 16 November 2018.

Honouring and commemorating

Honouring and commemorating around Wollondilly covers individuals as well as major projects and feats of engineering and also significant, even tragic, events.

In 1934, the local historical society in Appin erected a stone memorial tablet at the site of important early colonist Hamilton Hume's old residence "Rookwood" located between Appin and Campbelltown.

Starting in the 1960s and 1970s, people of the Gundungurra language group, who saw themselves as custodians of their traditions, began attracting other people to observe their heritage. In 1991, three skulls that had been sent after the Appin massacre to the University of Edinburgh were received by the National Museum in Canberra 175 years later with one positively identified as that of Cannabayagal, who was known to have been killed.¹²¹

In 2007, a commemorative plaque for the Appin Massacre was erected at Appin at Cataract Dam through the efforts of the Winga Myamly Reconciliation Group, the Aboriginal community and the support of the local councils. It was officially unveiled on Sunday 15th April 2007. Although a memorial such as this could not adequately capture the significance of the massacre and the devastation of Macquarie's punitive actions against the Aboriginal population of New South Wales, it has been a start to the recognition of the Massacre and marks a place where many people can come together each year to remember. The site of the massacre is on state-owned land, and there has been calls for the site to be returned to the descendants of the Dharawal people.

The Aboriginal people of Wollondilly still retain a living and vibrant culture that has survived and adapted to invasion, colonisation and settlement by people not just from Britain but from other cultures who have also settled in their Country.

Key milestones of the construction of the Warragamba Dam are regularly celebrated, including the 50th anniversary in 2010. In October 2016, former workers from the original construction gathered at the Warragamba Dam to celebrate the 56th anniversary of the dam's completion. The event also included the first screening of a documentary on the dam's history: *Warragamba – A Story of Our Making*. The event also marked the 70th anniversary of Warragamba first being selected as the site for Sydney's major dam.¹²²

In 2017 the Menangle Community Association organised a festival to celebrate the history of the Rotolactor. It was called the Menangle Milk-Shake Up and was a huge success. The Festival exceeded all their expectations of the organisers from the Menangle Community Association when it attracted over 5000 people to the village from all over Australia.¹²³

¹²¹ Karskens, Grace, "Appin Massacre", in *Dictionary of Sydney*, NSW Office of Environment and Heritage, Aboriginal Heritage Projects, 2015.

¹²² Tullis, Ashleigh, "Warragamba Dam: original workers relive the past" in, 14 October 2016, source Realestateview.com.

¹²³ *Wollondilly Advertiser*, 18 September 2017, cited in Camden History Notes, "Menangle Milking Marvel", 19 July 2019



Figure 34. the memorial stone at the Appin Massacre Site, www.sbs.com.au/nitv/explainer/explainer-appin-massacre



Figure 35. the 50th anniversary of Warragamba Dam, www.waternsw.com.au

3.3.6 External influences

The growth of the Sydney metropolis

Due to its proximity to the growing Sydney metropolis, development pressures are increasing on Wollondilly. Already it has been feeling the impacts of substantial population growth. Between 1986 and 1991, the population growth for the Shire just edged over 21%. It has also experienced the housing boom of the Western Sydney area as it pushes out further and further into these once small, enclosed villages and towns. The other effects of the housing and population boom has been on demographics of the region with more and more young families meaning the provision of services such as schools and infant welfare centres.

Hobby farms and weekenders are also becoming more prevalent, taking over from traditional larger farming properties which rather than deriving an income for the owners are more about sustainable living and self-sufficiency.

Government policy

In 1968, new directions in town planning started to disrupt regional communities in Wollondilly and its townships. The first state sponsored planning scheme that had a direct effect, particularly on the Menangle, was the 1968 Sydney Region Outline Plan, which was prepared by the State Planning Authority of New South Wales. followed by the 1973 the New Cities of Campbelltown, Camden and Appin Structure Plan, which later became the Macarthur Growth Centre in 1975, through an agreement between the state and federal governments.¹²⁴

However, these policies and plans increased interest in the cultural heritage of towns and villages such as Menangle. Although the national significance of the Menangle village and the associated Rotolactor was recognised in the structure of the plan, there was no immediate impetus for its protection until in 1991, when the Menangle Village Conservation Area was gazetted, and then updated in 2000.

Previous aspirations to develop a freight hub on farmland on the eastern side of Menangle, along the Moreton Park Road precinct, were put forward at a public meeting in November 2004 by a private development consortium. The development included freight, warehouses, railway and trucking facilities. However, instead of garnering support, local community activism grew over concerns that these plans would have negative impacts on Menangle and its heritage. The Menangle Action Group was formed, and later the Menangle Community Association. Resistance to the proposal led to a stand-off between the community and the developers, during which time several applications by the developers for the rezoning was rejected. In an attempt to strengthen protections for the village, Wollondilly Shire Council extended the conservation area to include the Menangle Railway Station and part of Moreton Park Road. Wollondilly Shire Council also implemented the Menangle Landscape Conservation Area to protect Menangle's historically significant landscape and the amenity it provides. The majority was implemented in

¹²⁴ Op.cit Willis.

2014, with the remainder currently part of the Heritage Housekeeping Planning Proposal. These items have been added to its local environmental plan.¹²⁵

In an effort to put the local community on side, the developer announced planned to turn the derelict Rotolactor into a function centre with the adjoining Creamery building as a brewery. The plan also included an outdoor concert theatre and a lemon grove. The development did not eventuate.

The Menangle Community Association decided to protect the village from the unwanted forces and outcomes of urban development by using the famous and once popular Rotolactor as its weapon:

While the villagers have not stopped the forces of neo-liberalism their actions have slowed up the planning processes, encouraged public discussion of the major issues and led to the amelioration of some of the worst aspects of the developments.¹²⁶

In 2017, the state government planning panel approved the re-zoning of the site for 350 houses and a tourist precinct which will include restoring the Rotolactor and Central Creamery buildings.

In 2018, the Department of Planning, Industry and Environment (DPIE) released Greater Macarthur 2040: An interim plan for the Greater MacArthur Growth Area. The plan is intended to spur on investment in education, jobs, recreation and housing. Appin is included in the Greater Macarthur growth area and, around this locality, it is expected that it will provide an additional 15,000 houses and accompanying infrastructure.

War and conflict

With the outbreak of World War Two, a network of airfields across Western Sydney was established, and land acquired for the purposes of training and defence. A dispersal airfield with a landing strip and basic supplies was established at Menangle Park at the harness racing track, but the squadrons' living quarters were located in Menangle along Station Street opposite the General Store. After the war, most of these sites were disposed of by the government or converted to recreational use.¹²⁷

During World War II, a runway was built across the Menangle Park trotting track which was taken over by the RAAF who also used the existing facilities of the trotting club. Squadron Nos. 1, 15, 24 were stationed at Menangle Park. The main purpose of the Menangle base was as a staging camp for the squadron. While at Menangle RAAF, the squadrons were engaged in training flights in airmanship, formation training, night flights, high level bombing, low level

¹²⁵ Willis, I. 2018. 'Utopia or Dystopia: A Contested Space on Sydney's Urban Frontier.' Paper presented at the 14th Australasian Urban History Planning History Conference 2018, Melbourne, 30 May. Viewed 5 January 2021, <https://ro.uow.edu.au/lhapapers/3490/>, p.8.

¹²⁶ Ibid, p. 9.

¹²⁷ Op. cit. State Heritage Register Project, p. 62.

bombing, formation flying, fighter co-operation, and medium level bombing. The units did not see active service at Menangle Park.¹²⁸

Living quarters for the squadron comprising six houses were built in Station Street in Menangle village. The quarters were for the squadron members only, not their families, and were only temporary buildings with no lining on walls or ceilings. All meals were prepared in the cookhouse that was situated in one of the six houses, including the lunches that were taken up to the airfield. The squadrons were transported by truck between the village and the airfield.¹²⁹

The location of the quarters was intentionally away from the airfield, where they would potentially blend in with the townsite and to appear from the air as a small country village:

The barracks were build [sic.] as houses and merged with the existing residences as a form of camouflage. Once inside the resemblance ended.¹³⁰

There was little interaction between the RAAF and the Menangle locals, with the men often going to larger towns such as Campbelltown for recreation such as the movies and on weekends they would go home and visit their families.¹³¹ The general store however received quite a bit of patronage from the men. By 1945, the squadrons had vacated the Menangle RAAF. The quarters were all dismantled at the end of the war.

¹²⁸ Willis, I. Camden History Notes. 'Menangle Park Airfield Memories.' Camden History Notes (website). Last modified 16 July 2018 <https://camdenhistorynotes.wordpress.com/2018/07/16/menangle-aaaf-squadrons-second-world-war/> Alan Hick was an Observer Air Gunner and Wireless/Telegraph Operator with No. 1 Squadron at Menangle Park Airfield.

¹²⁹ Ibid.

¹³⁰ Ibid.

¹³¹ Ibid.

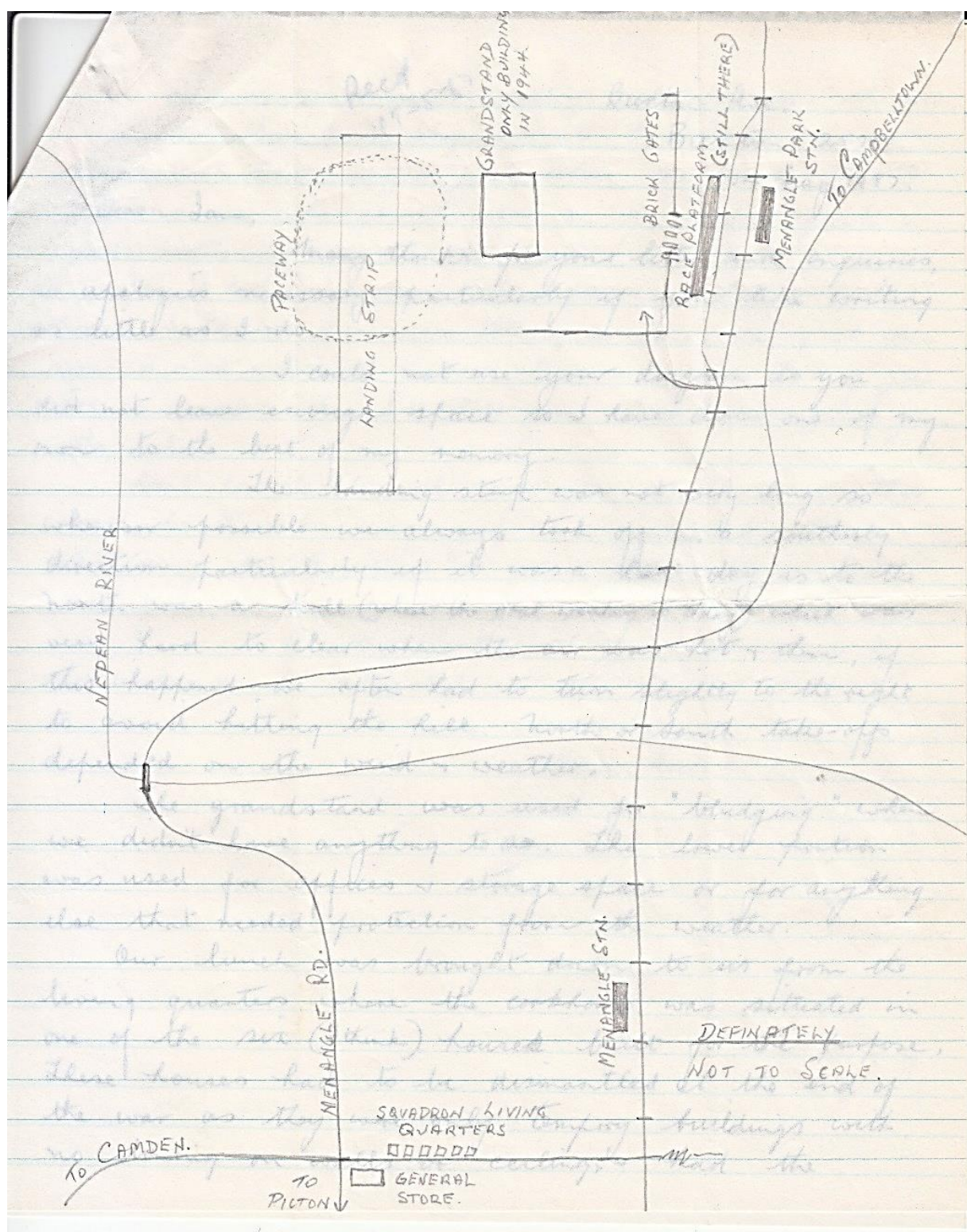


Figure 36. hand drawn map of the Menangle RAAF base and airfield, including the squadron living quarters bottom centre, Alan Hicks, 1987

4. Heritage places

4.1 Places

The following places have been investigated and reviewed based on the findings of the Thematic History and council and community consultation. These places have been identified according to their suburb, Heritage Study ID Number, Item Number, Item Name and Historical Theme. Places are varied in their historical context and physical descriptions and because of the many historical periods and uses that a place may have, multiple historical themes may apply. To provide an appropriate understanding of each place, only the most relevant historical theme has been identified in the following table.

In addition, not all places investigated have had listing sheets prepared as some items will require further research and consultation, which is outside the scope of this study.

Table 3. Place identification table showing the suburb, heritage study ID number, heritage study number (if present) and item name.

Suburb	Heritage Study ID Number	Item Number	Item Name	Historical Theme
Appin	WHS001	I2	Courthouse and Gaol (former)	Administering Wollondilly
Appin	WHS002	I3	Darcy's Corner	Movement and Motion
Appin	WHS003	I12	St Bede's Catholic Church and Graveyard	Community and Cultural Life
Appin	WHS004	I4	Appin Inn	From Natural Environment to Cultural Landscape
Appin	WHS005	I5	Bungalow	The People of Wollondilly
Appin	WHS006	I6	Shop (former)	From Natural Environment to Cultural Landscape
Appin	WHS007	I7	Stone Cottage	The People of Wollondilly
Appin	WHS008	I1	Appin Hotel	Community and Cultural Life
Appin	WHS009	I8	Appin Public School and Schoolmaster's Residence	Community and Cultural Life
Appin	WHS010	I17	Windmill Hill Group (Brennan's Farm, Larkin's Farm and Winton's Farm)	Farming and Working on the Land
Appin	WHS011	I9	St Mark's Anglican Church and Graveyard	Community and Cultural Life

Suburb	Heritage Study ID Number	Item Number	Item Name	Historical Theme
Appin	WHS012	I10	Weatherboard cottage	The People of Wollondilly
Appin	WHS013	I11	Elladale	Farming and Working on the Land
Appin	WHS014	I13	Northhamptondale Group—House, Trees, Slab Farm, Outbuildings, Stables	Farming and Working on the Land
Appin	WHS015	I14	St Mark's Anglican Rectory (former)	Community and Cultural Life
Appin	WHS016	I15	Upper Nepean Scheme—Broughton Pass Weir and Bridge	Movement and Motion
Appin	WHS017	I16	Upper Nepean Scheme—Upper Canal	Movement and Motion
Appin	WHS018	A1	Darcy's House	The People of Wollondilly
Appin	WHS066	Potential Item	Appin Conservation Area	From Natural Environment to Cultural Landscape
Appin	WHS067	Potential Item	Mahoney's hole	Community and Cultural Life
Appin	WHS068	Potential Item	Slab Cottage	The People of Wollondilly
Appin	WHS069	Potential Item	Slab Farm Buildings	Farming and Working on the Land
Appin	WHS070	Potential Item	Kings Fall Bridge Appin	Movement and Motion
Thirlmere	WHS019	I251	Thirlmere Railway Precinct and Heritage Centre	Movement and Motion
Thirlmere	WHS020	I252	Thirlmere House	Farming and Working on the Land
Thirlmere	WHS021	I253	Cottage	The People of Wollondilly
Thirlmere	WHS022	I254	Cottage	The People of Wollondilly
Thirlmere	WHS023	I255	The Castle	The People of Wollondilly
Thirlmere	WHS024	I256	Cottage	The People of Wollondilly

Suburb	Heritage Study ID Number	Item Number	Item Name	Historical Theme
Thirlmere	WHS025	I257	Victorian Residence	The People of Wollondilly
Thirlmere	WHS026	I258	Stationmaster's House	Movement and Motion
Thirlmere	WHS027	I259	Thirlmere Public School and Residence	Community and Cultural Life
Thirlmere	WHS028	I260	Kungla supermarket sign	The People of Wollondilly
Thirlmere	WHS029	I261	Estonian Church	Community and Cultural Life
Thirlmere	WHS030	I262	Thirlmere Cemetery, including Estonian Cemetery	Community and Cultural Life
Thirlmere	WHS031	I263	Thirlmere Way Cottages	The People of Wollondilly
Thirlmere	WHS032	I264	House	The People of Wollondilly
Thirlmere	WHS033	I265	Queen Victoria Hospital	Administering Wollondilly
Thirlmere	WHS034	I296	House	The People of Wollondilly
Thirlmere	WHS035	I266	Railway Cottage	Movement and Motion
Thirlmere	WHS036	A14	Harmony House	The People of Wollondilly
Thirlmere	WHS037	C3	Thirlmere Conservation Area	From Natural Environment to Cultural Landscape
Thirlmere	WHS071	Potential Item	Estonian Community Hall	Community and Cultural Life
Thirlmere	WHS072	Potential Item	Farm House	Farming and Working on the Land
Thirlmere	WHS073	Potential Item	Eesti Kula (Estonian Village) Sign and Plaques	The People of Wollondilly
Thirlmere	WHS074	Potential Item	House	The People of Wollondilly
Thirlmere	WHS075	Potential Item	House	The People of Wollondilly
Thirlmere	WHS076	Potential Item	St Andrew's Presbyterian Church (former)	Community and Cultural Life

Suburb	Heritage Study ID Number	Item Number	Item Name	Historical Theme
Thirlmere	WHS077	Potential Item	Former Roman Catholic Church	Community and Cultural Life
Thirlmere	WHS078	Potential Item	Former Thirlmere Community Hall	Community and Cultural Life
Thirlmere	WHS079	Potential Item	War Memorial and Museum	Community and Cultural Life
Thirlmere	WHS080	Potential Item	House	The People of Wollondilly
Thirlmere	WHS081	Potential Item	House	The People of Wollondilly
Thirlmere	WHS082	Potential Item	Welcome Inn Hotel	Community and Cultural Life
Thirlmere	WHS083	Potential Item	Former Post Office and Residence	Administering Wollondilly
Thirlmere	WHS084	Potential Item	House	The People of Wollondilly
Thirlmere	WHS085	Potential Item	Finnish Hall	Community and Cultural Life
Thirlmere	WHS086	Potential Item	St Stephen's Church of England Building.	Community and Cultural Life
Thirlmere	WHS087	Potential Item	House	The People of Wollondilly
Thirlmere	WHS088	Potential Item	Thirlmere Lakes	From Natural Environment to Cultural Landscape
Menangle	WHS040	179	Slab Hut	The People of Wollondilly
Menangle	WHS041	180	Menangle Rail Bridge over Nepean River	Movement and Motion
Menangle	WHS042	183	Camden Park Rotolactor and Creamery Sheds	Farming and Working on the Land
Menangle	WHS043	186	Bungalow	The People of Wollondilly
Menangle	WHS044	187	Bungalow	The People of Wollondilly
Menangle	WHS045	188	House	The People of Wollondilly
Menangle	WHS046	189	Cottage	The People of Wollondilly

Suburb	Heritage Study ID Number	Item Number	Item Name	Historical Theme
Menangle	WHS047	I90	Bungalow	The People of Wollondilly
Menangle	WHS048	I91	St Patrick's Catholic Church	Community and Cultural Life
Menangle	WHS049	I92	Cottage	The People of Wollondilly
Menangle	WHS050	I93	Cottage	The People of Wollondilly
Menangle	WHS051	I94	St James Anglican Church	Community and Cultural Life
Menangle	WHS052	I95	Cottage	The People of Wollondilly
Menangle	WHS053	I96	Gilbulla (Anglican Conference Centre)	Community and Cultural Life
Menangle	WHS054	I97	Dairy Cottage	Farming and Working on the Land
Menangle	WHS055	I101	Menangle Weir	Movement and Motion
Menangle	WHS056	I81	Menangle Railway Station Group	Movement and Motion
Menangle	WHS057	I82	Camden Park Estate - Central Creamery Manager's Cottage	Farming and Working on the Land
Menangle	WHS058	I98	Menangle Store	From Natural Environment to Cultural Landscape
Menangle	WHS059	I292	Menangle School of Arts Community Hall	Community and Cultural Life
Menangle	WHS060	I291	Menangle Public School (former)	Community and Cultural Life
Menangle	WHS061	I84	Dairy No 4 (EMAI Cottage 29)	Farming and Working on the Land
Menangle	WHS062	I99	Menangle Gate Lodge (Former)	The People of Wollondilly
Menangle	WHS063	I85	Dairy No 9 (EMAI Cottage 24)	Farming and Working on the Land

Suburb	Heritage Study ID Number	Item Number	Item Name	Historical Theme
Menangle	WHS064	C1	Menangle Conservation Area	From Natural Environment to Cultural Landscape
Menangle	WHS065	C6	Menangle Landscape Conservation Area	From Natural Environment to Cultural Landscape
Menangle	WHS094	Potential Item	Bungalow	The People of Wollondilly
Menangle	WHS095	Potential Item	Dairy Cottage	Farming and Working on the Land
Menangle	WHS096	Potential Item	Menangle Water Tower	Industries and Workforces
Warragamba	WHS038	I270	Warragamba Supply Scheme and Warragamba Emergency Scheme	Movement and Motion
Warragamba	WHS039	C4	Warragamba Conservation Area	From Natural Environment to Cultural Landscape
Warragamba	WHS089	Potential Item	St Paul's Anglican Church	Community and Cultural Life
Warragamba	WHS090	Potential Item	Warragamba Town Hall	Community and Cultural Life
Warragamba	WHS091	Potential Item	Warragamba Park	Community and Cultural Life
Warragamba	WHS092	Potential Item	Warragamba Recreation Reserve	Community and Cultural Life
Warragamba	WHS093	Potential Item	Warragamba Sportsground and Swimming Pool	Community and Cultural Life

4.2 Place types

Heritage places identified in Table 4 represent distinctive groups of heritage assets that characterise longstanding practices within the Study Area. These types of places offer insight into the past and show movements and periods that have retained cultural value into the present. The characteristics of these types of places have been presented below to identify their broader importance within the community.

Civic buildings

Within the Study Area, there are a variety of public facilities built between the nineteenth and twentieth centuries. These include buildings associated with postal and telecommunications, government and administration, health services, education and law enforcement.

Buildings associated with these types of activities were often approved by State authorities and generally expressed architectural features or styles endorsed by the government. Occasionally, civic structures were also funded by community subscription or philanthropy. Structures funded from these methods were generally also built to a high standard with the intent of matching or exceeding the quality of civic buildings produced by the State.

Within the Study Area, styles include Colonial, Georgian, Victorian, Federation, Interwar and Post War. The functions of these buildings include post offices, town halls, hospitals, schools, and police stations. These civic buildings represented both an improvement to the community's amenity as well as recognition of community as an established place. They often signalled the importance of a township and showed the common legacy of the people who lived and worked in the town.

Civic buildings are typically located in the centre of each town and, though varied in type and style, express a high standard of architecture that improves the built environment.

Public domain

Heritage items within the public domain broadly relate to three categories. They include monuments and memorials, parks and gardens, and recreation and entertainment.

As the Study Area is comprised of small to medium sized urban centres with rural surrounds, public domains are often lightly administered and see little development. Some areas of public domain are located on Crown land and are formally recognised and maintained by the State government. Other areas are informally kept by the community. These places are not strictly defined by architectural styles, though they do occasionally include structures and landscapes that reference wider architectural movements.

Within the community, public domain places often include a mix of values, with some open spaces integrated into memorials and commemorative structures. Some public domain items also include cultural and natural values, with associative and social values tied to the surrounding landscape.

Recreational and entertainment spaces are often more formalised and designed to facilitate specific community activities. These places include sports ovals, swimming pools, hard surface courts and walking tracks.

Commercial buildings

A variety of commercial buildings are located in the centre of each town within the Study Area. These are generally located in close proximity to railway stations or main roads. They generally follow four distinct architectural trends, arising from commercial booms in separate periods. These styles are Victorian, Federation, Interwar and Post-War.

Earlier Victorian and Federation style buildings follow common design forms that can be found in most towns and cities in NSW. Shopfronts and publicans are strongly influenced by cultural perceptions of architectural excellence and include features such as parapets and second storey verandas. They were seen to be bringing a standard of distinction and wealth to these

towns. Interwar and Post-War commercial buildings respond more to the material constraints of their time and were influenced by desires for modernity.

Religious structures

There are a broad range of religious architectural styles present within the Wollondilly LGA. These styles broadly cross Colonial, Victorian, Gothic and Post-War architectural forms and are represented in a range of materials, such as sandstone, brick and weatherboard.

Many of the more substantial churches include a mix of architectural features that do not belong categorically to a single style. Generally, church buildings included extended construction cycles, as the project was funded by subscription and donation. This occasionally lead to design alterations after the commencement of the project. Additionally, owing to the age and quality of some structures, certain additions and alterations are significant, resulting in a blended architectural style that has its own significance. Most of the items are well maintained.

Much like civic buildings, church buildings often signalled the importance of a community to State authorities. They also represented the common legacy of the people who lived, worked and died in the town.

Residential buildings (private)

Within the Study Area, there are generally five broad architectural styles reflected in the built environment. The accumulation of large land grants by single landowners and creation of gentleman's estates is particularly evident in areas such as Appin, Menangle and Thirlmere. Changes in architectural styles are generally reflective of broad trends arising from development of styles and tastes in large Australian cities. Each locality has a distinctive pattern of housing development, unique to local circumstances. These are outlined below.

Appin

Appin is defined by colonial settlement that included a strong inclination toward Georgian architecture, prioritising building symmetry and robust materials. As development in the town was slow until the twentieth century, there are no remaining examples of Victorian styled housing stock. By the early twentieth century, concurrent development of Cataract Dam promoted some housing growth in the original town subdivision, seeing the construction of some Federation styled housing. Much of the historic housing stock from this area is highly modified with additions and alterations.

Menangle

Menangle is broadly defined by Victorian, Federation and Interwar housing styles that were built around Menangle Road, to house workers on the Macarthur holdings. This involved a short period of housing development, occurred in the late nineteenth and early twentieth century. Houses are simple but well-designed Victorian cottages, Federation cottages, and Interwar bungalows. Generally, housing stock is well maintained and forms a cohesive characteristic throughout the town.

Thirlmere

Thirlmere is defined by periods of consistent population growth from the late nineteenth and mid twentieth century, prompted by industry expansion and general population growth. Housing stock from the early to mid- twentieth century consists of simple Federation cottages and simple Post War Housing. The Victorian Housing style and Interwar housing style are less common, though some remnants still exist, with few examples of cottages from this period still extant.

Warragamba

Warragamba is defined by a highly homogenous group of 1950s-1960s temporary housing. The group is not defined by an architectural style, but rather an easy to manufacture set of materials, designed to be assembled by low-skill workforces. Common elements include timber framing, asbestos cement (AC) cladding, and corrugated steel sheeting. Much of the housing stock from this period is highly modified and has additions and alterations.

Farming and agriculture

Within the Study Area, farming and agricultural items can generally be divided into estates and farms, and industrial farming complexes. Their values are not defined by their architectural styles, though older examples include elements of fine Georgian and Victorian architecture.

Estates and farms comprise a mix of residential and farming buildings designed to facilitate a range of agricultural activities such as animal husbandry, land cultivation and cropping. These complexes incorporate both domestic and agricultural buildings into a single functioning system. Most of the places that remain relate to the nineteenth century, though they have been heavily modified.

Industrial complexes, in contrast, consist of often larger and solely production-based structures that have been divorced from their accompanying domestic elements. These structures typically reflect improvements to transportation and a proclivity for factory-based efficiencies and are related to twentieth century expansion. However, there are some rarer late nineteenth century examples as well. As agricultural output has become less of a priority in Wollondilly, some of these places have become derelict.

Utilities

Water

The Study Area features a variety of interrelated water services. The area has several large-scale raw water capture and supply schemes in the Blue Mountains and the Woronora Plateau. Among these schemes is the historically significant Upper Canal and the Warragamba Dam. Key features associated with these capture and supply systems are canals, tunnels, diversion weirs, pumping stations, and dam walls.

There are also some smaller scale items, such as the Menangle Water Tower and Menangle Weir which represented efforts to improve water reticulation at a local level. These structures and landscapes are mostly owned and managed by WaterNSW, though some are located on private land.

Transport

Heritage items in the study area associated with transport largely include railway precincts and major bridges. Within railway precincts, these items generally include station buildings, platforms, signals, and station staff residences. These items also include some important waterway crossings, such as the road bridge over George's River and the railway bridge over Nepean River.

Transport infrastructure of this nature reflects major achievements in the development of engineering. They also brought tangible improvements and respectability to a community, as these structures were central to local economies.

4.3 Appin Road Heritage Conservation Area

To promote the preservation of Appin's heritage character, consideration has been given to the creation of a heritage conservation area within the centre of the town. The proposed location of the conservation area has been based on a historical and physical analysis of Appin, taking into account the major growth periods and the current physical arrangement of the town.

Historical Analysis

The town of Appin was planned in 1834, just two decades after the first grants were made in the area. It was designed to Governor Macquarie's 1829 regulations on two towns and villages. Two town plans were prepared: one by Felton Mathew and the other by Davidson. The town was laid out on a former Crown Reserve and the plan contained reserves for civic uses and 15 town blocks between the main road and George's River.

By 1836, Appin had two public houses, a few slab huts and a timber lock-up. Two small and distinctive churches – St Bede's Roman Catholic (1837) and St Mark's Anglican (1840) – were completed soon after. The village also had a Rectory in Toggarai Street and two combined cottages and shops in the Main St (Appin Rd). A schoolhouse, schoolmaster's residence and stone courthouse with detached lock-up followed in the 1860s.

In the early nineteenth century, with the construction of the Cataract Dam, Appin saw some minimal residential development, though as most of the dam's laborers were located at a nearby temporary town, very few structures or features survive from this time.

By the 1960s, some growth was appearing, as the road network had become more formalised. Although civic buildings were still mostly make-shift, with the Appin Hotel, Police Station and Catholic and Anglican Churches all serving as temporary townhalls, as needed. By the 1970s, post war migration, population growth and the expansion of the collieries had finally begun to promote permanent worker housing in new subdivisions along the edges of the town as well as into the town's original colonial allotments.

Structures built from the mid to late twentieth century currently dominate the built style of the township and use setbacks and materials that are starkly different from early twentieth and mid-nineteenth century, specifically making greater use of building materials like cement brick and asbestos cement (AC) sheeting. These buildings were typically setback from the roadway and included front and back yards, designed for personal recreation, rather than for gardening or domestic labor.

By the 1990s, many of the nineteenth century residential and commercial buildings on Appin Road were in poor condition or had fallen into disrepair. Development along the town centre had also slowed. The construction of housing had expanded in the north, with new subdivisions following a typical cul-de-sac styled layout, while in the east, older subdivisions, planned for the original layout of the town were finally being sold and developed into detached residential housing.

Physical Analysis

Appin is oriented on a north to south axis along the main thoroughfare of Appin Road. For buildings that would survive into the twentieth century, the trend was for a colonial Georgian style, with some Romanesque/Gothic influence found in the churches. These buildings prioritised symmetry and the use of robust materials. The material quality of these buildings' present durability and permanence with symmetrical proportions and bareness of the ornamentation suggesting a refined characteristic. Concurrent with this period of development is the Romanesque/Gothic styled St Bedes Catholic Church. This style, though using lancet head windows and circular and crucifix windows, achieves a similar refined presentation.

Following initial development in the 1830s and 1840s, the town saw minimal growth for the next five to six decades, with localities like Campbelltown and Picton taking on more prominent administrative roles originally envisaged for Appin. Owing to this construction was largely mute through the Victorian period, with no known structures built effecting the Victorian architectural preferences of the time. This architectural style, though prevalent in many other nearby towns, is absent in Appin.

Concurrent with the construction of the Cataract Dam, some small growth occurred in Appin in the 1900s-1910s. These dwellings were constructed with the hallmarks of Federation style, including an elevated veranda, projecting gable, larger windows and a cultivated garden setting. The proportions and materiality of these structures were intended to simulate the quaintness and refinement of Queen Ann cottages, while representing an overtly Australian characteristic, leaning on the recognition of Australia as a new nation. This style has limited representation in Appin.

Interwar period architecture is not represented in any particular growth period within the town. The Appin Hotel exists as an example of a structure that was reconstructed in an Interwar Style including hallmark features such as timber balustrades and tapered timber veranda posts. This style has limited representation in Appin.

From the 1970s onwards, development increased dramatically in Appin. Both infill construction in the existing streets of Toggari Street and Church Street and new housing estates built on the edges of town saw the introduction of more modern housing and commercial styles. These dwellings differed from previous houses in Appin with layouts and amenities suited to water and electrical reticulation. These buildings also focused on providing greater floor space and better thermal efficiency without incurring additional costs. They made use of a greater range of materials, such as cement brick and AC sheeting. These houses projected a modern appearance, intending to foreground quality and functionality.

By the 1980s, some infill houses were being constructed in post-modern styles, such as the Federation Revival. The designs of these buildings were intended to be more responsive to the surrounding character of the street, taking reference from older architectural styles and replicating them for houses with more modern material palettes and layouts.

Heritage Curtilage

The proposed curtilage for the Appin Road Heritage Conservation Area (see Figure 37) has been prepared based on the Historical Context and Physical Analysis outlined above. This analysis has identified that the built environment in Appin grew slowly through the nineteenth century and early twentieth century. By the 1970s, growth had expanded dramatically, marking a period of infill and estate construction. Consequently, the current built environment in Appin is predominantly modern and post-modern, interspersed with Georgian, Gothic and Federation structures. The proposed heritage conservation area would be heterogenous in nature, including structures that represent Georgian, Federation, Victorian, Gothic, Modern, and Post-Modern styles.



Figure 37. Proposed Appin Heritage Conservation Area curtilage

5. Planning context

Heritage places within the Wollondilly LGA are subject to the following Acts:

- *Environmental Protection and Biodiversity Conservation Act 1999* (Cwlth);
- *Heritage Act 1977* (NSW);
- *National Parks and Wildlife Act 1974* (NSW);
- *Aboriginal Land Rights Act 1983* (NSW); and
- *Environmental Planning and Assessment Act (EP&A) Act 1979* (NSW).

The statutory requirements of these Acts have been explained in more detail below.

5.1 Environmental Protection and Biodiversity Conservation Act 1999 (Cwlth)

Overview

The Environmental Protection and Biodiversity Conservation Act (EPBC Act) provides the legal framework for the protection and management of places on the World Heritage List (WHL), the National Heritage List (NHL) and the Commonwealth Heritage List (CHL). The management principles and responsibilities for World Heritage properties are described in the Australian World Heritage Intergovernmental Agreement. These include management of World heritage properties in accordance with the World and National Heritage provisions of the Environmental Protection and Biodiversity Conservation Act and in accordance with Australia's obligations under the World Heritage Convention to identify, protect, conserve, present and transmit to future generations Australia's cultural and natural heritage of outstanding universal value.

For the purposes of the management of a World heritage property a person must not take an action that:

- (a) Has or will have a significant impact on the world heritage values of a declared World Heritage property; or
- (b) Is likely to have a significant impact on the world heritage values of a declared World Heritage property

Wollondilly Shire Context (Appin, Thirlmere, Warragamba, Menangle)

There is currently one item in the Study Area, which is listed as both a World Heritage property and an item on the National Heritage List:

- Thirlmere Lakes is included as part of the *Greater Blue Mountains Area World Heritage* property.

The Greater Blue Mountains World Heritage Area is inscribed on the World Heritage List for the following outstanding universal values:

- Outstanding and representative examples in a relatively small area of the evolution and adaptation of the genus *Eucalyptus* and eucalypt-dominated vegetation on the Australian continent (criterion ix)
- Significant natural habitats for the in situ conservation of biological diversity, including the eucalyptus and eucalypt-dominated communities, taxa with Gondwanan affinities and taxa of conservation significance (criterion x).

Unless these values are affected, the EPBC Act does not negate or modify the relevant state or local planning, heritage or environmental approval or consent requirements that may apply.

5.2 Heritage Act 1977 (NSW)

5.2.1 State Heritage Register

Overview

The *Heritage Act 1977* (NSW) was established to conserve the environmental heritage of NSW. Specifically, the Act provides protection for items of State heritage significance that are listed on the State Heritage Register (SHR), as well as for unlisted archaeological relics.

Section 4 of the Act describes State heritage significance as:

In relation to a place, building work, relic, movable object or precinct, means significance to the State in relation to the historic, scientific, cultural, social, archaeological, natural or aesthetic value of the item.

Works proposed for items protected by the *Heritage Act 1977* (NSW) are approved by the Heritage Council of NSW or its delegates, as appropriate.

Proposed major works, disturbing or destroying archaeological relics on places included on the SHR requires approval under Section 63 of the Heritage Act, unless considered minor and exempt (to the requirement to obtain approval) in accordance with Section 57 of the Act.

Wollondilly Shire Context (Appin, Thirlmere, Warragamba, Menangle)

There are several items in the Study Area that are included on the State Heritage Register. These include:

- Camden Park Estate and Belgenny Farm (Item No. 1697),
- Menangle Rail Bridge over Nepean River (Item No. 1047),
- Upper Canal System (Pheasants Nest Weir to Prospect Reservoir (Item No. 1373),
- Windmill Hill Group, Including Ruins (Item No. 1931),

- Warragamba Emergency Scheme (Item No. 1376),
- Warragamba Dam – Haviland Park (Item No. 1375),
- Menangle Railway Station Group (Item No. 1191),
- Megarritys Bridge (Item No. 1367),
- Rail Paybus FP1 (Item No. 1673).

These items must be managed in accordance with the statutory requirements of the Heritage Act. In most instances, development approvals will be managed in isolation by the Heritage Division. In other cases, this approval might be co-managed via an Integrated Development between the Heritage Division and Wollondilly Shire Council.

These assets must also be managed in accordance with the minimum standards specified under section 118 of the *Heritage Act 1977* and Part 3 of the *Heritage Regulation 2005*. The minimum standards of maintenance and repair of a listed item relate to the following:

- (a) the protection of the listed item from damage or deterioration due to weather;
- (b) the prevention of and the protection of the listed item from damage or destruction by fire;
- (c) security (including fencing and surveillance measures) to prevent vandalism; and
- (d) essential maintenance and repair (being maintenance and repair necessary to prevent serious or irreparable damage or destruction).

5.2.2 Heritage and Conservation Registers

Overview

Section 170 of the Heritage Act requires that all Government departments or agencies must maintain a Heritage and Conservation Register (also known as S170 Registers), which includes all property and assets owned or in the care and control of the relevant department or agency that are of State or Local heritage significance. These items are subject to the requirements of 170A of the *Heritage Act 1977*. Specifically, the government agency is required to provide 14 days prior notice to the Heritage Council of NSW in the event that it:

- (a) removes any item from its register under section 170, or
- (b) transfers ownership of any item entered in its register, or
- (c) ceases to occupy or demolishes any place, building or work entered in its register

Wollondilly Shire Context (Appin, Thirlmere, Warragamba, Menangle)

The Study Area also includes a large number of Government agency owned assets that are identified on a Section 170 Heritage and Conservation Register (S170 Register). These agencies include (but are not limited to):

- RailCorp;
- WaterNSW;
- Roads and maritime Services;
- NSW Parkes and Wildlife Services;
- Department of Education.

The quality and accessibility of these S170 Registers varies across the Government Agencies as the requirements for keeping such registers is varied, and is monitored and enforced by Heritage NSW. The exact number of S170 items within the LGA is therefore unclear.

Prior to listing land owned or managed by State agencies on the LEP Schedule 5, notification must be provided to the relevant state agency.

5.3 National Parks and Wildlife Act 1974 (NSW)

In addition to the range of other environmental and land management matters, *the National Parks and Wildlife Act* also includes provisions, which apply to Aboriginal sites and relics. If Aboriginal cultural material is found during excavation activity on the site, the National Parks and Wildlife Services must be informed under Section 89A of the Act. Excavation would then require a permit issued under Section 90 of the Act.

5.4 Aboriginal Land Rights Act 1983 (NSW)

The *Aboriginal Land Rights Act 1983*, acknowledges the traditional ownership and occupation of the state of New South Wales by the Aboriginal people. This Act has established Aboriginal Land Councils at State, Local and Regional levels. The local Aboriginal Land Council should be notified of any works that may impact on Aboriginal heritage values.

5.5 Environmental Planning and Assessment Act 1979 (NSW)

The *Environmental Planning and Assessment Act 1979* is an Act ‘to institute a system of environmental planning and assessment for the State of New South Wales’. For environmental assessment purposes, the Act requires that a determining authority ‘*examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment with respect to the proposed works*’. Heritage is an environmental element which must be considered.

Under the Act, an Environmental Planning Instrument (EPI) is made for a particular LGA and includes Local Environmental Plans (LEP), Development Control Plans (DCP), Regional Environmental Plans (REP), or a State Environmental Planning Policy (SEPP). The applicable LEP’s and DCP’s for Wollondilly Council have been outlined below.

For the purposes of notification and consultation with the public and State agencies, amendments to an EPI are subject to provisions under Division 3.4 Environmental Planning Instrument—LEPs.

5.5.1 State Environmental Planning Policies

Below is a list of SEPPs, deemed SEPPs and REPs that apply to Appin, Thirlmere, Menangle and Warragamba, with regards to heritage matters. Depending on circumstances, the policy may be specifically applicable to the land that is the subject of a planning proposal. The SEPPs are available on the Department of Planning Industry and Environment website. Relevant SEPPs include:

- State Environmental Planning Policy No.1 – Development Standards
- State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004
- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008
- State Environmental Planning Policy (Infrastructure) 2007 State Environmental Planning Policy (Major Development) 2005

State Environmental Planning Policy (Mining, Petroleum Production and Extractive industries) 2007

- State Environmental Planning Policy (State and Regional Development) 2011
- Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No2—1997).

5.5.2 Wollondilly Local Environmental Plan 2011 (NSW)

For the Wollondilly LGA, environmental heritage is currently listed under the *Wollondilly LEP 2011*, Schedule 5 (Environmental Heritage). Specifically, Clause 5.10(1) of the LEP recognises the following objectives that specifically relate to the heritage places listed on Schedule 5:

- a. to conserve the environmental heritage of the area;
- b. to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views;
- c. to conserve archaeological sites; and
- d. to conserve Aboriginal objects and Aboriginal places of heritage significance.

The list provided in Schedule 5 was formed using background information such as heritage studies, inventories, other reports and previous listings. This background information is also utilised by Wollondilly Shire Council to provide advice on development applications, assess proposed works to heritage items, and enable Council to promote and conserve heritage within the LGA. The findings of this report will contribute towards a consolidated heritage list on Schedule 5 of the Wollondilly LEP.

5.5.3 Wollondilly Development Control Plan 2016

A Development Control Plan (DCP) provides detailed planning and design guidelines to support the planning controls in the LEP. These development controls are used as part of the Development Application process to ascertain if a proposal is in keeping with the desired planning outcomes of the LGA. The current DCP for Wollondilly Shire Council is the Wollondilly DCP 2016. Sections of Council's DCP, including Heritage Controls, are periodically reviewed and updated. Heritage Controls for the DCP are contained within the following sections:

- Volume 1, Part 5 Colonial Heritage (General Controls)
- Volume 1, Part 6 Heritage (Specific Locations)
- Volume 1, Part 7 Aboriginal Heritage

In Wollondilly, heritage conservation objectives are stated in section 5.1 and include the following:

- a) To establish good design principles to guide development to and around heritage item;
- b) To ensure development is sympathetic to the overall heritage values and characteristics of the area;
- c) To identify local heritage character and heritage elements of the built environment; and
- d) To ensure the retention and management of heritage values identified for each conservation area and specific precinct.

Provisions under Part 5 Colonial Heritage (General Controls) of the DCP and provisions under Part 6 Heritage (Specific Locations) pertain to heritage items on the Wollondilly LEP Schedule 5 Inventory. These are expanded upon below.

General Controls

To achieve these objectives, Wollondilly Council assesses development applications for heritage items, taking into account a number of additional principles and controls. Without exception, if a place is listed as a heritage item and is undergoing review for a development application it there will be an assessment of the height and scale, view corridors, architectural style and form, materials choice, detailing, colour schemes, siting, and overall cumulative impact. These features of the development are considered general controls and are the minimum standard by which a development application for a heritage item is assessed.

Controls for Particular Types of Development

In addition to General Controls, Wollondilly Council has outlined controls for specific types of development to items within their heritage inventory. These type-specific controls also broadly concern fabric, colour pallet, form, siting and curtilage, though they are more specific to common developments and address conservation methods in greater detail. These additional development controls have been produced as, overtime, successful strategies for managing conventional impacts have become more well understood and, controls are well implemented

as a minimum, allowing council the opportunity to provide specific advice to best retain the heritage values of a place.

Types of development that have additional controls include commercial developments, additions and alterations, ancillary developments, demolition, subdivision of land (either within a heritage item or a heritage conservation area), construction within the vicinity of a Heritage Conservation Area or Landscape Conservation Area, or adaptive reuse.

Location Specific Controls

Location Specific Controls have been developed for parts of Wollondilly which represent a particular physical characteristic or specific heritage values. These locations have their own specific character descriptions, objectives, and controls, that outline ways to provide practical conservation outcomes. In conjunction with the General Controls and the Controls for Particular Types of Development, Location Specific Controls are designed to preserve the qualities of an area with granular detail, providing specific recommendations for fabrics, forms, placements, and plantings that are sympathetic with the identified heritage values of a given Heritage Conservation Area or Landscape Conservation Area.

Part 6 of the DCP has made provision for the following specific locations:

- Heritage Conservation Area and Landscape Conservation Area - Menangle
- Heritage Conservation Area – Picton, including
 - Commercial centre
 - Larkin Precinct
 - Stonequarry Creek and Railway Landscape Precinct
 - Menangle Street
 - Knoll Precinct
 - Webster Street
 - Campbell Street
 - Lumsdaine Street and Remembrance Driveway
- Heritage Conservation Area – Yerranderie
 - Yerranderie Silver Minding Field
 - East Yerranderie (Government Town)
 - West Yerranderie
 - Quigtown
 - The Yerranderie General Cemetery
- The Greater Blue Mountains World Heritage Area
- Landscape Conservation Area – Menangle

6. Heritage management – risks and opportunities

6.1 The value of heritage

A heritage place is an area, site or object, as large a whole region or landscape, or a small area such as a feature or building, which is valued by people for its natural and/or cultural heritage significance. Heritage is a legacy, passed from one generation to the next. It encompasses many things – the way we live, our traditions, our history, our character and our values.

An individual, group or community may want to protect heritage places for a variety of reasons, including but not limited to the following:

- they are a link with the past, a reminder of key moments in lives, history or culture to learn from and reflect on;
- they form part of a special identity for a place which help to define the character and meaning of a community;
- they bring benefits such as economic advantage;
- there are social, spiritual or ethical obligations to protect and manage that heritage; and
- there are legal obligations to do so contained in environmental protection, planning, indigenous sites or endangered species legislation.

When communities identify and conserve heritage places, they provide opportunities to set a quality standard for their current environment that is to be matched or bettered in the future.

6.2 Cost of heritage projects

Sound management practices in the heritage system are ultimately determined by available resources, particularly funding. Caring for a heritage place can involve additional costs to undertake works, such as restrictions on materials that may be used, the need for specialised tradespeople and/or equipment, ongoing maintenance and care, and the need to incorporate heritage items into the redevelopment site. In this instance, perceived economic benefits may override the value of culture, seeing local heritage at risk of neglect or demolition in favour of new developments.¹³²

Ultimately, the issue of who pays for heritage conservation (the owner, community or government) is contentious and is something which continues to apply to all heritage places today, including those in the Wollondilly LGA.¹³³ The NSW State Government is attempting to alleviate the pressure by providing a series of funding and support options, which assists and encourages private owners of heritage listed properties to appropriately care for their properties.

¹³² Department of Environment and Energy, 'Heritage'.

¹³³ Department of Environment and Energy, 'Heritage'.

6.3 Development pressures

6.3.1 Population growth

Australia's population is expected to grow to nearly 40 million by 2055 (ABS 2016). This increase will be concentrated in the capital cities, in particular Sydney and Melbourne. The 2016 Australian State of the Environment report summarises development pressures, stating:

The growth of urban and coastal populations places pressure on existing cultural sites, particularly those in areas selected for new suburban development. Construction of new infrastructure (such as roads, airports, energy supply facilities and telecommunications networks) can affect both natural and cultural heritage. Communities are under pressure to allow residential densities to increase freestanding dwellings are replaced by apartment blocks, open areas are subdivided and developed, and heritage items are demolished to make way for new projects.

Wollondilly 2040 is Council's Local Strategic Planning Statement (LSPS) outlines the land use planning vision and priorities for the Shire over the next 20 years. The LSPS identifies an estimated increase of over 41,000 people from 2017 to 2036.¹³⁴

Different parts of Wollondilly will accommodate the varying housing needs of Greater Sydney. Land in Wollondilly generally falls into two categories, "urban land" in the nominated growth areas and "Metropolitan Rural Area" for the remainder of the Shire, which is for local growth only.

6.3.1.1 Growth areas and local growth

Wollondilly Shire's existing built environment largely consists of small to large sized townships. Currently, development in the Shire is guided by both State-led strategic planning, underpinned by the *Western City District Plan* and various State Environmental Planning Policies (SEPPs), and also Council's LSPS, underpinned by *Wollondilly Community Strategic Plan* and *Wollondilly Local Environmental Plan 2011*.

Wilton and Appin are State Government declared growth areas. These two new land release precincts will be the primary locations for new housing in the Shire. Local growth, outside of the growth areas, will be predominately infill development which will be guided by Council's *Local Housing Strategy*.

Appin growth areas

Greater Macarthur was declared a growth area by the NSW Government on 6 December 2019. An amendment was made to the State Environmental Planning Policy (Sydney Region Growth Centres) (2006) to identify the Greater Macarthur Growth Area which incorporates Glenfield to

¹³⁴ This population forecast excludes projections for the Appin precinct portion of the Greater Macarthur Growth Area. Should the precinct planning commence for Appin, it is expected that this figure would significantly increase.

Macarthur as urban renewal precincts and Appin as a land release precinct. Inevitably, this will change the existing rural landscape.

To account for the expected local population increase, and State Government has proposed a draft Special Infrastructure Contribution (SIC) scheme of up to \$1.58 billion to help fund new and upgraded infrastructure to support the delivery of the Greater Macarthur 2040: An interim plan for the Greater Macarthur Growth Area (Greater Macarthur 2040).

The SIC includes:

- Road and infrastructure upgrades;
- Land for future public transport corridors;
- Land for schools;
- Land for community health facilities;
- Land for emergency services and police stations;
- Land for biodiversity conservation; and
- Planning and delivery costs.

Greater Macarthur 2040 is expected to create additional capacity for housing supply in the LGA. In Appin, the growth area encompasses the township and large areas of surrounding rural land, otherwise only containing sporadic farmland development. This will see the construction of 15,000 dwellings around West Appin and 5,000 dwellings in North Appin split across the Wollondilly and Campbelltown LGA.

Though Greater Macarthur 2020 has been conceived to meet a specific housing target, the overarching development will inevitably include provision for the construction of commercial services, necessary to sustain an increase in population. In total, this growth will substantially alter the rural landscape around Appin and orphan heritage structures that are significant for their rural values and landscape settings, as well as result in flow-on impacts that could affect heritage structures within Appin's town centre.

In Appin, past rapid population expansion from the 1970s onward, has led to the construction and upgrade of additional commercial and civic places in the centre of the town. As the adaptability of colonial heritage structures to modern commercial requirements often results in poor conservation outcomes, there have been past impacts to heritage items in the town centre.

This has been demonstrated with the heritage items *Stone Cottage* (78 Appin Road) and *Darcy's Corner* (38 Appin Road). At the *Stone Cottage*, later developments around the structure were not designed to match the setback or style of the building, leaving it orphaned from its cultural context. At *Darcy's Corner* an existing historical service station building was demolished to allow for the construction of a more modern service station, removing a tangible material link to the place's cultural value. As stated, these outcomes have been poor for the conservation of heritage in Appin and, where possible, should not be repeated within the Greater Macarthur land release at Appin.

Local growth

Council's LSPS considered the outcomes from the *Greater Sydney Commission's Western City District Plan* and Greater Macarthur 2040, which identified community priorities for future planning in the shire, including the localities of Appin, Menangle, Thirlmere, and Warragamba. The primary aim of the document is to ensure that infrastructure, liveability, productivity and sustainability goals are all reasonably met, in collaboration with wider regional planning strategies.

As identified in Council's LSPS, the Local Housing Strategy will set local housing targets to establish a framework for sustainable local growth in Wollondilly. The Wollondilly Rural Lands, Centres and Employment Lands strategies will also help guide local retail, business and industrial growth into the future. This will eventually result in the creation of character statements that define the qualities of a town or village, as a means of prioritising the values of a given place. These statements are to be used to ensure that place-based planning retains specific qualities each locality intends to cultivate, rather than proscribing a broad-brush set of principles, based on model development. Within this study area, local growth is expected to be primarily centred in the towns of Thirlmere and Menangle.

In Thirlmere, approximately 450 dwellings are zoned to be built both around the town centre and on a land release area in the south. As with the Appin growth centre, the impacts of additional development on the periphery of Thirlmere could result in flow-on commercial developments within the town centre, effecting existing heritage items. There is also the potential for new commercial developments to demolish existing heritage items, rather than explore sympathetically adaptive reuse. However, in Thirlmere, this is less likely to result in impacts, as the scale of development is smaller, and most heritage item in the town centre are protected by Thirlmere Heritage Conservation Area.

The more likely potential for heritage impact comes from medium density zoning around the town centre, which allows for the construction of higher density housing structures. If poorly controlled, medium density residential housing could result in the development of small-scale apartment complexes that are aesthetically removed from the characteristics of the town.

In Menangle, approximately 350 new dwellings, a business centre, and a restraint precinct are zoned for development in the northern side of the town. The development will be located in a land release area that incorporates the existing Menangle Central Creamery Shed and Rotolactor. This is a heritage item of particular importance to the community, and local growth that impacts on the creamery shed, Rotolactor and general scenic values of the locality will have a detrimental impact to the heritage values of the entire village. Unlike at Thirlmere, there is the opportunity to provide commercial development in conjunction with housing development at Menangle. This is likely to lower potential impacts to Menangle's town centre, as flow-on development seeks to service population growth.

At Menangle, past land releases have generally been sympathetic to the heritage values of the village. The exception has been with the Durham Green retirement community, which has not maintained the colour palette and landscape setting of other houses in the town. Future housing stock should seek to be sympathetic to the characteristics of the town, specifically, by considering a more appropriate colour palette and landscape setting.

Local growth development presents granular opportunities for innovative conservation projects, allowing for adaptations to historical places that improve their use while still contributing to the heritage values of the town. In some cases, places that have previously been perceived as abandoned, underdeveloped and under-utilised are given a new life and appreciation within the community. If places are developed sympathetically, they can become assets to the growth of the town while still maintaining characteristics and values that define the area.

6.4 Development risks

Areas impacted by development will include individual heritage places, landscapes, town centres and natural reserves. In some instances, development may have a positive impact, providing refurbishment, interpretation opportunities and spatial respect to more discreet heritage places. However, there is the potential that development may be incompatible with the heritage values of a place and its surroundings, and ultimately have a detrimental effect on the quality of the built environment.

Within the study area, it has been identified that the majority of heritage items are located in town centres. Heritage items in these places are seen as having high value to the community and include civic and public places that are associated with the character of the town. Managing these places can be difficult as, occasionally, the translation of region-wide, high-level strategies into place-based development opportunities can result in the broad-brush application of ideas, without sympathetic consideration. It is therefore important that each project, particularly those involving heritage significance, undertakes assessment and planning at a granular level to ensure that sympathetic decisions are made in regard to the conservation and use of these places.

In addition, land around town centres has typically been zoned for an increase in height and building density. As individuals and companies seek to reach the full permitted potential of this land, the resulting medium-sized developments may overwhelm or obscure heritage items and potentially result in the orphaning or demolition of places with heritage values. This can be exacerbated if these buildings are in poor condition or have a generally low standard of maintenance. Structures such as these can be seen as undesirable or even safety hazards by their communities and may be demolished without proper consideration of their development potential. If demolished, towns may lose rare styles of architecture or materials, or may see the loss of evidence of historically important activities which are no longer present within the community. It is therefore important that planning controls support the integration of new development with the existing built form to create coherence and enhance the heritage character of the area.

The State government's Greater Macarthur 2040 plan poses a challenging opportunity for the retention of rural heritage values. Additional housing proposed in Appin has the potential to impact on rural items within the vicinity of the growth area and may also impact on urban items in the vicinity. Owing to the large-scale nature of this development, it is pertinent that any heritage studies undertaken in support of growth include individual heritage impact assessments for all current and proposed heritage items within the Greater Macarthur Growth Area.

AS some heritage places are privately owned, there is the risk that, prior to their entry on the Wollondilly Heritage Register (Schedule 5 WLEP), places identified as potential heritage items may be damaged once their status is made public. This risk may manifest in a number of ways, including the deliberate removal of older fabric, or the hasty undertaking of works in the vicinity of the area that diminish the setting of the place. For this reason, potential items have been assessed for risk, inclusive of the notion that public display may affect their significance.

An assessment of the immediate risks and threats to heritage items and HCAs has been undertaken to assist Council in managing places. Risk thresholds in Table 4 identify a benchmark for the types of risks present at each item. These risks are then assessed against each individual item in Table 5, with comment provided to rationalise each grading. Items in the study which no longer having heritage value are not addressed in Table 5.

Table 4. Risks thresholds for items in the Study Area.

Overall Risk	Risk Description
High	<p>Items and HCAs classified as 'high' risk are those:</p> <ul style="list-style-type: none"> where items could suffer from further deterioration, either due to vacancy and/or poor condition; have immediately encroaching and specifically planned development that has the potential to overwhelm the scale and historic character of the item or HCA; where there are no DCP controls; and zoning controls are not considered to adequately protect the item or HCA.
Moderate	<p>Items and HCAs classified as 'medium' risk were those:</p> <ul style="list-style-type: none"> where the existing character values have been progressively modified (for example, items and/or areas where many original historic elements had been removed, painted, or otherwise altered.); with some adjacent developments or high-level planning proposals that are beginning to encroach the item or HCA; where not yet being listed on the local heritage register poses risk to their material fabric or setting; and where zoning controls are not considered to adequately protect the item or HCA.
Low	<p>Items and HCAs classified as 'low' risk were those:</p> <ul style="list-style-type: none"> with little adjacent high-density development encroaching on the item or HCA; where not yet being listed on the local heritage register posed little risk to their material fabric or setting; where zoning and/or biodiversity controls are considered to be adequately protecting the item or HCA, and where places have a dedicated and continued use of the heritage items assists its conservation (i.e. places of worship).

Table 5. Appin risk thresholds

Heritage ID	Item Number	Item Name	Comment	Risk
WHS001	I2	Courthouse and Gaol (former)	The item has previously seen a change of use and the interior and exterior has been altered. Further unsympathetic alterations may reduce the quality of this item. It is also located within the Greater MacArthur Growth Area.	Moderate
WHS003	I12	St Bede's Catholic Church and Graveyard	The item has seen past alteration. However, as it is commonly used, it is unlikely to see unsympathetic changes in the immediate future. It is also located within the Greater MacArthur Growth Area.	Low
WHS004	I4	Appin Inn	The item is zoned in an area allowing for medium density developments such as terrace, units and small-scale apartments. It is also located within the Greater MacArthur Growth Area.	Moderate
WHS005	I5	Bungalow	Though the form has been maintained, much of the original fabric has been replaced. Further unsympathetic alterations may reduce the quality of this item. It is also located within the Greater MacArthur Growth Area.	Moderate
WHS006	I6	Shop (former)	This item is in a poor condition and has recently had unsympathetic additions and alterations. It is also located within the Greater MacArthur Growth Area.	Moderate
WHS007	I7	Stone Cottage	Owing to its setback and the placement of surrounding developments, the item has been orphaned and appears out of place. Material alterations are also unsympathetic. Further unsympathetic alterations may reduce the quality of this item	Moderate
WHS008	I1	Appin Hotel	The item has seen past alterations to the facade. However, as it is commonly used, it is unlikely to see many unsympathetic changes in the future. It is also located within the Greater MacArthur Growth Area.	Low
WHS009	I8	Appin Public School and Schoolmaster's Residence	The item has past alterations. However, as it is commonly used, it is unlikely to see many unsympathetic changes in the future. It is also located within the Greater MacArthur Growth Area.	Low
WHS010	I17	Windmill Hill Group (Brennan's Farm, Larkin's Farm and Winton's Farm)	The item has State heritage listing and will require consent from HeritageNSW prior to developing. It is located within the Greater MacArthur Growth Area and may expect development that diminishes its heritage significance.	Moderate

Heritage ID	Item Number	Item Name	Comment	Risk
WHS011	I9	St Mark's Anglican Church and Graveyard	The item is in an area zoned for low-scale use and, as it is commonly used, is unlikely to see many unsympathetic changes in the immediate future. It is also located within the Greater MacArthur Growth Area.	Low
WHS012	I10	Weatherboard cottage	This item is in a well-established street and is zoned for low-scale development. It is also located within the Greater MacArthur Growth Area.	Low
WHS013	I11	Elladale	Though this item is in rural location and is within the vicinity of the Greater Macarthur Growth Area, it is not expected to be impacted by nearby developments.	Low
WHS014	I13	Northhampton-dale Group—House, Trees, Slab Farm, Outbuildings, Stables	The item is zoned in a rural area It is located within the Greater MacArthur Growth Area and may expect development that diminishes its heritage significance.	High
WHS015	I14	St Mark's Anglican Rectory (former)	The item has seen past alteration. However, as it is commonly used, it is unlikely to see many unsympathetic changes in the immediate future. It is also located within the Greater MacArthur Growth Area.	Low
WHS016	I15	Upper Nepean Scheme—Broughton Pass Weir	Most of this item is State heritage listed. Alterations will require approval from multiple State authorities. Future upgrade of the Broughton Pass Bridge is anticipated. This may have the potential to impact the item.	Moderate
WHS017	I16	Upper Nepean Scheme—Upper Canal	This item is State heritage listed. Alterations will require approval from multiple State authorities. It is located within the vicinity of the greater Macarthur Growth Area.	Low
WHS018	I12	Darcy's House	This item is archaeological and has recently seen development on site which has avoided impacting the area. It is not likely that further development will be undertaken that disturbs the site.	Low
WHS066	Potential item	Appin Conservation Area	This item is located adjacent to and within land zoning that allows medium density development such as terraces, units and small-scale apartments. Currently, there are no DCP controls for this HCA. It is also located in the Greater MacArthur growth Area and is a potential item.	High
WHS067	Potential item	Mahoney's Hole	The item has seen past alteration. However, as it is commonly used, it is unlikely to see many unsympathetic changes in the immediate	Low

Heritage ID	Item Number	Item Name	Comment	Risk
			future. Though a potential item, it is unlikely that development will occur which impacts the heritage value of the place, prior to listing on the Wollondilly Heritage Register.	
WHS069	Potential item	Slab farm buildings,	This item has some elements that are in a poor condition. The item could deteriorate further, owing to its poor condition. It is also located within the Greater MacArthur Growth Area and is a potential heritage item.	High
WHS070	Potential item	Kings Fall Bridge Appin	This item is a requisite for the functioning of the road. It is unlikely to see many unsympathetic changes in the immediate future. Though a potential item, it is unlikely that development will occur which impacts the heritage value of the place, prior to listing on the Wollondilly Heritage Register.	Low

Table 6. Thirlmere risk thresholds

Heritage ID	Item Number	Item Name	Comments	Risk
WHS019	I251	Thirlmere Railway Precinct and Heritage Centre	The item is located in the vicinity of land zoned for medium density development, allowing for terrace, units and small-scale apartments. However, the scale of the railway precinct is large enough that it will not be overwhelmed by these developments.	Low
WHS020	I252	Thirlmere House	The item is zoned in a rural area. There is not expected to be any major developments in the vicinity.	Low
WHS021	I253	Cottage	The item is located in land zoned for medium density development, allowing for terrace, units and small-scale apartments.	Moderate
WHS022	I254	Cottage	This item is in a well-established street and is zoned for low-scale development.	Low
WHS023	I255	The Castle	The item is in a rural area. There is not expected to be any major developments in the vicinity.	Low
WHS024	I256	Cottage	This item is in a well-established street and is zoned for low-scale development.	Low
WHS025	I257	House	This item is located in the vicinity of an area zoned for medium density development, allowing for terrace, units and small-scale apartments.	Moderate
WHS026	I258	Stationmaster's House	This item is in a well-established street and is zoned for low-scale development.	Low

Heritage ID	Item Number	Item Name	Comments	Risk
WHS027	I259	Thirlmere Public School and Residence	The building has seen past alteration. However, as it is commonly used, it is unlikely to see many unsympathetic changes in the immediate future.	Low
WHS028	I260	Kungla supermarket sign	This item is attached to a building that is not listed. Development of the building has the potential to displace the sign.	Moderate
WHS030	I262	Thirlmere Cemetery, including Estonian Cemetery	This item is located at the periphery of the village and is in an area zoned for small-scale rural production. It will not be overwhelmed by adjacent development.	Low
WHS031	I263	Thirlmere Way Cottages	This item is in a well-established street and is zoned for low-scale development.	Low
WHS032	I264	House	This item is in a well-established street and is zoned for low-scale development.	Low
WHS033	I265	Queen Victoria Hospital	The item has been progressively modified overtime. Original fabric has been impacted and unsympathetic additions have been introduced into the place.	Moderate
WHS034	I296	House	The item is zoned in a rural area. There is not expected to be any major development in the vicinity.	Low
WHS035	I266	Railway Cottage	This item is located in the vicinity of an area zoned for medium density development, allowing for terrace, units and small-scale apartments.	Moderate
WHS036	A14	Harmony House	The item is zoned in a rural area. There is not expected to be any major development in the vicinity.	Low
WHS037	C3	Thirlmere Conservation Area	This item is located adjacent to and within land zoning that allows medium density development such as terrace, units and small-scale apartments.	Moderate
WHS071	Potential item	Estonian Community Hall	This item has some elements that are in a poor condition. The item could deteriorate further, due to its poor condition. It is also a potential heritage item.	High
WHS072	Potential item	Farm House	This item is zoned in a rural area, however, there are some elements that have been progressively modified overtime. It is also a potential heritage item.	Moderate
WHS073	Potential item	Eesti Kula (Estonian Village) Sign and Plaques	The item is only a part component of the site and it is unlikely to see unsympathetic treatments. Though, as it is also a potential	Moderate

Heritage ID	Item Number	Item Name	Comments	Risk
			heritage item, it may be impacted prior to listing.	
WHS074	Potential item	House	This item is located in the vicinity of an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item.	Moderate
WHS075	Potential item	House	This item is located in an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item.	Moderate
WHS076	Potential item	St Andrew's Presbyterian Church (Former)	This item is located in an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item.	Moderate
WHS077	Potential item	Former Roman Catholic Church	This item is located in the vicinity of an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item.	Moderate
WHS078	Potential item	Former Thirlmere Community Hall	This item is located in the vicinity of an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item.	Moderate
WHS079	Potential item	War Memorial and Museum	This item is located in the vicinity of an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item.	Moderate
WHS080	Potential item	House	This item is located in an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item.	Moderate
WHS081	Potential item	House	The item is zoned in a rural area. There is not expected to be any major development in the vicinity. However, is also a potential heritage item and its relative isolation may make it vulnerable to unsympathetic development, prior to listing.	Moderate
WHS082	Potential item	Welcome Inn Hotel	The item has seen past alterations to the facade. However, as it is commonly used, it is unlikely to see many unsympathetic changes in the future. It is also a potential heritage item.	Low

Heritage ID	Item Number	Item Name	Comments	Risk
WHS083	Potential item	Former post office and residence	The item is on a well-established street intended to provide additional services. There is some risk of unsympathetic reuse, but also opportunity for sympathetic use. It is also a potential heritage item.	Low
WHS084	Potential item	House	This item is in a well-established street and is zoned to provide additional services. There is some risk of unsympathetic reuse, but also opportunity for sympathetic use. It is also a potential heritage item.	Low
WHS085	Potential item	Finnish Hall	This item is in a poor condition. It could deteriorate further, owing to its poor condition. It is also a potential heritage item and its relative isolation may make it vulnerable to unsympathetic development, prior to listing	High
WHS086	Potential item	St Stephen's Church of England Building.	The item has seen past alteration. However, as it is commonly used, it is unlikely to see unsympathetic changes in the immediate future. It is also a potential heritage item.	Low
WHS087	Potential item	House	This item is located in the vicinity of an area zoned for medium density development, allowing for terraces, units and small-scale apartments. It is also a potential heritage item and may see unsympathetic development, prior to listing on the heritage register.	Moderate
WHS088	Potential item	Thirlmere Lakes	This item is on a World Heritage property. Several State agencies must consent prior to development taking place. Despite being potential heritage item, it is unlikely to see unsympathetic development prior to listing.	Low

Table 7. Menangle risk thresholds

Heritage ID	Item Number	Item Name	Comments	Risk
WHS040	179	Slab Hut	The item is zoned in a rural area. There is not expected to be any major developments in the vicinity.	Low
WHS041	180	Menangle Rail Bridge over Nepean River	This item is State heritage listed. Alterations will require approval from multiple State authorities.	Low
WHS042	183	Camden Park Rotolactor and Creamery Sheds	This item is a proposed combination of two former items and has had its boundary revised to better reflect its remaining structures. Overall, this item is in a poor condition and it	High

Heritage ID	Item Number	Item Name	Comments	Risk
			could deteriorate further, owing to its poor condition. It is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic to the item.	
WHS043	186	Bungalow	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS044	187	Bungalow	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS045	188	House	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS046	189	Cottage	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS047	190	Bungalow	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS048	191	St Patrick's Catholic Church	The item has seen past alteration. However, as it is commonly used, it is unlikely to see unsympathetic changes in the immediate future.	Low
WHS049	192	Cottage	This item is in a well-established street and is zoned for rural development.	Low
WHS050	193	Cottage	This item is in a well-established street and is zoned for rural development.	Low
WHS051	194	St James Anglican Church	The item has seen past alteration. However, as it is commonly used, it is unlikely to see many unsympathetic changes in the immediate future.	Low
WHS052	195	Cottage	This item is in a well-established street and is zoned for rural development.	Low
WHS053	196	Gilbulla (Anglican	The item is zoned in a rural area. There is not expected to be any major developments in the vicinity.	Low

Heritage ID	Item Number	Item Name	Comments	Risk
		Conference Centre)		
WHS054	I97	Dairy Cottage	The item is zoned in a rural area. There is not expected to be any major developments in the vicinity.	Low
WHS055	I101	Menangle Weir	The item is zoned in the vicinity of rural and recreational areas. There is not expected to be any major developments in the vicinity.	Low
WHS056	I81	Menangle Railway Station Group	Though protected by a State heritage listing. The item is expected to be in the vicinity of major development. This development has the potential to be unsympathetic.	Moderate
WHS057	I82	Camden park Estate – Central Creamery Managers Cottage	This item is in a poor physical condition. Owing to its poor condition, it has the potential to deteriorate further.	High
WHS058	I82	Menangle Store	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS059	I98	Menangle School of Arts Community Hall	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS060	I292	Menangle Public School (former)	This item is in a well-established street and is zoned for rural development. However, it is expected that major development will occur in the vicinity of the site. This development has the potential to be unsympathetic.	Moderate
WHS061	I84	Dairy No 4 (EMAI Cottage 29)	This item is State heritage listed. Alterations will require approval from Heritage NSW.	Low
WHS062	I99	Menangle Gate Lodge (former)	This item is State heritage listed. Alterations will require approval from Heritage NSW.	Low
WHS063	I85	Dairy No 9 (EMAI Cottage 24)	This item is State heritage listed. Alterations will require approval from Heritage NSW.	Low
WHS064	C1	Menangle Conservation Area	This item is expected to have major development occur within its boundary. This development has the potential to overwhelm the historic character of the HCA.	High

Heritage ID	Item Number	Item Name	Comments	Risk
WHS065	C6	Menangle Landscape Conservation Area	It is expected that major development will occur in the vicinity of the item. This development has the potential to be unsympathetic.	Moderate
WHS094	Potential item	Bungalow	The item is zoned in a rural area. There is not expected to be any major developments in the vicinity. It is also a potential heritage item.	Low
WHS095	Potential item	Dairy Cottage	The item is zoned in a rural area. There is not expected to be any major developments in the vicinity. It is also a potential heritage item.	Low
WHS096	Potential item	Menangle Water Tower	The item has seen past alterations, however, as it is located in land zoned for rural use, it is not expected to see any major development in the vicinity. It is also a potential heritage item which may see unsympathetic heritage use prior to listing.	Moderate

Table 8. Warragamba risk thresholds

Heritage ID	Item Number	Item Name	Comments	Risk
WHS038	I270	Warragamba Supply Scheme and Warragamba Emergency Scheme	This item is State heritage listed. Alterations will require approval from multiple State authorities.	Low
WHS039	C4	Warragamba Conservation Area	The item has expected development located with its boundary. This development has the potential to be unsympathetic.	Moderate
WHS089	Potential item	St Paul's Anglican Church	It is expected that development will take place in the immediate vicinity of the item. This development has the potential to be unsympathetic. Though also a potential heritage item, developments in the vicinity have been considered through an interim heritage order.	Moderate
WHS090	Potential item	Warragamba Town Hall	The item has seen a change of use and interior alterations have resulted in a change to the original arrangement of the building. Though it is a potential heritage item, it is unlikely that it will undergo unsympathetic development, prior to listing on the Wollondilly Heritage Register.	Moderate
WHS091	Potential item	Warragamba Park	The item has seen past unsympathetic alterations. However, as it is located in land zoned for rural use, it is not expected to see	Moderate

Heritage ID	Item Number	Item Name	Comments	Risk
			any major development in the vicinity. It is a potential heritage item.	
WHS092	Potential item	Warragamba Recreation Reserve	The item is in land zoned for recreational use. There is not expected to be any major development in the vicinity. It is also a potential heritage item.	Low
WHS093	Potential item	Warragamba Sportsground and Swimming Pool	The item is in land zoned for recreational use. There is not expected to be any major development in the vicinity. It is also a potential heritage item.	Low

6.5 Opportunities for heritage places

6.5.1 Improving places

Many heritage places are capable of supporting some degree of change without it having an adverse impact on significance. This may be a small degree of change, such as a new colour scheme, repair works or minor alterations, or a large change such as change of use, an extension or major development within the wider setting of a place. It may also include the provision of heritage interpretation – devices which create a link between people and place through the communication of information about the significance of that place and enhancing the significance. Well-developed, well-planned and thought-out solutions can enhance significance, meaning or connection of a place to the community, and add to the social, cultural and economic value of the place.

The process for improving places begins with recognising the heritage value of their place. Owners and managers should understand the heritage significance of the place they own prior to undertaking any works which might affect that significance. Typically, this will require the preparation of Heritage Assessment documentation, or in some instances, Conservation Management Plans.

6.5.2 Places with shared values

Some places identified for listing within the LGA contain shared community values that will require targeted consultation, prior to formalising those heritage values for an inventory listing sheet. These places contain not just heritage criteria values, but also important natural and cultural values that are beyond the scope of this study. As these places are important to specific groups within the community, should they be considered for listing, they must first undergo consultation with appropriate representatives of those communities prior to formal statutory listing on the Wollondilly LEP. The following table outlines items that should undergo targeted consultation.

Table 9. Heritage items for targeted additional consultation

Item ID	Item name	Community Consultation
WHS067	Mahony's Hole	Consultation required with the Local Aboriginal Land council (LALC) and other key aboriginal stakeholders.
WHS088	Thirlmere Lakes	Consultation required with the Local Aboriginal Land council (LALC) and other key aboriginal stakeholders.
WHS071	Estonian Community Hall	Consultation required with representative members of the Estonian community.
WHS085	Finnish Hall	Consultation required with representative members of the Finnish community.

6.6 Funding and support

The NSW Government offer a range of funding and support in the form of grants and awards for heritage projects.

6.6.1 State Government funding

The NSW Office of Environment and Heritage offers a range of grants for local and state significant heritage places.

Aboriginal Cultural Heritage Grants

The Aboriginal Cultural Heritage Grants are intended to help support connection to Country. The category is for:

- improving knowledge and understanding of items by developing conservation management documents for Aboriginal cultural heritage nominated for or gazetted as Aboriginal Places or listed on the State Heritage Register;
- doing works within a conservation management document to conserve and protect items of Aboriginal cultural heritage that are gazetted as Aboriginal Places or listed on the State Heritage Register; and
- increasing understanding, respect, and celebration of and cultural participation in Aboriginal cultural heritage.

Funding opportunities include:

- a maximum of \$20,000 (excluding GST) for conservation management documents (Plans of Management and Conservation Management Plans or Strategies);
- a minimum of \$20,000 (excluding GST) and maximum of \$70,000 (excluding GST) for activities and works identified in a finalised heritage management document or tool; and
- a minimum of \$10,000 (excluding GST) and maximum of \$50,000 (excluding GST) for cultural participation projects that engage the wider community to understand, celebrate and participate in Aboriginal cultural heritage.

Caring for State Heritage Grants

The Caring for State Heritage Grants category provides financial incentives from the New South Wales Government to owners, managers or custodians of State Heritage Register heritage items to support better management, maintenance, conservation and activation of State Heritage Register listed items.

Funding opportunities include:

- a maximum of \$20,000 (excluding GST) to assist funding conservation management documents; and

- a minimum of \$20,000 (excluding GST) and maximum of \$150,000 (excluding GST) for use over two financial years for physical conservation works, activation, maintenance and compliance works.

Community Heritage Grants

The community heritage grants category focuses on enabling local councils and communities to identify, conserve, interpret and promote heritage.

Funding opportunities include:

- a minimum of \$10,000 (excluding GST) and maximum of \$50,000 (excluding GST) for Community Engagement Projects dedicated to the celebration and promotion of heritage;
- a minimum of \$10,000 (excluding GST) and maximum of \$40,000 (excluding GST) for Interpretation Projects concerning an item on the State Heritage Register;
- a minimum of \$10,000 (excluding GST) and maximum of \$60,000 (excluding GST) for Local Government Heritage Studies;
- a maximum of \$10,000 (excluding GST) for Small Heritage Grants Programs to conserve local heritage; and
- a maximum of \$10,000 (excluding GST) to support Local Heritage Advisor Services.

State Heritage Register Emergency Works Grants

The purpose of this grant category is to support the protection or repairs to State Heritage Register Listed items or items under an Interim Heritage Order that have been damaged by unexpected events (such as an extreme storm or accident) and where insurance does not cover this cost.

Funding for this grant includes a minimum of \$1,000 (excluding GST) and a maximum of \$10,000 (excluding GST) in emergency works.

7. Recommendations

Through this thorough assessment of these four suburbs, we now have a clear understanding of the historic environment in these places and the important historic themes and stories that the communities identify with. With our analysis of the various planning controls and ongoing heritage management risks that should be considered, we outline below some high-level recommendations that will assist Council in being prepared for the future preservation of its heritage.

- It is recommended that Wollondilly Shire Council implement the findings of this study by preparing and exhibiting items addressed in this study. A full list of these items can be found in Table 3. Items to be included for exhibition are:
 - the sixty-seven (67) reviewed heritage items that are already listed on Schedule 5 of the Wollondilly LEP. Reviews include an update of information, boundary changes and item merges.
 - the thirty-one (31) potential items that can be considered for under the NSW heritage criteria for state or local listing as heritage items on Schedule 5- Environmental Heritage of the Wollondilly LEP.
 - the Appin Heritage Conservation Area that can be considered for listing under the NSW heritage criteria for local listing as an HCA on Schedule 5 Environmental Heritage of the Wollondilly LEP
- Following the outcomes of the public exhibition, Council should prepare an amendment or update to the Wollondilly Local Environmental Plan 2011.
 - Should Council decide to stage the amendment to the LEP, items identified as Moderate to High risk in Section 6.3 should be included on Schedule 5 – Environmental Heritage, as a priority.
 - Items identified in Section 6.5.2, should not be listed on the amended LEP until targeted consultant has been undertaken and the listing sheet has been updated to include additional values.
 - Where an item is identified as having a High or Moderate risk, but also requires a consultation period; consultation must still take place prior to listing.
- All items nominated for listing should be noted on council records, either formally or informally, to ensure heritage impact assessments are prepared in the event of development applications. This is to prevent approving development to a site that is not yet inscribed on the Wollondilly LEP Schedule 5, but which is recognised as having heritage values.
- Information on items listed on Schedule 5 of the Wollondilly LEP should be reflected on Heritage NSW, State Heritage Inventory database, accessible online.

- For each implemented and modified Heritage Conservation Area, development controls should be updated in the Wollondilly Development Control Plan 2016 to ensure the following is achieved:
 - Preservation of important subdivisions, street layouts and internal and external views and vistas.
 - Limiting or restricting development that is not of an appropriate form and/or scale and outlining provisions for building scale to be carefully monitored in accordance with DCP height restrictions.
 - Discouraging further removal and/or 'covering up' of original historic elements, such as enclosing verandahs, painting face brickwork and removing original timber trim elements.
- Should the proposed Appin Heritage Conservation Area be implemented, development controls, in line with existing DCP controls, should be included in the Wollondilly Development Control Plan 2016 to ensure that the place is adequately protected.
- Council should provide the community with information on the heritage buildings and general history of the area to increase awareness of the significance of the areas and sites. This may include the preparation and distribution of information regarding care of heritage items, exhibitions in local libraries, and sharing information on Council's website.
- With the sale, or change of ownership of a heritage property, Council should provide a heritage information resource pack for owners of heritage items. This information should be in line with *Wollondilly Shire Heritage Information Pack* and should include the following:
 - provides guidance on what owning a heritage listed property means,
 - detail what owner's obligations are to conservation areas,
 - how to care for heritage buildings,
 - detail what kind of works require approval and what kind of development is acceptable; as well as,
 - what heritage incentives and resources are available.

Bibliography

Andrea Oehm, *Wollondilly Local Government Area Thematic History*, prepared for Wollondilly Shire Council, 2005.

'Australia's First Rotolactor Now at Work on Camden Park Estate'. *The Land*, 27 March 1953.

'Balts Get More Smokes than Ex-Diggers.' *The Workers Star*, 11 June 1948.

Byrne, W. 'Old Memories: General Reminiscences of Early Colonists – II.' *Old Times*, May 1903.

Department of Primary Industries. 'Elizabeth Macarthur Institute, Menangle.' Department of Primary Industries (website). Accessed 5 January 2021. <https://www.dpi.nsw.gov.au/about-us/research-development/centres/ema>

'Elderly Estonians Home at Thirlmere.' *Good Neighbour*, 1 December 1961.

Henning, R. *Letters of Rachel Henning*. North Ryde, NSW: Angus and Robertson, 1986.

Karskens, G. 2015. 'Appin Massacre.' *The Dictionary of Sydney* (blog), accessed 5 January 2021.

Macquarie, L. 1816. Correspondence from Governor Macquarie to Henry Bathurst, third Earl of Bathurst and the Secretary of State for the Colonies, 18 March 1816. Textual records, SRNSW: NRS 4518 [4/10583, pp74-77]. NSW State Archives and Records.

'Menangle News.' *Camden News*, 29 November 1945.

NITV, Explainer. 2019. 'Explainer: The Appin Massacre.' SBS (website). Last modified 17 April 2019. <https://www.sbs.com.au/nitv/explainer/explainer-appin-massacre>

NSW Office of Environment and Heritage. 'Camden Park Rotolactor.' Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5051469>

NSW Office of Environment and Heritage. 'Cataract Dam.' Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2690295>

NSW Office of Environment and Heritage. 'Gilbulla.' Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2690092>

NSW Office of Environment and Heritage. 'Menangle Railway Station Group.' Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5012101>

NSW Office of Environment and Heritage. 'Windmill Hill Group.' Accessed 5 January 2021. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4580168>

NSW Rail Museum, Teachers Notes guidebook, developed by the Powerhouse Museum, the Office of Rail Heritage and NSW Rail Museum, 2017.

Pocket Oz Travel and Information Guide. 'Beyond Sydney: Macarthur District.' Accessed 5 January 2021. <http://www.visitsydneyaustralia.com.au/beyond-macarthur.html>

Purdy, H.N.D. 'Dam Builders of Warragamba.' *Walkabout Magazine*, 1 February 1965.

'Royal Visitors at Camden: A Quiet Week-end.' *Sydney Morning Herald*, 4 April 1927.

Sacred Heart Parish: Luddenham – Warragamba. 'Welcome.' Warragamba Parish

(website). Accessed 5 January 2021. <https://warragambaparish.org.au/>

'Shudders at Witching Hour: Thrilling Ghost Stories.' *The Riverine Herald*, 14 May 1947.

Smith, J. 2009. 'New Insights into Gundungurra Place Naming.' In *Aboriginal Placenames: Naming and Renaming the Australian Landscape*, edited by L. Hercus and H. Koch, 87-114. ACT: ANU Press.

State Heritage Register Project. Kass, T. *Western Sydney Thematic History*. Report prepared by Kass, T. Sydney: State Heritage Register Project.

Styles, L. 'Our Past: Thirlmere.' Wollondilly Advisor, 24 June 2015.

Syd, P. 1992. *Chronicles of Appin*. Campbelltown, NSW: Campbelltown and Airds Historical Society.

Sydney Water. 1959. *The Water Supply, Sewerage and Drainage of Sydney*. Report prepared by W.V. Aird. Sydney: Sydney Water.

'The Late Mr Hamilton Hume.' *Australian Town and Country Journal*, 17 May 1873.

The University of Sydney. 'Planning starts for global agricultural science hub in Sydney.' The University of Sydney (website). Last modified, 18 December 2018.

<https://www.sydney.edu.au/news-opinion/news/2018/12/18/planning-starts-for-global-agricultural-science-hub-in-sydney.html>

The Wollondilly Region of NSW. 'Thirlmere.' The Wollondilly Region of NSW (website). Accessed 5 January 2021. <https://www.stonequarry.com.au/towns/thirlmere.html>

'Thirlmere.' *Picton Post*, 8 July 1948.

Trench, B. 'Welcome to the Menangle Community Website.' *Menangle, the Birthplace of Australian Agriculture* (blog), accessed 5 January 2021. <http://menangle.com.au/>

Tullis, A. 'Menangle Milk-Shake Up a Resounding Success.' *Wollondilly Advertiser*, 18 September 2017.

Tullis, A. 'Warragamba Dam: Original Workers Relive the Past.' *Wollondilly Advertiser*, 14 October 2016.

Wakelin, R. *Society of Artists Book 1942* in Clifford-Smith, S. Design and Art Australia Online. 2009. 'James Muir Auld.' Design and Art Australia Online (website). Last modified 2009. <https://daao.library.unsw.edu.au/bio/james-muir-auld/biography/>

Walker, F. 'Appin Village: Where History was Made.' *The Sydney Morning Herald*, 12 November 1938.

Wallis, J. Diary of Captain James Wallis. Textual records, SRNSW: NRS 4/1735. NSW State Archives and Records.

Whitaker, A.M. 2005. *Appin: The Story of a Macquarie Town*. Alexandria, NSW: Kingsclear Books.

Willis, I. Camden History Notes. 'Menangle Milking Marvel.' Camden History Notes (website). Last modified, 19 July 2019. <https://camdenhistorynotes.wordpress.com/2019/07/19/the-menangle-rotolactor/>

Willis, I. Camden History Notes. 'Menangle Park Airfield Memories.' Camden History Notes (website). Last modified 16 July 2018. <https://camdenhistorynotes.wordpress.com/2018/07/16/menangle-raaf-squadrons-second-world-war/>

Willis, I. Camden History Notes. 'Reflections on the Camden Story.' Camden History Notes (website). Last modified 27 February 2020. <https://camdenhistorynotes.wordpress.com/2020/02/27/reflections-on-the-camden-story/>

Willis, I. 2018. 'Utopia or Dystopia: A Contested Space on Sydney's Urban Frontier.' Paper presented at the 14th Australasian Urban History Planning History Conference 2018, Melbourne, 30 May. Viewed 5 January 2021, <https://ro.uow.edu.au/lhapapers/3490/>.

Wollondilly Shire Council. 'About Us.' Accessed 5 January 2021. <https://www.wollondilly.nsw.gov.au/council/about-us-2/>

Wollondilly Shire Council. 1993. *Wollondilly Heritage Study*. Report prepared by JRC Planning Services. Sydney: JRC Planning Services.