Plan of Management

Goulburn Historic Waterworks

Marsden Weir Park

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Gateway Goulburn Historic Waterworks

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ACKNOWLEDGEMENT OF COUNTRY

We acknowledge and pay our respects to the Aboriginal Elders past and present, as well as emerging leaders.

We acknowledge the Mulwaree people of the Ngunnawal and Gandangara as the original custodians of the land and respect Aboriginal peoples as the First Peoples and custodians of the land of the Goulburn Mulwaree Local Government Area.

Photo taken from Snow Gum Ridge looking west over Goulburn Historic Waterworks on the Wollondilly River, courtesy B. Faulkner

1. INTRODUCTION

1.1. WHY A PLAN OF MANAGEMENT

Plans of Management (PoM) are required to be prepared for all Council owned community land under *Local Government Act, 1993 (The Act or LGA93)* These 'Plans' provide a dynamic tool for Council, have been widely implemented in NSW and Crown Lands have embraced plans of management as an effective strategic land management tool.

The land management provisions of *The Act* enable Councils to move towards positive land management practices with defined objectives and outcomes.
Plans of Management identify:

- Objectives;
- Performance targets;
- The means of achievement;
- The assessment criteria;

all of which are accountable to the community. The Plans allow Council to effectively co-ordinate present use and planned future use of public land.
Community land is required to be used and managed in accordance with the following:-

- The PoM applying to the land;
- Any law which permits the use of land for a specific purpose; otherwise regulates the use of the land. This includes the *Environmental Planning and Assessment Act 1979* and planning instruments made under that Act; and
- Division 1, Part 2, Chapter 6, of the *Local Government Act, 1993* No.30.

A PoM should not be inconsistent with any environmental planning instrument applicable to the land to which this PoM applies.

Council has no power to sell, exchange or otherwise dispose of community land, except in circumstances where that land is to be added to a Crown Reserve or reserve under the under *National Parks and Wildlife Act, 1974*.

Council may grant a lease, licence or other estate over community land but only in circumstances permitted under the Act.

Community land must be used and managed in accordance with a PoM. Until a PoM for community land is adopted by Council, the nature and use of the land must not be changed.

A PoM enables management to proceed in an efficient manner; helps reconcile competing interests, identifies priorities for the allocation of available resources and facilitates public understanding.

Periodic revision of a Plan also enables changing social, economic and ecological conditions and relevant land management principals to be considered, as they arise.

The PoM aims to be a useful resource for Council's decision making and an informative document for the public.

1.2. STRUCTURE OF THIS PLAN OF MANAGEMENT

Section 1 provides an executive summary and summarises legislative requirements and guidelines in accordance with the *Local Government Act 1993*

Section 2 describes the locality, defines the land, and provides a brief history as well as some details of the site and improvements to the site.

Section 3 of this PoM identifies the categories applicable to the subject community land on the basis of the aforementioned guidelines. A map has been included depicting the categories applicable across the land identified in this PoM.

Section 4 comprehensively describes legislation, policies and plans that underpin Management Strategies for Community Land generally and this site specifically.

Section 5 is the Table of Management Strategies finalised following stakeholder and community consultation. The table incorporates strategies for all categories of land in this PoM. However, a separate comprehensive table addressing management strategies specific for endangered flora community has been appended.

Section 6: Areas of Cultural Significance;

Section 7: Park;

Section 8: Natural Areas;

Each address the areas that have been identified in those Categories shown on the Categorisation Plan in Section 3 and include:

- Description of the feature or attribute/s that resulted in the identified Categorisation
- Provisions to lease, licence or otherwise grant estates over the land

Section 9:

- Invites ongoing planning discussions to ensure that this PoM continues to remain relevant;
- Invites the community to take an active role by observation and submission of comments to Council;
- States Council's obligation to stakeholders.

10: Annexures to the PoM are:

A. Fireman's Cottage and Café Master Plan 2013;
B. Natural Areas Biodiversity Report, 2021
C. Sample - event flyers

1.3. EXECUTIVE SUMMARY

In accordance with statutory regulations a draft of this PoM was offered to stakeholders and the wider community by way of public exhibition with written comments received. A public hearing was conducted by an independent facilitator with comments heard, recorded and exhibited for concurrence. Both the written submissions and comments recorded at the public hearing have been reported to Council for consideration before finalising and endorsing the Plan of Management.

This is a Site Specific PoM. The locality has the distinctive features of containing the Goulburn Historic Waterworks, identified as heritage item of both, State and Local significance, with mention in the Register of National Estate, which closed in 2007 and further identifies as being of cultural significance to the Aboriginal people of the region. Consequently, the categorisation of that land must reflect that it is an Area of Cultural Significance as defined under the *Local Government Act, 1993 (LGA93)* and in accordance with the NSW *Heritage Act, 1977*.

Subsequent to European settlement in the area, the land, historically, served the purpose of a waterworks, adjacent to the Wollondilly River. The riparian zone, together with the identified escarpment and remnant bushland community, are each features of significant natural value and in accordance with the *LGA93* are so categorised.

A portion of the land within the Goulburn Historic Waterworks and Marsden Weir Park site has been identified as meeting the guidelines for categorisation as Park under *LGA93* which provides optimal flexibility for community uses.

Table 1.4.1. Provides an extract of the Categorisations located in part 3 of this PoM. The categories are assigned on the basis of the statutory guidelines, stakeholder input and the clear evidence that the site is of heritage significance to both First Nations and European settlers, under the shared auspices of Goulburn Mulwaree Council and Heritage NSW.

The Management Strategies listed in Table at Section 5 of the PoM have been compiled on the basis of the following documents:

- Statutory Guidelines;
- Corporate Objectives;
- Community Strategic Plan;
- Operational Plan;
- Goulburn Historic Waterworks Conservation Plan; and
- Consultation with stakeholders and the wider community.

Following consideration of all submissions from the exhibition period, Council has endorsed the PoM with a commitment to review the currency of the document in 5 years, should there be no intervening reason for its review.

1.4. TABLE 1.4.1. CATEGORISATIONS - COMMUNITY LAND - GOULBURN HISTORIC WATERWORKS, MARSDEN WEIR PARK

Legal Description	Category	Uses
Lot 9 DP 832081	Park	Parkland buffer to bulky retail and large lot residential subdivision.
Lot 203 DP 1059074	Natural Area Bushland	Biodiversity conservation area, Geological feature, Natural overland flow path and Asset protection zone.
	Natural Area Escarpment	
	Natural Area Watercourse	
	Park	
Lot 11 DP 1123614	Natural Area Watercourse	Access road Car park Flood plain adjoining Wollondilly River Bio diversity conservation area Geological feature Access to Marsden Weir.
	Natural Area Escarpment	
	Natural Area Bushland	
	Park	
Lot 2 DP 1126066	Natural Area Watercourse	Buffer to adjoining subdivision Curtilage to Fireman's Cottage Flood plain adjoining Wollondilly River Severed allotment.
	Cultural Significance	
Lot 4 DP 1126066	Natural area Watercourse	Access road Car parking Fireman's Cottage Pumphouse Marshalling area Pumphouse Cafe Public amenities Marsden Weir Park Children's playground Flood plain adjoining Wollondilly River
	Cultural Significance	
	Park	
Lot 1 DP 1119777	Natural Area Watercourse	Flood plain adjoining Wollondilly River Jetty for launch of water craft.

Certificates of Title were searched in the preparation of this Plan of Management

The *Local Government (General) Regulation 2005* under the *LGA93* Part 4 Community Land, Division 1, Section 36(4) and 36(5) establishes clear guidelines for the categorisation of Community Land which are summarised as:

1.5. NATURAL AREA

Land should be categorised as a natural area if the land possesses a significant geological or geomorphological feature, landform, representative system or other natural feature or attribute that suggests further categorisation as bushland, wetland, escarpment, watercourse or foreshore.

Land impacted by any of the following Legislation must be categorised as natural area.

- *Threatened Species Conservation Act 1995*
- *Fisheries Management Act 1994*

1.6. BUSHLAND

Natural area should be further categorised as bushland if the land contains primarily native vegetation and that vegetation that represents or is the remainder of the natural vegetation of the land;

Such land includes bushland whether undisturbed, moderately disturbed or highly disturbed with a mix of tree ages, and natural regeneration, where the understorey is comprised of native grasses and herbs or native shrubs, and that contains a range of habitats for native fauna (such as logs, shrubs, tree hollows and leaf litter) and regardless of exotic or weed species, may be revegetated or rehabilitated.

1.7. WETLAND

Natural area should be further categorised as wetland if the land includes marshes, mangroves, backwaters, billabongs, swamps, sedge-lands, wet meadows or wet heathlands that form a water-body that is inundated cyclically, intermittently or permanently with fresh, brackish or salt water, whether slow moving or stationary.

1.8. ESCARPMENT

Natural area should be further categorised as an escarpment if the land includes such features as a long cliff-like ridge or rock or the land includes significant or unusual geological, geomorphological or scenic qualities.

1.9. WATERCOURSE

Natural area should be further categorised as a watercourse if the land includes any stream of water, whether perennial or intermittent, flowing in a natural modified or artificial channel that has changed the course of the stream of water, and any other stream of water into or from which the stream of water flows, and the associated riparian land or vegetation, including land that is protected land for the purposes of

- *Rivers and Foreshores Improvement Act 1948*; or
- *Native Vegetation Conservation Act 1997*;

being State protected land identified in an order under section 7.

1.10. FORESHORE

Natural area should be further categorised as foreshore if the land is situated on the water's edge and forms a transition zone between the aquatic and terrestrial environment.

1.11. SPORTSGROUND

Land should be categorised as a sportsground under section 36(4) of the *LGA93* if the land is used or proposed to be used primarily for active recreation involving organised sports or the playing of outdoor games.

1.12. PARK

Land should be categorised as a park if the land is proposed to be, improved by landscaping, gardens or the provision of non-sporting equipment and facilities, for use mainly for passive or active recreational, social, educational and cultural pursuits that do not unduly intrude on the peaceful enjoyment of the land by others.

1.13. CULTURAL SIGNIFICANCE

Land should be categorised as an area of cultural significance if the land is an area of Aboriginal significance because the land has been declared so under the *National Parks and Wildlife Act, 1974*; or is significant to Aboriginal people in terms of their traditional or contemporary social, spiritual or cultural mores.

Further, land should be categorised as an area of cultural significance by virtue of visual or sensory appeal or landmark/s of technical qualities such as architectural excellence, or an area of archaeological significance containing evidence of past human activity whether intact or ruined;

1.14. GENERAL COMMUNITY USE

Land should be categorised as general community use if the land may be made available for use for any purpose for which community land may be used, whether by the public at large or by specific sections of the public and does not satisfy the guidelines for categorisation as natural area, sportsground, park or area of cultural significance.

2. LAND TO WHICH THIS PLAN APPLIES

The land and improvements covered by this PoM are located within the Goulburn Mulwaree Council Local Government Area.

2.1. HISTORY AND CHARACTER

2.1.1. ABORIGINAL HABITATION

Goulburn Mulwaree is part of the continuum of Aboriginal habitation of Australia. The earliest occupation site in the vicinity of Goulburn Mulwaree in the Australian Alps has deposits that have been radiocarbon dated to 21,000 years ago. The majority of sites in the region date to 3-5,000 years ago.

Two major language groups were identified within the Goulburn Mulwaree region at the time of European contact; the Gandangara to the north of Goulburn and the Ngunnawal to the south. It is likely that these tribal boundaries incorporated a number of distinct Aboriginal communities with their own dialects, who were probably linked by kinship networks, common beliefs, ceremonies and customs.

Aboriginal people from the district, maintained contact with surrounding groups and an absence of natural physical barriers in the region meant that travel was relatively easy. Large gatherings of Aboriginal people took place in Goulburn with records of corroborees being held at Rocky Hill, the old railway quarry on the Wollondilly River, Mulwaree Flats near Lansdowne Bridge at the brewery, and where the Goulburn rail station is located now.

Aboriginal Peoples identifying as local to the Goulburn Mulwaree region are:

Mulwaree, Wollondilly, Wiradjuri, Gundungurra, Dharrook, (Dharug) Tharawal, (Dharawal), Tarlo, Lachlan, Pajong, Parramarragoo, Cookmal, Burra burra and Ngunawal, and continue to maintain their connection to the land in accordance with tradition.

2.1.2. ABORIGINAL AND EUROPEAN INTERACTION

The region was first visited by Europeans in 1798 when the exploratory party of John Wilson and John Price reached Towrang. In 1820 Joseph Wild travelled south of the Cookbundoon Range to find a large lake – Lake George. From hills to the north-east of Lake George Wild saw “the fires of the natives who appeared numerous” indicating the presence of Aboriginal people in the area.

Introduced diseases had a disastrous effect on the Aboriginal population. In 1845 Francis Murphy of Bungonia reported that the formerly numerous Aboriginal population had declined to an estimated 20-100 individuals. Sadly, in 1848 the bench of Magistrates estimated that the local Aboriginal population consisted of only 25 people.

2.1.3. EUROPEAN SETTLEMENT

Exploration by Hamilton Hume, Charles Throsby, James Meehan and John Oxley in 1817-1820 made early colonists aware of the grazing potential of the nearby Southern Tablelands. During the course of the 1820s an increasing amount of land in the area was settled and market centres were established along the major lines of communication south from Sydney. The key centre for the Southern Tablelands was Goulburn. Governor Lachlan Macquarie ratified the name in honour of Henry Goulburn, secretary of the colonies. Goulburn Plains (now North Goulburn) was marked out in 1828. The old township was built around the confluence of the Wollondilly and Mulwaree Rivers.

Governor Bourke visited the old town in 1832 and owing to the repeated flooding of the area he ordered the survey of an area on higher ground to the south west. The layout of the adjacent township of Goulburn was created in 1832-33 as the administrative centre. The present city centre was surveyed in 1833. Due to a large swamp and lagoon the old and new towns were virtually separated for many years. They were eventually united by Lagoon Street.

In 1841 there were 655 people in the town and by 1845 the population had grown to 1,200. There were five stores and five inns in 1844 and by 1867 there were more than 20 hotels. Bradley's flourmill and brewery was built between 1836 and 1845 and by 1850 Goulburn had become a municipality. The growth of the municipality was reflected in the establishment of a Masonic lodge, two Oddfellow's lodges and a Mechanics Institute by 1867. By 1870 four newspapers had been established – the Herald in 1848, the Argus in 1864, the Southern Morning Herald in 1868 and the Evening Post in 1870. In addition to the hotels, Goulburn also became a major ecclesiastical centre for the Southern Tablelands. The Scots church and manse were opened in 1841. Goulburn became the centre of a Church of England bishopric in 1863 and also a Roman Catholic diocese in 1867.

In 1869 the construction of the railway severed the city connection to the Mulwaree Ponds – the water that had helped establish the town's original location. The railway line to Goulbourn was officially opened by Lord and Lady Belmore in 1869 and six years later in 1875 it was extended south. Other significant infrastructure within the town included the present Post Office in Auburn Street which opened in 1881 and the Court House in 1887. The gaol, hospital and Kenmore Mental Hospital also date to the 1880s.

Goulburn maintained a strong transport focus due to its location, infrastructure, rail connection and importance as a regional centre. The construction of the railway and yard facilities in Goulburn generated employment for many years, however the significant growth of road transport in the post war years modified the earlier railway and workshop focus. During the 1950s Goulburn developed large wool stores. Goulburn remained a large provincial centre with the infrastructure of government and churches reflected in the impressive public buildings.

The housing stock in Goulburn ranges from humble workers' cottages through to the architect designed buildings of the social elite. All eras are represented and often mixed together. The centre of the town contains the majority of the older buildings with the age of buildings reducing as newer areas were developed further from the town centre. There are also older originally outlying buildings mixed amongst the newer development giving the city an interesting character.

Outlying towns of Marulan and Bungonia were developed concurrently or a little earlier than Goulburn and contain their own character and history and contribute to the historical development and understanding of the region. Tallong, Towrang, Tarago, Lake Bathurst all have historic and heritage items and rural feature numerous heritage items dating from the convict era.

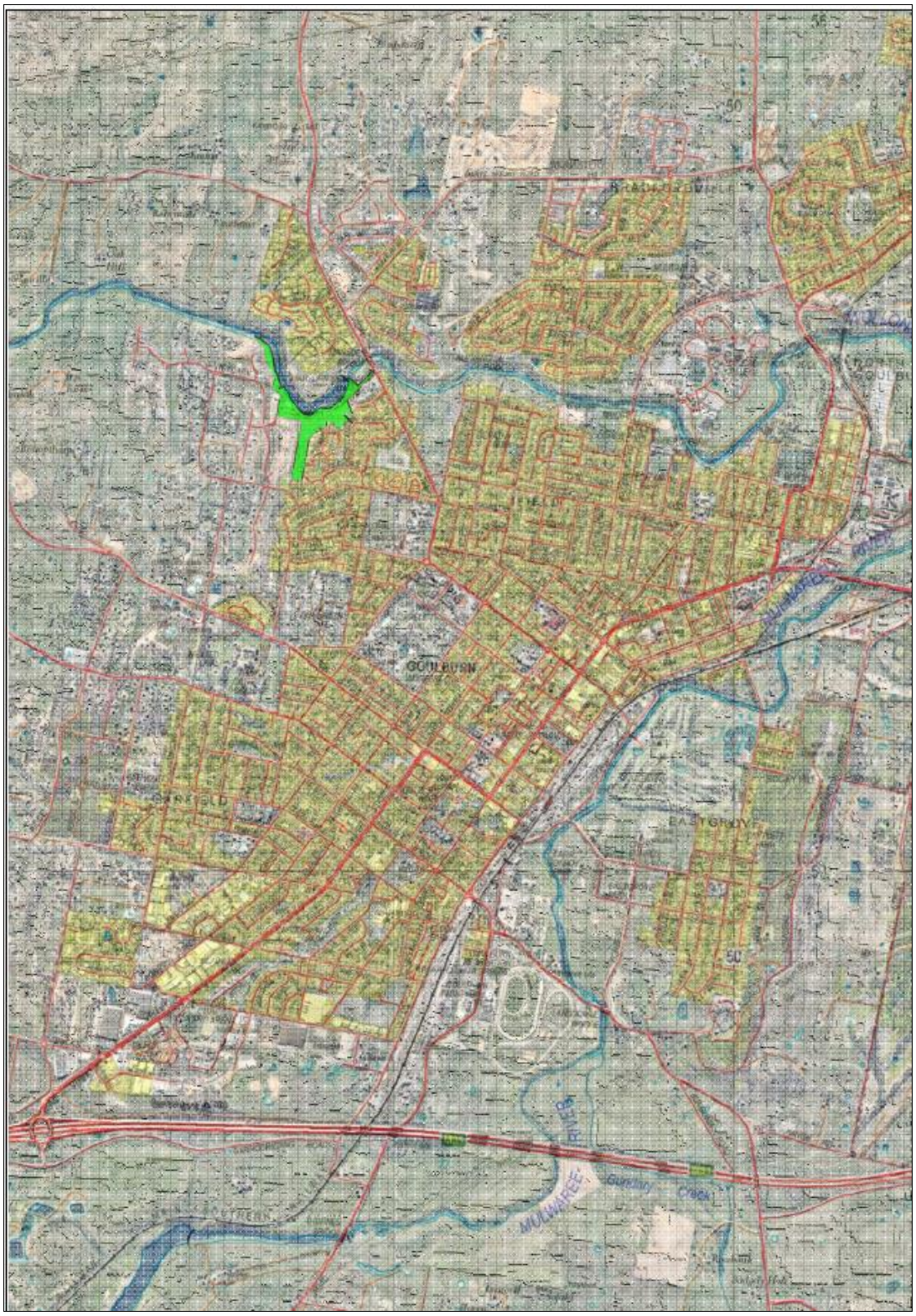
2.2. LOCALITY

Located in the NSW Southern Tablelands, Goulburn Mulwaree Local Government Area (LGA) covers about 3,200 square kilometres with a population of 23,835 (2018). It is bound to the northwest by Upper Lachlan LGA, to the northeast by Wingecarribee LGA, the east and south by the Shoalhaven River and to the south west by Queanbeyan Palerang Regional Council.

Goulburn is:

- Located on the confluence of the Wollondilly and Mulwaree Rivers with much of the area being river flood plain, resulting in outstanding agrarian productivity;
- The regional service centre for the extensive pastoral area surrounding;
- A railhead for the Main Southern line;
- A significant and growing industrial centre and
- A centre of extensive and significant:
    - Historical landmarks;
    - Places of natural beauty and interest.

2.3. LOCALITY PLAN



Location of Goulburn Historic Waterworks, Marsden Weir Park, Goulburn - shown highlighted

2.4. SCHEDULE OF LAND

The land that is included in this PoM is shown in the following schedule. The schedule provides the addresses, legal description and size of each allotment.

Table at Section 3; Categories, provides additional detail for each allotment including improvements, usage, the zoning under Goulburn Mulwaree Council Local Environment Plan 2009 (GMCLEP09), relevant Land Attributes and as the heading suggests Categorisation under the Community Land provisions of the *Local Government Act, 1993*, as discussed in Section 2.

Goulburn Historic Waterworks, Marsden Weir Park				
Address	Lot	Sec	DP	Area
66 Fitzroy Street, Goulburn	9		832081	4,594m^2
13 Rossi Street, Goulburn	203		1059074	3.492Ha.
72 Fitzroy Street, Goulburn	Pt 11		1123614	3.926Ha.
72 Fitzroy Street, Goulburn	2		1126066	1,534m^2
72 Fitzroy Street, Goulburn	4		1126066	1.990Ha.
Adjoins 58 Sanctuary Drive, Goulburn	1		1119777	9,232 m^2

Note: This is a site specific PoM. Some of the parcels of land included in this PoM may have multiple categories, with the consequence, that allotments with multiple categories may also be described in the generic plans of management. Generic Plans of Management are provided for Parks, General Community Use and Sportsgrounds.

2.5. IMPROVEMENTS TO THE SITE

Located at 72 Fitzroy Street, Goulburn, the entry to Goulburn Historic Waterworks, Marsden Weir Park is a paved access road with delineated car park, serving each Rotary Park, Wollondilly River Walkway, Marden Weir Park, Marsden Weir and Goulburn Historic Waterworks.

The road, west of this car park is closed by means of a gate that prevents vehicular access to the Waterworks when not open to the public, however, pedestrian access is available at all times.

The flood plain adjacent to the river, is fairly level but rises significantly to the access road and then continues to rise to the south where it adjoins a retail nursery and large allotment residential subdivision.

To the west of the gate, the access road is enclosed on the southern side by a steep cliff and a rocky outcrop which falls to the north, adjoining the river course. The access road following the upper elevation, to the south of Pumphouse building leads to the sealed car park. The access road to the north provides access directly to the front of the Pumphouse building and the crushed granite marshalling area, for service vehicle deliveries and visitors with mobility challenges.

The Pumphouse building faces north to the Wollondilly River with a large level marshalling area to the north and the west.

Please refer to the 2011 Conservation Management Plan for a comprehensive pictorial description of Goulburn Historic Waterworks, and Appleby Steam Engine.
www.goulburnwaterworks.com.au/education/index.php

West and south of the Pumphouse building and adjoining the western boundary of the car park is the Fireman's Cottage.

Pictorial description of this structure is also detailed in the Conservation Management Plan (link noted above) and Fireman's Cottage and Cafe Master Plan 2013 at Annexure B.

The plantings surrounding the Fireman's Cottage and lining the path to the marshalling area are significant, reflecting the charm of cottage gardens of the Victorian era and are generously managed by 'We Love Goulburn' (gardening group).

To the west of the marshalling area and north down the slope from the Fireman's Cottage is the Pumphouse Café.

The Pumphouse Café was formerly the Richlands Primary School. The school house was relocated to Goulburn Historic Waterworks in the late 1970s to serve as a railway station and to preserve it from dereliction.
To the north west of the Pumphouse Café is an accessible public toilet.

Located down the embankment from the amenities and sited on the highest part of the river flat is a children's playground with the added attraction of painted, timber train, play equipment.

Following the river flat to the west will lead to a concrete jetty ruin adjoining the Wollondilly River. Unformed pedestrian access to the jetty, is available from community land at 72A Peppertree Place, community land adjoining 58 Sanctuary Drive and by following the riverbank west.

The land addressed in this PoM reaches its north-western boundary at the rear of the land fronting the cul-de-sac at Rivergum Place.

The images following provide 3.6 aerial Site Plan, identifying location of built structures in the Plan of Management, 3.7. aerial Topographic Site Plan and 3.8 aerial Site plan Real Property Descriptions (Lots and Deposited Plans) and municipal Addresses of the land included in this PoM.

2.6. SITE PLAN

Goulburn Historic Waterworks site plan

1. Pumphouse - including Appleby Bros Beam Engine; Hick, Hargreaves & Co Engine and Galloway Boilers
2. Fireman`s Cottage
3. Pumphouse Cafe
4. Playground

2.7. SITE PLAN - TOPOGRAPHY

Aerial image Goulburn Historic Waterworks Marsden Weir Park showing topographic lines at 2 metre intervals.

2.8. SITE PLAN - REAL PROPERTY DESCRIPTIONS AND ADDRESSES

Aerial image of Goulburn Historic Waterworks, Marsden Weir Park showing Legal Descriptions & house numbers.

3. CATEGORIES

Legal Description	Category	Uses	Land Use Zoning	Attributes
Lot 9 DP 832081	Park	Adjoins Wollondilly River, Parkland Buffer to Bulky retail and large lot residential subdivision, Access road to Goulburn Historic Waterworks (GHW) Event parking for GHW	RE1 Public Recreation	Bushfire prone land, S64[a] Contribution Plan, Flood prone – stormwater Part flood prone, Flood Study 2016[b] Reserved from sale for public purpose, Sydney Drinking Water Catchment (SEPP SCA[c])
Lot 203 DP 1059074	Natural Area Bushland Natural Area Escarpment Natural Area Watercourse Park	Biodiversity conservation area, natural overland flow path and asset protection zone.	RE1 Public Recreation	Biodiversity hot spot, Bushfire prone land, S64 Contribution Plan, Flood prone – stormwater, Part flood prone, Flood Study 2016 Reserved from sale for public purpose, Sydney Drinking Water Catchment (SEPP SCA)
Lot 11 DP 1123614	Natural Area Watercourse Natural Area Escarpment Natural Area Bushland Cultural Significance	Access road Car park Flood plain adjoining Wollondilly River Access to Marsden Weir	RE1 Public Recreation	Biodiversity hot spot, Part bushfire prone, S64 Contribution Plan, Classified road, Environmentally sensitive land, Part flood prone, Flood Study 2016 Heritage conservation area, local heritage item & state heritage listed, Reserved from sale for public purpose, Sydney Drinking Water Catchment (SEPP SCA), Terrestrial biodiversity
Lot 2 DP 1126066	Natural area Watercourse	Allotment severed by public access point.	R5 Large Lot Residential 2,000m^2 minimum lot size.	Biodiversity hot spot, S64 Contribution Plan,

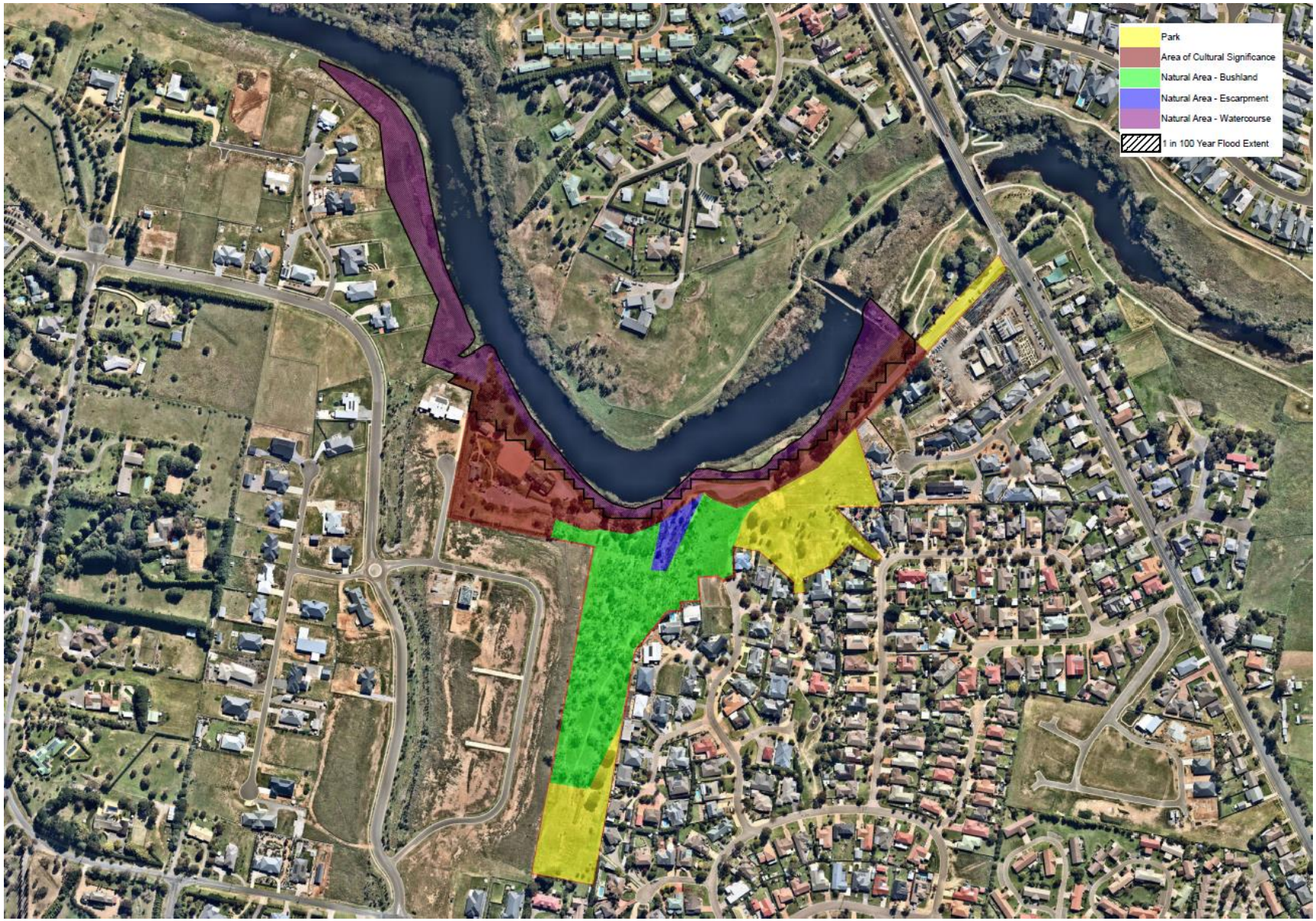
Legal Description	Category	Uses	Land Use Zoning	Attributes
	Cultural Significance	Flood plain adjoining Wollondilly River Buffer to adjoining subdivision Curtilage to Fireman's Cottage		Part flood prone, Flood Study 2016, S64 Contribution Plan, Sydney Drinking Water Catchment (SEPP SCA),
Lot 4 DP 1126066	Natural Area Watercourse	Access Road Car parking Fireman's Cottage Pumphouse Crushed granite marshalling area Pumphouse Cafe Public amenities Marsden Weir Park Children's playground Adjoining Wollondilly River	RE1 Public Recreation	Biodiversity hot spot, Bushfire prone, S64 Contribution Plan, Environmentally sensitive land, Part flood prone, Flood Study 2016, Heritage conservation area, local heritage item & state heritage listed, Reserved from sale for public purpose, Sydney Drinking Water Catchment (SEPP SCA), Terrestrial biodiversity
	Cultural Significance			
Lot 1 DP 1119777	Natural Area Watercourse	Flood plain adjoining Wollondilly River Jetty ruin	RE1 Public Recreation	Part bushfire prone, S64 Contribution Plan, Environmentally sensitive land, Flood prone land, Flood Study 2016, Reserved from sale for public purpose, Sydney Drinking Water Catchment (SEPP SCA), Terrestrial biodiversity

Notes:

a. Reference to S64 [a] refers to Section 64 of the *Local Government Act, 1993;*
b. SEPP SCA[b] refers to State Environmental Planning Policy (Sydney Drinking Water Catchment)
c. Following is a link to the 2016 Flood Study [c] https://www.goulburn.nsw.gov.au/Development/Plans-Strategies#section-7

…

3.1. CATEGORISATION PLAN



Categorisation of Community Land Goulburn Historic Waterworks and Marsden Weir Park

4. MANAGEMENT STRATEGIES

4.1. STATUTORY GUIDELINES

The *Local Government Act, 1993* Part 2 Division 2 Use and Management of Community Land prescribes the core objectives for each of the categories of Community Land in clauses 36E through 36N, these have been summarised in Section 2 of this PoM:

4.2. CORPORATE OBJECTIVES

Goulburn Mulwaree Council in conjunction with Upper Lachlan Shire Council and Yass Valley Council prepared The Tablelands Regional Community Strategic Plan 2016-2036 (CSP).

4.3. COMMUNITY STRATEGIC PLAN – VISION

To build and maintain sustainable communities while retaining the region's natural beauty.

The CSP identifies the aspirations of the community through a clear set of strategic priorities that achieve the region's vision for the future.

Strategic Pillars

Environment	We appreciate our range of rural landscapes and habitats, and act as custodians of the natural environment for future generations.
Economy	We have a strong regional economy experiencing sustainable growth, which provides for a diverse range of employment opportunities.
Community	We are a network of vibrant, inclusive and diverse communities that value our co-operative spirit an, self-sufficiency and rural lifestyle.
Infrastructure	Our community is well serviced and connected to built, social and communications infrastructure.
Civic Leadership	Our leaders operate ethically and implement good governance. We empower our residents with the tools to participate actively in the development of our communities.

These desired community goals are the foundation of the Management Strategies identified in Table 5.8 of this PoM. Since the CSP was prepared, a range of state and local strategic documents have been produced. These are:

- South East Tablelands Regional Plan 2036;
- Tablelands Regional Economic Development Strategy 2018-2022;
- *Draft* Local Strategic Planning Statement June 2020;
- Climate Change Assessment and Adaptation Report March 2020;
- *Draft* Social Sustainability Strategy and Action Plan 2019.

Each of these documents identify environmental, economic, social and or cultural outcomes for the Region and our Local Government Area in particular. The

documents are available on Goulburn Mulwaree Councils web page for reference. www.http//https://www.goulburn.nsw.gov.au/Home

4.4. Integrated Planning and Reporting

The Regional Strategic Community Plan forms the basis for Council's Delivery Program addressing the term 2017 to 2021 objectives, and each year the Operational Plan addresses the budget attributable to achieving the annual actions to meet the medium and long term goals, as identified by the community.

Following is an extract from the current Operational Plan addressing community expectations for the management, conservation and protection of the assets on the land addressed in this PoM

Strategy	Number	Action
EN4 – Maintain a balance between growth, development and environmental protection through sensible planning.	EN4.1	Protect, conserve and enhance local built heritage
CO2 – Encourage and facilitate active and creative participation in community life	CO2.1	Provide, maintain and improve the range of social and cultural services including the Goulburn Historic Waterworks.
	CO2.2	Development and delivery of new and existing cultural and creative assets, including built heritage assets.
	CO2.3	Planning for public spaces undertaken to reflect the growing community needs
CO4 – Recognise and celebrate our diverse cultural identities and protect and maintain our community's natural and built cultural heritage	CO4.1	Create a cultural environment that contributes socially and economically to the community.

4.5. Heritage Listings & Policy (Commonwealth, State and Local)

A. Commonwealth

Register of the National Estate - Non Statutory Archive

The site as a significant site and Pumphouse as a significant Industrial Archaeological site were listed on the Register of National Estate (RNE) in 1978, prior to closure of the RNE in 2007. The site, buildings and machinery are considered to have 'aesthetic, historic scientific and or social significance... for future generations as well as for the present community'. The existence of an entry in the RNE does not create a requirement to protect the place or items under Commonwealth law. However, information in the register may be relevant to further statutory decisions about protection.

B. STATE

State Heritage Register – *NSW Heritage Act, 1977*

The 'Goulburn Pumping Station' and Appleby Steam Engine were the subject of an Interim Conservation Order issued 4 February 1983. This was updated in 1985 with conversion to a Permanent Conservation Order June 1987 and later converted again, together with the Marsden Weir to a listing on the State Heritage Register in 1999, as items of State Heritage Significance. The items and land comprised in the Curtilage Plan registered with Heritage NSW as SHR No.00356, are protected under the *Heritage Act 1977*.

Approval under Section 57 of the NSW *Heritage Act, 1977* is required for development and activities that would impact items of state heritage significance, with standard heritage exemptions available for specified activities (refer to Heritage NSW Standard Exemptions: www.heritage.nsw.gov.au).

Firemans cottage

C. LOCAL

Goulburn Mulwaree Local Environmental Plan 2009 – *NSW Environmental Planning and Assessment Act, 1979*

The site is listed under Part 1 Heritage Items, Schedule 5 Environmental Heritage under the Goulburn Mulwaree Local Environmental Plan (GM LEP) 2009 and is identified in the plan as being of State significance.
Clause 5.10 of the GMC LEP specifies the requirements for development consent and exemptions from development consent.

D. POLICY

Conservation Policy/Conservation Management Plan 2011

Goulburn Mulwaree Council engaged the specialised services of Ainsworth Heritage in 2009 to undertake a comprehensive Conservation Management Plan (CMP) of the Goulburn Heritage Waterworks. The finalised CMP, endorsed by Council in 2011, offers a comprehensive history of the buildings, machinery and some of the people, critical to the design, installation, operation and conservation of the Waterworks. Following are extracts summarised from the CMP.

GHW Pumphouse and car park

"The aims of the Conservation Policy are generally to:

- Conserve and retain the steam engine and boilers in functional and operable condition;
- Maintain "industrial feel" of the site, ensure it does not become over sanitised, distracting from original character;
- Retain external and internal appearance of buildings and inter-relationship between buildings for evidence of original layout of waterworks;
- Maintain buildings in good structural repair to ensure longevity;
- Retain the Waterworks and its setting as significant elements in the Wollondilly River landscape;
- Ensure that all machinery, original to the site, is kept in situ.

Waterworks machinery

General management of the Waterworks are to be carried out in accordance with the principles of:

- Australia ICOMOS Burra Charter; 1999;
- NSW Heritage Branch Best Practice guidelines;
- Internal review of CMP;
- Distribution of the CMP;
- Training."

State Heritage listing confers upon GMC an obligation to maintain SHR items to a Minimum Standard of Maintenance and Repair as outlined in Part 3 of the Heritage Regulations, 2012.

The Conservation Management Plan comprehensively addresses the management, maintenance and repair obligations to this Heritage Item, however the CMP does not address Marsden Weir, also listed in SHR No.00356, as this component is not constructed on GMC owned or managed land.

The Goulburn Historic Waterworks Conservation Management Plan is available, in full, at the following link
https://www.goulburnwaterworks.com.au/education/index.php

4.6. COMPILING MANAGEMENT STRATEGIES

Section 5 Management Strategies following offers a tabulated compilation of the issues raised in the documentation identified and discussed earlier in this Section, being:

- Corporate Objectives in the light of the Core Objectives under the LGA,1993 ,
- Community Strategic Plan and
- Requirements under the *Heritage Act, 1977*,

for the land included in this PoM and constructed assets sited upon the land to fulfil:

- one or more objective/s;
- performance target/s;
- a means of achieving the objective/s; and
- the manner in which the objective/s are to be assessed.

These Management Strategies have been presented to user groups by way of panel consultation and more broadly by community consultation through public exhibition, inviting submissions.

Firemans Cottage and cottage gardens

Submissions received have raised additional management considerations most particularly the State Heritage significance of the GHW site the relationship to Marsden Weir and the cultural significance the locality holds for local Aboriginal Peoples.

Matters raised have been presented to Council for consideration and endorsed for inclusion in this PoM.

5. TABLE OF MANAGEMENT STRATEGIES

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
Access: • Disabled; • Pedestrian; • Vehicular; • Cycles, Skateboards, Roller Blades, Roller Skates, and the like	Where practical, provide access for people with disabilities to and within all areas. Provide defined paths and tracks for pedestrian access Allow an access network for pedestrians and cyclists. Maximise user safety and prevent conflicts. Allow for pathways to contribute to the landscape character. Allow general vehicular access to parking areas. Allow for entry of authorised vehicles for maintenance, emergency service and patrols. Allow vehicular access for private vehicles where/when appropriate. Minimise conflict between skateboarders, roller bladers, roller skaters, snake boarders, etc. and pedestrians	Approvals/Exemptions in accordance with *Heritage Act, 1977* Appropriate design for pavements, facilities, structures and parking to comply with Australian Standard. Appropriate design, siting and construction of access way in accordance with Council's Codes, Policies and Regulations. Clear identification of path usage via signs and contrast pavement. Provision of shared facility where safe and appropriate. Segregation of cyclists and pedestrians where appropriate. Use of regulatory signs. Use of traffic control devices such as barriers and bollards. Restrict cycles, skateboards, roller blades, roller skates, snake boards to designated cycle ways and skating areas using regulatory signs and pavement identification.	Number of comments about: • ease of access. • inappropriate use. • accidents • user conflicts. • provision of access ways. • illegal or unauthorised vehicular entry. • pedestrian conflicts
Alcohol: Consumption Possession.	Implement controls to prohibit the consumption and/or possession of alcohol, except within designated or licenced or identified areas.	Use of regulatory signs and enforcement. Stipulated in licence/ hire agreements	Number of complaints and investigations.

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
Animals: • Native Fauna • Domestic • Stock • Feral	Protection of native and endangered species and their habitats and control of introduced species in accordance with the *National Parks & Wildlife Act*, and any other relevant Act. Prohibit the entry of stock outside of authorised events or within designated areas. Ban and/or impound all animals that are not under the full control of owner /handler. Removal or cull of feral animals identified as in breeding numbers.	Use of regulatory signs. Community education and involvement in monitoring. Permitted under licence Pest management practices.	Complaints about: • Off-leash dogs, attacks and waste; • Unsupervised stock onsite not relating to an approved event; • Feral animal numbers.
Anti-Social Behaviour	Minimise and manage anti-social behaviour in common area and within facilities.	Encourage community involvement and surveillance. Implement community health measures. Appropriate design and lighting of common areas. CCTV.	Number of: • Comments received; • Vandalism attacks; • Investigations and/ or prosecutions.
Buildings: Conservation and Management.	Allow for appropriate multi-purpose use of grounds and facilities. Fulfil the directives of the *Heritage Act, 1977.* Staff and Volunteers to observe and implement CMP requirements.	Approvals/Exemptions in accordance with *Heritage Act, 1977* Development Consent where necessary. Levels maintenance & repair in accordance with *Heritage Act, 1977* Provision of security lighting. Regulated hours of use.	Number of: • un-met community user needs per year; • complaints about maintenance and hygiene; • Maintenance inspections per annum;

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
		Maintain a flexible approach to building and site usage. Training of staff and volunteers. Provide ready access to Legislated requirement and CMP.	• Reported incidents of user conflict/ vandalism. • Regular inspection of structures to identify maintenance requirements • works/ maintenance activities undertaken to ensure ongoing preservation of heritage structures.
Buskers/Bands	Allow the entry of buskers/bands as approved by Council and/ or as part of community events.	Enter into appropriate licence agreements.	• Community feedback; • Unauthorised buskers/bands.
Facilities and Amenities	Provide safe, clean, convenient and hygienic public toilet facilities for persons of all abilities.	Provision of access & facilities for the disabled. Application of relevant Council Building Codes, Policies and Regulations. Cleaning and maintenance in accordance with Council standards. Provision of security lighting. Regulated hours of use.	Number of: • Maintenance inspections per annum; • Comments about the adequacy of the building/s for efficient operation, community needs, maintenance and storage; • Rreported incidents of conflict/ vandalism.
Hours of Usage	Allow for the management of usage times for special events, user groups and individuals.	Issue of appropriate authorisation by Council.	Number of: • Reported breaches of Council approval; • Unauthorised special events or large group activities.

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
Informal Recreation e.g. Ball, Frisbee	Allow activities which are suitable within proximity of heritage listed item/s in Area of Cultural Significance	Self-regulation.	Community feedback about activity.
Outdoor Furniture	Allow for the provision of adequate furniture, such as tables, seats, bins, and barbeques, etc. at suitable locations. Create a comfortable setting for users, both aesthetically and functionally. Allow the installation and use of gas or electric barbeques. Allow the use of portable barbeques, with the exception of wood fire barbeques.	Complement and be consistent with the local theme. Appropriate design, siting, use of materials and erection of furniture. Design, locate and maintain permanently installed barbeques. Provision of an adequate number of barbeques. Compliance with relevant Development Control Plan and/or *Heritage Act, 1977*	Number of: • Complaints about suitability of location and style; • Incidents of non-compliance with relevant Council Codes, Policies and Regulations; • Reported failures; • Reported accidents; • Comments about community satisfaction or opportunity to provide input.
Outdoor seating concession/s:	Allow the licensing of outdoor seating concessions, refreshment kiosks (food shops), cafes, restaurants and mobile refreshment facilities (including vans).	Enter into appropriate Licence Agreement contingent on: • Categorisation of Land; • Reference to *Heritage Act, 1977* approval/ exemption on SHR listed site.	Number of: • Incidents of non-compliance with the terms & conditions of approval and/or Licence; • Licences issued.
Outdoor Performance Area	Allow for the provision of outdoor performances and performance space where appropriate with minimal impact on the community and Natural Areas	Regulation by Council. Provision of facility in appropriate locations.	Number of: • Comments received about public acceptance of the outdoor performances; • Bookings per annum.
Parking and Traffic	Allow adequate safe and convenient parking and traffic flow.	Appropriate layout, design, location and construction of designated parking areas.	Number of:

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
	Exclude unauthorised private parking.	Provision of emergency and disabled spaces. Identification of pedestrian access-ways. Use of regulatory signs. Reference to *Heritage Act, 1977* approval/ exemption on SHR listed site. Planning compliance.	• Comments about adequacy of parking; • Vehicle/ pedestrian accidents; • Comments about parking impacts. • Emergency and disabled spaces provided.
Playground equipment	Allow for play equipment that is stimulating, satisfying and sympathetic to heritage nature of the site.	Regular budget to ensure that equipment meets prevailing minimum safety standards. Refer *Heritage Act, 1977* approval/ exemption on SHR listed site.	Number of: • Comments identifying dis/satisfaction; • Reported incidents of vandalism and damage to play equipment. Regular safety inspection & standards reviews.
Public Art	Allow for public artwork in appropriate settings. Engage with community members involved in identified art project/s to identify, commission and erect artworks.	Co-ordination by Council's Gallery and Museum staff Reference to *Heritage Act, 1977* approval/ exemption on SHR listed site. Planning compliance.	Number of • comments about public acceptance; • Reported incidents of vandalism & damage to art installations.
Security	Allow a secure public environment within facilities.	Installation of security systems. Appointment of security patrols. Appropriate fencing and lighting. Community education. Use of regulatory signs.	Numbers of: • Community comments in relation to security; • Ordinance investigations and prosecutions;

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
		Liaison with Police. Refer *Heritage Act, 1977* approval/ exemption on SHR listed site.	• Incidents of vandalism. • Public liability claims against Council.
Shade/Shelter Structures	Allow structures that will provide shade and shelter for users where appropriate. Allow integration of the structures harmoniously, e.g. aesthetically and functionally, with the character of the area.	Appropriate design, location and erection of shade structures. Reference to *Heritage Act, 1977* approval/ exemption on SHR listed site. Planning consent	Number of comments: • Provision of shade in common areas; • Effectiveness of shade structures in all weather conditions. • Appearance of the structures.
Storage	Allow for the provision of suitable and sufficient storage.	Appropriate layout, design and location. Installation of appropriate facility for purpose.	Number of comments received about inadequate storage facilities.
Signage	Allow suitable informative, regulatory, identification, interpretative and directional signs relating to history, culture and use of the area. Regulate advertising signs.	Appropriate design and siting of signs in accordance with the relevant Development Control Pan. Reference to *Heritage Act, 1977* approval/ exemption on SHR site.	Number of: • User comments. • Ordinance/regulation investigations and prosecutions.
Trees and other vegetation.	Discourage growth of vegetation that does not enhance SHR site. Provide era based 'cottage garden' in proximity of Fireman's Cottage. Allow for the planting of screening trees. Allow for the planting of endemic species to support biodiversity of Natural Areas.	Refer *Heritage Act, 1977* approval/ exemption on SHR listed site. Encourage volunteer/s to plant, manage and maintain cottage plantings. Environment and Biodiversity Officer to recommend species to support endemic biodiversity of locality.	Planting to enhance SHR items. Preservation of cottage gardens and visitor comments. Successful growth of plantings. Number of comments from adjoining property owners.

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
	Prohibit removal of endemic species from Natural Areas. No removal of any standing or fallen dead timber from Natural Areas.	Signage to protect Natural Areas vegetation and prohibit its removal.	Evidence or complaints of removal of endemic vegetation species or collection/ removal of firewood.
Weeds Management	Eradicate or control invasive weed species from all areas of the PoM	Encourage land management volunteers e.g. bush care group, GWH volunteers, We Love Goulburn. Seek grant funding available for identified weeds control.	Diminution of weed species. Resurgence of endemic species. Increased habitat and food source for native fauna.
Utility Services	Allow for the installation of all services as required by site usage. Minimise the visual and environmental impact of telecommunications equipment on the site.	Approval by appropriate Statutory/ Regulatory Authorities including compliance with the relevant Council codes, policies and regulations, Refer *Heritage Act, 1977* approval/ exemption on SHR listed site. Construction and installation of necessary services. Registration of appropriate easements.	All facilities are adequately serviced, identified and located. Number of objections received from service authorities about the location and quality of services. Number of site utility service installations constructed. Number of community comments about the degree of visual & environmental impact.
Water Access	Encourage safe water access for non-powered craft. Exclude powered pleasure craft with the exception of: • steam driven boat/s; and or • model sized watercraft.	Provision of launch facilities. Licences for appropriate groups. Signage.	Provision of facilities to minimise environmental impacts to access water course and embankments. Sightings and or comments about sightings of swimmers or excluded powered pleasure craft.

SCHEDULE OF LAND MANAGEMENT STRATEGIES			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
	Pleasure craft not to exceed a speed of (four) 4 knots. Provide access for emergency services craft. Prohibit or discourage swimming due to proximity to weir and presence of submerged obstacles.		
Watercraft Hire	Provide interested participants the availability of light watercraft (i.e.: paddleboards, kayaks etc.) for hire at suitable riverside location. Use Expression of Interest to secure a suitable hire operator.	Approval by appropriate authorities. Refer *Heritage Act, 1977* approval/ exemption on SHR listed site. Periodic Licence which controls numbers and location within site.	Comments from: • Operator/ Licence holders; • Hirers; • Regulatory staff; • Visitors and community.

SCHEDULE OF LAND MANAGEMENT STRATEGIES SPECIFICALLY — FOR NATURAL AREAS			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
Arson or accidental fire	Prohibit fires within protected remnant area.	Signage, education penalties.	Evidence or complaints of arson or accidental fire.
Bush rock removal	Prohibit removal of rocks from site.	Signage education, penalties.	Evidence or complaints of bush rock removal.
Domestic pets	Protection of native fauna from domestic cats and dogs.	Signage prohibiting access by owners accompanied by domestic pets from protected remnant vegetation areas.	Observations, complaints evidence of use by domestic pets.
Firewood collection	Prohibit removal of any standing or fallen dead timber.	Signage and education on importance of biodiversity.	Evidence or complaints of firewood collection.
Herbivore damage by feral species	Minimise herbivore damage to native vegetation by feral herbivore species	Implement best practice pest animal management and control techniques to remove or cull feral pest herbivores such as rabbits & hares.	Evidence or complaints of damage by feral herbivore species.
Unauthorised clearing of trees & other vegetation	No unauthorised clearing or removal of native vegetation	Implement best practice weed management and control techniques. Encourage volunteer bush-care groups to monitor and oversee.	Evidence or complaints of unauthorised clearing of any vegetation.
Graffiti & vandalism	No graffiti or other vandalism	Pedestrian access only to remnant bushland areas.	Evidence or complaints of graffiti & vandalism
Predation of native fauna	Protection of native fauna species from feral predators.	Implement best practice pest animal management and control techniques to remove or cull feral pest predators such as cats, foxes & dogs.	Monitoring for feral species and evidence of their home location.
Rubbish dumping/littering	Prohibit rubbish dumping/littering	Signage, education, penalties.	Complaints and evidence of rubbish dumping/littering.

SCHEDULE OF LAND MANAGEMENT STRATEGIES SPECIFICALLY — FOR NATURAL AREAS			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
Trail Bikes	Prohibit the entry of trail bikes.	Signage, education, penalties.	Number of: • Complaints about trail bike use. • Regulatory and police investigations.
Trees/Vegetation	Allow for the planting of endemic species of trees, shrubs, grasses and other vegetation	Refer to Environment and Biodiversity Officer to recommend species to support endemic biodiversity of locality.	Successful growth of plantings.
Unauthorised removal or harm of native fauna	Protection of native fauna from collection/removal or harm.	Signage and education on importance of biodiversity.	Complaints and evidence of unauthorised removal or harm of native fauna.
Use of herbicides	Avoid harm to non-target species	Implement appropriate herbicide application methods in line with product label directions.	Monitoring of weed control program outcomes.
Weeds	Removal of invasive weeds Control spread of exotic flora species.	Encourage volunteer bush-care group/s. Securing targeted grant funding	Diminishing evidence of weeds & exotic plant species.

Goulburn Historic Waterworks, Marsden Weir Park, Wollondilly River, Goulburn, NSW featuring Community Land categorised as

- Area of Cultural Significance;
- Park
- Natural Areas:
  - Bushland;
  - Escarpment;
  - Watercourse.

6. AREA OF CULTURAL SIGNIFICANCE

Goulburn Historic Waterworks and Marsden Weir Park

6.1. CATEGORISING COMMUNITY LAND AS AREA OF CULTURAL SIGNIFICANCE

Land should be categorised as an Area of Cultural Significance in accordance with S105 of the *NSW Local Government Regulations, 2005:*

(a) an area of Aboriginal significance, because the land:
  (i) has been declared an Aboriginal place under section 84 of the *National Parks and Wildlife Act, 1974*, or
  (ii) whether or not in an undisturbed state, is significant to Aboriginal people in terms of their traditional or contemporary cultures, or
  (iii) is of significance or interest because of Aboriginal associations, or
  (iv) displays physical evidence of Aboriginal occupation (for example, items or artefacts such as stone tools, weapons, engraving sites, sacred trees, sharpening grooves or other deposits, and objects or materials that relate to the settlement of the land or place), or
  (v) is associated with Aboriginal stories, or
  (vi) contains heritage items dating after European settlement that help to explain the relationship between Aboriginal people and later settlers, or

(b) an area of aesthetic significance, by virtue of—
  (i) having strong visual or sensory appeal or cohesion, or
  (ii) including a significant landmark, or
  (iii) having creative or technical qualities, such as architectural excellence, or

(c) an area of archaeological significance, because the area contains—
  (i) evidence of past human activity (for example, below-ground features such as building foundations, occupation deposits, features or artefacts or above-ground features such as buildings, works, industrial structures, and relics, whether intact or ruined), or
  (ii) any other deposit, object or material that relates to the settlement of the land, or

(d) an area of historical significance, because of the importance of an association or position of the land in the evolving pattern of Australian cultural history, or

(e) an area of technical or research significance, because of the area's contribution to an understanding of Australia's cultural history or environment, or

(f) an area of social significance, because of the area's association with Aboriginal life after 1788 or the area's association with a contemporary community for social, spiritual or other reasons.

6.2. LAND INCLUDED IN THIS CLASSIFICATION

Legal Description	Category	Uses
Part Lot 11 DP 1123614 Part Lot 4 DP 1126066 Lot 2 DP 1126022 Part Lot 1 1119777	Cultural Significance	Access Road Car parking Fireman's Cottage Pumphouse Gravel marshalling area Pumphouse Café Public amenities

6.3. CORE OBJECTIVES FOR AREA OF CULTURAL SIGNIFICANCE

Clause 36H of the *Local Government Act, 1993* provides the Core Objectives for Community Land classified as Area of Cultural Significance as:

1. to retain and enhance the cultural significance of the area (namely its Aboriginal, aesthetic, archaeological, historical, technical or research or social significance) for past, present or future generations by the active use of conservation methods.

2 Those conservation methods may include any or all of the following methods:—

(a) the continuous protective care and maintenance of the physical material of the land or of the context and setting of the area of cultural significance,

(b) the restoration of the land, that is, the returning of the existing physical material of the land to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material,

(c) the reconstruction of the land, that is, the returning of the land as nearly as possible to a known earlier state,

(d) the adaptive reuse of the land, that is, the enhancement or reinforcement of the cultural significance of the land by the introduction of sympathetic alterations or additions to allow compatible uses (that is, uses that involve no changes to the cultural significance of the physical material of the area, or uses that involve changes that are substantially reversible or changes that require a minimum impact),

(e) the preservation of the land, that is, the maintenance of the physical material of the land in its existing state and the retardation of deterioration of the land.

3 A reference in subsection (2) to land includes a reference to any buildings erected on the land.

Masonry –GHW Pumphouse

6.4. EUROPEAN HERITAGE

The Goulburn Historic Waterworks is heritage listed and has been identified as a site of Local and State value. The details of the respective listings have been addressed under Section 5.5 of this PoM and the Conservation Management Plan 2011 is available in full on the Goulburn Historic Waterworks web page at: https://www.goulburnwaterworks.com.au/education/index.php

6.5. ABORIGINAL HERITAGE

Pejar Local Aboriginal Land Council advise that 13 Aboriginal Peoples identify as local to the Goulburn Mulwaree region: Mulwaree, Wollondilly, Wiradjuri, Gundungurra, Dharrook, (Dharug), Tharawal, (Dharawal), Tarlo, Lachlan, Pajong, Parramarragoo, Cookmal, Burra burra and Ngunawal.

Pejar LALC further advise that the site was a widely used camp with the Snow Gum Ridge, where it juts out, above the river, having been used as a jumping off point. Recorded Aboriginal heritage sites within Goulburn Mulwaree generally occur in the vicinity of watercourses, in elevated areas and in areas with suitable geology or mature vegetation.

Both Pejar LALC and Mulwaree Aboriginal Community Group have used the location in recent times as a location to celebrate Aboriginal culture, connection to land and heritage.

GMC and Heritage NSW both record site/s of Aboriginal heritage significance within the area of this Plan of Management. Paying respect to the Aboriginal peoples of the local community and for the preservation and protection of any points of interest or artefacts, details may be sought from GMC webpage for reference to the Archaeological Sensitivity Register;
https://www.heritage.nsw.gov.au/about-our-heritage/aboriginal-cultural-heritage/

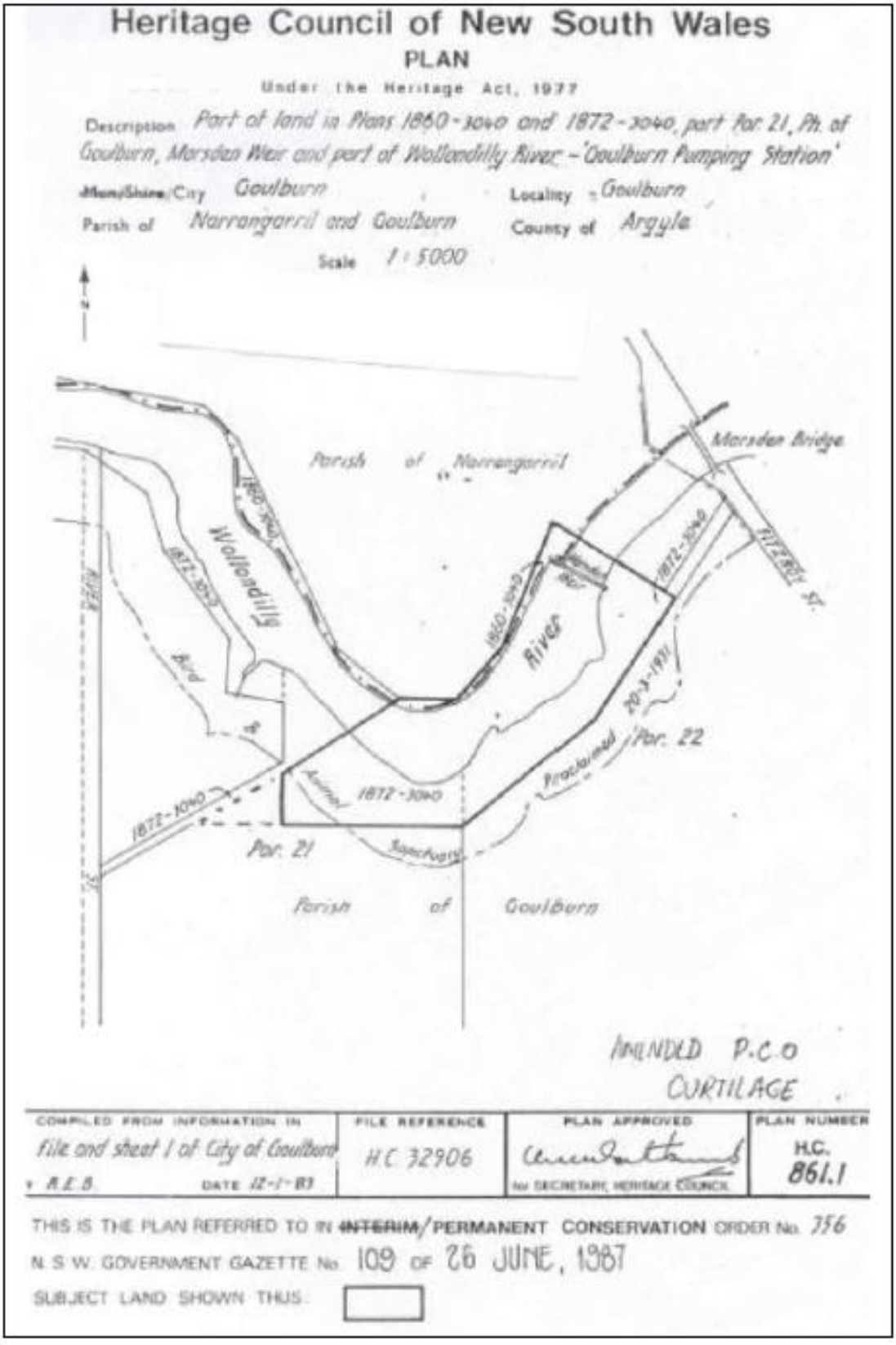
or NSW National Parks & Wildlife: Aboriginal Heritage Information System (AHIMS);
https://www.goulburn.nsw.gov.au/Development/Environment-Heritage/Heritage .

GMC in consultation with Local Aboriginal representatives is addressing strategies to publicly acknowledge, highlight and enhance community knowledge of Aboriginal history and culture upon the land addressed in this Plan of Management and more broadly throughout the Goulburn Mulwaree region.

6.6. MANAGEMENT STRATEGIES

Section 6 of this PoM discusses the legislative, state, regional and local documents, policies and plans that provide the foundation for the desired outcomes and means of achieving those outcomes addressed in the Management Strategy Table. The Table provides a comprehensive schedule of management strategies for all of the categories of land in this PoM. A particular reference to the *Heritage Act, 1977*, addresses all of the land, improvements, machinery and installations that are included in the State Heritage Register (SHR 00356) identified on the SHR Curtilage Plan at 6.7.

6.7. STATE HERITAGE REGISTER ITEM NO.00356 - CURTILAGE PLAN



6.8. LEASES LICENCES AND OTHER ESTATES

Division 3, Section 116 of the Local Government Regulations provides that leases, licences and other estates may be permissible in respect of community land:

(1) For the purposes of section 46(1)(b)(iii) of the Act, the use or occupation of community land for the following events is prescribed as a purpose in respect of which a council may grant a licence in respect of community land on a short-term, casual basis:
   (a) the playing of a musical instrument, or singing, for fee or reward,
   (b) engaging in a trade or business,
   (c) the playing of a lawful game or sport,
   (d) the delivery of a public address,
   (e) commercial photographic sessions,
   (f) picnics and private celebrations such as weddings and family gatherings,
   (g) filming sessions.

(2) However, the use or occupation of community land for events listed in subclause (1) is prescribed only if the use or occupation does not involve the erection of any building or structure of a permanent nature.

Division 3 Section 117 discusses exemptions from section 47A of the Act with regard to leases, licences and other estates in respect of community land—terms of 5 years or less)

6.9. ADDITIONAL LAYER OF APPROVALS FOR GRANTING LEASE OR LICENCES

Any lease, licence or other estate that may be sought or considered by Council within this Area of Cultural Significance must be considered not only under the *Local Government Act 1993*, but in accordance with the provisions of the *Heritage Act, 1977* for exemption or referral to Heritage NSW for approval, where the proposal has the potential to impact the items or site of State Heritage significance.

Playground to the north and downhill of amenities and Pumphouse Cafe

6.10. DEFINITIONS

The following definitions apply in relation to this PoM:

A. Community events as undertaken by Council include but are not limited to: markets, fairs, festivals, cultural events, steaming days, or similar.

B. Community Use and Hire: Short term casual hire for cultural or family gatherings

C. Refreshment facilities include —kiosks, cafes or restaurants, including both mobile and fixed facilities.

D. Offices, those rooms assigned within the Fireman's Cottage for the exclusive use and occupancy of the museum staff and volunteers attending to the daily operations of the Goulburn Historic Waterworks.

A. COMMUNITY EVENTS		
Community Events, festivals, outdoor cinema or similar events are a significant aspect of Goulburn's leisure activities. Council has traditionally hosted or supported these types of events through making suitable land incorporated in this PoM available for use. Examples include Steaming Days, Steampunk Victoriana Fair and the Makers and Designers Market.		
Objectives	Means of Achievement	Manner of Assessment
To provide Council with approval to utilise the community land together with the facilities on that land to conduct festivals, fairs, markets, picnics, outdoor cinema and the like to demonstrate the Goulburn Historic Waterworks unique features and to bring the community and visitors together for celebratory events.	Council to meet the conditions of approval as described in this PoM and as endorsed by Heritage NSW	Number of incidents of non-compliance with approval conditions.
Activity	Location	
Community Event	All areas of the Goulburn Historic Waterworks and Marsden Weir Park	

B. COMMUNITY USE & HIRE		
The community facilities listed here and identified in this PoM are available for hire on casual basis for community and social use as provided in the PoM and for which exemptions or approval is granted under the provisions of the .		
Objectives	Means of Achievement	Manner of Assessment
Provide suitable sites and facilities within the GHW and Marsden Weir Park for organised community and family gatherings. Accommodate a diverse range of activities to meet social,	Ensure equitable access to community facilities by members of the community for appropriate uses. The implementation of scaled fees and charges to ensure	Level of identified utilisation. Levels of utilisation of grounds by the local community. Minimise vandalism to structures and

cultural, educational and recreational needs. Enable community participation in the management of Council's community assets to create a sense of ownership and improve awareness of Council's community assets. Manage the financial burden of providing community facilities to the public.	equitable access to the grounds for use by not-for-profit organisations to that of for profit organisations. The hiring of space within identified community land and buildings.	vegetation on the grounds. Revenue generated through the hire of grounds and facilities
Activity	Location	
Community Use and Hire	Pumphouse Café, Gravel marshalling area Grassy area adjoining watercourse Car park behind Pumphouse and Parkland north of and adjoining nursery.	
C. REFRESHMENT FACILITIES		
Objectives	Means of Achievement	Manner of Assessment
Provide refreshment facilities and amenities to service patrons.	Ensure patrons have access to satisfactory amenities and facilities. Enter into a licence or agreement for the provision of refreshment services to patrons as required.	Facilities provided to the satisfaction of the community. Comments or complaints from patrons. Lease agreement finalised.
Activity	Location	
Refreshment Facilities	Pumphouse Café and adjoining hardstand alfresco dining area.	
D. STAFF AND VOLUNTEER FACILITIES		
Objectives	Means of Achievement	Manner of Assessment
Provide office, storage and lunch room facilities for museum staff and volunteers whilst working on site.	Provide suitable amenities and facilities to service staff and volunteers.	Facilities provided to the satisfaction of the museums staff and volunteers.
Activity	Location	
Museum Staff and Volunteers	Fireman's Cottage Fireman's Cottage garden	

6.11. EXPRESS AUTHORISATION TO LEASE, LICENCE AND GRANT OTHER ESTATES

That Land categorised as Area of Cultural Significance may be leased, licensed or dealt with under other estates with the approval or exemption under *Heritage Act, 1977.* GMC identified the land within the PoM as eligible for short term licence, by means of hire agreements. Hire agreements are issued and managed by Museums staff for identified purposes, in identified locations and often concurrently with GMC events at the Goulburn Historic Waterworks.

A. Short Term Occupancy Licence		
Objectives	Means of Achievement	Manner of Assessment
Make sites available for short term Licence (Hire)	Hire granted by invitation or Expressions of Interest Charge occupancy fee published in Council Schedule of Fees and Charges. Relevant rate for Community vs commercial operators	Meeting or breaches of conditions of hire. Number of complaints about licensees/ hirers.
Permissible Uses	Locations	
Busking, Filming Celebratory events e.g. weddings, birthdays, family gatherings	Identified external areas. Defined areas within Firemans Cottage. As depicted in Licence agreement.	
Seasonal watercraft hire	Car park behind Pumphouse Grassy areas adjoining Watercourse. Gravel marshalling area. As depicted in Licence agreement	

Further, this PoM expressly authorises the granting of other estates in order to facilitate surrounding development, Council has traditionally made its land available for drainage purposes. In this respect Council has set the following intended use/target strategies/objectives, means of achievement and manners of assessment.

B. Drainage Opportunities		
Objectives	Means of Achievement	Manner of Assessment
Provision of drainage over Community land for surrounding properties while preserving and protecting historic and culturally sensitive sites	Consultation with stakeholders where proposals impacts cultural/historic sites/artefacts. Granting of easements to drain water where appropriate.	Registration of easements to drain water.
Minimise the financial burden on ratepayers for provision & maintenance of community land.	Market valuations for compensation payable.	Receive compensation as determined.

7. PARK

7.1. CATEGORISING COMMUNITY LAND AS PARK

Land should be categorised as a park if the land is proposed to be, improved by landscaping, gardens or the provision of non-sporting equipment and facilities, for use mainly for passive or active recreational, social, educational and cultural pursuits that do not unduly intrude on the peaceful enjoyment of the land by others.

7.2. LAND INCLUDED IN THIS CLASSIFICATION

Legal Description	Category	Uses
Lot 9 DP 832081 Part Lot 11 1123614 Part Lot 203 DP1059074	Park	Access road comprised in Goulburn Rotary Park Buffer to bulky retail & residential subdivision; GHW event parking.

7.3. THE CORE OBJECTIVES FOR PARK

Clause 36G of the Act provides the core objectives for Community Land classified as Park are:

(a) to encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities, and
(b) to provide for passive recreational activities or pastimes and for the casual playing of games, and
(c) to improve the land in such a way as to promote and facilitate its use to achieve the other core objectives for its management.

7.4. MANAGEMENT STRATEGIES

Section 6 of this PoM discusses the Legislation, state, regional and local documents policies and plans that provide the foundation for the desired outcomes and means of achieving those outcomes and the Strategy Table at Section 6 provides a comprehensive schedule of Management Strategies for all of the categories of land in this PoM.

7.5. GRANTING OF LEASES LICENCES AND OTHER ESTATES

The *Local Government Act, 1993* is prescriptive on the matters of leases, licences and granting other estates over land that is classified as Community Land.

8.5.1. SECTION 46 OF THE ACT

S46 of the Act - a lease, licence or other estate in respect of community land:

a) may be granted for the provision of public utilities and works associated with or ancillary to public utilities

b) may be granted, in accordance with an express authorisation in the PoM and such provisions of the PoM as apply to the granting of the lease, licence or other estate:
   i) for a purpose prescribed by subsection (4) or for a purpose prescribed as a core objective of the land concerned;
   ii) for a purpose prescribed by the regulations, if the PoM applies to several areas of community land;
   iii) for a short term, casual purpose including:
      • the playing of a musical instrument; singing, for fee or reward
      • engaging in a trade or business
      • delivering a public address
      • commercial photographic sessions
      • picnics and private celebrations such as weddings and family gatherings
      • filming for cinema or television'

(however, the use or occupation of community land for such purposes is prescribed only if the use or occupation does not involve the erection of any building or structure of a permanent nature)

   iv) for the purpose of providing pipes, conduits or other connections under the surface of the ground for the connection of premises adjoining the community land to a facility of the council or other public utility provider that is situated on the community land but may not otherwise be granted.

8.5.2. SECTION 47 OF THE ACT

S47 of the Act states that if a council proposes to grant a lease, licence or other estate in respect of community land for a period exceeding 5 years, it must:

1. give public notice of the proposal:
   - exhibit notice of the proposal on the land to which the proposal relates, and
   - give notice of the proposal to such persons as appear to it to own or occupy the land adjoining the community land, and
   - give notice of the proposal to any other person, appearing to the council to be the owner or occupier of land in the vicinity of the community land, if in the opinion of the council the land the subject of the proposal is likely to form the primary focus of the person's enjoyment of community land
2. A notice of the proposal must include:
   - Information sufficient to identify the community land concerned
   - The purpose for which the land will be used under the proposed lease, licence or other estate
   - The term of the proposed lease, licence or other estate (including particulars of any options for renewal)
   - The name of the proposed lessee or licensee (if known)
   - A statement that submissions in writing may be made to the council concerning the proposal within a period, not less than 28 days, specified in the notice
3. Any person may make a submission in writing to the council during the period specified for the purpose in the notice
4. Before granting the lease, licence or other estate, the council must consider all submissions duly made to it

5. If a person makes a submission by way of objection to the proposal, the council must not grant the lease, licence or other estate except with the Minister's consent
6. If the council applies for the Minister's consent, it must forward specific information to the Minister
7. On receipt of the application, the Minister must request the Director of Planning to furnish a report concerning the application within such a period as the Minister specified
8. After considering the application and any report of the Director of Planning, the Minister, if satisfied… may consent to the granting of the lease, licence or other estate in respect of the whole or any part of the land to which the application relates, subject to such terms and conditions as the Minister specifies.
9. On request by any person, the minister must provide that person, within 14 days of that request, with a written statement of reasons for consenting to; refusing to consent to, the granting of a lease, licence or other estate.

8.5.3. SECTION 47A OF THE ACT

S47A provides states that for a Lease, licences and other estates in respect of community land, for terms not exceeding 5 years including options;
A council proposing to grant a lease, licence or other estate

- must notify and exhibit the proposal
- section 47(3) and 47(4) apply to the proposal
- the proposal must be referred to the Minister for determination, if the Minister requests, whether or not the provisions of section 47(5-9) are to apply.

The Local Government (General) Regulation, 2005 allows for the following exemptions in relation to leases, licences and other estates:

8.5.4. EXEMPTIONS FROM S47A OF THE ACT

Leases, licences and other estates in respect of community land where the term is of 5 years or less and granted for the following purposes are exempt from the provisions of section 47A of the Act:

a) residential purposes, where the relevant community land has been developed for the purposes of housing owned by the council
b) the provision of pipes, conduits or other connections under the surface of the ground for the connection of premises adjoining the community land to a facility of the council or other public utility provider that is situated on the community land,
c) use and occupation of the community land for events such as:
    i) a public performance (that is, a theatrical, musical or other entertainment for the amusement of the public)
    ii) the playing of a musical instrument; singing, for fee or reward,
    iii) engaging in a trade or business
    iv) playing of any lawful game or sport
    v) delivering a public address
    vi) conducting a commercial photographic session
    vii) picnics and private celebrations such as weddings and family gatherings
    viii) filming for cinema or television.

However, the use or occupation of community land for events listed in subclause (c) above is exempt only if:

a) the use or occupation does not involve the erection of any building or structure of a permanent nature, and
b) in the case of any use or occupation that occurs only once, it does not continue for more than 3 consecutive days, and
c) in the case of any use or occupation that occurs more than once, each occurrence is for no more than 3 consecutive days, not including Saturday and Sunday, and the period from the first occurrence until the last occurrence is not more than 12 months.

7.6. EXPRESS AUTHORISATION TO LEASE, LICENCE AND GRANT OTHER ESTATES

That Land categorised as Park may be leased, licensed or dealt with under other estates and as such the following sites are identified as being eligible for short term licence, by means of Hire agreements, that are issued by Museums staff for the identified purposes and in the identified locations and at the times when Council is conducting events at the Goulburn Historic Waterworks.

A. Short Term Occupancy Licence		
Objectives	Means of Achievement	Manner of Assessment
Make sites available for short term Licence (Hire)	Hire granted by invitation or Expressions of Interest Charge occupancy fee published in Council Schedule of Fees and Charges. Relevant rate for Community vs commercial operators	Terms and conditions of Hire agreement Breach of terms of Hire. Number of complaints about licensees/ hirers.
Permissible Uses	Locations	
Public theatrical or musical performance; Playing of a musical instrument or singing, for fee or reward, Delivering a public address Commercial photographic session Engaging in a trade or business, Playing of any lawful game or sport, Picnics, Private celebrations such as weddings and family gatherings Filming for cinema or television.	All areas categorised as Park. As depicted in Licence agreement	
Seasonal watercraft hire	Car park behind Pumphouse Mown grass area adjoining Natural Area Watercourse. As depicted in Licence agreement	

8. NATURAL AREA

8.1. CATEGORISING COMMUNITY LAND AS NATURAL AREA

Land should be categorised as a natural area if the land possesses a significant geological or geomorphological feature, landform, representative system or other natural feature or attribute that suggests further categorisation as bushland, wetland, escarpment, watercourse or foreshore.

8.2. LAND INCLUDED IN THIS CLASSIFICATION

Table 9.2.1.

Legal Description	Natural Areas Categorisation	Attributes
Lot 203 DP 1059074	Bushland &, Escarpment	Bio diversity conservation area, Geological feature Natural overland flow path and Asset protection zone.
Lot 11 DP 1123614	Bushland, Escarpment and Watercourse	Bio diversity conservation area Geological feature Wollondilly River flood plain Access to Marsden Weir
Lot 4 DP 1126066	Watercourse	Wollondilly River flood plain
Lot 1 DP 1119777	Watercourse	Wollondilly River flood plain & jetty ruin

8.3. THE CORE OBJECTIVES FOR NATURAL AREA

Clause 36E of the Local government Act prescribes the core objectives for management of community land categorised as a natural area are:

(a) to conserve biodiversity and maintain ecosystem function in respect of the land, or the feature or habitat in respect of which the land is categorised as a natural area, and
(b) to maintain the land, or that feature or habitat, in its natural state and setting, and
(c) to provide for the restoration and regeneration of the land, and
(d) to provide for community use of and access to the land in such a manner as will minimise and mitigate any disturbance caused by human intrusion, and
(e) to assist in and facilitate the implementation of any provisions restricting the use and management of the land that are set out in a recovery plan or threat abatement plan prepared under the *Threatened Species Conservation Act 1995* or the *Fisheries Management Act, 1994.*

Three distinct areas have been identified upon the land within the Goulburn Historic Waterworks and Marsden Weir Park as having features of natural significance, being: Natural Area Bushland (BU), Natural Area Escarpment (ES) and Natural Area Watercourse (WA).

8.4. MANAGEMENT STRATEGIES

Section 6 of this PoM discusses the Legislation, policies and plans that provide the foundation for the desired outcomes and means of achieving the identified outcomes and the Table at Section 6 provides a comprehensive schedule of Management Strategies for all of the categories of land in this PoM.

Once community consultation has been undertaken the Strategies Table will be amended to incorporate additional matters that may arise.

8.5. LEASES LICENCES AND OTHER ESTATES

Section 47B of the Act provides that lease or licence in respect of natural area

1 A lease, licence or other estate must not be granted, in respect of community land categorised as a natural area—
   a. to authorise the erection or use of a building or structure that is not a building or structure of a kind prescribed by this section or the regulations, or
   b. to authorise the erection or use of a building or structure that is not for a purpose prescribed by this section or the regulations.

2 A lease, licence or instrument granting any other estate is void to the extent that its provisions are inconsistent with this section.

3 In this section, erection of a building or structure includes rebuilding or replacement of a building or structure.

4 The following buildings and structures are prescribed for the purposes of subsection (1)(a):
   (a) walkways,
   (b) pathways,
   (c) bridges,
   (d) causeways,
   (e) observation platforms,
   (f) signs.

5 The following purposes are prescribed for the purposes of subsection (1)(b)—
   (a) information kiosks,
   (b) refreshment kiosks (but not restaurants),
   (c) work sheds or storage sheds required in connection with the maintenance of the land,
   (d) toilets or rest rooms.

6 Despite subsection (1), a lease, licence or other estate may be granted, in respect of community land categorised as a natural area, to authorise the erection or use of any building or structure necessary to enable a filming

project to be carried out, subject to the conditions prescribed by subsection (7) and the regulations.

7 It is a condition of any lease, licence or other estate referred to in subsection 6:

(a) that any building or structure so erected must be temporary in nature, and

(b) that as soon as practicable after the termination of the lease, licence or other estate:

(i) any building or structure erected must be removed, and

(ii) any damage to the land caused by the erection or use of a building or structure must be made good, and

(iii) the land must be restored as nearly as possible to the condition that it was in at the time the lease, licence or other estate was granted,

at the expense of the person to whom the lease, licence or other estate was granted.

8.6 BUSHLAND

8.6.1. CATEGORISING COMMUNITY LAND AS NATURAL AREA - BUSHLAND

Natural area should be further categorised as bushland if the land contains primarily native vegetation, whether moderately disturbed and even though there may be weed invasion.

The bushland identified on the subject land is a remnant of the Werriwa Tablelands Cool Temperate Grassy Woodland, of the South Eastern Highlands and East Corner Bioregions.

This remnant ecological-community is listed as critically endangered under Schedule 2 of the NSW *Biodiversity Conservation Act, 2016*.

8.6.2 CORE OBJECTIVES BUSHLAND

The core objectives for management of community land categorised as bushland are:

(a) to ensure the ongoing ecological viability of the land by protecting the ecological biodiversity and habitat values of the land, the flora and fauna (including invertebrates, fungi and micro-organisms) of the land and other ecological values of the land, and
(b) to protect the aesthetic, heritage, recreational, educational and scientific values of the land, and
(c) to promote the management of the land in a manner that protects and enhances the values and quality of the land and facilitates public enjoyment of the land, and to implement measures directed to minimising or mitigating any disturbance caused by human intrusion, and
(d) to restore degraded bushland, and
(e) to protect existing landforms such as natural drainage lines, watercourses and foreshores, and
(f) to retain bushland in parcels of a size and configuration that will enable the existing plant and animal communities to survive in the long term, and
(g) to protect bushland as a natural stabiliser of the soil surface.

8.6.3. VEGETATION

This bushland community features a canopy of Snow Gums a range of woody shrubs including Peach Heath, Urn Heath, Daphne Heath, Low Bush Pea, Hop Bitter Peas, and ground cover including Kangaroo Grass, Snow Grass, Native Tussock, Spear Grass and Purple Wire Grass.

Other trees of significance identified in the Natural Area Bushland are Bulloaks and scattered Dogwoods.

Werriwa Tablelands Cool Temperate Grassy Woodland

8.6.4. CONDITION AND THREATS

The Bushland is considered to be in moderate to good condition but appears to have further degraded since the previous condition audit in 2020, with threats to the biodiversity appearing on several accounts:

- Firstly, the Pines that were planted to line the access road are now encroaching into the bushland area. If not removed/ controlled the introduced pine species will overshadow and outcompete the native species.
- Secondly, increasing residential development on land adjoining introduces an increasing array of exotic and weed species, as well as increased run off of nutrient rich water and soil that does not suit native and endemic species;
- Additionally, encroaching urban development may give rise to antisocial behaviours such as dumping of refuse, graffiti on rock surfaces, removal for firewood of potential habitat, including dead wood and fallen branches and use of off road vehicles for leisure.

Glossy Black Cockatoo, misty Autumn morning, Goulburn Historic Waterworks

8.7. ESCARPMENT

8.7.1. CATEGORISING COMMUNITY LAND AS NATURAL AREA – ESCARPMENT

Natural area should be further categorised as an escarpment if the land includes such features as a long cliff-like ridge or rock, and the land includes significant or unusual geological, geomorphological or scenic qualities.

8.7.2. CORE OBJECTIVES ESCARPMENT

Fine grained lithic quartz sandstone

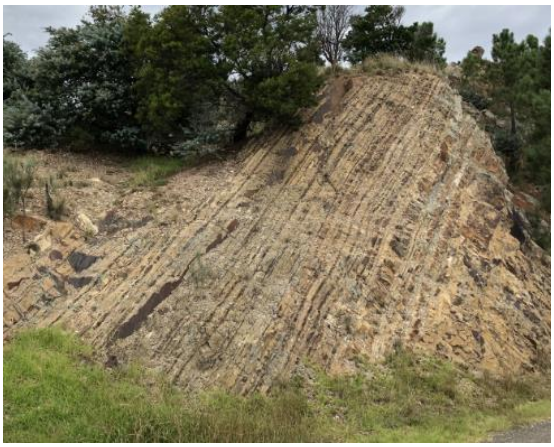
Section 36L of the Act provides the following core objectives for management of community land categorised as an escarpment

(a) to protect any important geological, geomorphological or scenic features of the escarpment, and
(b) to facilitate safe community use and enjoyment of the escarpment.

8.7.3 GEOLOGICAL FEATURE

A conspicuous feature of the Marsden Weir Park and particularly the Goulburn Historic Waterworks is the Snow Gum Ridge that appears to extend from a prominent rocky outcrop, approximately 20 metres above the Wollondilly River south, south-west to where it seems to disappear into the bushland. The ridge has been cut to allow for the access road that extends from Fitzroy Street to the Goulburn Historic Waterworks. The Snow Gum Ridge including the outcrop over the river is a formation of fine grained lithic quartz sandstone.

The cutting for the access road and excavation to the south/rear of the Pumphouse provide a clear picture of the geology of the locality with tilted layers of fine grained sandstone, siltstone and shale evident.



Tilted rock with clearly defined stratum

8.7.4. VEGETATION

Trees identified in the Natural Area Escarpment include Bulloaks and Dogwood, with an understory of scattered native grasses.

Bulloak on the ridge, adjacent to the road cutting

8.7.5. FAUNA

Cunningham Skink have colonised the outcrop above the river, as their territory, with Eastern Blue Tongue Skink also identified in the Snow Gum Ridge area. The abundance of small prey, indicates the presence of snakes, such as Eastern Brown and Tiger snakes, among others.

8.8. WATERCOURSE

8.8.1. CATEGORISING COMMUNITY LAND AS NATURAL AREA - WATERCOURSE

Natural area should be further categorised as a watercourse if the land includes any stream of water and associated riparian land or vegetation, including land that is protected.

8.8.2. THE CORE OBJECTIVES FOR WATERCOURSE

The core objectives for management of community land categorised as a watercourse, under 36M of the Act are to:

(a) manage watercourses so as to protect the biodiversity and ecological values of the in-stream environment, particularly in relation to water quality and water flows, and

(b) manage watercourses so as to protect the riparian environment, particularly in relation to riparian vegetation and habitats and bank stability, and

(c) restore degraded watercourses, and

(d) promote community education, and community access to and use of the watercourse, without compromising the other core objectives of the category.

Riparian vegetation consolidates river banks & provides nursery habitat

8.8.3. WATER COURSE - WOLLONDILLY RIVER

The Goulburn Historic Waterworks, Marsden Weir Park are bound, by the Wollondilly River to the north and by necessity the Goulburn Historic Waterworks is located riverside.

NSW Fisheries Management Act, 1994 defines key fish habitat as including:

> "Any area that is occupied, or periodically or occasionally occupied, by fish or marine vegetation (or both), and includes any biotic or abiotic component."

Diagram 8.1 following is an extract of the 1% (1 in 100 year) Event 2016 Flood Study map. The aqua shading depicts the extent of the Wollondilly River flood zone. Note that such a flood event is envisaged to top the embankment, north of the Goulburn Historic Waterworks Pumphouse.
While the full extent of the identified flood area is Riparian Zone, the land under playground and grass is categorised as Park. However, the Categorisation Plan 3.1 acknowledges the extent of the Riparian Zone, by hatching. An extreme flood event (Probable Maximum Flood/PMF) may see the riparian zone extend beyond the embankment.

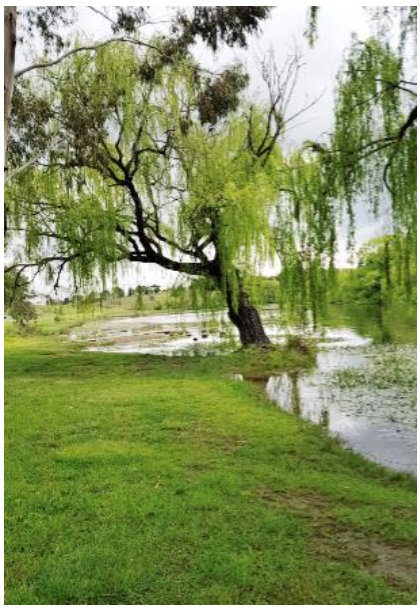
Diagram 8.1
The Riparian Zone for the Wollondilly River at Goulburn Historic Waterworks, Marsden Park
The Categorisation Plan at 3.1. shows the Riparian Zone black hatched.

8.8.4. VEGETATION

Goulburn Historic Waterworks site features a blend of mown parkland, mixed scattered mature shade trees; including Weeping Willows, Kurrajongs, Hawthorns Blackwood Wattle & Ribbon Gums, as well as embankment marshes comprised of reeds & rushes and remnants of other natural vegetation.

8.8.5. FAUNA

Fauna found in proximity of the watercourse include riverine fish species, some native but more notably introduced species. The actual river bed is not addressed in this PoM, as the river is managed by the State of NSW as Crown Land.



Weeping Willow, riverside mown area

Embankment species heard or sighted among the reeds include amphibians, such as Spotted Marsh Frogs, and Peron's Tree Frogs among others.

The reptiles noted around the ridge outcrop may also occupy the riverside areas with frogs providing plentiful prey.

Waterfowl and other bird species abound in the area with Australasian Grebe, Australasian Swamp Hen, Eurasian Coot, Dusky Moorhen, assorted ducks, cormorants, a breeding pair of swans with seasonal offspring and occasional pelicans sighted on or by the river.

Mammals identified riverside include Water Rats (Rakali) and paddlers have noted seeing platypus, upstream of the GHW.

8.8.6. BUILT FEATURES

There are two built features that adjoin the land within the GHW Natural Area Watercourse.

- Concrete jetty ruin adjoining Lot 1 DP1119777, located to the west of the Pumphouse Café. Access to this facility is by foot or river, with no vehicular access available.

- Most notably Marsden Weir. While this asset attaches to the land at Lot 11 DP1123614, it is constructed upon the river bed and represents a Crown asset, with the consequence that it will be addressed in a Crown Land PoM for Natural Area, or alternatively, as an item of heritage significance, it will be identified as an Area of Cultural Significance.

Looking west from Marsden Weir, Wollondilly River,
natural riverine vegetation -foreground left,
Snow Gum Ridge road cutting -centre and
Goulburn Historic Waterworks Pumphouse -back ground

9. FUTURE MANAGEMENT

This PoM has been prepared after consultation with a range of stakeholders both within Council and across the wider community, to collate the social values and management issues for guidance in the management of Council's community land.

The land included in this site-specific PoM has been identified as having the following Classifications, assigned in accordance with the guidelines of the Local Government Act, 1993 and Local Government Regulations 2005:

Area of Cultural Significance:	Addressing the Heritage significance of the buildings constructed upon the site, the contents of the buildings and their relevance in the development of Goulburn as a regional centre.
Natural Area Watercourse	Riparian zone of the Wollondilly River.
Natural Area Bushland	Identified remnant of Werriwa Tablelands Cool Temperate Grassy Woodland, listed as critically endangered under *Schedule 2 of the NSW Biodiversity Act, 2016*.
Natural Area Escarpment	Significant geological feature known as the Snow Gum Ridge;
Park	Community land identified and used for passive recreation.

Categorising community land, open community consultation, exhibition of the draft PoM and making the PoM available upon adoption by Council, provides a basis for Council to engage with the community in:

- making clear Council's obligation to stakeholders;
- encouraging ongoing planning discussions to ensure that this and Plans of Management generally, continue to address best land management practices;
- providing opportunities for visitors to this site and members of our community to actively participate in the preservation of:
    - those features of cultural significance and heritage value in the Goulburn Historic Waterworks; and
    - the natural features in the Marsden Weir Park and Wollondilly riverine area, by observation and submission of comments to Council.

Future management of community land must balance recognition of the social, natural and cultural heritage of these assets in Goulburn Mulwaree Local Government Area with response to contemporary social requirements. Management and planning principals for community land must offer sufficient flexibility to consider and embrace the concepts and values that reflect or accommodate changing: circumstances; social values as well as land management practices.

Plans of Management are dynamic documents with the consequence that this PoM will be subject to review at the very least 5 yearly, to ensure the objectives and strategies reflect both Legislated and community expectations and so Council may continue to meet its obligations.

10. ANNEXURES

Annexure A. FIREMAN'S COTTAGE AND CAFÉ MASTER PLAN 2013;

Goulburn Historic Waterworks Museum Fireman's Cottage & Café (former schoolhouse) Master Plan March 2013

Waterworks Cottage

Pumphouse Cafe

Preface

Goulburn Mulwaree Council, has prepared this Master Plan for the Goulburn Historic Waterworks.

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Version Control

Version	Adoption Date	Council Resolution
1	17 September 2013	Minute 13/402

Note: This Master Plan does not address the use or management of the 'Pumphouse'. Please refer to the Conservation Management Plan prepared by Ainsworth Heritage dated August 2010

1. Statement of Purpose

To convert the Goulburn Historic Waterworks site into a multi-use museum facility via:

a) Extended opening hours to increase visitor numbers.

b) An education programme that is marketed to a range of community groups and education organisations, including an 'artist-in-residence' program.

c) To provide for the following basic functions: an office/ meeting room for staff and volunteers, visitors room, shop-front, interpretation/exhibition space, reference library, storage for educational and archival material and an improved café space.

d) To provide enhanced volunteer services and facilities, to enable retention of existing volunteers and attraction of new volunteers.

e) To make the site accessible where possible.

2. Strategic Planning

The Cottage

Current usage:
The cottage was, for approximately the past 10 years until 30 June 2012, leased by Council as a private residence. It was determined that to explore the full potential of the site as a museum and tourist drawcard, the lease of the cottage would not be renewed as from June 2012, and management of the cottage would revert to Council.

It is not proposed to modify the existing cottage toilet and bathroom into a (disabled) 'accessible' facility.

It is proposed that one unisex 'accessible' toilet will be constructed at the cafe building.

The cafe is deemed to be the most effective location to provide 'accessible' facilities, as it is situated on flat and level ground.

Also, vehicles, including buses, can be parked close to the cafe to drop off elderly or disabled persons. A disabled ramp will be installed as part of the project.

Proposed usage:
The cottage will be modified to (see Appendix 2):

a) Provide an office with computer and internet access
This will allow for casual staff and volunteers to be more actively involved in marketing, visitor data input and administrative duties including preparation of education packages for school groups.

b) Provide a small meeting/training room
Will be used for all relevant volunteers and staff to provide them with necessary training. It is planned to also offer the room for hire to other Council Departments and community groups.

c) Provide a reference library and storage for archival material
Establish a resource centre for education of staff, volunteers, schools and visitors.

d) Provide exhibition space
A room in the cottage will be used to host exhibitions and interpretation panels.

e) Education room
The cottage will be able to host small school groups and other tour groups to enable the detailed history of the site to be explored. This may include the use of audio-visual equipment.

f) Provide a volunteer room for meal breaks and small staff meetings
This may include a minor update (such as painting and plumbing repairs) to the existing cottage kitchen, however it is proposed that the primary catering facilities are retained and enhanced in the existing café.

g) Establish a shop front
To enable the additional sale of museum souvenirs.

h) Artist-in-residence program
In conjunction with the Goulburn Regional Art Gallery, an artist-in-residence program may be introduced. This involves an artist residing in the cottage for temporary periods (usually up to 3 months) and undertaking artistic endeavours (e.g. writing, painting, and sculpting).

This would require use of the existing bathroom and toilet facilities in the cottage, and two of the current rooms. During the program, the balance of the rooms in the building would be used as described in the points above and then returned to normal usage.

The Cafe Building (former schoolhouse)

Current usage:
The cafe is currently operated by volunteers as a café primarily on "steaming" days and opens for occasional tour groups on other days. It is also used by the volunteers as a 'lunch' and meeting room.

The building was originally the Richlands Primary School building and was moved to the Waterworks site during the late 1970s to serve as a "train station" and kiosk for the former Marsden Museum of Historic Engines which operated a train from the main gate to this station.

Proposed usage:
The cafe building (see Appendix 3) will:

a) Operate as the "Pumphouse Cafe"
The cafe/kiosk will continue to operate as a volunteer run operation, which provides income for the site. The café/kiosk sells drinks, chips, other packaged foods and tea and coffee. It also uses a BBQ to provide items such as hamburgers and sausage sandwiches. In winter, items such as soups may be sold.

Investigations may occur in the future as to leasing the building as a commercial run operation.

Relevant staff and volunteers will undertake training in the 'Food Safety Supervisor' certification as required.

It is acknowledged that this building contains some asbestos, which is currently stable and safe for use. However, prior to any modifications occurring, this will need to be assessed further. In order to retain this building for the long term work will need to be carried out on the ceiling.

b) Remain available as a general 'room for hire' to suitable groups and subject to discretion of Council.
To ensure that income streams are maintained as far as possible, the cafe building will remain accessible to use by suitable groups. This could include use as a wedding reception area, children's birthday or for small meetings.

c) House one unisex disabled/accessible toilet
In order to better accommodate persons requiring the use of an accessible toilet this will now be located alongside the existing toilets. This will allow for bus groups and disabled persons to access this facility from the same level as the bus and disabled parking.

d) Be extended to catering for more outdoor seating
It is proposed to build a covered deck on the eastern side of the café building. This will allow for another 20-25 people to be seated. At the moment the café can cater for only 25 persons in one sitting, having an area that would seat another 25 would mean one bus load of 50 people could be catered for at the same time.

The tables below and over the page prioritises the work that has been identified as being required to modify the Waterworks Cottage and Pumphouse Cafe to enable the actions above to be implemented.

The following action table relates to the Waterworks Cafe (as funds allow):

Item	Priority	Building	Action	Notes	Estimated cost	Notes for costs
High priority actions - Cafe						
1	High	Cafe	Accessible toilet	Attached to the end of existing toilets	$18,000	DA submitted April 2013
2	High	Cafe	Replace ceiling	Completed	$5,000	
3	High	Cafe	Replace/repair floor	Completed	$5,000	
4	High	Cafe	Refit basic stainless steel kitchen	To comply with standards	$2,000	
				Total actions	**$30,000**	

The following action table relates to the Waterworks Cottage (as funds allow):

Itemr	Priority	Building	Action	Notes	Estimated cost	Notes for costs
High/medium priority actions - Cottage						
1.	High	Cottage	Internal painting including preparation and general maintenance	Volunteers	$3,000	Complete d 2012
2.	High	Cottage	Preliminary Internal lighting/light fittings/electrical repairs	Install appropriate lighting, possibly replace wiring/ upgrade meter box	$1,000	Competed 2012
3	High	Cottage	Remove internal doors and replace with doors appropriate to the period	Doors replaced on two rooms only	$600	Part completed 2012
4	High	Cottage	Window security	Window film	$1,300	
5	High	Cottage	Seating x 30 chairs	For staff, volunteers, meetings	$2,400	Competed 2012
6	High	Cottage	Set up office/ computer/library	Internet access for staff and volunteers	TBA	
7	High	Cottage	Alarm (not back to base)		$500	
8	Med	Cottage	External drainage including excavation work	To reduce moisture access to cottage- western side	$5,000	
9	Med	Cottage	External lighting	Lighting needed on the building and car park area	$2,000	
10	High	Cottage	External signage	Clear signage instructing visitors where to go & what is available to do	$2,000	
11	Med	Cottage	Increase power	To allow for more heating	$3,000	
12	High	Cottage	Staff/volunteer room/meeting room	A place where volunteers and staff can meet, have lunch, take a break	$500	
				Total (med/high actions)	$TBA	

Low Priority actions - Cottage						
1	Low	**Cottage**	Heating	Install ducted heating	$6,000	
2	Low	**Cottage**	Insulation	Roof space	$3,000	
3	Low	**Cottage**	Purchase 'tablets' for new media experience	electronic tablets x 5 to Eire out to visiting groups- undertake improved self-guided tours etc	$1,500	
4	Low	**Cottage**	Purchase of 'touch screen' computer for cottage display		$6,000	
5	Med / Low	**Cottage**	Landscaping	To improve appearance of grounds around cottage	$5,000	
				TOTAL (low priority actions)	$21,500	
				Total (all actions)	$TBA	

3. Revenue

Prior to the cottage being managed by Council, it was leased to a private tenant who provided a modest and steady income to Council. It is recognised that there is some obligation on behalf of the Waterworks facility to grow the income stream, with the aim of recouping some of the previous rental income.

Growth in income streams may also allow the Waterworks site to increase the funds available for expenditure at the site.

There are several strategies that will be implemented to enable the growth of income at the Waterworks site. These include:

a) Extended opening hours

It is recognised that as a popular tourist site and community recreation venue, the current limited opening hours at the Waterworks will need to be increased. This will initially mean an increase in opening hours from 3 days to 4 or 5 days, using a combination of volunteer and paid staff.

The Waterworks will remain open during all school, and most public, holidays as it has in the past (with the exception of the winter holidays).

b) Increase Council funding for the cottage/cafe precinct

Council currently provides an operational budget in which to manage the entire Waterworks site. To enable this redeveloped precinct to be maintained at a high standard, Council will be requested to provide an additional allocation of $5,000 annually.

c) Sponsorship
Subject to relevant Council policies, staff will investigate the opportunity to develop sponsorship proposals for the site. For example, a local nursery could be invited to sponsor a landscaped area, in return for signage advertising the business.

d) Sales
The sale of museum related merchandise is a recognised form of income for most museums. The current range of merchandise will be enhanced, along with staff sales training, to enable this area of revenue to be developed. The establishment of a formal "shop-front" with EFTPOS facilities in the cottage will assist with this.

e) Grant funding
Seek grant funding whenever possible for specific projects.

f) Promote the Waterworks to car clubs, service clubs, bus touring companies and community groups
Increase marketing and promotion of the Waterworks as a desirable venue for day-trippers to visit.

g) Hire of meeting/training room
Establish a quality facility to offer for hire to businesses and community groups.

4. Education

a) Form partnerships with educational organisations
Offer an education programme integral to the history of the Waterworks through interpretation

5. Exhibitions

a) Permanent Exhibitions
A permanent exhibition interpreting the life of the Geoghegan family who was the first family to live in the Waterworks Cottage will be installed. The exhibition will include photographs, dialogue and there will be an accompanying booklet for sale. Also, exhibitions focussing on the history of the Waterworks and Goulburn's water supply.

b) Temporary Exhibitions
Travelling exhibitions will be sought along with offering space for art exhibitions displaying local and district art works.

6. Other users

a) Form partnerships with community and interest groups
Space could be used by other groups to hold, for example, small conferences. This would in turn attract visitors to the site that may not normally visit the Waterworks.

7. Improved facilities for volunteers

Providing better facilities with a view to attracting new and retaining existing volunteers. These improvements will include an office with computer, dedicated volunteer and staff meeting, training and lunch rooms. Office space will allow us to attract volunteers with a variety of skills, such as, administrative, marketing and exhibition design.

	Activity	Timeframe	Responsibility	Success Indicator
1	General maintenance and cleaning	3 months	GMC staff/volunteers	Work completed allowing for the action plan to be put in place
2	Office/computer	6 months	GMC staff/volunteers	Will be used by staff and volunteers for research and marketing purposes.
3	Painting internal	6 months	Volunteers	Internal walls to be painted in suitable colours - completed
4	Emergency signs, lighting and procedures	6 months	GMC staff	Provide appropriate emergency equipment and procedures
5	Update security to doors and windows – deadlocks, new screens on doors and windows	6 months	GMC staff/contractors	Provide security giving consideration to the premises being empty overnight
6	External signs	12 months	GMC staff/contractor	Clear and informative signage instructing visitors where to go and what is available to do
7	Staff/volunteer room	6 months	GMC staff/volunteers	A place where volunteers and staff can meet, have lunch, take a break.
8	Seek Grant funding	Ongoing	GMC staff/volunteers	Continued improvement of the site and recognition from grant funding
	Sales/exhibition area (room opposite office)	6 months	GMC staff/volunteers	Establish an area displaying Waterworks souvenirs, educational material and local produce for sale. DVD could be viewed from this room as well
10	Heating/insulation – investigate off peak options e.g. heat banks	12 months	GMC staff/contractors	Provide adequate heating considering Goulburn's climate
11	Classroom/meeting & training room	6 -12 months	GMC staff/contractors	Establish an area suitable for students and groups.
12	Reference Library	12 months	GMC staff/volunteers	Provide visitors with easy access to reference material
13	Improvement of Internal and external lighting. Investigate the use of solar panels.	6-12 months	GMC staff	Provide appropriate lighting to the facility

14	Education Program	12 months	GMC staff/volunteers	Receive regular visits from education organisations

Action Plan – 6 to 12 months
Medium to long term goals- 1 to 5 years

- Establish a meeting/training room with audio visual facilities suitable to hire to business and community groups.
- Open site 6 days a week
- Back to base security alarm system
- Establish EFTPOS facilities
- Undertake investigations into leasing the cafe

Appendices

1. State Heritage Office Listing
2. Plan of Cottage
3. Plan of the Cafe

Environment & Heritage

You are here: Home > Heritage sites > Searches and directories > NSW heritage search

Goulburn Pumping Station, Marsden Weir & Appleby Steam Engine

Item details

Name of item: Goulburn Pumping Station, Marsden Weir & Appleby Steam Engine
Other name/s: Goulburn Steam Museum Pump House
Type of item: Complex / Group
Group/Collection: Utilities - Water
Category: Water Pump House/Pumping Station
Location: Lat: -34.7369444206 Long: 149.7040063750
Primary address: Wollondilly River, Goulburn, NSW 2580
Parish: Goulburn
County: Cumberland
Local govt. area: Goulburn Mulwaree

Property description

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
PART LOT	1		DP	1119777
PART LOT	11		DP	1123614
LOT	4		DP	1126066
PART LOT	1		DP	951293

All addresses

Street Address	Suburb/town	LGA	Parish	County	Type
Wollondilly River	Goulburn	Goulburn Mulwaree	Goulburn	Cumberland	Primary Address
off Fitzroy Street	Goulburn	Goulburn Mulwaree	Goulburn	Argyle	Alternate Address
off River Street	Goulburn	Goulburn Mulwaree			Alternate Address

Owner/s

Organisation Name	Owner Category	Date Ownership Updated
Goulburn Mulwaree Council	Local Government	19 Mar 99

Description

Construction years: 1885-1886

Physical description: Set on the banks of the picturesque Wollondilly River at Marsden Weir, Goulburn, New South Wales.

Built in 1885, the steam operated pumping facility provided Goulburn's first reticulated water supply. The pumphouse still contains the original Appleby Bros. Beam Engine pump and Lancashire Boilers.

This unique facility is the only complete, workable beam engine powered municipal water supply left in its original

location, in the Southern Hemisphere. The buildings and engine are of national significance and are listed on the NSW State Heritage Register (Goulburn Waterworks Museum, 2005, amended).

Current use: Museum

Former use: Municipal water supply system

History

Historical notes: Set on the banks of the picturesque Wollondilly River at Marsden Weir, Goulburn, New South Wales.

Built in 1885, the steam operated pumping facility provided Goulburn's first reticulated water supply. The pumphouse still contains the original Appleby Bros. Beam Engine pump and Lancashire Boilers.

Goulburn Waterworks: 1886
Becoming operational in January 1886, the Waterworks, on the banks of the Wollondilly River, provided a reticulated water supply to the growing City of Goulburn .

The pumphouse was powered by timber - wood piles fired the boilers 24 hours a day, seven days a week.

Before 1886 the residents of Goulburn would have collected water in tanks or wells, or purchased supplies from a carter. The demand of the growing city resulted in the Rivers and Harbours Board installing a waterworks on the Wollondilly River at Rocky Point powered by a steam operated beam engine. Water was pumped from the river to a filtration plant and reservoir, then gravity fed to residents of the city.

Appleby Beam Engine
The original 1883 Appleby Bros. steam engine situated inside the pumphouse was one of four installed in Pumphouses around NSW. The others were at Wagga Wagga, Albury (both scrapped in 1936) and Bathurst . The steam engine is known as a beam engine because of the large overhead rocking beam that transmits motion from the pistons to the cranks.

This great beam engine, of the type first invented by Thomas Newcomen in 1712, is an example of the powerhouse that drove the Industrial Revolution. Originally designed for pumping water out of mines in the UK it was improved by Watt, Smeaton, Maudsley and other engineers of the steam age until it became a very efficient and reliable engine.

Apart from mines and water supplies, many thousands were used to drive factory machinery in the 18th and 19th centuries - some four operated in factories in Goulburn - until they were superseded by electric motors in the early 20th century.

Goulburn's Beam Engine 1883
The Goulburn Waterworks engine is of medium size and produces 120 horse power. It has compound cylinders and a jet condenser. The fly wheel is 5 metres in diameter and at 18 r.p.m. the pumps delivered 660,000 litres of water per hour.

The two boilers that produce the steam that powers the engine, are located in the western wing of the building.

Fired by wood or coal, they produce high temperature steam that is piped through to the beam engine in the central part of the building. Only one boiler would have been operational at any one time. The other being shut down for regular cleaning and maintenance.

Steam from the boilers enters the valve chest on the cylinders from where it is transmitted to the cylinders by means of a valve mechanism. The action of the steam on

the pistons causes them to reciprocate. Rods connect the pistons to the beam at one end, and to the crank at the other. This converts the 'rocking' motion to rotary motion which makes the flywheel turn, giving a smooth and continuous action

By 1918 the beam engine had became obsolete when electric motors were installed.

Idle for many years, Goulburn's Beam Engine was restored in 1958.

The Pumphouse
The east wing of the building houses a horizontal steam engine, the Hick Hargreave (see separate page) and the early dynamo room with its electric pump.

The Waterworks is notable not just for its historic steam engine, but for the elegant Victorian building that houses the beam engine and boilers. Only metres away further up the hill stands the original fireman's cottage, also of Victorian design.

Horizontal Engine by Hick, Hargreaves & Co., England , c 1860.
From 1968 the Goulburn Waterworks operated as a museum of engines. It was during this period that a grant was made available under the Regional Employment Development Scheme (1975) which saw some of this funding used for the installation of the Hick Hargreaves engine now on display and operational on steaming days, in the annexe of the pumphouse.

The single cylinder horizontal engine measures 9 metres in length, weighs 17 tons with the flywheel being 4 metres in diameter.
It was originally used to power equipment in a Sydney tannery, becoming discarded in 1961. It was reported that it had been acquired to represent the nest stage of steam engine development after the beam type engine (Goulburn Waterworks Museum, 2005).

Historic themes

Australian theme (abbrev)	New South Wales theme	Local theme
3. Economy-Developing local, regional and national economies	Technology-Activities and processes associated with the knowledge or use of mechanical arts and applied sciences	Technologies for reticulated water supply-
4. Settlement-Building settlements, towns and cities	Land tenure-Activities and processes for identifying forms of ownership and occupancy of land and water, both Aboriginal and non-Aboriginal	Changing land uses - from rural to suburban-
4. Settlement-Building settlements, towns and cities	Towns, suburbs and villages-Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Creating landmark structures and places in regional settings-
4. Settlement-Building settlements, towns and cities	Towns, suburbs and villages-Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Developing civic infrastructure and amenity-
4. Settlement-Building settlements, towns and cities	Utilities-Activities associated with the provision of services, especially on a communal basis	Providing drinking water-
5. Working-Working	Labour-Activities associated with work practises and organised and unorganised labour	Working on public infrastructure projects-

Procedures /Exemptions

Section of act	Description	Title	Comments	Action date
57(2)	Exemption to allow work	Heritage Act	maintenance & gardens Order Under Section 57(2) to exempt the following activities from Section 57(1): (1) The maintenance of any building or item on the site where maintenance means the continuous protective care of existing material. (2) Garden maintenance including cultivation, weed control, the repair and maintenance of existing fences, gates and garden walls, pruning and tree surgery but not extensive lopping.	Jun 26 1987
57(2)	Exemption to allow work	Standard Exemptions		Sep 5 2008
57(2)	Exemption to allow work	Standard Exemptions	SCHEDULE OF STANDARD EXEMPTIONS HERITAGE ACT 1977 Notice of Order Under Section 57 (2) of the Heritage Act 1977 I, the Minister for Planning, pursuant to subsection 57(2) of the Heritage Act 1977, on the recommendation of the Heritage Council of New South Wales, do by this Order: 1. revoke the Schedule of Exemptions to subsection 57(1) of the Heritage Act made under subsection 57(2) and published in the Government Gazette on 22 February 2008; and 2. grant standard exemptions from subsection 57(1) of the Heritage Act 1977, described in the Schedule attached. FRANK SARTOR Minister for Planning Sydney, 11 July 2008 To view the schedule click on the Standard Exemptions for Works Requiring Heritage Council Approval link below.	Sep 5 2008

Standard exemptions for works requiring Heritage Council approval

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Heritage Act - State Heritage Register		00356	02 Apr 99	27	1546
Heritage Act - Permanent Conservation Order - former		00356	29 Jun 87	109	3639

References, internet links & images

Type	Author	Year	Title	Internet Links
Written	Goulburn Waterworks Museum	2005	Goulburn Waterworks Museum	View detail

Note: Internet links may be to web pages, documents or images.

PLAN
UNDER THE
HERITAGE ACT.
1977

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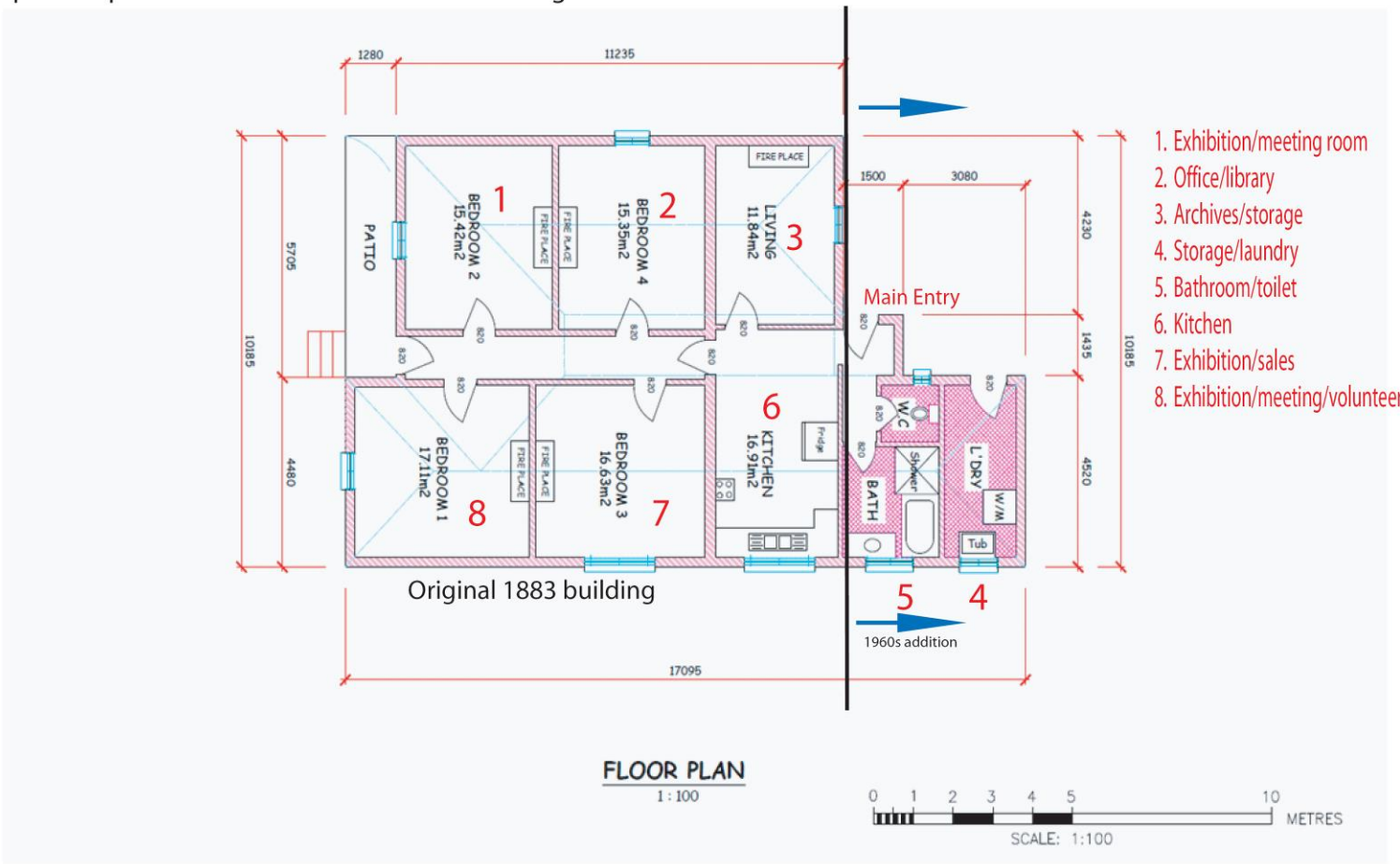
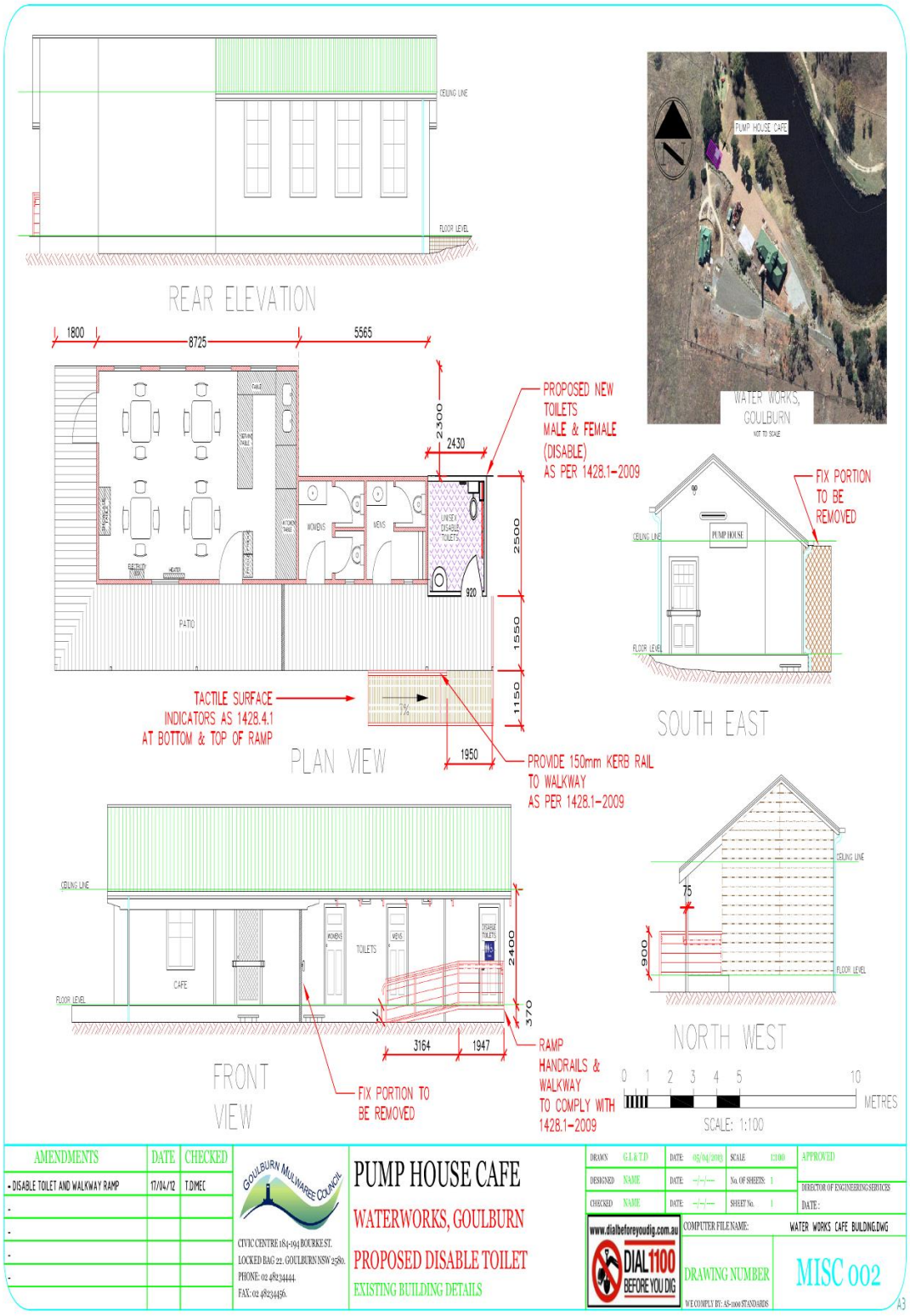
HISTORIC waterworks MUSEUM

Proposed options for Waterworks Museum Cottage





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Annexure B. BIODIVERSITY REPORT GOULBURN HISTORIC WATERWORKS - 2021

Flora Survey and Management Strategies for Remnant Werriwa Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions at the Goulburn Historic Waterworks, Fitzroy Street, Goulburn, NSW, 2580

Brian Faulkner, Environment and Biodiversity Assessment Officer,
Strategic Planning, Goulburn Mulwaree Council

11th March, 2021

Version Control

Draft Doc Id.	Council Endorsement	Resolution Date
1389568	2021/202 - 15.5	18 May 2021

EXECUTIVE SUMMARY

This document presents findings of a flora survey and management strategies for on-going protection of remnant native vegetation located within the grounds of the Goulburn Historic Waterworks Museum, Goulburn NSW 2580. The remnant vegetation on the site meets criteria for classification as Werriwa Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions. This ecological community is listed as a Critically Endangered Ecological Community under NSW State legislation.

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A. INTRODUCTION AND SITE CONTEXT

The Goulburn Historic Waterworks Museum is located at Marsden Weir, off Fitzroy Street, Goulburn, NSW, 2580 (See Figure 1). The site is managed by Goulburn Mulwaree Council. The site houses the original Goulburn Waterworks Pumphouse building, the Fireman's Cottage and the Appleby Beam Engine pump. There is also a former school building, that was moved to the site from Taralga, and that is now used as a café.

The Appleby Beam engine was constructed in London, in 1883 by Appleby Brothers.
Four such machines were commissioned for waterworks in NSW at this time, with others going to Albury, Bathurst and Wagga Wagga. Development of the site, with construction of the Fireman's Cottage, Pumphouse building and installation of the engine, commenced in 1883. Construction and testing was completed in 1885 and the facility was officially commissioned and fully operational in 1886.

The site continued to develop, with the construction of Marsden Weir in 1890 and later the addition of annexes to the Pumphouse, and the gradual phasing out of steam engines in favour of modern electric pumps. The site was used as Goulburn's main water supply until 1977, after which the City's water supply has been sourced further upstream from Rossi Weir.

The Appleby Beam Engine was restored to working order by Bruce McDonald in 1958. In addition to the Beam Engine, the site also features a fully restored horizontal steam engine built by Hick, Hargreaves & Co, England in 1866.
The Goulburn Historic Waterworks Museum is now a world renowned museum significant for its architectural, engineering, historical and cultural values. It is the only complete, steam powered municipal water supply left in its original location, in the Southern Hemisphere. The buildings and engine are of national significance and are now protected by a permanent conservation order. The Waterworks is listed on the State Heritage and National Trust Registers.

In addition to these key assets, the land comprising the waterworks grounds also features a stand of natural vegetation, including a small population of Bulloak (*Allocasuarina leuhmanii*) and a remnant stand of remnant Tablelands Snow Gum Grassy Woodland.
The importance of this vegetation was recognised by Rodney Falconer in 2000, in a report to Goulburn City Council.

The remnant Snow Gum dominated vegetation is flagged on the SEED Map advisory layer (accessed 12/02/2021) as potentially being Monaro and Werriwa Cool Temperate Grassy Woodland ecological communities (See Figure 3, page 10).
A flora survey of the area was conducted on 24/02/2021 and the survey results confirmed that it meets criteria for identification as Werriwa Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions.
This community is listed as a Critically Endangered Ecological Community under Schedule 2 of the NSW Biodiversity Conservation Act 2016.
In addition to being protected under NSW legislation, this remnant vegetation is worthy of protection for its significant values in terms of local biodiversity, as a refuge and habitat for a wide range of wildlife. As part of the Desktop Survey, several threatened fauna species that have a high likelihood of utilising the remnant native vegetation were identified. These have not been surveyed in the present study, but it is recommended that further surveys are conducted to assess fauna species that may be present in the ecological community and elsewhere on the site.

This report presents details of survey methodology and results, identifies threats to the remnant native vegetation in the area, and presents ongoing management strategies and recommendations.

SURVEY METHODOLOGY

DESKTOP SURVEY

The following online databases were used as part of the survey methodology for this report:

- Goulburn Mulwaree Council mapping
- NSW Government SEED – The Central Resource for Sharing and Enabling Environmental Data in NSW
- Biodiversity Values Map and Threshold Tool
- NSW Government BioNet Atlas
- EPBC Protected Matters Search Tool
- NSW OEH Combined geographic and habitat search

FLORA SURVEY

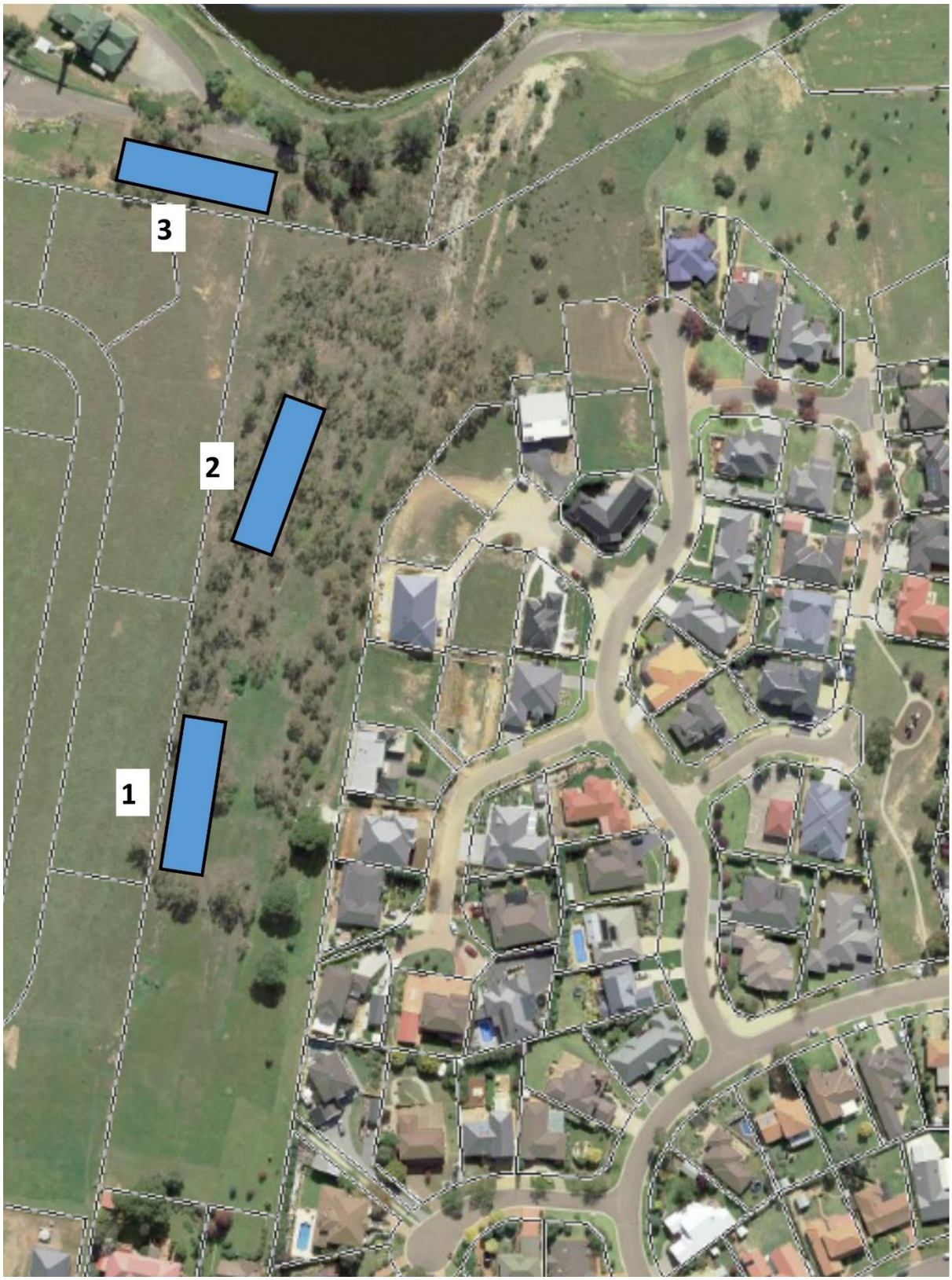
The site was surveyed on Wednesday 24/02/2021 utilising two methods:

- Random meander across site and around margins of the remnant native vegetation
- Three BAM (Biodiversity Assessment Method) plots. (Each BAM plot comprising one 20 x 50 m quadrat, one 20 x 20 metre sub quadrat and five 1 x 1 metre sub quadrats). Locations of BAM Plots are shown in Figure 2.

LIMITATIONS OF THE SURVEY

The ideal time for conducting flora surveys in the Southern Tablelands is in late spring and early summer, as this is the peak time for flowering of most forbs, including a range of geophytes that are dormant at other times of year. Species such as Yam Daisy (*Microseris lanceolata*), Milkmaids (*Burchardia umbellata*), Early Nancy (*Wurmbea dioica*), Bulbine Lily (*Bulbine bulbosa*), Tiger Orchid (*Diuris sulphurea*), Leopard Orchid (*Diuris maculata*) and *Caladenia* species are undoubtedly present in the remnant native vegetation at the Goulburn Historic Waterworks, but would not be detected in a flora survey conducted in autumn. It is strongly recommended that a follow up survey of the site is conducted in November.

Figure 2: Locations of BAM plots in remnant vegetation at the Goulburn Historic Waterworks



RESULTS

DESKTOP SURVEY

Goulburn Mulwaree mapping showed that the land is zoned RE1 Public Recreation

SEED mapping showed that the remnant vegetation on the site is flagged on the Monaro Werriwa CEEC Advisory Layer (Figure 3).

IBRA Region: SHE Monaro, Landscape code: Ggp, Landscape name: Gundary Plains

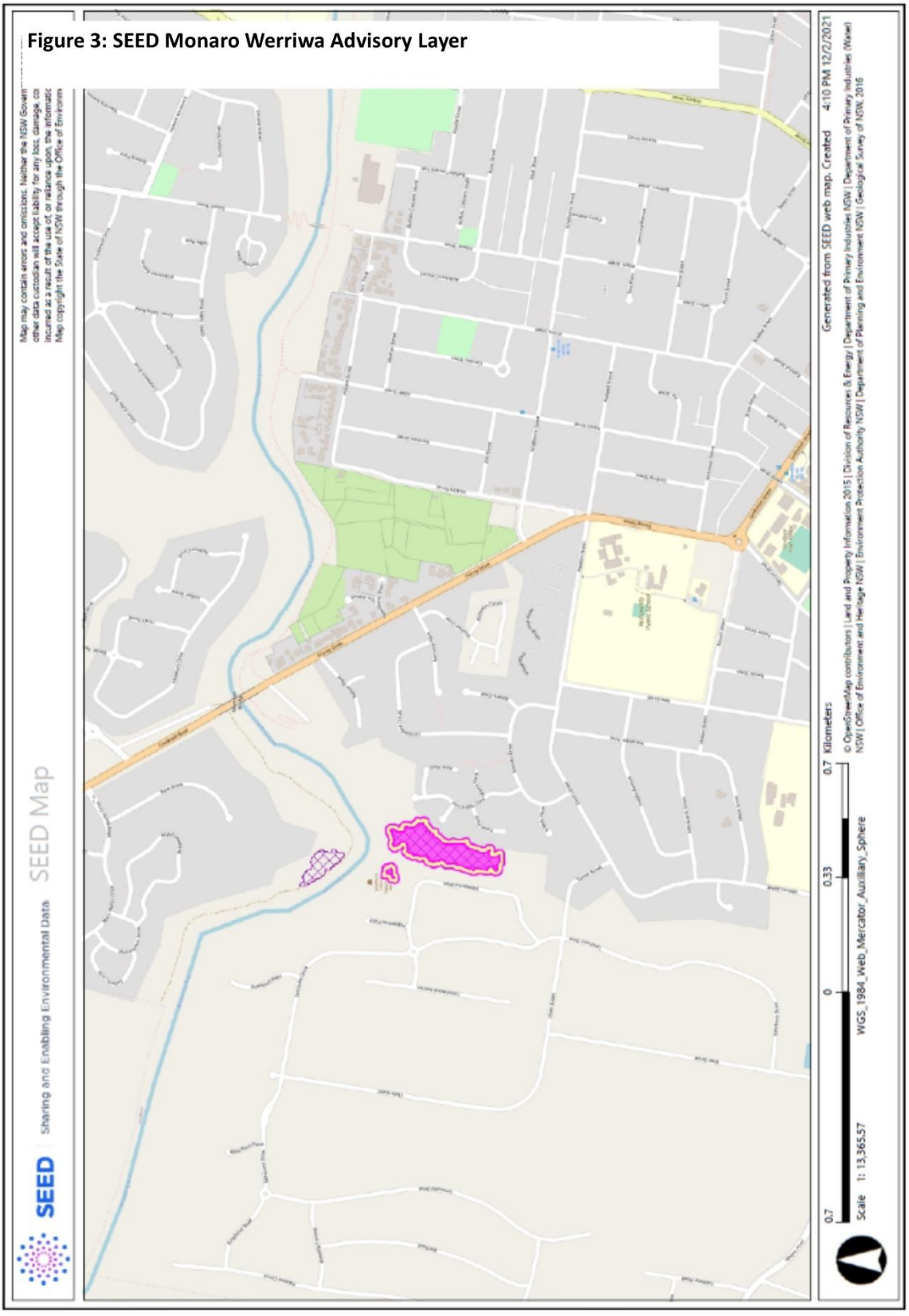
The land is not flagged on the Biodiversity Values Map

The BioNet Atlas confirmed presence of Snow Gums (*Eucalyptus pauciflora*), but no other *Eucalyptus* species have been previously recorded from the site in the Atlas

EPBC Protected Matters Search Report & NSW OEH Combined geographic and habitat search predicts presence of:

- 3 Threatened Ecological Communities (Full list provided in Appendix C)
- 73 Threatened Species (Full list provided in Appendix C)
- 12 Listed migratory Species (Full list provided in Appendix C)

Figure 3: SEED Monaro Werriwa Advisory Layer



FLORA SURVEY

A site inspection was held on Wednesday 24th February, 2021. During this site inspection:

- The extent of remnant vegetation was identified and mapped: See Figure 4, below.
- Plant species were identified and recorded in the remnant vegetation area and a full flora list is presented in Appendix A.
- Field data was collected using BAM Plots. See Appendix B.

Figure 4: Extent of remnant Werriwa Cool Temperate Grassy Woodland

The flora survey confirmed that the remnant vegetation on the site is a grassy woodland dominated by Snow Gums (with no other *Eucalyptus* species present), and that it meets criteria for identification as Werriwa Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions.

The steep rocky slopes located to the west of the rock outcrop, above the river bank, feature a natural stand of Bulloaks (*Allocasuarina leuhmanii*). This is a rare species in the Goulburn Mulwaree LGA, as was identified in report to Goulburn City Council by Rodney Falconer in 2000. These trees can be considered to be regionally significant.

The slopes on the southern side of the road, leading up to the ridge, also feature abundant Bulloaks, with scattered Dogwood (*Jacksonia scoparia*) and a groundcover layer of native grasses, comprising mostly Kangaroo Grass (*Themeda triandra*), Spear Grasses (*Austrostipa* species), Snow Grass (*Poa sieberiana*) and Wallaby Grasses (*Rytidosperma* species).

Pine (*Pinus radiata*) trees are invading this area and will eventually out-compete and shade out the native plants if not removed.

Located to the uphill from the Bulloaks, the plant community is increasingly dominated by Snow Gums (*Eucalyptus pauciflora*). There is a small patch of Snow Gums also located on the southern side of the road as it forks, with the left fork leading the main carpark, and the right fork leading to the main waterworks building (Pumphouse Museum).

Areas dominated by a canopy of Snow Gums have a predominantly native grassy understorey, (including Kangaroo Grass (*Themeda triandra*), Wallaby Grasses (*Rytidosperma* spp.), Snow Grass (*Poa sieberiana*), Native Tussock (*Poa labillardieri*), Spear Grasses (*Austrostipa* spp.), Weeping Grass (*Microlaena stipoides*) and Purple Wire Grass (*Aristida ramosa*). Some Black Sheoak (*Allocasuarina littoralis*) have been planted also, as evidenced by chicken wire tree guards placed around them.

Forbs recorded during the survey included Common Everlasting (*Chrysocephalum apiculatum*, Ivy Leaf Goodenia (*Goodenia hederacea*), Lemon Beauty Heads (*Calocephalus citreus*), Blushing Bindweed (*Convolvulus angustissimus*) and Common Raspwort (*Gonocarpus tetragynus*).

The understorey also contains a range of scattered woody shrubs including Peach Heath (*Lissanthe strigosa*), Urn Heath (*Melichrus urceolatus*), Daphne Heath (*Brachyloma daphnoides*), Low Bush Pea (*Pultenaea subspicata*) and Hop Bitter Pea (*Daviesia latifolia*).

Based on the IBRA region (South Eastern Highlands), IBRA subregion (Monaro) and Mitchell Landscape (Gundary Plains) as identified by SEED Mapping, and the vegetation present, the parts of the site that feature Snow Gums and the associated grassy understorey, including associated grassland areas, have been identified as PCT (Plant Community Type) 1191 Snow Gum – Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion.

This vegetation also meets criteria for identification as the ecological community Werriwa Tablelands Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions.

This ecological community is listed as critically endangered under Schedule 2 of the NSW Biodiversity Conservation Act 2016. The extent of the community on the site is shown Figure 4: Extent of remnant Werriwa Tablelands Cool Temperate Grassy Woodland.

The ecological community is in moderate to good condition, although there has been some degradation since the area was surveyed by Rodney Falconer (2000), due to gradual invasion by environmental weeds such as African Boxthorn (*Lycium ferocissimum*), Firethorn (*Pyracantha* species), Hawthorn (*Crataegus* species), Pines (*Pinus* species) and Sweet Briar (*Rosa rubiginosa*). There has also been some rubbish dumping in parts and some spray painting of graffiti on larger rocks.

The presence of a good groundcover layer, fallen logs and abundant surface rock all would suggest that the area would provide excellent habitat for a range of terrestrial fauna, especially reptiles. The total area of this ecological community on the site comprises approximately 2.5 hectares.

Further analysis of the data collected by BAM plots indicate that the vegetation as it stands has a value of 106 ecosystem biodiversity offset credits (PCT 1191). At the time the BAM calculator was accessed (9/03/2021), the offset credit obligation for this vegetation was estimated to be $738,001.07. This figure was calculated only for ecosystem credits, and excluded threatened species that could be present on the site. If any such species were to be included, the “dollar value” of the remnant vegetation would be considerably greater.

It has to be concluded that the remnant vegetation on the site represents a significant example of a listed Critically Endangered Ecological Community in the Goulburn Mulwaree LGA and must be protected.

THREATENED SPECIES LIKELY TO BE PRESENT ON THE SITE

Following results of the current survey and analysis of predicted species (see Appendix C), the following entities are highly likely to be present and further targeted surveys are recommended for these species following OEH threatened species survey guidelines.

Table 1: Threatened species likely to be present in remnant vegetation on the site			
Scientific Name	Common Name	NSW	Cwllth
Anthochaera phrygia	Regent Honeyeater	E	CE
Artamus cyanopterus	Dusky Woodswallow	V	
Callocephalon fimbriatum	Gang Gang Cockatoo	V	
Calyptorhynchus lathami	Glossy Black Cockatoo	V	
Cercatetus nanus	Eastern Pygmy Possum	V	
Circus assimilis	Spotted Harrier	V	
Climacteris picumnus victoriae	Brown Treecreeper (Eastern Subspecies)	V	
Cthonicola sagittata	Speckled Warbler	V	
Daphoenopsitta chrysoptera	Varied Sitella	V	
Diuris aequalis	Buttercup Doubletail	E	V
Dodonaea procumbens	Creeping Hop Bush	V	V
Falco subniger	Black Falcon	V	
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V	
Glossopsitta pusilla	Little Lorikeet	V	
Haliaeetus leucogaster	White Bellied Sea Eagle	V	
Heleioporus australiacus	Giant Burrowing Frog	V	V
Hieraatus morphnoides	Little Eagle	V	
Hirundapus caudacutus	White Throated Needletail		V
Lepidium hyssopifolium	Aromatic Peppercress	E	E
Leucochrysum albicans tricolor	Hoary Sunray		E
Lophoictinia isura	Square Tailed Kite	V	
Melanodryas cucullata cucullata	Hooded Robin (South eastern form)	V	
Myotis macropus	Southern Myotis	V	
Neophema pulchella	Turquoise Parrot	V	
Ninox connivens	Barking Owl	V	
Ninox strenua	Powerful Owl	V	
Petroica boodang	Scarlet Robin	V	
Petroica phoenicea	Flame Robin	V	
Polytelis swainsonii	Superb Parrot	V	V
Pteropus poliocephalus	Grey Headed Flying Fox	V	V
Rutidosis leptorhynchoides	Button Wrinklewort	E	E
Stagonopleura guttata	Diamond Firetail	V	
Swainsona sericea	Silky Swainson Pea	V	
Synemon plana	Golden Sun Moth	E	CE

THREATS TO THE CRITICALLY ENDANGERED BIODIVERSITY THE SITE

Threats to the critically the remnant Werriwa Tablelands Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions, evident at Goulburn Historic Waterworks may include:

- Invasion by, and competition from, weed species
- Inappropriate application or use of herbicides that may harm non-target native plant species
- Ringbarking and other damage by herbivores such as rabbits, hares and possibly domestic stock such as sheep, cattle, horses if on site
- Unauthorised removal, lopping, or clearing of trees and other vegetation
- Removal of dead timber for firewood (identified as a key threatening process under Schedule 4 of the NSW Biodiversity Conservation Act 2016)
- Bushrock removal (identified as a key threatening process under Schedule 4 of the NSW Biodiversity Conservation Act 2016)
- Arson or accidental fire
- Rubbish dumping & littering (glass bottles, cans, plastic bags etc)
- Graffiti – spray painting of rocks and trees
- Domestic and/or feral cats and dogs predating on native fauna
- Unauthorised removal or harm of native fauna
- Damage by vehicles such as trail bikes, motor bikes and cars

MANAGEMENT STRATEGIES

Table 2 (next page) lists recommended management strategies for the remnant Werriwa Cool Temperate Grassy Woodland located at Goulburn Historic Waterworks.

Table 2: SCHEDULE OF LAND MANAGEMENT STRATEGIES FOR PROTECTION OF REMNANT NATIVE VEGETATION			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
Weeds	Removal of invasive weeds Prevention of weed incursion	Implement best practice weed management and control techniques	Monitoring of weed control program outcomes Complaints about weeds
Use of herbicides	Avoid harm to non-target species	Implement appropriate herbicide application methods in line with product label directions	Monitoring of weed control program outcomes
Herbivore damage by feral species	Minimise herbivore damage to native vegetation by feral herbivore species	Implement best practice pest animal management and control techniques to remove or cull feral pest herbivores such as rabbits & hares Exclusion of domestic stock such as horses, goats, sheep & cattle	Monitoring of pest animals Complaints about feral animals
Unauthorised clearing of trees & other vegetation	No unauthorised clearing or removal of native vegetation	Implement best practice weed management and control techniques Pedestrian access only to remnant areas (no vehicles) Public education and awareness – website and signage	Site monitoring and review Complaints about tree or other vegetation removal
Firewood collection	No removal of any standing or fallen dead timber	Collection of firewood prohibited Pedestrian access only to remnant areas (no vehicles) Public education and awareness – website and signage	Site monitoring and review Complaints about unauthorised access and firewood collection
Bushrock removal	No removal of rocks from site	Collection/removal of rocks from site prohibited Pedestrian access only to remnant areas (no vehicles) Public education and awareness – website and signage	Site monitoring and review Complaints about unauthorised access and rock removal

Table 2: SCHEDULE OF LAND MANAGEMENT STRATEGIES FOR PROTECTION OF REMNANT NATIVE VEGETATION			
Management Issue	Objectives & Performance Targets	Means of Achievement	Manner of Assessment
Arson or accidental fire	No fires within protected remnant area	No fires (including campfires, barbecues etc) permitted within protected area No access permitted during periods of fire ban Pedestrian access only to remnant areas (no vehicles) Public education and awareness – website and signage	Ongoing monitoring and reporting of any fire related incidents
Rubbish dumping/littering	No rubbish dumping/littering	Pedestrian access only to remnant areas (no vehicles) Public education and awareness – website and signage Participate in annual Clean Up Australia Day event	Site monitoring and review Complaints about rubbish dumping/littering
Graffiti & vandalism	No graffiti or other vandalism	Pedestrian access only to remnant areas (no vehicles) Public education and awareness – website and signage	Site monitoring and review Complaints about graffiti and/or vandalism
Feral fauna predators	Protection of native fauna from feral predators	Implement best practice pest animal management and control techniques to remove or cull feral pest predators such as cats, foxes, dogs	Monitoring of pest animals Complaints about feral animals
Domestic cats and dogs	Protection of native fauna from domestic cats and dogs	No cats or dogs permitted in protected remnant areas Domestic cats and dogs must be restrained at all times within Goulburn Historic Waterworks Museum grounds Public education and awareness – website and signage	Complaints about cats and dogs

Unauthorised removal or harm of native fauna	Protection of native fauna from collection/removal or harm	Removal or harm of all native fauna on site prohibited Public education and awareness – website and signage	Complaints or reports about unauthorised removal or harm of native fauna
Trail bikes, motor bikes and other vehicles	Protection of flora and fauna from damage/harm from trail bikes, motor bikes and other vehicles	Pedestrian access only to remnant areas (no vehicles) Trail bikes, motor bikes, other vehicles prohibited from accessing protected remnant areas except for emergency access	Complaints or reports about unauthorised access

CONCLUSION & RECOMMENDATIONS

A desktop biodiversity assessment and field flora survey has confirmed that remnant native vegetation located at the Goulburn Historic Waterworks meets criteria for identification as the critically endangered ecological community Werriwa Tablelands Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions.

This vegetation covers an area of approximately 2.5 hectares and has high biodiversity value. This report presents land management strategies for protection of the remnant native vegetation.

It is recommended that these strategies be adopted and implemented as part of the Plan of Management being developed for the Goulburn Historic Waterworks Reserve.

It is recognised that the survey was not conducted at an optimum time of year for many grassy woodland understorey species, and further flora surveys are recommended.

The current survey has focussed almost entirely on the flora component of the ecological community on the site and it is recommended that formal fauna surveys be conducted to determine what fauna species may be present, both within the remnant native vegetation and in other areas of the Goulburn Historic Waterworks Reserve, and to develop management strategies for their conservation.

Desktop analysis of available databases has generated a list of threatened flora and fauna species that are likely to be present in the remnant native vegetation on the site.

It is recommended that targeted formal flora and fauna surveys be conducted for these threatened species, utilising NSW Government OEH best practice survey guidelines.

A further recommendation is that consideration be given to planting of Snow Gum trees propagated from seed collected on site, in other areas of the reserve, to further enhance the extent of the tree canopy available for arboreal fauna species.

REFERENCES/SOURCES OF INFORMATION

Falconer, R. (2000). *Goulburn City Report of Natural Vegetation Area: No. 4 Snow Gum Ridge*

NSW Department of Planning, Industry and Environment. (Accessed 2/03/2021). *Werriwa Tablelands Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions – profile sheet*
www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20347

Goulburn Mulwaree Council mapping
http://gbn-apps64-6:8010/connect/analyst/mobile/#/main?mapcfg=1%20-%20Land%20and%20Property

SEED Mapping
geo.seed.nsw.gov.au/Public_Viewer/index.html?viewer=Public_Viewer&locale=en-AU

BioNet Vegetation Classification
www.environment.nsw.gov.au/NSWVCA20PRapp/DataEntry/PlantCommunity.aspx?M=E&PID=1191

BioNet Atlas
www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx

Biodiversity Values Map and Threshold Tool
www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap

BAM Calculator
www.lmbc.nsw.gov.au/bamcalc

EPBC Protected Matters Search Tool
www.environment.gov.au/epbc/protected-matters-search-tool

NSW Government OEH Combined geographic and habitat search
www.environment.nsw.gov.au/ThreatenedSpeciesApp/GeoHabitatsearch.aspx

APPENDICES

APPENDIX A: FLORA RECORDED ON SITE

Appendix A: Flora recorded at Goulburn Historic Waterworks 24/02/2021 in Snow Gum Grassy Woodland Community		
Scientific Name	Common Name	Native/Exotic
Acacia baileyana	Cootamundra Wattle	N
Acacia cultriformis	Knife Leaf Wattle	N
Acacia dealbata	Silver Wattle	N
Acacia decurrens	Early Black Wattle	N
Acacia melanoxylon	Blackwood Wattle	N
Aira sp.	Hairgrass	E
Allocasuarina leuhmanii	Bulloak	N
Allocasuarina littoralis	Black Sheoak	N
Anthosacne scabra	Tall Wheatgrass	N
Aristida ramosa	Purple Wire Grass	N
Austrostipa bigeniculata	Tall Spear Grass	N
Austrostipa densiflora	Brushtail Spear Grass	N
Austrostipa scabra scabra	Corkscrew Grass	N
Bothriochloa macra	Red Stem Grass	N
Bossiaea buxifolia	Matted Bossiaea	N
Brachychiton populneus	Kurrajong	N
Brachyloma daphnoides	Daphne Heath	N
Bursaria spinosa	Blackthorn	N
Calocephalus citreus	Lemon Beauty Heads	N
Cassinia aculeata	Dolly Bush	N
Cassinia arcuata	Sifton Bush	N
Cheilanthes sieberi	Rock Fern	N
Chloris truncata	Windmill Grass	N
Chrysocephalum apiculatum	Common Everlasting	N
Convolvus angustissimus	Blushing Bindweed	N
Conyza sp.	Fleabane	E
Cotoneaster sp.	Cotoneaster	E
Crasssula sieberiana	Austral Stonecrop	N
Crataegus sp.	Hawthorn	E
Cryptandra amara	Bitter Cryptandra	N
Cymbopogon refractus	Barbed Wire Grass	N
Daviesia latifolia	Hop Bitter Pea	N
Daviesia mimosoides	Narrow Leaved Bitter Pea	N
Dianella revoluta	Black Anther Flax Lily	N
Dysphania pumilio	Small Crumbweed	N
Echium plantagineum	Paterson's Curse	E
Ehrharta erecta	Panic Veldtgrass	E
Einadia hastata	Saloop	N

Einadia nutans	Climbing Saltbush	N
Eleusine tristachya	Goose Grass	E
Eragrostis curvula	African Love Grass	E
Eucalyptus pauciflora	Snow Gum	N
Glycine clandestina	Twining Glycine	N
Gonocarpus tetragynus	Common Raspwort	N
Goodenia hederacea	Ivy Leaved Goodenia	N
Hibbertia obtusifolia	Grey Guinea Flower	N
Hirschfieldia incana	Buchan Weed	E
Hypericum perforatum	St John's Wort	E
Hypochoeris radicata	Flatweed	E
Hydrocotyle laxiflora	Stinking Pennywort	N
Jacksonia scoparia	Dogwood	N
Lavandula stoechas	Italian Lavender	E
Leucopogon muticus	Variable Beard Heath	N
Ligustrum sinense	Small Leaved Privet	E
Lissanthe strigosa	Peach Heath	N
Lobularia maritima	Alyssum	E
Lomandra filiformis	Wattle Mat Rush	N
Lomandra longifolia	Spiney Headed Mat Rush	N
Lomandra multiflora	Many Flowered Mat Rush	N
Lycium ferocissimum	African Boxthorn	E
Melichrus urceolatus	Urn Heath	N
Microlaena stipoides	Weeping Grass	N
Nasella neesiana	Chilean Needle Grass	E
Nassella trichotoma	Serrated Tussock	E
Osteospermum sp.	African Daisy	E
Oxalis perennans	Grassland Woodsorrel	N
Panicum effusum	Hairy Panic	N
Paspalum dilatatum	Paspalum	E
Petrorhagia nanteuilii	Proliferous Pink	E
Pinus radiata	Radiata Pine	E
Plantago lanceolata	Ribwort	E
Poa labillardieri	Native Tussock	N
Poa sieberiana	Snow Grass	N
Pultenaea subspicata	Spreading Bush Pea	N
Pyracantha angustifolia	Firethorn	E
Rhamnus alaternus	Italian Buckthorn	E
Rosa rubiginosa	Sweet Briar	E
Rubus sp. *(Rubus fruticosus* agg.*)*	Blackberry	E
Rumex acetosella	Sheep Sorrel	E
Rytidosperma spp.	Wallaby Grasses	N

Senecia quadridentatus	Cotton Fireweed	N
Setaria sp.	Pigeon Grass	E
Solanum nigrum	Blackberry Nightshade	E
Sonchus oleraceus	Sowthistle	E
Stylidium graminifolium	Grass Trigger Plant	N
Themeda triandra (Themeda australis)	Kangaroo Grass	N
Tricoryne elatior	Golden Weather Grass	N
Verbascum thapsus	Aaron's Rod	E
Wahlenbergia communis	Tufted Bluebell	N

APPENDIX B:

BAM (Biodiversity Assessment Method) FIELD DATA SHEETS

BAM Site Field Survey Form	Date: 24/02/2021	Site Sheet No. 1

Survey Name	Zone ID	Recorders
Goulburn Historic Waterworks		Brian Faulkner

Plot Location		Plot ID:
Latitude	Longitude	Plot Midline Bearing from 0 m
-34.740414674	149.7025955313	8 degrees

IBRA REGION	South Eastern Highlands
IBRA SUBREGION	Monaro
MITCHELL LANDSCAPE	Gundary Plains
VEGETATION CLASS	Grassy Woodland Confidence H M L
PLANT COMMUNITY TYPE	Best match appears to be 1191 Snow Gum – Candlebark Woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion Confidence H M L

BAM Attribute (1000 m^2 plot)		
DBH	Stem Count	Stems with hollows
80 + cm		
50 – 79 cm		
30 – 49 cm	3	
20 – 29 cm	5	
10 – 19 cm	4	
5 – 9 cm	1	
< 5 cm		
Length of logs (m). (> or = to 10 cm diameter, > 50 cm in length		26

BAM Attribute (400 m^2 plot)		Sum Values
Count of Native Richness	Trees	1
	Shrubs	2
	Grasses etc	8
	Forbs	6
	Ferns	1
	Other	
Sum of Cover of native vascular plants by growth form group	Trees	15
	Shrubs	7
	Grasses etc	61.1
	Forbs	46.2
	Ferns	15
	Other	
High Threat Weed cover		3.1

BAM Attribute Five x (1 x 1 m) plots																				
Litter %					Bare Ground %					Cryptogram %					Rock %					
70	5	80	5	80	5	60	10	70	0	0	30	0	15	0	0	10	0	25	0
Mean score: 48					Mean score: 29					Mean score: 15					Mean score: 7					

400 m^2 Plot				
GF Code	Species Name	N, E or HTE	Cover	Abundance
Tree	Allocasuarina leuhmanii	N		
Grass	Anthosacne scabra	N	1	100
Grass	Aristida ramosa	N		
Grass	Austrostipa bigeniculata	N	5	25
Grass	Austrostipa densiflora	N	30	1500
Grass	Austrostipa scabra scabra	N		
Shrub	Bossiaea prostrata	N		
Shrub	Brachyloma daphnoides	N		
Shrub	Bursaria spinosa	N		
Forb	Calocephalus citreus	N		
Shrub	Cassinia aculeata	N	5	9
Shrub	Cassinia arcuata	N		
Fern	Cheilanthes sieberi	N	15	200
Grass	Chloris truncata	N		
Forb	Chrysocephalum apiculatum	N	1	3
Forb	Convolvus angustissimus	N		
	Conyza sp.	E	0.1	10
Forb	Crassula sieberiana	N	10	500
Shrub	Daviesia latifolia	N		
Grass	Dianella revoluta	N		
Forb	Dysphania pumilio	N	5	500
	Ehrharta erecta	E	2	100
Forb	Einadia nutans	N	0.1	10
	Eragrostis curvula	HTE	1	50
Tree	Eucalyptus pauciflora	N	15	4
Forb	Goodenia hederacea	N		
Other	Hardenbergia violacea	N		
Shrub	Hibbertia obtusifolia	N		
	Hirschfieldia incana	E	0.1	10
	Hypochoeris radicata	E	1	100
Shrub	Jacksonia scoparia	N		
Shrub	Leucopogon muticus	N		
Shrub	Lissanthe strigosa	N	2	9
Grass	Lomandra filiformis	N	10	500
Grass	Lomandra longifolia	N		
Grass	Lomandra multiflora	N	0.1	1
Shrub	Melichrus urceolatus	N		
Grass	Microlaena stipoides	N	1	100
	Nassella neesiana	HTE		
	Nassella trichotoma	HTE	0.1	1

Forb	Oxalis perennans	N	30	1000
Grass	Panicum effusum	N	5	500
	Paspalum dilatatum	E	5	100
	Petrorhagia nanteuilii	E	5	500
	Pinus radiata	HTE		
	Plantago lanceolata	E	20	1000
Grass	Poa labillardieri	N		
Grass	Poa sieberiana	N		
Shrub	Pultenaea subspicata	N		
	Rhamnus alaternus	E		
	Rubus sp.	HTE		
	Rumex acetosella	HTE	2	100
Grass	Rytidosperma spp.	N	10	1000
Forb	Senecio quadridentatus	N	0.1	10
	Setaria sp.	E	1	100
	Sonchus oleraceus	E	0.1	10
Forb	Stylidium graminifolium	N		
Grass	Themeda australis	N		
Grass	Tricoryne elatior	N		
Forb	Wahlenbergia communis	N		
Cover: 0.1, 0.2, 0.3, …, 1, 2, 3, …, 10, 15, 20, 25, … 100% (foliage cover) Abundance: 1, 2, 3, …, 10, 20, 30, … 100, 200, …. 1000, …				

BAM Site Field Survey Form	Date: 24/02/2021	Site Sheet No. 2

Survey Name	Zone ID	Recorders
Goulburn Historic Waterworks		Brian Faulkner

Plot Location		Plot ID:
Latitude	Longitude	Plot Midline Bearing from 0 m
-34.739367727	149.703003008	20 degrees

IBRA REGION	South Eastern Highlands
IBRA SUBREGION	Monaro
MITCHELL LANDSCAPE	Gundary Plains
VEGETATION CLASS	Grassy Woodland Confidence H M L
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20 – 29 cm	10	
10 – 19 cm	25	
5 – 9 cm	16	
< 5 cm	6	
Length of logs (m). (> or = to 10 cm diameter, > 50 cm in length		64

BAM Attribute (400 m^2 plot)		Sum Values
Count of Native Richness	Trees	4
	Shrubs	8
	Grasses etc	10
	Forbs	8
	Ferns	1
	Other	
Sum of Cover of native vascular plants by growth form group	Trees	31.2
	Shrubs	26.4
	Grasses etc	41.8
	Forbs	38.3
	Ferns	0.1
	Other	
High Threat Weed cover		0

BAM Attribute Five x (1 x 1 m) plots																				
Litter %					Bare Ground %					Cryptogram %					Rock %					
90	80	40	50	25	5	5	40	10	30	0	0	20	5	5	0	0	30	20	40
Mean score: 57					Mean score: 18					Mean score: 6					Mean score: 18				

400 m^2 Plot				
GF Code	Species Name	N, E or THE	Cover	Abundance
Tree	Acacia baileyana	N	0.1	1
Shrub	Acacia cultriformis	N	0.1	1
Tree	Allocasuarina leuhmanii	N	1	2
Grass	Anthosacne scabra	N		
Grass	Aristida ramosa	N		
Grass	Austrostipa bigeniculata	N	5	500
Grass	Austrostipa densiflora	N		
Grass	Austrostipa scabra scabra	N		
Shrub	Bossiaea buxifolia	N	10	500
Shrub	Bossiaea prostrata	N		
Tree	Brachychiton populneus	N	0.1	1
Shrub	Brachyloma daphnoides	N	1	50
Shrub	Bursaria spinosa	N		
Forb	Calocephalus citreus	N		
Shrub	Cassinia aculeata	N		
Shrub	Cassinia arcuata	N	10	50
Fern	Cheilanthes sieberi	N	0.1	10
Grass	Chloris truncata	N		
Forb	Chrysocephalum apiculatum	N	0.1	1
Forb	Convolvus angustissimus	N		
	Conyza sp.	E		
Forb	Crassula sieberiana	N	1	10
Shrub	Daviesia latifolia	N		
Grass	Dianella revoluta	N	5	500
Forb	Dysphania pumilio	N		
	Ehrharta erecta	E		
Forb	Einadia hastata	N	1	10
Forb	Einadia nutans	N		
	Eragrostis curvula	THE		
Tree	Eucalyptus pauciflora	N	30	27
Forb	Glycine clandestina	N	0.1	10
Forb	Gonocarpus tetragynus	N	0.1	10
Forb	Goodenia hederacea	N	1	50
Other	Hardenbergia violacea	N		
Shrub	Hibbertia obtusifolia	N		
	Hirschfieldia incana	E		
	Hypochoeris radicata	E	1	100
Shrub	Jacksonia scoparia	N	0.1	1
Shrub	Leucopogon muticus	N	0.1	1
Shrub	Lissanthe strigosa	N	5	200
Grass	Lomandra filiformis	N	1	100

Grass	Lomandra longifolia	N	0.1	3
Grass	Lomandra multiflora	N	0.1	5
	Melichrus urceolatus	N	0.1	10
Grass	Microlaena stipoides	N	0.5	100
	Nassella neesiana	THE		
	Nassella trichotoma	THE		
Forb	Oxalis perennans	N	30	1000
Grass	Panicum effusum	N		
	Paspalum dilatatum	E		
	Petrorhagia nanteuilii	E	5	500
	Pinus radiata	THE		
	Plantago lanceolata	E		
Grass	Poa labillardieri	N		
Grass	Poa sieberiana	N	10	1000
Shrub	Pultenaea subspicata	N		
	Rhamnus alaternus	E		
	Rubus sp.	THE		
	Rumex acetosella	THE		
Grass	Rytidosperma spp.	N	10	1000
Forb	Senecio quadridentatus	N		
	Setaria sp.	E		
	Solanum nigrum	E	0.1	10
	Sonchus oleraceus	E		
Forb	Stylidium graminifolium	N		
Grass	Themeda australis	N	20	2000
Grass	Tricoryne elatior	N	0.1	1
Forb	Wahlenbergia communis	N	5	500
Cover: 0.1, 0.2, 0.3, …, 1, 2, 3, …, 10, 15, 20, 25, … 100% (foliage cover) Abundance: 1, 2, 3, …, 10, 20, 30, … 100, 200, …. 1000, …				

BAM Site Field Survey Form	Date: 24/02/2021	Site Sheet No. 3

Survey Name	Zone ID	Recorders
Goulburn Historic Waterworks		Brian Faulkner

Plot Location		Plot ID:
Latitude	Longitude	Plot Midline Bearing from 0 m
-34.738221581	149.702383418	102 degrees

IBRA REGION	South Eastern Highlands
IBRA SUBREGION	Monaro
MITCHELL LANDSCAPE	Gundary Plains
VEGETATION CLASS	Grassy Woodland - Confidence H M L
PLANT COMMUNITY TYPE	Best match appears to be 1191 Snow Gum – CandlebarkWoodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion Confidence H M L

BAM Attribute (1000 m^2 plot)		
DBH	Stem Count	Stems with hollows
80 + cm		
50 – 79 cm		
30 – 49 cm	5	1
20 – 29 cm	4	
10 – 19 cm	17	
5 – 9 cm	6	
< 5 cm	5	
Length of logs (m). (> or = to 10 cm diameter, > 50 cm in length		38

BAM Attribute (400 m^2 plot)		Sum Values
Count of Native Richness	Trees	3
	Shrubs	8
	Grasses etc	11
	Forbs	7
	Ferns	1
	Other	
Sum of Cover of native vascular plants by growth form group	Trees	30.2
	Shrubs	23.2
	Grasses etc	78.1
	Forbs	4.7
	Ferns	0.1
	Other	
High Threat Weed cover		1.2

BAM Attribute Five x (1 x 1 m) plots																				
Litter %					Bare Ground %					Cryptogram %					Rock %					
40	20	30	25	25	40	70	30	30	25	5	2	5	1	1	0	40	10	5	10
Mean score: 28					Mean score: 39					Mean score: 2.8					Mean score: 13				

400 m^2 Plot				
GF Code	Species Name	N, E or HTE	Cover	Abundance
Tree	Acacia baileyana	N		
Shrub	Acacia cultriformis	N		
Tree	Acacia dealbata	N	0.1	1
Tree	Acacia decurrens	N	0.1	1
Tree	Allocasuarina leuhmanii	N		
Grass	Anthosacne scabra	N		
Grass	Aristida ramosa	N	5	500
Grass	Austrostipa bigeniculata	N	10	1000
Grass	Austrostipa densiflora	N	5	500
Grass	Austrostipa scabra scabra	N	5	500
Shrub	Bossiaea buxifolia	N	5	100
Shrub	Bossiaea prostrata	N		
Tree	Brachychiton populneus	N		
Shrub	Brachyloma daphnoides	N	1	10
Shrub	Bursaria spinosa	N	0.1	1
Forb	Calocephalus citreus	N		
Shrub	Cassinia aculeata	N		
Shrub	Cassinia arcuata	N	2	3
Fern	Cheilanthes sieberi	N	0.1	10
Grass	Chloris truncata	N	0.1	10
Forb	Chrysocephalum apiculatum	N	0.5	50
Forb	Convolvus angustissimus	N	0.1	10
	Conyza sp.	E	0.1	10
	Cotoneaster sp.	E	0.1	1
Forb	Crassula sieberiana	N	0.1	10
Shrub	Cryptandra amara	N	5	50
Shrub	Daviesia latifolia	N	5	50
Shrub	Dianella revoluta	N	5	100
Forb	Dysphania pumilio	N		
	Ehrharta erecta	E		
Forb	Einadia hastata	N		
Forb	Einadia nutans	N		
	Eragrostis curvula	HTE	1	100
Tree	Eucalyptus pauciflora	N	30	26
Forb	Glycine clandestina	N	1	100
Forb	Gonocarpus tetragynus	N	1	100
Forb	Goodenia hederacea	N	0.1	10
Other	Hardenbergia violacea	N		
Shrub	Hibbertia obtusifolia	N		
	Hirschfieldia incana	E	1	50

	Hypochoeris radicata	E	1	100
Shrub	Jacksonia scoparia	N		
	Lavandula stoechas	E	0.1	1
Shrub	Leucopogon muticus	N		
Shrub	Lissanthe strigosa	N		
	Lobularia maritima	E	0.1	10
Grass	Lomandra filiformis	N	1	100
Grass	Lomandra longifolia	N		
Grass	Lomandra multiflora	N		
Shrub	Melichrus urceolatus	N	0.1	10
Grass	Microlaena stipoides	N	1	100
	Nassella neesiana	HTE	0.1	10
	Nassella trichotoma	HTE	0.1	10
	Osteosperum sp	E	0.1	1
Forb	Oxalis perennans	N	1	100
Grass	Panicum effusum	N	1	100
	Paspalum dilatatum	E		
	Petrorhagia nanteuilii	E	1	500
	Pinus radiata	HTE		
	Plantago lanceolata	E	1	100
Grass	Poa labillardieri	N		
Grass	Poa sieberiana	N	5	500
Shrub	Pultenaea subspicata	N		
	Rhamnus alaternus	E	0.1	1
	Rubus sp.	HTE		
	Rumex acetosella	HTE		
Grass	Rytidosperma spp.	N	5	500
Forb	Senecio quadridentatus	N		
	Setaria sp.	E		
	Solanum nigrum	E		
	Sonchus oleraceus	E		
Forb	Stylidium graminifolium	N		
Grass	Themeda australis	N	40	1000
Grass	Tricoryne elatior	N		
Forb	Wahlenbergia communis	N	1	100
Cover: 0.1, 0.2, 0.3, …, 1, 2, 3, …, 10, 15, 20, 25, … 100% (foliage cover) Abundance: 1, 2, 3, …, 10, 20, 30, … 100, 200, …. 1000, …				

APPENDIX C: THREATENED SPECIES PREDICTED TO BE PRESENT

THREATENED ECOLOGICAL COMMUNITIES PREDICTED TO BE PRESENT AT GOULBURN HISTORIC WATERWORKS			
Ecological Community Name	NSW	Cth	Comment
Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion	CE		Very similar to Werriwa Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion
Natural Temperate Grassland of the South Eastern Highlands		CE	Very similar to Werriwa Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands Bioregion and may intergrade with this community
Tableland Basalt Forest in the Sydney Basin and Eastern Highlands Bioregion	E		Confirmed absent by survey.
Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions	Confirmed present. Now replaced by Monaro and Werriwa Tablelands Cool Grassy Woodlands listings.		
Werriwa Tablelands Cool Temperate Grassy Woodland in the South Eastern Highlands and South East Corner Bioregions	CE		Confirmed present. Open grassy woodland dominated by Snow Gum *Eucalyptus pauciflora*, with a ground cover layer typically dominated by grasses such as Kangaroo Grass *Themeda triandra* and Snow Grass *Poa sieberiana*, plus forbs. Very similar to Monaro Tableland Gr This CEEC replaces the northern distribution of the formerly listed 'Tableland Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregion' Endangered Ecological Community, noting changes in the species assemblage.assy Woodland (above).
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	CE	CE	Confirmed absent. It is an open woodland community (sometimes occurring as a forest formation), in which the most obvious species are one or more of the following: White Box *Eucalyptus albens*, Yellow Box *E. melliodora* and Blakely's Red Gum *E. blakelyi*.

THREATENED FLORA SPECIES PREDICTED TO BE PRESENT IN REMNANT VEGETATION AT THE GOULBURN HISTORIC WATERWORKS				
Scientific Name Common Name	NSW	Cth	Suitable habitat present?	Likelihood of occurrence
Caladenia tesselata Thick Lip Spider Orchid	E	V	Yes	Possible as it favours grassy woodlands, but unlikely as it is extremely rare.
Calotis glandulosa Mauve Burr-Daisy	V	V	Yes	Possible, but low likelihood as it has not been previously recorded in the GMC LGA.
Dillwynia glaucula Michelago Parrot Pea	E		Yes	Possible as it has been recorded in roadside reserves in the Windellama area.
Diuris aequalis Buttercup Doubletail	E	V	Yes	Possible as suitable habitat is present and it is known from the GMC LGA. Further surveys at optimum time recommended.
Dodonaea procumbens Creeping Hop Bush	V	V	Yes	Very likely as it favours grassland habitats and is known from the area. Further surveys recommended.
Eucalyptus aggregata Black Gum	V	V	No	Habitat not suitable and absence confirmed absent by survey.
Eucalyptus pulverulenta Silver-Leaved Gum	V	V	Yes	Possible as suitable habitat is present. However there are no known records of this species in the GMC LGA, so it is unlikely to be encountered. Confirmed absent by survey.
Lepidium hyssopifolium Aromatic Peppercress	E	E	Yes	Possible. Occurs in grassy woodland and known from the Southern Tablelands and ACT. Thrives in disturbed sites.
Leucochrysum albicans variety *tricolor* Hoary Sunray		E	Yes	Extremely likely. Widespread in GMC LGA and thrives in disturbed roadside verges. Further surveys recommended.
Pomaderris pallida Pale Pomaderris	V	V	Yes	Possible but very unlikely. Only one record in the GMC LGA, for a site on the Shoalhaven River and nowhere near any roads.
Prasophyllum petilum Tarengo Leek Orchid	E	E	Yes	Possible but unlikely as there are no records from GMC LGA. Nearest known population is at Queanbeyan.

Rutidosis leptorhynchoides Button Wrinklewort	E	E	Yes	Likely. A grassland species that has been recorded an adjoining lot. Further surveys recommended.
Swainsona recta Small Purple Pea	E	E	Yes	Possible but unlikely. No local records, but has been recorded from Queanbeyan and the ACT.
Swainsona sericea Silky Swainson Pea	V		Yes	Likely. Preferred habitat includes Box Gum Woodland in the Southern Tablelands and it has previously been recorded in GMC LGA and suitable habitat is present. Further surveys at optimum time of year recommended.
Thesium australe Austral Toadflax	V	V	Yes	Possible but unlikely as it has not previously been recorded in the GMC LGA.
Zieria citriodora Lemon Zieria	E	V	Yes	Possible but unlikely as it has only previously recorded at Numeralla and Cooma.

THREATENED FAUNA SPECIES PREDICTED TO BE PRESENT IN REMNANT VEGETATION AT THE GOULBURN HISTORIC WATERWORKS				
Scientific Name Common Name	NSW	Cth	Suitable habitat present?	Likelihood of occurrence
FROGS				
Heleioporus australiacus Giant Burrowing Frog	V	V	Non-breeding habitat is present	Possible. In non-breeding season lives in burrows in woodland and dry sclerophyll forest. Known to occur in the Bungonia area.
Litorea aurea Green and Gold Bell Frog	E	V	No	Nil. Inhabits marshes, dams and stream sides.
Litoria castanea Yellow-Spotted Tree Frog	E	E	No	Nil. Requires large permanent ponds or slow moving ‘chain of ponds’ streams.
Litoria raniformis Southern Bell Frog	E	V	No	Nil. Habitat comprises swamps, billabongs, floodplains and river valleys.
REPTILES				

Aprasia parapulchella Pink-Tailed Legless Lizard	V	V	Yes	Possible but very unlikely as there have been no records of this species in the GMC LGA. Prefers undisturbed grassland sites with surface rocks.
Delma impar Striped Legless Lizard	V	V	Yes	Possible but very unlikely as there has only been one record of this species in the GMC LGA. Prefers undisturbed grassland sites with surface rocks.
Suta flagellum Little Whip Snake	V		Yes	Possible but not likely as not known from GMC LGA.
Tympanocryptis pinguicola Grasssland Earless Dragon	E	E	Yes	Possible but very unlikely as it is restricted to undisturbed natural temperate grassland dominated by native grasses. No records in the GMC LGA.
Varanus rosenbergi Rosenberg's Goanna	V		Yes	Unlikely due to small area of vegetation. Individuals require large areas of heath, woodland or forest habitat.
BIRDS				
Anthochaera phrygia Regent Honeyeater	E	CE	Yes	Possibly may be present on occasion. May utilise taller eucalypts when these are in flower. Requires large areas of woodland and forest.
Artamus cyanopterus cyanopterus Dusky Woodswallow	V		Yes	May be present in reserves that contain woodland and forest trees, especially if understorey shrubs are present.
Botaurus poiciloptilus Australasian Bittern	E	E	No	Not likely to be present as it requires permanent freshwater wetlands for habitat.
Calidris ferruginea Curlew Sandpiper	E	CE	No	Not likely. Preferred habitat is littoral and estuarine areas, particularly mudflats, and swamps, wetlands, lakes and lagoons.
Callocephalon fimbriatum Gang Gang Cockatoo	V		Yes	Likely to be present on occasion. Habitat is present and is known from the area.
Calyptorhynchus lathami Glossy Black-Cockatoo	V		Yes	Possible. Habitat is present and is known from the area.
Chthonicola sagittata Speckled Warbler	V		Yes	Possible as suitable habitat is present.

Circus assimilis Spotted Harrier	V		Yes	Possible. May be present in areas with mature woodland and forest trees.
Climacteris picumnus victoriae Brown Treecreeper (Eastern subspecies)	V		Yes	Possible as suitable habitat is present.
Daphoenopsitta chrysoptera Varied Sitella	V		Yes	Possible as suitable habitat is present.
Ephippiorhynchus asiaticus Black-Necked Stork	E		No	Possible but unlikely. May nest in tall trees if these are adjacent to wetland areas. Uncommon and only one recorded sighting for GMC LGA in BioNet.
Falco subniger Black Falcon	V		Yes	Possible as it is known from the area, and utilises large (tall trees) for nesting.
Glossopsitta pusilla Little Lorikeet	V		Yes	Possible. Forages on flowering Eucalypts, so may utilise reserve trees when these are in flower. Also nests in tree hollows, so may utilise reserve trees for nesting.
Haliaeetus leucogaster White-Bellied Sea Eagle	V		Yes	Possible as it is known from the area and utilises tall trees for nesting. Inland foraging habitat is mostly wetlands, lakes and rivers.
Hieraaetus morphnoides Little Eagle	V		Yes	Likely to be present. Inhabits open forests and woodlands and there are numerous records for GMC LGA in BioNet.
Hirundapus caudacutus White Throated Needletail		V	Yes	May utilise the reserve on occasion for foraging and very occasionally for roosting in tall trees, but not likely to be present for long periods of time. Aerial forager that requires large areas. A migratory species that does not breed in Australia.
Lathamus discolour Swift Parrot	E	CE	No	Possible but very unlikely. Breeds in Tasmania and is a migrant to mainland Australia during winter. Very rare and unlikely to be present other than on a transitory basis.
Lophoictinia isura Square-Tailed Kite	V		Yes	Possible. Known from the area and utilises large trees for nesting.
Melanodryas cucullata cucullata	V		Yes	Possible. Known from the area and utilises Eucalypt woodland as habitat for foraging and breeding.

Hooded Robin (South eastern form)				
Neophema pulchella Turquoise Parrot	V		Yes	Possible. Known from the area and utilises canopy of Eucalypt woodlands for foraging and breeding (hollows).
Ninox connivens Barking Owl	V		Yes	Possible. Utilises tall Eucalypts for roosting and breeding (hollows).
Ninox strenua Powerful Owl	V		Yes	Possible. Utilises tall Eucalypts for roosting and breeding (hollows).
Pachycephala olivacea Olive Whistler	V		No	Not likely to be present as it prefers wet sclerophyll and rain forests, which are not present.
Petroica boodang Scarlet Robin	V		Yes	May be present as it favours habitat with woodland and forest trees, especially if understorey shrubs are present.
Petroica phoenicea Flame Robin	V		Yes	May be present as it favours habitat with woodland and forest trees, especially if understorey shrubs are present.
Polytelis swainsonii Superb Parrot	V	V	Yes	Possible. Known to be present in the area and utilises hollows in tall Eucalypts for breeding.
Rostratula australis Australian Painted Snipe	E	E	No	Unlikely as it is a wetland species that forages and breeds in swamps and marshes.
Stagonopleura guttata Diamond Firetail	V		Yes	May be present as it favours habitat with woodland and forest trees, especially if understorey shrubs are present.
MAMMALS				
Cercatetus nanus Eastern Pygmy Possum	V		Yes	Possible to likely. Found in a broad range of habitats from rainforest through sclerophyll (including Box-Ironbark) forest and woodland to heath, but in most areas woodlands and heath appear to be preferred.
Chalinolobus dwyeri Large-Eared Pied Bat	V	V	No	Not likely to be present. This species roosts in crevices in cliffs and old mine tunnels.
Dasyurus maculatus Spotted Tail Quoll	V	E	Yes	Possible, but unlikely as it needs a large home range, with a preference for woodland and forest.

Falsistrellus tasmaniensis Eastern False Pipistrelle	V		Yes	Possibly present.
Miniopterus orianae oceanensis Large Bent-Winged Bat	V		Possibly	Low possibility of being present. Caves are the primary roosting habitat, but these bats also use derelict mines, storm-water tunnels, buildings and other man-made structures. They forage high above the canopy of forested areas so are unlikely to be impacted by any activities in roadside reserves.
Myotis macropus Southern Myotis	V		Yes	Possible. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. Forage over streams and pools catching insects and small fish by raking their feet across the water surface.
Petauroides volans Greater Glider		V	Yes	Possible, but unlikely due to small area of habitat avaialable. Nests in hollows and forages in the canopy, with preferred habitat comprising tall forest.
Petaurus australis Yellow Bellied Glider	V		Yes	Possible, but unlikely due to small area of habitat avaialable. Nests in hollows and forages in the canopy, with preferred habitat comprising tall forest.
Petaurus norfolcensis Squirrel Glider	V		Yes	Possible, but unlikely due to small area of habitat avaialable. Nests in hollows and forages in the canopy, with preferred habitat comprising tall forest.
Phascogale tapoatafa Brush-Tailed Phascogale	V		Yes	Although dry sclerophyll woodland habitat may be present, this species is very unlikely to be present as there are no records of the species in the GMC LGA.
Phascolarctos cinereus Koala	V	V	Yes	Possible but very unlikely due to small size of reserve and lack of connectivity to larger areas of suitable habitat.
Potorous tridactylus Long-Nosed Potoroo	V	V	No	Very unlikely. Inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath.
Pseudomys novaehollandiae New Holland Mouse	V		No	Very unlikely. Prefer heath habitat on ridge tops and slopes in sclerophyll forest, heathland and open-forest. No records for GMC LGA.

Pteropus poliocephalus Grey Headed Flying Fox	V	V	Yes	Likely to be present in the summer months, especially when Eucalypts are in flower.
INSECTS & OTHER INVERTEBRATES				
Synemon plana Golden Sun Moth	E	CE	Yes	Possible. Preferred habitat comprises grasslands and grassy woodlands with an understorey dominated by Wallaby Grasses *Rytidosperma* species.

APPENDIX D PICTORIAL DESCRIPTIONS

BAM Plot 1

BAM Plot 2

BAM Plot 3

View of Marsden Weir from
Snow Gum Ridge

View of Goulburn Historic
Waterworks from Snow Gum Ridge

Bull Oak (Allocasuarina Leuhmanii) growing
on ridge above
Wollondilly River

Annexure C. Sample Event Flyers;

HISTORIC
waterworks
GOULBURN
PRESENTS
2019
STEAMPUNK
Victoriana Fair
Saturday 19 October 10am - 4pm
& Sunday 20 October 10am - 3pm
AT MARSDEN WEIR (Off Fitzroy Street)
CHILDREN UNDER 16 FREE ENTRY
STEAM & MODEL ENGINES MILITARY DISPLAY
LITTLE TRAIN RIDES HORSE & CARRIAGE RIDES
PENNY FARTHINGS
LIVE ENTERTAINMENT INCLUDING:
THE CROOKED FIDDLE BAND
NEW EMPIRE BALLROOM RAGTIME DANCE ORCHESTRA
VICTORIAN DANCING PECULIAR OCCURENCE
TRADITIONAL VICTORIAN GAMES INCLUDING:
TEA & PARASOL DUELS GRAND TEA POT RACING
FIRE SHOW (Friday Night)
COSTUME COMPETITION (Saturday)
STEAMPUNK DINNER (Saturday Night)
INVENTIONS COMPETITION (Sunday)
ARRAY OF MARKET & FOOD STALLS
SteampunkGoulburn (02) 4823 4492 TICKETS: www.123tix.com.au

MaD Market

Makers and Designers

Goulburn Historic Waterworks

Marsden Weir (off Fitzroy Street)

Saturday 13 March 2021

10am-3pm

FREE GENERAL ENTRY

WE'RE COVID SAFE

- *Makers Markets
- *Watercolour Workshop
- *Live Entertainment
- *Fresh Food
- *Steam Engines
- *River Frontage
- *Heritage Garden
- *Playground

southern tablelands arts

Goulburn Mulwaree Council

For further information please contact Julianne Salway on 4823 4448
email: museums@goulburn.nsw.gov.au www.goulburnwaterworks.com.au
www.facebook.com/goulburnhistoricwaterworksmuseum
Watercolour workshop bookings: www.southerntablelandsarts.com.au
Goulburn Visitor Information Centre: 4823 4492

Historic Waterworks Goulburn