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# 1 Introduction

The document has been prepared for Cemeteries & Crematoria NSW (CCNSW) in order to review the role cemeteries can play in the management and preservation of environmental and heritage values.

Demand for land within metropolitan Sydney is increasing, with the available land for new housing, infrastructure, employment and recreation becoming increasingly contested. This places emphasis on land uses to perform multiple functions and for the values of that land to be effectively managed. The opportunity for cemeteries to contribute to this principle has been recognised in the *'Sydney Green Grid'* and *'A Plan for Growing Sydney'*. It will be critical to maintain biodiversity, heritage values and cultural landscapes - amongst other values - when providing for the needs of a global city, within Sydney's growth.

This report looks at the place cemeteries may have in this framework and explores the current actions cemetery management organisations are performing within this role.

## LIMITATIONS

This study has been prepared using available information from the public domain. Site visits to the cemeteries included in the case studies were carried out independently with descriptions and assessment of the sites being the author's opinion and observations.

Photographs used in the document were all taken by the author unless cited otherwise. Many existing documents were reviewed to determine the management activities undertaken and all efforts to review the most current information were taken. A list of the resources is included in the bibliography. More detail for the case studies is included in the Appendices.

In some cases abbreviations have been used in this document. The use of acronyms and abbreviations have been kept to a minimum, except where repetition is extensive, or within one page summaries or tables. The abbreviation has been introduced within each section, if applicable. For the case studies the abbreviation explanation has been provided for each case study if it applies, as it is anticipated that these sections in the document may be read as individual pieces.

## 2 Cemeteries – heritage and environmental values

Cemeteries are complex places with many heritage and environmental values. They are also places of social value.

Cemeteries offer large expanses of ‘green’ open space, often as a respite from the surrounding suburban or urban areas, and provide ‘recreational’ use for many. Walking, cycling, jogging, bird watching, nature rambling, educational study and other passive recreation activities can be observed in cemeteries.

The vast resource of historically significant memorial structures and circulation patterns provide examples of past architectural styles and burial customs. Treed avenues, boundaries, symbolic planting, and gardens of rare or unique plants all contribute to these cultural landscapes.

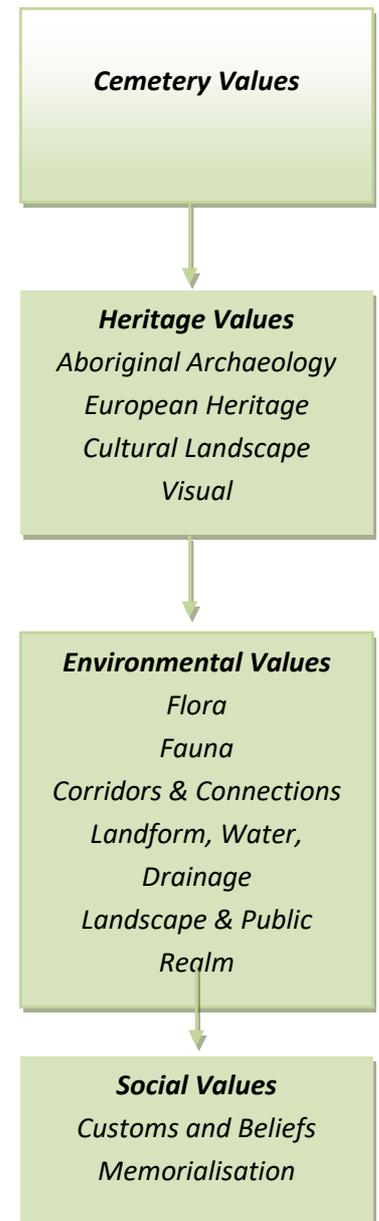
Natural landscape values associated with remnant and regenerated ecological communities can also be present in cemeteries. Protected by the lack of development in cemeteries, flora and fauna often thrive within undisturbed cemetery lands.

These values are recognised in many cases by planning authorities and the community. The presence of the many ‘friends’ groups associated with cemeteries is testament to this.

The planning framework and processes within Sydney can be enhanced by the presence of cemeteries and the multiple uses these places of memorialisation can provide in a ‘growing Sydney’.

In order to evaluate the potential impacts cemeteries can have on environmental and heritage values, it is necessary to compare the impacts of cemeteries on available land with that of alternative land uses. This report will look at these issues.

It will then provide examples, by means of case studies, of the capacity or evidence of Sydney cemetery land managers to manage and conserve heritage and site values within their cemeteries.



## 3 Planning framework

### 3.1 The Plan for Growing Sydney

The *Plan for Growing Sydney* (December 2014), was developed to guide land use planning decisions for the next 20 years. These decisions will determine where people live, work and how they will move around the city. The Plan presents a strategy for accommodating Sydney's future population growth, with an intended balance to accelerate housing, whilst providing high levels of amenity in strong and resilient communities.

Key to the plan is a green grid of open spaces and renewed bushland to support healthy lifestyles and community life.

Four goals are key to the Plan. These goals can be reviewed against the role cemeteries can play in achieving the vision. The four goals are listed below, along with the directions and actions that may be relevant to cemeteries.

- **Goal 1:** *A Competitive economy with world class services and transport.*
  - ❖ *Direction 1.11 Deliver infrastructure*
    - Action 1.11.5 Deliver long-term planning for cemeteries and crematoria infrastructure*
- **Goal 2:** *A city of housing choice, with homes that meet our needs and lifestyles.*
- **Goal 3:** *A great place to live with communities that are strong, healthy and well connected.*
  - ❖ *Direction 3.2 Create a network of interlinked, multipurpose open and green spaces across Sydney*

*Action 3.2.1 Deliver the Sydney Green Grid Project by continuing to implement the Metropolitan Greenspace Program; and continuing to implement the Sharing Sydney Harbour Program*

- ❖ *Direction 3.4 Promote Sydney's heritage, arts and culture*

*Action 3.4.4 Identify and re-use heritage sites, including private sector re-use through the priority precincts program*

- **Goal 4:** *A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.*

- ❖ *Direction 4.1 Protect our natural environment and biodiversity*

*Action 4.1.1 Protect and deliver a network of high conservation value land by investing in Green Corridors and protecting native vegetation and biodiversity*

- ❖ *Direction 4.3 Manage the impacts of development on the environment*

These goals, directions and actions relate to future planning, to ensure all the needs of a city's population are met. Long term planning for cemeteries and crematoria is important in avoiding critical shortage of interment.

Multipurpose open and green spaces are being provided across Sydney, to ensure valuable land resources are not provided for a singular use, but cater to the many functions an open space area can perform. Cemeteries can provide some of the functions that parks and open space reserves do at present, thereby increasing their relevance to those living and visiting Sydney.

Protection of the natural environment can be delivered within cemeteries, where endemic vegetation communities occur in areas where burials have occurred long ago and endangered or rare vegetation has regenerated.

Some areas where this is occurring are discussed later in the case studies.

### 3.2 Greater Sydney Region Plan - A metropolis of three cities

A Greater Sydney Commission Plan, released in March 2018, is a vision for a metropolis of three cities - connecting people. The Plan has been developed in collaboration with NSW Government agencies and councils. It essentially has ten directions with supporting objectives and strategies.

One of the directions - a city supported by infrastructure - promotes consideration of infrastructure needs to support future growth in the three cities proposed; Western Parkland City, Central River City and Eastern Harbour City.

A number of the directions can relate directly to cemeteries.

- *A city supported by infrastructure*
- *A city for people*
- *A city of great places*
- *A city in the landscape*

Cemeteries can play a role in the successful delivery of these directions. Important approaches cited in the Plan include enhancing open space to meet a wider range of community needs, along with using assets wisely and sharing more broadly. This applies to the space within cemeteries and is discussed later.

### 3.3 Sydney Green Grid

The *Sydney Green Grid* promotes the creation of a network of high quality open spaces that supports recreation, biodiversity and waterway health. It is a green infrastructure, design-led strategy including the full range of open spaces via interconnected linkages. These open spaces include, 'from national, regional and local parks through the harbour, ocean beaches, wetlands, rivers and creeks, to playgrounds, playing fields, golf courses and cemeteries'. It recognises the beneficial connectivity that can occur through the complete range of 'greening' opportunities, including streets, transport corridors, footpaths and cycleways.

The existing Sydney landscape is seen as a network of grids: Agricultural Grid, Recreational Grid, Ecological Grid and Hydrological Grid. These are to be combined into a cohesive green infrastructure network including a Transport Grid, Utilities Grid, Development Grid and Historical Grid.

The role cemeteries can play in delivering this Green Grid has been specifically mentioned in the document and discussed later in this report.

These previous documents outline a framework where cemeteries can play a role. They are not part of the approval or consent requirements for cemeteries. The next section outlines enforceable requirements and planning legislation that can apply to existing and new cemeteries.

### 3.4 Heritage conservation

The conservation of the heritage values within NSW falls under NSW legislation as well as volunteer heritage conservation agreements. European heritage and Aboriginal cultural heritage are protected under these Acts.

### NSW Heritage Act 1977

The *Heritage Act 1977* provides protection of items and places of heritage significance in the State. The State Heritage Register was established to identify areas requiring permanent conservation and requires actions within the boundaries of listed areas to be approved by the Heritage Council of NSW, unless the actions fall within a list of site specific or standard exemptions. Listing on the State Heritage Register means the place or item has significance within NSW.

The Office of Environment and Heritage manages heritage within NSW.

### National Parks and Wildlife Act 1974

Aboriginal places and objects are protected under the *National Parks and Wildlife Act 1974*. These sites are protected to enable their values to remain in the long term.

Approval is required prior to the disturbance of sites that may have the potential to contain Aboriginal objects and cultural material.

The procedure to be followed is:

1. *Identify whether or not Aboriginal objects are, or are likely to be, present in an area.*
2. *Determine whether or not their activities are likely to harm Aboriginal objects (if present).*
3. *Determine whether an Aboriginal Heritage Impact Permit (AHIP) is required.* (Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales)

### National Trust of Australia

The National Trust maintains a register of landscapes, townscapes, buildings, industrial sites, cemeteries and other items or places which the Trust determines have cultural significance and are worthy of conservation. Listing within the National Trust Register

provides voluntary conservation, and is not legislated. These listings are important in providing detailed assessment of significant heritage places and include strong evidence of state, regional and local significance.

The National Trust has also produced *Guidelines for Cemetery Conservation* with valuable information on how to maintain and repair monuments, landscape structures and inscriptions. The Cemeteries Conservation Committee at the National Trust has compiled a master list of burial grounds in NSW and conducts field surveys to identify, document and assess the significance of these cemeteries.

### 3.5 Flora and fauna conservation

The conservation of flora and fauna species is managed in the state under the Office of Environment and Heritage.

### Threatened Species Conservation Act 1995

This Act aims to prevent the extinction and promote the recovery of threatened species, populations and ecological communities. These species are listed by the Office of Environment and Heritage and it is a requirement to prevent damage or a key threatening process that could cause species, populations or ecological communities to become threatened. A Section 91 licence is required to harm or pick a threatened plant or animal, population, ecological community, or to damage habitat.

This Act has been repealed. As a number of sites discussed in this document had their conservation measures set up under this Act, it has been described for clarity. It has been replaced by the following Act.

### Biodiversity Conservation Act 2016

Recent changes in legislation have replaced the *Threatened Species Conservation Act* with the *Biodiversity Conservation Act 2016*.

A biodiversity conservation licence replaces the Section 91 licence.

Schedule 1 contains a list of threatened species of animals and plants comprising: a) critically endangered species, b) endangered species, c) endangered populations, and d) vulnerable species.

Schedule 2 contains a list of threatened ecological communities of animals and plants comprising: a) critically endangered ecological communities, b) endangered ecological communities, and c) vulnerable ecological communities.

Commonwealth legislation for the conservation of biodiversity, enhancing cultural values, promoting ecological sustainable development; and recognising the role of Indigenous people in conservation and ecologically sustainable use of Australia's biodiversity; is all embodied in the objectives of the *Environment Protection and Biodiversity Act 1999*.

**State Environmental Planning Policy SEPP (Vegetation in Non-Rural Areas) 2017**  
Commencing in August 2017 this State Environmental Planning Policy is '*to protect the biodiversity values of trees and other vegetation in non-rural areas of the state, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation.*'

The Policy is complementary to the *Biodiversity Conservation Act 2016*.

The local government for the area is responsible for issuing permits for approval to clear vegetation, based on their assessment. In some circumstances the Native Vegetation Panel will be the assessment authority.

### 3.6 Water conservation

The *Water Management Act 2000*, protects waterfront land and riparian corridors. WaterNSW administers the Act through identification of vegetation riparian zones based on the order of the watercourse. A riparian corridor includes the channel itself of the watercourse to the highest bank, and the vegetated riparian zone adjoining the channel. The widths of the vegetation riparian zone are classified for the order of the stream, and the Act is to establish and preserve the integrity of riparian corridors.

Any work undertaken within the riparian corridor is considered a controlled activity and needs to be approved under *Controlled Activities on Waterfront land – Guidelines for riparian corridors on waterfront Land (July 2012)*.

The guidelines aim to protect the riparian corridor as a transition zone between land and the watercourse, due to the important environmental functions performed by the riparian corridor. These include; bed and bank stability, reducing erosion, protecting water quality by trapping sediments and nutrients; maintaining a diversity of habitat for terrestrial, riparian and aquatic plants and animals; providing connectivity between wildlife habitats; conveying flood flows; providing a buffer between developments and waterways; and providing passive recreational uses (Office of Water, Controlled Activities on Waterfront Land).

These functions reinforce the objectives of some of the previous planning documents described and assist in recognising the importance of these issues as a set of environmental frameworks.

### 3.7 Environmental Planning and Assessment Act 1979

Many of the requirements listed previously in this section under various State legislation or Acts fall under the overarching principles of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The objectives of the EP&A Act are to promote the social and economic welfare of the community along with a better environment, ensuring conservation of the state's natural and other resources. Ecological sustainable development is facilitated by ensuring economic, environmental and social considerations are made about environmental planning and assessment.

Any development, other than exempt development, requires development consent and is determined by consent authorities. Approval under the development consent will include consent conditions that must be met and are enforceable under these conditions.

Assessment of new cemeteries falls under the consent of the EP&A Act, by a council or other designated consent authority. Any activity within an existing cemetery, other than those specifically listed not requiring development consent, is subject to development approval and subsequent consent conditions. Many of the Acts and planning documents described in this section are part of the approval process, each containing their own conditions of approval.

These are enforceable under the EP&A Act and *Crown Lands Management Act 2016*, if located on Crown land.

#### Local Environmental Plans

A Local Environmental Plan (LEP) guides decisions for local government areas through zoning and development controls. Most

cemeteries are zoned SP1 - Special Activities. Items of local heritage are listed within the LEP. In many cases the cemeteries within NSW are included in these lists, recognising the value the community places on the heritage of these cemeteries with their local context.

Each LEP will include requirements for heritage conservation, works requiring development consent, along with environmental and other standards. These are supplemented by *Development Control Plans* providing more detail in specific areas.

### 3.8 Crown Lands Management Act 2016

Many cemeteries and crematoria are located on Crown land and were subject to the legislative requirements of *The Crown Lands Act 1989* (CLA). The CLA was repealed and replaced by the *Crown Lands Management Act 2016* (CLM Act), coming into place on 1 July 2018. The new Act aims to improve the 'governance of Crown reserves whilst continuing to strengthen community involvement'. Where local government manages Crown land this is done under the *Local Government Act 1993*. A plan of management is required for Crown reserves. Existing managers have continued under the new legislation but are now referred to as a Crown land manager. Some of the terminology in this report refers to trusts and not the new terminology of land manager.

A community engagement strategy is an integral component of the Act and requires engagement during granting of licences, leases, vestings, sales, plan of management, and the State strategic plan. The engagement is required to inform, consult and involve community participation. The most relevant to this document is the plan of management, developed to outline how a reserve is to be used and managed.

The plan of management is enforceable by the Minister and legislated under the *Crown Lands Management Act 2016* for non-council Crown lands, and the *Local Government Act 1993* for council managed Crown land.

The principles of Crown land management reinforces the values of environmental protection, natural resources conservation, (water, soil, flora, fauna and scenic quality), public use and enjoyment, multiple uses where appropriate, sustainability and management in the best interests of the state.

The cemeteries referred to in this report have a plan of management or conservation management plan, prepared outlining the vision, principles and strategies of management for the cemetery land.

### 3.9 Cemeteries and Crematoria Act 2013

The *Cemeteries and Crematoria Act 2013* is to ‘make provision for and with respect to the management and operation of cemeteries and crematoria; and for other purposes’.

Objects of the Act include the right of all individuals to a dignified interment; that proper provision is made for all religious and cultural groups; to ensure sufficient land is allocated for current and future generations for interment; to ensure operation of a consistent regime of governance and regulation of cemeteries and crematoria; to ensure accountability, transparency and integrity in operations; to ensure Crown land cemeteries and crematoria are managed in accordance with the *Crown Lands Act 1989* - now *Crown Lands Management Act 2016*; to promote environmental sustainability of the interment industry; to promote transparent cost structures for burial and cremation across all sectors of the interment industry; and to

promote affordable and accessible interment practices (*Cemeteries and Crematoria Act 2013*).

### Other

Other planning issues are associated with the consideration of the impacts of various land uses, including cemeteries. Whilst these are not part of the scope of this report some are noted here. They include soil and geotechnical conditions, traffic, transport, services, infrastructure and fire constraints.

## 4 Comparison of land use impacts

It is now opportune to review the relative impacts all land uses, including cemeteries, may have on available land. The planning framework has been considered and the role cemeteries can play within Sydney's recent planning policies has been discussed.

To assess the potential for cemeteries to protect environmental and heritage values there are four areas to review.

1. Impacts of all land uses on the land (rural or green-field sites).
2. Impacts of a new cemetery (on rural land or green-field site).
3. Ability for cemeteries to protect and retain environmental values already present within a cemetery site - discussed in the next chapter.
4. Multiple uses within cemeteries - ongoing role cemeteries can play in meeting the needs of a 'Growing Sydney' and contribution to the 'Green Grid' potential - discussed in the next chapter.

### 4.1 Land use context

The context of planning for various land uses considers the appropriateness of the land for potential land uses. These are usually set out within the Local Environmental Plan and are zoned accordingly. This zoning is not static, and rezoning applications can occur when changes of uses are sought. All are subject to environmental assessment, evaluation and approval or rejection based on the planning review.

### 4.2 Values to be assessed, managed and protected

The values used to assess the comparative impacts of alternative land uses on subject land dealt with in this report are those that relate to the cultural and natural landscape and include:

- **LANDFORM** Topography/water/drainage
- **FLORA** Vegetation - indigenous, exotic, endangered
- **FAUNA**
- **VISUAL IMPACTS** and maintenance of views
- **HERITAGE ITEMS** and places, European archaeology
- **ABORIGINAL HERITAGE** places, objects and archaeology
- **CULTURAL LANDSCAPE** change

These values are assessed in the following tables to provide a summary of the potential impacts on these values.

**TABLE 1** summarises the potential impacts of various land uses, compared to cemeteries.

**TABLE 2** then provides a broad summary of the potential degree of impact of various interment types in comparison to each other.

Following the tables a commentary of these values is included and the constraint to land uses and cemetery use is discussed.



Rural residential land use



Single lot residential land use



Industrial land use - bottom of image (Web photo)



Medium density residential land use



Commercial land use



Mixed use commercial - residential land use



Rural land use



Open space land use



Monumental burial - traditional with meadow flowers allowed to flourish



Full monumental burial - one of the least 'green' of burial types



Lawn - uniform low height headstones



Monumental lawn - varied. Usual maximum height 1 metre



Lawn - plaques individual low to slightly raised



Lawn in front - full monumental behind



Lawn with shrub planting



Lawn with flush/slightly sloped beams

Table 1: Impacts of alternative land uses compared to cemeteries

LAND USE	Landform-topography water & drainage	Flora-vegetation indigenous & exotic	Fauna	Visual Impacts & maintenance of views	Heritage items places (European) & Aboriginal heritage & archaeology	Cultural Landscape change
<i>Residential</i> Single lot (medium density and higher density would be high for all values)	H-M	H	H	H-M	H	H
<i>Rural Residential</i>	M	M	M	M	M	M
<i>Commercial</i>	H	H	H	H	H	H
<i>Industrial</i>	H	H	H	H	H	H
<i>Rural</i> General, not intensive agriculture	L	L	L	L	L	L
<i>Open Space</i> Recreational, Impacts dependent on type- ovals or bushland	L	M-L	M-L	M-L	M-L	M-L
<i>Cemetery - Mixed Type</i> of interment	L	M-L	M-L	M-L	L	L
<i>Cemetery Lawn only</i> and ash interment in memorial gardens	L	M-L	M-L	L	L	L

**H HIGH IMPACT**

**M MEDIUM IMPACT**

**L LOW IMPACT**

**N NEGLIGIBLE IMPACT**

**NOTE:**

- 1 Potential impacts are estimated averages, are provided as a guide and may vary dependent on the detail of the existing conditions.
- 2 Improved flora and fauna benefits exist if indigenous grasses and groundcovers are utilised in lawn cemeteries.

Table 2: Summary of potential site impact of cemeteries and burial types

<b>INTERMENT TYPE</b>	Site coverage approx. 1*	Landform-topography water & drainage	Flora-Vegetation indigenous & exotic	Fauna	Visual Impacts & mainten. of views	Heritage items places (European) & Aboriginal heritage & archaeology	Cultural Landscape change
<i>Monumental Full</i>	95%	<b>M</b>	<b>H</b>	<b>H</b>	<b>H-M</b>	<b>H</b>	<b>H-M</b>
<i>Monumental Lawn</i>	12%	<b>M-L</b>	<b>M</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>M-L</b>
<i>Lawn</i> average based on a beam-may include individual flush plaques	4.5%	<b>L</b>	<b>M-L</b>	<b>M-L</b>	<b>L</b>	<b>L</b>	<b>L</b>
<i>Natural Burial</i>	0%	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>
<i>Buildings-Vaults Mausolea</i>	60% of building site area only	<b>H</b>	<b>H</b>	<b>H</b>	<b>H-M</b>	<b>H</b>	<b>H</b>
<i>Columbarium walls</i>	40%	<b>M</b>	<b>M</b>	<b>M</b>	<b>M-L</b>	<b>H-M</b>	<b>M</b>
<i>Memorial Gardens</i>	1%	<b>L</b>	<b>M-L</b>	<b>M-L</b>	<b>L</b>	<b>L</b>	<b>L</b>
<i>Infrastructure &amp; Access</i>	1-5%	<b>M</b>	<b>M</b>	<b>M</b>	<b>M-L</b>	<b>M</b>	<b>M-L</b>



Natural burial- set amongst trees

**H HIGH IMPACT**  
**M MEDIUM IMPACT**  
**L LOW IMPACT**  
**N NEGLIGIBLE IMPACT**

**NOTE:**

- 1\* The percentage site coverage calculations are based on the interment type average hard surface site coverage
- 2 Potential impacts are estimated averages, are provided as a guide, and may vary dependent on the detail of the existing conditions
- 3 Lawn burial percentage cover will vary dependent on the nature of the identifying plaque- ie individual or consistent beam, and impacts will be reduced if indigenous grasses are used
- 4 An indication of the site coverage for some burial types can be seen in the photographs on the previous pages

Photos of visual characteristics of other cemeteries and memorials illustrating opportunities to maximise green space



Top Left: Avonhead Park Cemetery Christchurch NZ - GPS marked burial amongst trees

Bottom Left: Sculptural memorial and grounds- International Bomber Command Centre memorial Lincoln UK.

Top and bottom right: Stockholm Woodland Cemetery - UNESCO World heritage site.

Photos Source: Website of cemeteries except International Bomber Command Centre - G.Tallents

### 4.3 Potential impacts on landform, flora, fauna and waterform values

In assessing land suitability for development the factors of landform, waterform/drainage, flora and fauna are primary constraints.

#### Landform - topography

Steep land is not usually suitable for cemetery use, other than low density natural burial, or low density lawn burial. It is also not suitable for residential, industrial or commercial use. If steep land was present within land being considered for cemetery use it would be excluded from monumental burial. Moderately undulating land and gently sloping to flat land are ideally suitable.

The potential impacts associated with the change to the topography would be medium or low for most cemetery interment types. It may be possible to resolve issues of steep land by utilising structures such as vaults or columbaria to retain steep slopes, whilst providing for interment, as has occurred in numerous existing cemeteries.

Alternately, impacts of residential, commercial and industrial land uses would be high due to changes to the landform.

#### Waterform and drainage

The degree of impact on the drainage of land, the natural infiltration and any water forms varies dependent on the land use. Where land uses consist of a considerable 'footprint' of hard impermeable surfaces the existing drainage conditions may be highly to moderately impacted. Where this footprint is lower the magnitude of the impact would also be lower.

In any development the order of any streams present on the site would be classified, along with the extent of the riparian zone and the level of protection and management required.

Areas requiring protection, rehabilitation and management would be subject to the WaterNSW requirements- *Controlled Activities on Waterfront land – Guidelines for riparian corridors on waterfront Land (July 2012)*.

All work within the riparian zone would be a Controlled Activity and require approval from the NSW Office of Water under requirements of the *Water Management Act 2000*, and the preparation of a vegetation management plan.

#### Vegetation - flora

The highest constraints imposed by vegetation for any land use are those identified by relevant planning instruments. These ecological constraints include critically endangered ecological species and communities, and endangered and vulnerable species and communities. The terminology may have slight variations dependent on the legislation. Removal of this type of vegetation is strictly controlled by the *Biodiversity Conservation Act 2016* ensuring its protection; unless a Species Impact Statement is prepared, a permit issued or biodiversity offset agreement put in place.

Any vegetation of cultural significance should also be identified. Following this the structure of the vegetation on the site and the degree of impact associated with this would be assessed to determine areas for further protection.

Impacts of cemeteries and other land uses on dense vegetation areas can be high, where the cemetery use is proposed to be anything other than low frequency natural burial. This is due to the clearing that would be required to accommodate the cemetery uses and the contrast of the existing condition of vegetation and the new condition. Scattered vegetation areas, as well as grassland, may experience a low impact.

Impacts of commercial, industrial and residential land uses on vegetation would be high, and low density rural residential land use would be medium.

In selecting land for potential new cemetery use, areas with extensive cover of vegetation with high conservation value, would be identified as a high constraint.

### Fauna

Further ecological constraints associated with fauna present on the land is controlled through the *Biodiversity Conservation Act 2016* in the same manner as flora. Critically endangered and endangered ecological species are listed under the Act and their habitat must be protected. Combined with the protection of the flora and water availability on the site, the consideration of wildlife corridors and connectivity are contributing factors to the identification and protection of fauna on any site with any land use proposed.

## 4.4 Visual impact

Visual impact can be described as the impact on peoples' views, whilst landscape character impact is the impact on an area's character, including built, natural and cultural character. It is affected by the sensitivity of an area to change, and the nature or magnitude of the change. The extent of contrast of a development with its setting will affect the visual and character impacts.

In the case of a lawn burial area, set within predominantly grassed open space the visual impact would potentially be low due to the low magnitude of change. Higher visual impacts would result from monumental burial due to the higher magnitude of change.

Other land uses would have medium to high impacts on the visual character and views, with comparisons of potential impacts included in Table 2.

### Maintenance of views

By nature, most of the development within cemeteries associated with burial is low in height. Monuments are usually less than one and a half metres in height. Heritage monuments were often higher, however this practice of memorialisation is no longer prevalent and guidelines to avoid high visual impacts are placed on the height of monuments within cemeteries. Apart from any buildings within cemeteries existing views are generally maintained, however the nature of the view may change.

Where views are increasingly contested values in the landscape, land uses that retain them provide important community benefits.

For example Waverley Cemetery allows panoramic views to be retained from its surrounding streets and houses. Cemeteries at South Head - Vaucluse, the Coast Hospital Cemetery - Little Bay, Eastern Suburbs Memorial Park - Matraville, all retain magnificent views to the coast. Any other development, apart from open space and recreation areas, would most likely not retain these views. Cemetery use is a suitable land use to preserve these views and often allows more of the surrounding land uses to share these views, by nature of the visual break the cemetery land provides.

The siting of structures within cemeteries and the height of these structures has the potential to affect existing views and the context of this siting is an important consideration when significant views are needed to be retained.

## 4.5 Protection of cultural heritage and scenic landscape values

The protection of cultural heritage and scenic landscapes is an important consideration when any development is proposed. The ability to maintain the characteristics of the cultural landscape will result in the land use 'sitting well' within its context.

Cultural significance as defined by Australia International Council on Monuments and Sites, (Australia ICOMOS) in the Burra Charter is *'aesthetic, historic, scientific, social and spiritual value for past, present and future generations... Significance is an expression of the cultural value afforded a place, site or item.'*

Cultural landscapes are the result of human intervention on the natural landscape and represent human relationships with their surrounds. The Burra Charter, further describes cultural significance as being *'embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.'*

*'Places may have a range of values for different individuals or groups'*, and greater community acceptance usually occurs when land uses consider the values of the landscape.

Scenic landscapes are those that have high scenic value. This value can consist of entirely natural elements, with no evidence of human activity. Cultural landscapes may have high scenic value also. These values can therefore be described and the impact assessed for a new development such as a cemetery or any other proposed land use.

Areas identified as having high cultural and scenic value should be considered in the constraints and opportunities phase of site planning and the impact of the proposed

development assessed against these areas. Mitigating elements may be employed to minimise these impacts, or various land uses determined to be inappropriate within these areas.

## 4.6 European heritage items and place values

Areas that are determined as heritage items and places have legislative protection and would be identified in any land use development proposal for conservation and management. It is a requirement to identify the primary constraints of Aboriginal and European heritage, and protect and manage them. The need for an archaeological excavation permit would also be identified at this early stage and no investigation would be allowed until this was received. The legislative framework for these required approvals has been identified in the previous section.

## 4.7 Aboriginal heritage values

Detailed Aboriginal archaeological potential and significance would be assessed to determine the level of significance. This would also involve consultation with the local Aboriginal Land Council. The potential for any development to harm Aboriginal objects if present would be determined and the appropriate protection measures put in place. An Aboriginal Heritage Impact Permit would be required if there is potential to harm these objects, however the preference would always be to protect these areas when all land uses are being considered.

## 4.8 Other impacts

Impacts associated with other factors such as traffic, groundwater, geological and soil conditions, services and infrastructure and bushfire hazard, have not been described here.

Specialist input to all of these constraints and those mentioned previously is required and assessment of the impacts of any land use on these constraints is subject to detailed analysis.

In some cases within Tables 1 and 2 these places are identified as having a varied impact, due to the potential for the proposed land use to co-exist with the protection of the landscape value noted with little detrimental impact.

#### 4.9 Impacts of new cemeteries on rural land or green-field sites

The need for new cemeteries within the Sydney region has been addressed in other documents and will not be looked at here.

The potential impact of cemeteries and interment types on existing land is outlined in Table 2 and the varied types of interment are described briefly here.

Firstly the nature/type/detailed design of the cemetery will affect the impact. Cremation is the predominant type of interment, (66% of interment in 2015) (CCNSW Strategic Plan 2015-2020), and requires less 'footprint' than burial.

Burial is however, the only option for some religions and cultures and there is a need to provide for burial areas within some cemeteries. The range of interment options that may be included within cemeteries is:

- **FULL MONUMENTAL** - high hard surface footprint.
- **MONUMENTAL LAWN** - low hard surface footprint.
- **LAWN BURIAL** - minimal hard surface footprint.
- **NATURAL BURIAL** - no hard surface footprint.
- **VAULTS/CRYPTS** - high hard surface footprint unless designed with a 'green roof'.

- **MAUSOLEA** - high hard surface footprint, similar to vaults, unless designed with a 'green roof'.
- **COLUMBARIA** - niche walls and other structures for interment of ashes - moderate hard surface footprint.
- **MEMORIAL GARDENS FOR ASHES** - or other ash interment types such as memorial trees, sculptures, walks - low hard surface footprint.
- **INFRASTRUCTURE** - circulation roads, paths, administration offices, condolence lounges, chapels and other built elements, water supply, storage, and maintenance areas - low hard surface footprint when calculated on the extent within the overall cemetery land area.

There are many design options as various types of interment are considered for specific sites and creative design proposals are explored. Constraints and opportunities of all sites need to be assessed prior to any plans proposed. Impacts on the land can be reduced by exploring creative design considerations.

Green roofs to structures and burial areas, such as underground vaults, can maintain many of the existing landscape characteristics.

Traditionally mausolea have been used to provide vaults within built structures, however there are many forms this can take.

Design alternatives for interment are available, along with multiple uses of the land within cemeteries. The consideration of creative solutions to interment can improve the outcomes for all. The traditional model for cemeteries is not the basis for what is possible in new cemeteries, planned with the latest technological and creative achievements.

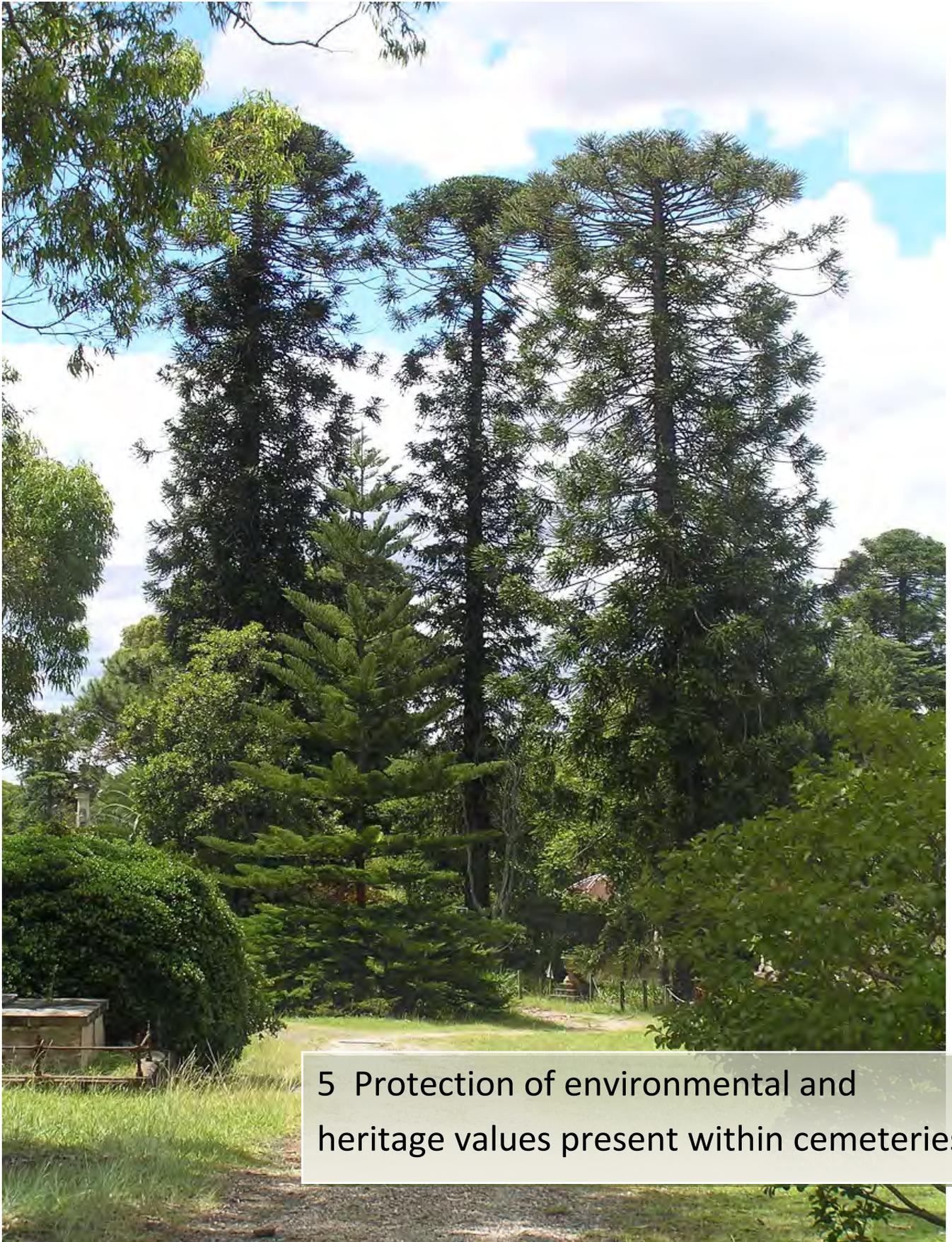
All interment types may not be provided in every cemetery. Some new cemeteries only provide for natural burial. This type of low density cemetery will have minimal impact on the landscape, apart from the provision of internal road and pedestrian circulation and any support structures, if included. In this type of cemetery the locations of graves are provided via GPS coordinates. There are opportunities for these types of cemeteries to be essentially open space areas, and areas supporting flora and fauna communities.

All proposed land uses undergo site analysis, constraints and opportunity assessment, consideration of planning context, and compliance with relevant policies.

The first part of any assessment phase for a proposed land use is to identify areas of high constraint. It may then be possible to instigate management practices in these areas as part of the ongoing functions, and mitigate impacts to enable these values to be maintained for the benefit of all.

In addition the density, type and size of interment, along with the number of structures and roads, will all influence the impact of any new cemetery on existing rural or undeveloped land.

The ability for cemeteries to coexist with the values identified previously is considered next, and in the case studies later described.



5 Protection of environmental and heritage values present within cemeteries

## 5 Protection of environmental and heritage values present within cemeteries

Cemeteries include many environmental and heritage values that are actively managed as part of the operational practices of the place. Many of these values have developed directly because of the existence of the cemetery over many years, whilst others have required protection of the values present before the cemetery existed, but are now an integral part of the cemetery character.

These elements will be discussed here. In the next section specific management activities within a number of cemeteries will be discussed.

### 5.1 Heritage monuments, buildings and precincts

Cemeteries were part of the early development of the colony of Sydney with the earliest at St John's Cemetery at Parramatta (1790), followed by the 'Old Burial Ground' in George Street Sydney (1792), now the location of the Sydney Town Hall.

With an early set of principles aimed at the creation of a parklike setting, it was possible to walk amongst the monuments utilising the burial grounds as green open spaces.

The early cemeteries in central Sydney, including Devonshire Street Cemetery, were operational for a limited period of time. Many of the monuments were relocated to new cemeteries located at a greater distance from the expanding Sydney population areas.

Bunnerong Cemetery, and Rookwood Necropolis (1867), were two of these cemeteries.

As a result of this long and relatively undisturbed history, cemeteries include buildings and structures, memorial architecture, and cultural landscapes, displaying practices of planning and layout from the respective periods of development from 1790 to the present day.

Some of these are identified in the State Heritage Register and have permanent conservation status. Many are not.

The maintenance of these heritage assets falls on the cemetery management body. In many cases this is being undertaken in line with heritage asset management procedures, prepared by heritage consultants.

Where the cemetery is on the State Heritage Register, approval from the Heritage Council of NSW is required for any proposed works to grounds, structures or archaeological sites. Listing on the Register includes a set of procedures/exemptions to allow work that is generally repetitive and includes ongoing maintenance, as well as items relating to the continued use of the cemetery.

Management actions in place to assist in the protection of these values include Conservation Management Plans, Heritage Asset Management sheets and Conservation works programs. Often conservation works are assisted by fund raising from the 'Friends' groups present in the cemeteries.



## 5.2 Cultural landscapes

All cemeteries are cultural landscapes illustrating landscape practices and designs predominantly throughout the period of their development, mostly within the nineteenth and twentieth centuries.

This provides valuable reference to planning practices that in many other land uses have been altered over time or have not survived. As many cemeteries have remained intact and relatively undisturbed, it is possible to reflect on these human activities throughout time. The combination of circulation paths, roads, railway lines, buildings, avenue planting, gardens, drainage techniques, infrastructure and monuments are all present, creating unique cultural precincts.

Cemeteries may also exist within a cultural landscape that transcends the boundaries, playing a key role in connecting cultural values.

These changing styles remain evident within cemeteries and can be appreciated when comparing various areas of cemetery development over time.

Protection of cultural landscapes is an ongoing factor when considering intensification of interment in existing cemeteries, and is often guided by Conservation Management Plans, Landscape Master Plans, Significant Tree Registers and Cultural Landscape significance.

### Heritage structures and landscapes

Top: Restored heritage fence at Waverley Cemetery, State Heritage Registered cemetery

Next: Northern Suburbs Memorial Gardens & Crematorium, State Heritage Register, set within a cultural landscape

Middle: St Patrick's Cemetery North Parramatta combines native trees, sandstone heritage structures and monuments within a park setting

Bottom: Heritage roses, historic vaults, enclosures and trees contribute to the cultural landscape at Rookwood Necropolis

### 5.3 Flora - vegetation communities

There are many examples of protected and managed flora within cemeteries. This can include avenues of trees along circulation routes and boundaries, individual trees to mark destinations or important nodes, as well as shrubs and groundcover vegetation. This vegetation may be indigenous or exotic. Some areas of intact indigenous vegetation exist, and areas where indigenous vegetation has regenerated over existing burial areas.

Many heritage plants remain as important repositories of botanic and garden design within cemeteries. Rare heritage roses can be present, along with gardens and species that are rare and unusual.

Burial grounds have often remained undisturbed for long periods, providing unique places of significant and rare remaining species of plants, lost to other areas of Sydney. Endangered species, ecological communities or groves of vegetation are valuable resources. These provide fauna refuges, bird habitat, visual breaks/focal points and cooling effects within the surrounding environment. These flora assemblies are often part of a maintained vegetation and habitat corridor providing linkages beyond the cemetery. Objectives of the planning documents discussed previously include increasing the tree cover and reducing hard reflective surfaces within Sydney, to

provide a greener city. These objectives can be met within cemeteries, where the predominant cover is green, and hard/reflective surfaces are generally the minority.

Endangered ecological communities or species present within many cemeteries are protected under NSW and Commonwealth legislation. Vegetation Management Plans, Bushland Management Plans, Flora Surveys, Significant Tree Registers, Vegetation Studies, and Tree Management Plans are some of the mechanisms of this protection.



#### Flora

Top: *Acacia pubescens* - Downy Wattle - protected and managed at Rookwood Necropolis as an endangered plant species

Middle: Heritage bulbs and flowering plants over graves in Gore Hill Memorial Cemetery

Bottom: Canopy trees - some rare - with native grasses and cultural plants within heritage monumental grave areas at Rookwood Necropolis. Note coreopsis (yellow flowers), is a weed species, but in this context it has cultural value.



## 5.4 Fauna habitat

Habitat for fauna within the city is diminishing as urban areas expand. Cemeteries can play an important role in maintaining areas for fauna within a 'greener' environment, as well as connecting green corridors beyond the cemetery. Lawn burial areas and monumental lawn areas are often allowed to coexist with taller, native grasses on the grave tops.

These provide areas for ground dwelling birds, and reptiles. They also reduce the high demand and environmentally draining reliance on mowing. By reducing the frequency of mowing and allowing the native grasses to naturally seed, this in turn reduces weeds and the use of chemical control. All of these are valuable contributions to increased fauna use. When combined with vegetation linkages and corridors within and beyond the cemetery there is a significant benefit to the environment.

Throughout the world there is a shift in maintenance practices to value native grasses and groundcovers and reduce mowing and manicured lawns, in turn contributing significant habitat areas for insects, birds and ground dwelling species. Recognising loss of butterflies in the United Kingdom has reduced mowing and increased wildflower meadows.

Australia is at the forefront of this practice with many cemeteries encouraging Kangaroo and Wallaby grass, and other grasses/flowers to flourish within the grounds. This practice can be expanded to most cemeteries. It requires increased public recognition of the benefits, and leading by example. Water bodies within cemeteries function as required infrastructure as well as visual features. These provide for fauna habitat, recognise drainage conditions, and cater to recreational opportunities through walking trails and interpretation for community benefit.



### Flora, fauna and cultural landscapes

Top: Indigenous Wallaby grass flourishes on heritage monumental graves within SHR area at Rookwood Necropolis, and is managed within an endangered ecological community providing habitat for ground dwelling birds and invertebrates

Middle: Meadow plants/bulbs, corn lilies - heritage favorites - and some coreopsis, considered weeds elsewhere- provide a seasonal show over graves in Gore Hill Memorial Cemetery

Bottom: Water management within the SHR Anglican No 1 area at Rookwood includes a series of ornamental ponds, sculptures, trees and paths, part of the historic Serpentine

### 5.5 Multiple uses of cemetery land

Cemeteries can offer multiple uses and are no longer singular function spaces. As the pressures on land increases within Sydney and urban areas, cemeteries continue to provide uses well beyond that of interring the dead. They also provide linkages between sites where the recreational activities, as well as green spaces and habitat values, can continue through the cemetery as an important connector.

Many include multi-function spaces that double as passive recreation areas; *walking trails*, *bicycle routes*, seating areas for eating lunch and reading a book. More structured activities are also often provided; for example heritage *rose pruning exhibitions* at Rookwood, *heritage tours* at Gore Hill Memorial Cemetery and Rookwood Necropolis, *art exhibitions* at Rookwood and outdoor movie screenings at some cemeteries. *Research activities* by *genealogists*, historians, students and individuals are another activity within cemeteries.

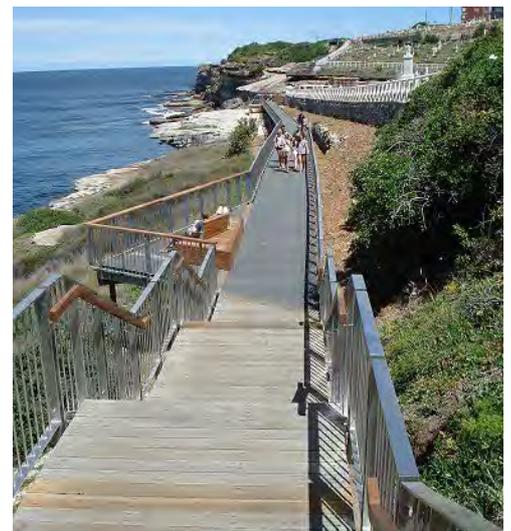
Examples of formalising existing activities have occurred at Waverley Cemetery, where the coastal walk grew from an informal community use into a planned and constructed *coastal walk*, complete with *interpretive signage*, rest spots and seating areas. This has successfully allowed for the increased multiple demands on this resource to be accommodated, whilst protecting the narrow, worn paths that were becoming damaged due to the increasing use of this site within the coast link.

The formalisation of walking trails through other cemeteries is possible, and may be identified along with the local council as a joint initiative. Extra costs associated with maintenance and protection of areas may be incurred. This needs to be considered as part of the management and agreed funding.

Maximising open space uses would be achieved. Consideration of the location of paths needs to be respectful of memorial spaces.

Special family and cultural events, such as *feasts* at cemeteries, is an activity undertaken by some religious/cultural groups, particularly around anniversaries or special days. This is often catered for with *picnic tables and shelters* that are not limited to use on these special days.

Maintenance of heritage and environmental values within these examples, coexists with the multiple uses.



#### Multiple uses

Top: Walking trail - coast walk adjacent to Waverley Cemetery before storm damage of escarpment  
Bottom: Sculpture exhibition at Rookwood Necropolis

In some cases there is resistance to use of the cemeteries for recreational activities and it is important that cultural sensitivities are respected when multiple uses are considered in cemeteries.

In many cases cemeteries have become similar to *arboretums*, where distinct trees and peculiarities in plant specimens are grown and allowed to flourish to their maximum size. Many of these were popular at the time of the cemetery development and may not be present in other areas in Sydney. Trees within the Victorian garden cemeteries were used to define circulation routes, nodes and intersections of carriageways. Large palms, conifers and majestic trees usually flourished within these cemeteries, with broad expanses of areas allowing specimens to grow to their grand size. The functions of an informal *botanic garden* are often represented in these cemeteries, where botanical items of rarity exist along with heritage gardens and *significant vegetation areas*.

By expanding the initiatives that have been explored in some cemeteries both in Australia and abroad, many of the directions within the *Plan for Growing Sydney* and *A metropolis of three cities* will be achieved and cemeteries can continue to function as ‘*part of a network of interlinked multi-purpose open and green spaces*’.

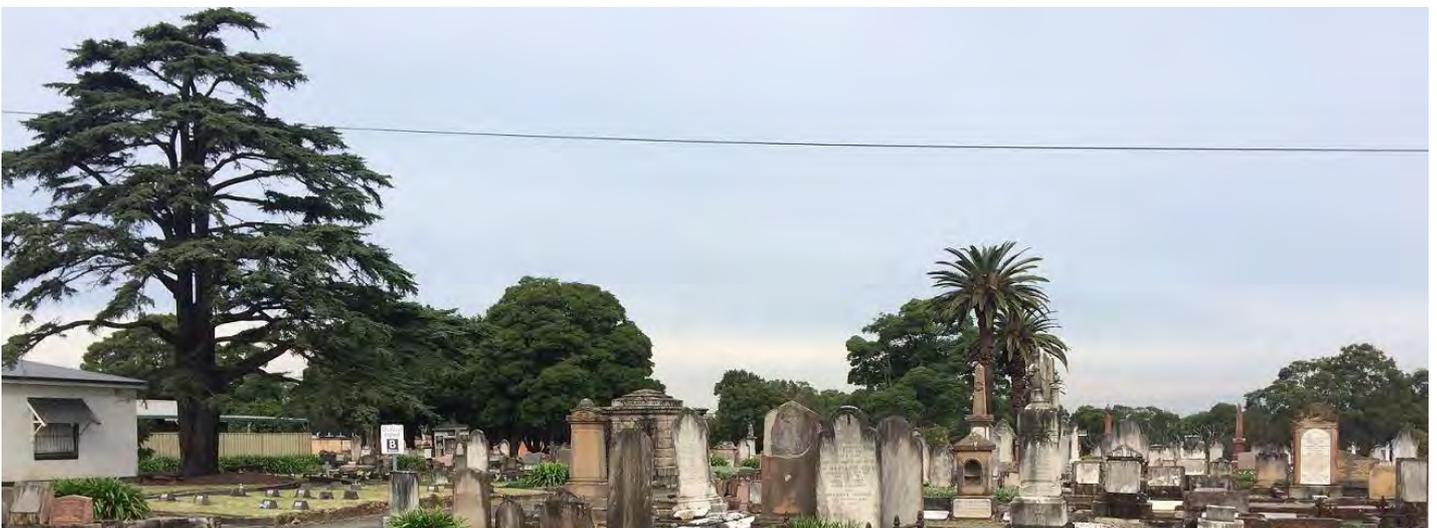
**Multiple uses**

Top Left: Palms of varied ages, heights and species provide a unique skyline within Gore Hill Memorial Cemetery

Top middle: *Brachychiton rupestris*, Queensland Bottle tree, at Rookwood No. 1 Anglican cemetery

Top right: *Dracaena drago*, Dragon tree, in Rookwood No 2 Anglican cemetery

Bottom: Significant trees, including palms and Deodar cedars at Field of Mars Cemetery



## 6 Case studies

A number of cemeteries have been identified under the issues that embody the sustainability of heritage and environmental values whilst providing for the core ongoing function of interment and memorialisation. The cemeteries have been selected as representative of different types of cemeteries across Sydney, with varied management structures. Each are explored in terms of the ways they manage heritage and environmental values. Not all cemeteries have the same management resources, nor manage these values equally. The cemeteries also vary significantly in size and resulting complexity.

Where there are examples from other cemeteries, not included in these case studies of six, these may be referenced.

A summary of the environmental and heritage values that need to be maintained with the existence and continued presence of the cemetery has been made. This allows the cemetery examples to be viewed in the context of their setting and the strong contribution they have and continue to make in this field.

The case study details for each cemetery are included in the Appendix.

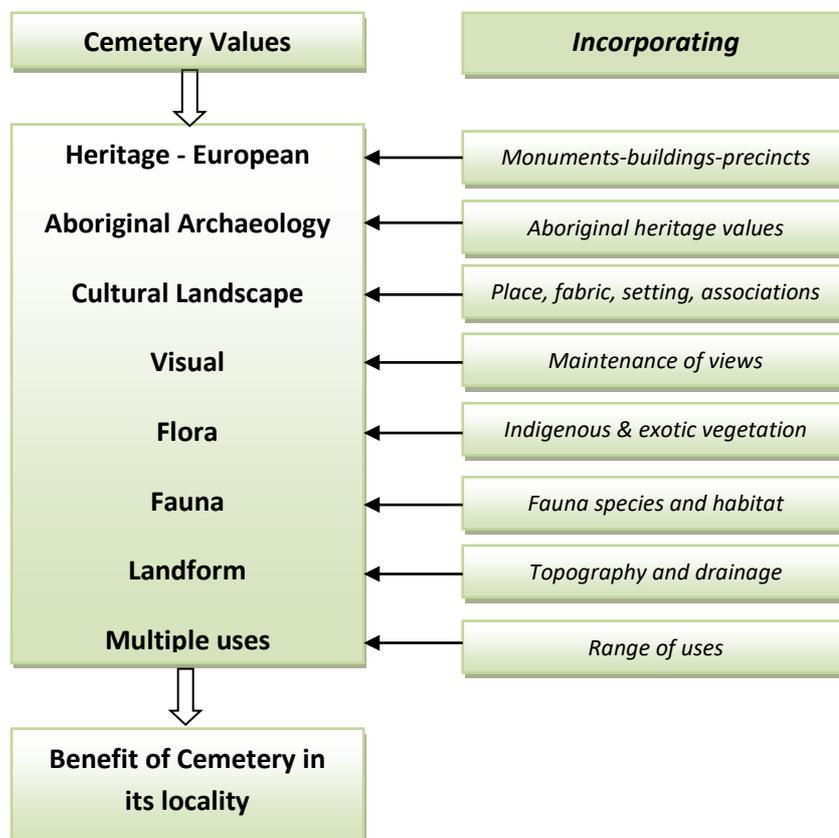


FIGURE 1 MAP & LIST OF CEMETERIES

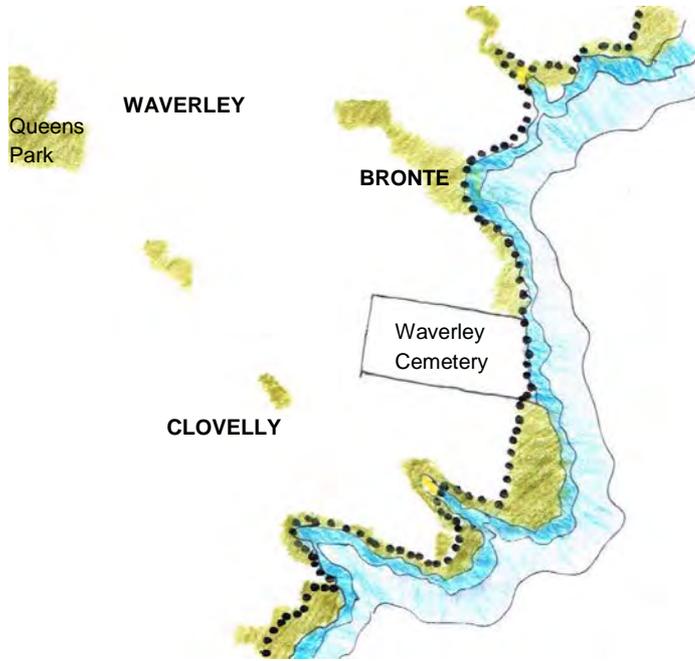


Location of Cemeteries

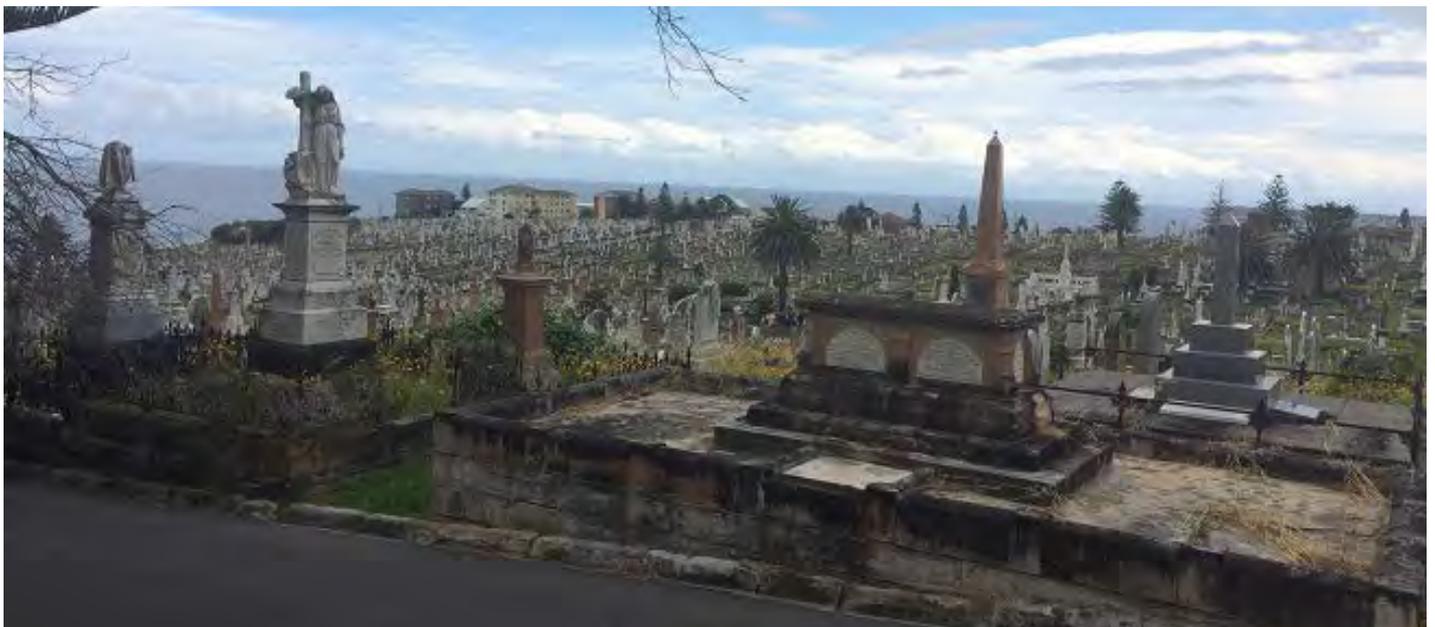
Base Map: Voom Maps.com

- 1: Waverley Cemetery
- 2: Eastern Suburbs Memorial Park and Crematorium
- 3: Northern Suburbs Crematorium and Memorial Gardens
- 4: Castlereagh General Cemetery
- 5: Rookwood Necropolis
- 6: Macarthur Memorial Park- Proposed cemetery Varroville – currently being assessed by planning authorities

## 6.1 Waverley Cemetery- 1877 to present



# WAVERLEY CEMETERY



## Overview and general summary

- Waverley Cemetery is managed by Waverley Council as a historic cemetery and operational cemetery in accordance with its heritage status.
- The cemetery is listed on the NSW State Heritage Register (SHR), The Register of the National Estate, National Trust and Local Environmental Plan for Waverley Council. The Register of National Estate (Listing No. 002474 in 1982), is now closed to entries.
- The values that informed the SHR listing include: *'siting in an urban setting, against a dramatic natural landscape of the Pacific Ocean;.... picturesque urban burial ground that contains a collection of highly intact funerary monuments and furniture dating from 1877;.... aesthetic continuity....largely due to the strict management of the cemetery in its early periods of development;.....its association with high achieving, famous and notable people across NSW;.....its demonstration of the historic and contemporary social character of Sydney'* (Office of Environment and Heritage OEH, State Heritage Listing).
- Conservation of historic monuments is undertaken as funds allow. A Conservation Management Plan (updated), was recommended in the SHR listing 2016. (Listing No. 01975) A Council rate rise in 2008 allowed for the first time for funding towards the infrastructure backlog in the cemetery. Ongoing maintenance priorities are being carried out - \$9.7 million was allocated for ten years.
- Maintenance priorities for historic monuments is established as part of the conservation practices and as funding permits. Some grants have funded restoration work.
- The Waverley Cemetery Plan of Management 2008 (PoM), prepared by Waverley Council, includes items from the Draft Conservation Management Plan by AJ+C. Council resolved to adopt these plans along with the Master Plan. This highlights the management framework for the site. The PoM is obligated under the *Local Government Act 1993*.
- Visual corridors are maintained and reinforced within the cemetery firstly by the original plan layout and secondly by ongoing management.
- Trees are maintained mainly along the northern and western boundaries to ensure longevity of the landscape character. Replanting to sustain the canopy and symbolic garden planting is not structured within a Vegetation Management Plan, but part of the PoM objectives. Additional tree planting to reinforce the access ways within the cemetery is recommended, and is periodically being undertaken as funds permit.
- Interpretation of the cemetery assets occurs in a limited way. Recommendation has been made in the SHR listing that interpretation, promotion and education should be carried out. Some signage was updated in 2017 and is expected would be included with the ongoing funding.
- Records are maintained and genealogical information promoted and archived in the relevant Local Studies area of Waverley Council Library.
- A website managed by Waverley Council includes publicly available information. Additional information is available in Appendix- case studies and in references cited.

## Heritage and environmental values maintained by the presence of cemetery

### Heritage

- Waverley Cemetery was established as need arose to provide more convenient burial grounds in the Eastern Suburbs, as Rookwood was inconvenient and distant. Waverley Municipal Council resolved in 1863 to make an application to the Minister for Lands to obtain a grant of land for this purpose. In 1866 the Government announced that it intended to purchase ten acres of land within the municipality for a cemetery. Gazettal occurred in March 1877 (Waverley Cemetery Plan of Management, 2008).
- Devonshire Street monuments were relocated to Waverley as well as other cemeteries when the cemetery closed to make way for Central Railway Station.
- The location of the cemetery in this coastal area of Bronte has resulted in some of the most significant heritage to be protected and interpreted. Cast iron fencing, boundary sandstone walls, gates and granite horse drinking troughs at the main gates have been retained and restored.
- Buildings - such as the cemetery office and amenities building form a consistent built form character to the Boundary Street frontage, with fine examples of Pyrmont yellow block sandstone detailing, contributing to the high value of the streetscape.
- Most of the interment within the cemetery consists of full monumental burial, and some monumental lawn burial, with many displaying high quality funerary stonemason skills.
- Vaults are set against a small escarpment within the site, providing a clever means of including this interment without interrupting views across the cemetery.
- Many significant monuments and sculptural grave architecture are well preserved and strategically located at the intersections of paths.
- Monument to the Irish Rebellion in 1798 is of Carrara marble, designed by John Hennessy of Sherrin and Hennessy (completed in 1901) - is the largest monument to the rebellion in the world, containing the interred remains of the leader of the revolution movement, Michael Dwyer (d1825) and his wife. Relocated from Sandhills Cemetery, now the site of Central Railway Station (OEH, State Heritage Listing).
- Continued interment in the cemetery occurs in columbaria along the north boundary with some infill, and memorial gardens.
- Conservation and restoration of specific monuments has occurred through grants and some via crowd funding. The allocation for maintenance is made by Waverley Council on an annual basis.

### Aboriginal archaeology

- The Indigenous Heritage Assessment Report - Waverley Cemetery (Dominic Steel Consulting Archaeology, 2003), identified there is medium Aboriginal archaeological research potential within the cemetery. No previously recorded Aboriginal sites were found to be located within the cemetery. The heritage listing for the cemetery notes that within Waverley local government area the evidence of occupation by the Cadigal people of the Eora Nation is demonstrated elsewhere in archaeological sites, such as rock shelters, art sites and middens. *'Waverley Cemetery is not known to contain identified Aboriginal sites (to date), its cliff-top environment is regarded as archaeologically sensitive and is considered likely to contain sites of Aboriginal significance'* (OEH, State Heritage Listing). It is unlikely that any disturbance from

cemetery activities would occur in any of the cliff-top area, however if any activities were proposed the process set out by the *National Parks and Wildlife Act 1974*, would be followed.

- For the coastal walk upgrade in 2005 a study was commissioned as a supplement to the previous assessment of the area, including the new cliff-top boardwalk. Additional survey was undertaken and did not locate any new Aboriginal sites, but the final document reiterated the sensitivity of the place and recommended the ongoing requirement for Aboriginal heritage monitoring to be undertaken. Recommendations were made for future Aboriginal cultural heritage interpretation signage in the upgraded section of the coastal walk (Steele, 2003, 2005 and 2009. Waverley Aboriginal Heritage Study).
- The potential for understanding of this strategic coastal site, its linkage to other parts of the landscape, and aspects of cultural significance for the Aboriginal community exist, along with communication of these values to the wider community.

### Cultural landscape

- The integrity of the original cemetery plan and layout remains intact with the various stages of burial visible. The cemetery was laid out by Simeon Pearce, Randwick Council's inaugural mayor 1877 - 1885, continuing his impact on cemeteries. Other cemeteries he was involved with include St Jude's Cemetery and Rookwood Necropolis, where he was a trustee of the Church of England No. 1 area.
- The Waverley Council Plan of Management noted that from preliminary evaluation '*Waverley Cemetery and its adjacent coastal strip is assessed to be a place of high cultural and public (educative) significance.*'
- It is possible to gain an understanding of the place, setting and associations of this locality within the Eastern Suburbs by the presence of the cemetery and the people memorialised within it.
- The memorial landscape within the cemetery is of fine quality and provides a valuable asset to the locality.
- The cultural landscape is enhanced by the fine detailing and combination of stone, cast iron, planting and the spatial characteristics of the entry precinct, opening up fine views into the cemetery and beyond.

### Visual

- The visual landscape of its setting and views within the locality are enhanced by the presence of the cemetery.
- The visual relief provided by the cemetery in this important coastal area has survived pressures to redevelop for residential use, substantiating the value this place has for the community.
- The cemetery maintains views from the surrounding residential areas to the ocean, as well as long views north and south along the coast - thereby expanding the views available for residents and recreational users in this area.
- The plan and layout of the cemetery provides a strong axis and view corridors towards the coast, as well as views within the valley occupied by the cemetery and beyond.

- The views are described as of considerable significance in the Waverley Cemetery Plan of Management, including those across the cemetery to the ocean and surrounding district, and internal views.

#### Flora and fauna

- Some coastal vegetation remnants occur along the coast stretch of the cemetery boundary and have been protected by a lack of development within the cemetery. Weeding of this area by the local bush care group supporting council, further enhances the community values of the place. Further opportunities exist to increase small tree/shrub presence within the cemetery, given the harsh salt laden microclimate. None of the endangered ecological community, the Eastern Suburbs Banksia Scrub, has been identified within the cemetery. Remnants of floristic elements of both this vegetation type and Sydney Sandstone complex have been identified in the PoM in and around the cemetery as fragments. Opportunities for encouraging regeneration of some species exists.
- Planting of grave tops is occurring in many areas, reducing the mowing need and potentially increasing habitat areas for small lizards and other ground dwelling species, increasing the 'green' footprint and decreasing runoff and erosion.
- The vegetation along the escarpment below the cemetery provides remnant habitat for frog species in the hanging swamp area and the vegetation is of high conservation value.
- Norfolk Island Pines are present along the Trafalgar Street northern boundary. The PoM identifies a Moreton Bay Fig, on the south-western corner of the original cemetery as probably from the original planting scheme in 1878-79.
- The cemetery supports bird species, including wrens that rely on low prickly shrubs for protection; as well as some lizards. Protecting the habitat, increasing vegetation cover and control of feral animals will increase their presence.

#### Landform

- The landform within the cemetery consists of the major ridge on the north-western boundary, steep slopes predominantly towards the east and the central gully, sandstone ledges/outcrops, cliffs at the coastal edge and gullies. Geological dykes have been identified along this part of the coastline in the PoM from work by Craig Burton in 2002.
- The valley within the cemetery is clearly visible and the existing landform of this area has been retained and can be interpreted from all of its boundaries.
- The varied topography and nature of this part of the coast is appreciated from the cemetery with some sandstone outcrops and ledges within the cemetery, adding to the interest. Past quarrying of this has been referenced in the PoM.
- The landform reinforces the nature of the views within and outside the cemetery.

#### Multiple uses

- The cemetery provides a significant area of open space, compared to the closest areas of parkland in this part of Clovelly, Bronte and Waverley. It provides valuable breathing space surrounded by predominantly residential areas.

- The cemetery is suitable for multiple uses by the community; some include genealogy, research, education, passive recreation, walking/meandering, filming and amateur photography.
- The cemetery is a strategic site along the coast walk and provides strong links with the adjacent coastal green spaces and walking tracks.
- Past history reinforces the significance of the cemetery. In 1974-75 council resolved to convert Waverley Cemetery, and South Head Cemetery into remembrance parks, with monuments to be relocated to a small area of the cemetery and the rest converted to parkland (PoM, 2008). The social value of this place was elucidated by the public outcry and the decision was reversed. This occurred at a similar time to the proposal to convert Gore Hill Memorial Cemetery, into a public park by removing monuments. For both cemeteries the National Trust of NSW then listed the cemeteries as heritage items, with Waverley Cemetery being listed on the Register of the National Estate in 1981.
- The cemetery provides social values for visitors to see the resting place of many well-known public individuals including Lawrence Hargrave, Henry Kendall, Dorothea Mackellar, Michael Dwyer and Henry Lawson.
- The setting, design, and presence of highly valued funereal architecture make the place a sought out destination for visitors/tourists, noted in publications such as the Smithsonian Institution's 2014 'World's Most Beautiful Cemeteries.' Similar to Pere Lachaise in Paris and Highgate Cemetery in London, tourists and devotees of these places visit the cemetery and use the coastal walk provided to reach this destination.
- The State Heritage Register listing notes that '*the retention of Waverley Cemetery in its now urban and desirable setting has seen the cemetery become a strikingly significant and intact open space in metropolitan Sydney*'.

#### Management tools in place and enforcement

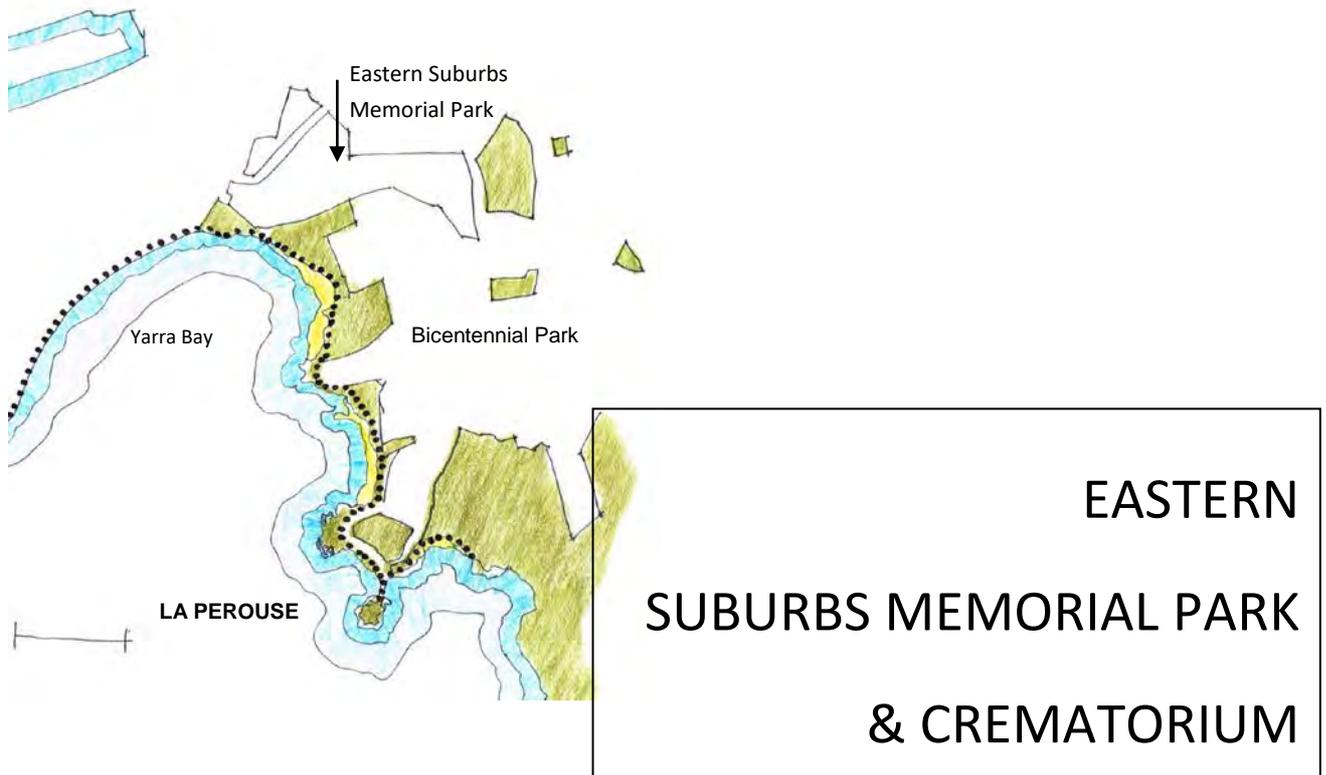
- Plan of Management in place and enforceable under the *Local Government Act 1993*.
- Conservation Management Plan, incorporated into the PoM, and enforceable under the *Heritage Act 1977*.

#### Summary of capacity to manage heritage and environmental values whilst sustaining cemetery operation

- **Heritage:** Sites are present because of cemetery's existence; important elements for the locality are maintained - gates, fence, horse troughs, funerary monuments and heritage buildings.
- **Cultural landscape:** The cemetery provides a significant cultural landscape.
- **Visual values and view corridors:** Views within the environs are enhanced and protected by the presence of the cemetery. The boundary edges of the cemetery are approximately five times longer than the coastal edge, expanding the coastal views to a wider audience.
- **Flora:** Original flora, expected as coastal heath and Eastern Suburbs Banksia Scrub, has mostly gone except for some remnants on the coastal boundary. However the cemetery retains more of this resource than the surrounding residential areas. There is potential to regenerate more of this vegetation community, and to include more banksia trees.

- **Fauna:** The habitat of the hanging swamp, and the coastal heath are protected in association with the cemetery's presence and the relocation of walkers onto the aerial coastal walkway to reduce ground disturbance.
- **Landform:** The coastal cliff top is clearly visible because of the cemetery and has not been masked by housing or other development. It is possible to view the entire topography from within the cemetery and understand its original landform, geology and context within this coastal area.
- **Multiple uses:** These are significant and include:
  - ❖ Coastal walk connecting north and south formalised. Extraordinary rate of visitation provides concurrent cemetery and recreation land uses.
  - ❖ Passive recreation through a network of paths within the cemetery that is open to all.
  - ❖ Genealogical research as well as monuments to major historical events - such as the Irish Rebellion and graves of significant identities - provide interest beyond the surrounding catchment of visitors.
  - ❖ Educational purposes for students of many disciplines - architecture, landscape, history, sculpture and art.
  - ❖ Cultural tours and special events are held at the cemetery and supervised by cemetery staff - All Souls Day and Anzac Day.
  - ❖ The Friends of Waverley Cemetery conduct heritage tours.
  - ❖ Tourist/visitor destination within itself with a publication promoting the cemetery as one of the most beautiful in the world.

## 6.2 Eastern Suburbs Memorial Park and Crematorium - 1893 to present



## Overview and general summary

- Eastern Suburbs Memorial Park is a Crown cemetery, managed by Southern Metropolitan Cemeteries Land Manager (SMIm) as an operational cemetery and crematorium.
- The Pioneer Memorial Park within the cemetery is listed in the Local Environmental Plan 2012 for Randwick City Council as a heritage place due to its *'significance as an outdoor museum collection with direct physical links to Sydney's earliest colonists, including first fleet arrivals'* (Heritage Data Form- Randwick Council LEP 2012).
- The Eastern Suburbs Crematorium is also listed in the LEP as a heritage place, described as a good example of art deco architecture set in landscaped grounds with appropriate mature vegetation. The rose gardens around the crematorium are highly valued and provide for memorialisation in a garden setting.
- The former Bunnerong Power Station Heritage Conservation Area, within the Randwick LEP is located on the western side of Military Road, adjacent to the cemetery and is identified as significant due to aesthetic, historic, social, technical/research significance as an inter-war period landscape and evidence of the former use as a coal-fired power station.
- Master Plans and Landscape Plans have been prepared for specific areas. These are undertaken as work is proposed in various areas.
- Trees and planting areas are maintained through general landscape maintenance. Maintenance priorities are established by Annual Capital Work plans.
- Interpretation within the memorial park occurs in specific monument areas; the First Fleet Memorial Garden and the Garden of Innocence. The interpretive signage within these more recent memorials is consistent and is contributing to a suite of interpretive elements across the cemetery. Memorials to the Stolen Generations and others noted below provide special places for remembrance.
- Records are maintained and genealogical information promoted. Most information is digitised and available on the web site.
- The Cape Banks Society has transcribed the monuments within Pioneer Park as a bicentennial project, providing valuable reference. This is available as a booklet.
- The adjacent Chinese market gardens, listed on the SHR, are an important continuing land use of food production within the Sydney metropolitan area and their presence provides strong social history for this area of Randwick.
- The cemetery is in close proximity to Yarra Bay and the Botany Bay National Park including foreshore parkland leading to La Perouse, listed as a Heritage Conservation Area in Randwick Council's LEP.
- A website managed by the SMCT includes publicly available information. Additional information is available in Appendix- case studies and in references cited.

## Heritage and environmental values maintained by the presence of cemetery

### Heritage

- The location of the cemetery in this coastal area of Botany Bay, has most likely resulted in protection of this land from encroaching industrial development.
- The crematorium was designed by Louis Robertson, and completed in 1938. It provides an important architectural example of an inter-war functionalist art deco style of low, square and unadorned 'modern style', as opposed to the neo-classic or neo-gothic styles, previously used at Rookwood and Northern Suburbs Crematorium (Zelinka, S. *Tender Sympathies: a social history of Botany Cemetery*).
- Entry gates to the office and crematorium provide fine examples of cast iron and stone work.
- Pioneer Park, includes monuments relocated from Devonshire Street Cemetery and was updated in 1976. The original transferring of monuments to Botany Cemetery occurred in 1901, (originally named Bunnerong Cemetery), with some going to other cemeteries. Monuments were transcribed in 1969-1971 and published in 1973 as *'Gravestone inscriptions NSW Volume 1, Sydney Burial Ground 1'* by KA Johnson and MR Sainty (Cape Banks Family History Society Inc. website). Seven hundred and forty six monuments survived the second move, where they were consolidated into a smaller area within Pioneer Park. Records show that a significant number didn't survive firstly the move to Bunnerong and secondly, due to deterioration from being moved and environmental damage to the soft sandstone. Those that were relocated to Pioneer Park were then transcribed as a bicentennial project by the Cape Banks Family History Society. Conservation of the current monuments is important and consultation with heritage consultants on reducing deterioration due to climatic conditions, adjacent cemetery activities, maintenance and other works is recommended. Funding assistance may also be available.
- First Fleet Memorial Garden is an interpretive garden created within Pioneer Park that records all ships of the First Fleet, and a complete chronicle of the captain, crew, marines and all convicts within each ship. This provides a valuable heritage record of the fleet that arrived within Botany Bay, made more relevant due to the proximity and visibility from the cemetery of the site of the first landing at Yarra Bay (State Heritage Register - Chinese Market Gardens).
- Forming a visual and physical connection with Bicentennial Park, the Chinese market gardens and Yarra Bay, the strategic location of the cemetery continues to enhance the heritage and environment of this locality. Further connections to Bumborah Point are proposed as part of a rezoning application of land adjacent to the cemetery.
- The Heritage Conservation Area of the Botany Bay National Park within Randwick Council's LEP, identifies the precinct between Yarra Bay and Frenchman's Bay as contributing to the heritage of the entire area. This discusses the setting of the cemetery and the almost treeless hill of the cemetery in contrast to the modified natural landscape. Some areas of original native vegetation of Yarra and Frenchman's Bay are identified. The important connection of this precinct with the three other precincts of the Heritage Conservation Area continuing to the south and along the coast to Prince Henry Hospital site, is of relevance to the cemetery and its context.
- Vaults are set against the northern boundary at a change in level, providing a creative solution to screening views of the adjacent industrial site, from within the cemetery.

- The Police and Military memorials along with the memorial to the Stolen Generations, Bicycle Rider's memorial, 'Mention my Name' and Garden of Innocence memorials provide for increased commemoration and visitation.

### Aboriginal archaeology

- The La Perouse area's social significance to the Aboriginal community has been cited because of its history of use well before European contact, as plentiful food sources in the sea and on the land existed. The occupants of the area in 1788 are noted as either the Bidjigal or Cadigal group of Eora Nation (Randwick LEP, Botany Bay National Park Heritage Conservation Area).
- Randwick City Council's Botany Bay National Park Heritage Conservation Area identifies the vicinity of Yarra Bay as the first area where Governor Phillip first set foot on Australian soil, including a number of sites of early Aboriginal and European contact. It states La Perouse as 'one of the oldest urban Aboriginal communities in Australia.' The setting of the cemetery in close proximity to these areas has social significance.
- Later the Aboriginal people first inhabiting the land within Randwick and the environs of this northern part of Botany Bay became marginalised to La Perouse and the Aboriginal reserve, with huts erected by the Aboriginal Protection Board between 1890 and 1920 (Zelinka, S). The Chinese market garden and areas surrounding reflected the past attitudes to disadvantaged groups in the community (Musecape, 1997).
- Evidence of the original Aboriginal peoples' use of the site is not immediately apparent within the layers of cemetery use on the site. However, this may be enhanced by the recognition noted next and collaboration with the La Perouse Local Aboriginal Land Council. Opportunities exist for interpretation of the Aboriginal use of this land, with this being part of the initiatives to be developed within the planning proposal for expansion into the adjacent Bumborah site.
- The La Perouse Local Aboriginal Land Council, has recently been in close negotiation with the cemetery to obtain dedicated burial for the Aboriginal community and Elders on the adjacent Bumborah site. This has been done by relinquishing land claims on this site, to enable the cemetery to expand into this area. It is seen by both parties to provide a suitable solution to providing more burial space for the cemetery, whilst also allocating dedicated burial areas for the local Aboriginal community (Randwick Council Business Paper July 2015).
- Detailed planning and environmental issues associated with the planning proposal for the rezoning application of this land, Lot 4858 at Bumborah Point for cemetery use, includes flora and fauna, geotechnical investigation, contamination and remediation, visual impact, public access, traffic, parking and easements, along with the requirement to create a foreshore buffer zone incorporating a coastal walkway.

### Cultural landscape

- The sequence of development and various stages of burial are visible within the cemetery.
- It is possible to gain an understanding of the place, setting and associations of this locality within the Botany Bay area by the presence of the cemetery and in particular the memorials to early European settlement.

- The memorial landscape within the cemetery varies by way of the topography of the site and provides an asset to the locality. Again the full history of past uses through interpretation of the Aboriginal heritage would provide a fuller account of the land in which the cemetery sits.

### Visual

- Visual corridors are maintained and reinforced within the cemetery firstly by the original plan layout and secondly by ongoing management and development.
- The cemetery provides views over the historically significant market gardens, and panoramic views over Yarra Bay, Bicentennial Park to Botany Bay, whilst screening views generally to most of Port Botany and other industrial areas in the vicinity.
- It therefore manages its own visual catchment, making it a visual relief and essentially open space area extending the open space along the coastline to the south. This also provides links to La Perouse and Bare Island further south.

### Flora and fauna

- Little of the original coastal vegetation is present within the cemetery, although species such as Melaleuca, Banksia, and Casuarina have been planted. Planting in the Centenary Park precinct has introduced a significant canopy of eucalypts that was not present earlier.
- A difficult microclimate for plants, the early days of the cemetery did not always support much vegetation, however as management and funding has been proactive, the landscape has resulted in planting and an increased 'greening' of the site.
- Pine planting, *Phoenix canariensis* palms, fig trees and other trees mark and define some of the access ways.
- Mature avenue planting of Melaleucas, Norfolk Island Pines, and Canary Island Date Palms are present in the area on the western side of Military Road, providing a quality entry along Military Road.
- The gardens of the crematorium, protected by walling and planting, include rose gardens valued by many who visit. Areas of well-maintained hedging and clipped conifers can be viewed within the context and curtilage of the crematorium.
- Future initiatives include arboretum style botanic labelling of trees on site that would double as a potential tree register. Additional planting is also part of the plan.
- Remnant bushland areas are located south of the site in the Hill 60 area. A significant stand of *Casuarina glauca* is noted at Yarra Point.

### Landform

- The topography of the cemetery is clearly visible and the existing landform of this area has been retained and can be interpreted from all of its boundaries.
- High points, such as Trig Hill, afford panoramic views over Botany Bay and to Kurnell.
- Centenary Park is located in the central gully and utilises water features in this gully.

### Multiple uses

- The cemetery provides an area of open space, suitable for multiple uses within the locality by the community - some include genealogy, research, education, passive recreation, walking/meandering, filming and amateur photography.
- The cemetery provides a buffer from some of the adjacent industrial land uses, as well as providing some open space for residential areas on the eastern side of Bunnerong Road. Initiatives continue to 'green' some of the spaces.
- It is possible to connect with the walking trails along Bicentennial Park to the cemetery, with this to be formalised in future work.
- The future upgrade connection to the Bumborah Point area will further enhance the coast walk and links with the adjacent green spaces and foreshore walking trail along Bicentennial Park extending to Botany National Park.

### Management tools in place and enforcement

- Any non-minor work requires a Development Application and Heritage Impact Statement to be submitted to Randwick City Council under the *Local Government Act 1993* and *Environmental Planning and Assessment Act 1979*.
- Any work to the heritage sites within the Randwick LEP requires a Heritage Impact Statement.
- The Plan of Management is enforceable under the *Crown Lands Management Act 2016*.

### Summary of capacity to manage heritage and environmental values whilst sustaining cemetery operation

- **Heritage:** Heritage sites are present because of the cemetery's existence. As it is located near the First Fleet's arrival it has significance for the European history of the locality. The Aboriginal heritage of the area is significant and Aboriginal archaeological potential in undisturbed areas of the foreshore, Bumborah Point and open space areas is an important factor in any proposed activities. It is understood this is being investigated as part of the Bumborah Point proposal. Significance of the site to the Aboriginal community may be further enhanced by the provision of the proposed dedicated Aboriginal burial areas, providing culturally significant burial areas facing the sea.
- **Cultural landscape:** Human activity in the landscape is very evident with visual linkages to the market gardens below the site, a productive use of the land. Various precincts of different character are present within the site, due principally to the landform and the vegetation that reinforces its character. This cultural landscape is retained by the cemetery.
- **Visual values and view corridors:** Precincts of semi-enclosed views within the environs are enhanced and protected by the cemetery's presence. Panoramic views to Botany Bay are available from most of the site.
- **Flora:** The original flora that would have been present as coastal heath and coastal banksia scrub has mostly gone, with the cemetery providing tree planting in some of the site. Potential to regenerate more of this vegetation community exists in some areas, as well as linking it to the Bumborah Point area. The exposed ridges of the site are difficult environs for growing trees.

- **Fauna:** Habitat in the protected areas supports small birds in the heath shrub layers. Other fauna studies are not known.
- **Landform:** The landform has been retained and enhanced by the cemetery and has not been modified by housing or other development. By nature the topography of the cemetery does not allow it to be completely viewed from any one point.
- **Multiple uses:** These include:
  - ❖ Future foreshore walk with connections to the cemetery, to be upgraded.
  - ❖ Passive recreation through a network of paths within the cemetery is open to all, particularly connecting across Bunnerong Road to the residential areas, as well as beyond Centenary Park, and to the foreshore walkway on Yarra Bay.
  - ❖ Commemorative memorials providing reasons for ongoing visits, including First Fleet Memorial Park - a destination worthy of heritage enthusiasts and descendants; as well as other memorials - police, military, stolen generations, bicycle riders and babies.
  - ❖ The cemetery as a visitor destination may not be as well-known outside the local community as other cemeteries, however there is potential to expand on this.
  - ❖ Open Days are held to provide information about the cemetery to the community and include recreational activities for adults and children. This is expanding the cemetery as a destination.
  - ❖ Memorial Days are held to commemorate special days.
  - ❖ Christmas carols, rose festivals and other community activities are held for the benefit of the local community.

6.3 Northern Suburbs Crematorium and Memorial Gardens – 1933 (land set aside in 1922) to present

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NORTHERN SUBURBS CREMATORIUM  
& MEMORIAL GARDENS





### Overview and general summary

- Northern Suburbs Crematorium and Memorial Gardens is managed by Invocare Pty Ltd as a private crematorium.
- The cemetery is listed on the State Heritage Register (Listing No. 2340067) citing the crematorium building by Bloomfield, the second crematorium to be built in NSW, as historically significant, along with the gardens, the plan and layout of the Cemetery.
- Listed as a heritage site in the Local Environmental Plan for the City of Ryde.
- Conservation of historic monuments are undertaken by annual works plans.
- A Conservation Management Plan & Landscape Master Plan was prepared for the Memorial Gardens and Crematorium in 2005 (Betteridge and Beaver) under the *Heritage Act 1977* and *Environmental Planning and Assessment Act 1993*.
- A Conservation Management Plan was prepared for the crematorium in 2004 (Noel Bell Ridley Smith), and a Statement of Heritage Impact for proposed additions and alterations in 2005, under the *Heritage Act 1977*.
- The plan of the cemetery is significant as a curvilinear layout with distinct landscape precincts of varied character.
- The landscape policy of the Conservation Management Plan provides directions for retention of the character, and inventory of trees and significant plants.
- Set on a high ridgeline the cemetery doubles as an essentially 'green' space, surrounded by Lane Cove National Park, bushland, land zoned public recreation, a small area of low density residences and to the west, business parks and light industrial land use.
- Additional information is available in Ryde Council's Local Studies section and this document's Appendix- case studies and references cited.

## Heritage and environmental values maintained by the presence of cemetery

### Heritage

- The protection of this land from other land uses including residential subdivision and other land uses has most likely been achieved by the presence of the crematorium on this prominent ridgeline.
- Part of the County of Cumberland planning scheme adopted in 1951, most of the area was identified as part of Sydney's green belt with the cemetery and crematorium being suitable components within this belt.
- The cemetery land was set aside in 1922 and predates reserving land along the Lane Cove River for the Lane Cove National Park, which officially opened in 1938.
- The circular road layout, site planning, and memorial gardens along with the Frank L'Anson Bloomfield's crematorium design, is a valuable example of Inter-war Romanesque style buildings for memorial purposes. Completed in 1933 the building evokes the character of Italian churches.
- The curtilage of the crematorium and its garden setting is protected and remains intact.
- Integrity of the original crematorium plan and layout remains intact. The landscape character is intact and can be appreciated from many viewpoints.
- New memorial gardens are provided, along the bushland edges of the site, catering to the bushland memorial popularity. Some of the later memorial rock gardens and niche walls are not of similar quality to the original design. The Conservation Management Plan provides guidelines for new memorial gardens.

### Aboriginal archaeology

- Aboriginal heritage in the area before 1788 included use of the land for the abundant resources available along the river and areas connecting to the harbour. It is expected the ridges would have been used for hunting. Since the 1804 declaration of 'commons' by Governor King, the area was used for grazing and displaced the Aboriginal people.
- Evidence of Aboriginal archaeology on the site is not apparent and could be enhanced by interpretation to acknowledge the past uses of these areas, along with interpretation in the nearby Lane Cove National Park.

### Cultural landscape

- The location of the cemetery on this ridgeline is a distinctive landscape siting due to the enclosing bushland and the meander of the Lane Cove River. Placing this land use and crematorium building in this setting has increased the significance, fitting for this prominent position. It is an important landmark for the locality, similar to the prominence of Italian hill towns.
- The landscape policy of the Conservation Management Plan outlines the curvilinear pattern of memorial gardens, roads and paths. These should be retained and the design followed for new paths, gardens, roads and other elements.
- The presence of gardens from the Inter-war period and later are complementary to the crematorium's architecture, and managed as a result of the crematorium's presence. This provides a valuable community facility.

- This resource of heritage landscape, with its Mediterranean clipped conifer gardens, fountain courtyard, and bushland boundary areas, provides an important timeline of twentieth century landscapes.

#### Visual

- Visual relief provided by the crematorium on this prominent ridge includes important bushland views from surrounding areas.
- In turn long views are available from the cemetery. This is beneficial in the context of the development areas surrounding the crematorium and provides 'green links' in this part of Sydney, of immense environmental benefit.
- Internal views along the curved road layout are reinforced by trees, enhancing the aesthetic experience.

#### Flora and fauna

- Trees are retained and managed to maintain a bushland boundary and character that merges with the surrounding Lane Cove National Park.
- The boundaries and lower areas of the site protect existing Lane Cove bushland character, as well as the tree species.
- Habitat for birds and mammals merge within the cemetery from the bushland surrounding. Some barriers may be created by the fencing and this could be looked at to facilitate movement of fauna between both spaces.

#### Landform

- The topography of the cemetery is clearly visible as a ridgeline with vegetation present below the ridge. This can be interpreted from all of its boundaries and beyond.

#### Multiple uses

- The cemetery provides potential open space, suitable for multiple uses within the locality by the community. Some include community use of the café (function facility), genealogy, research, education, passive recreation, walking/meandering, filming, and amateur photography.
- The Conservation Management Plan and State Heritage Register listing addresses the multiple uses of the site in its description: *'The site should be primarily managed as a historic site and open space/passive recreation for the members of the Parish and the relatives of the deceased, the people of Ryde Municipality and community'* (OEH, State Heritage Register).

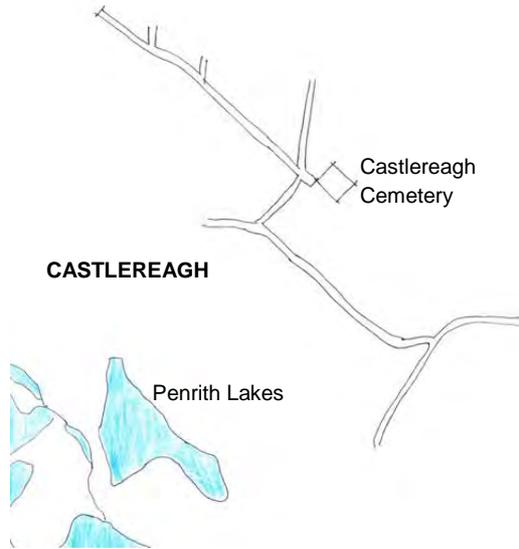
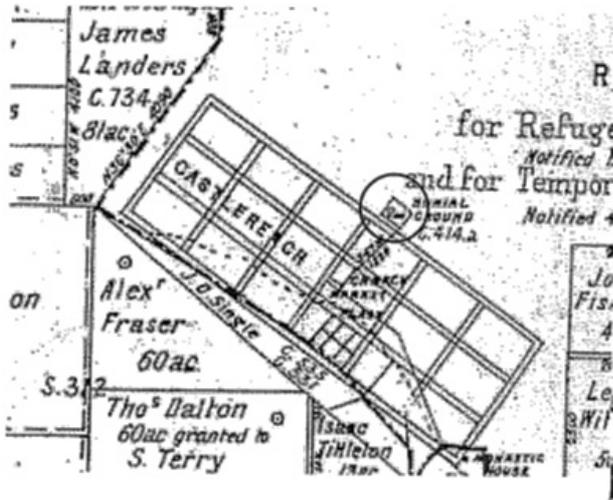
#### Management tools in place and enforcement

- Any non-minor work requires a Development Application and Heritage Impact Statement to be submitted to the City of Ryde under the *Local Government Act 1993* and *Environmental Planning and Assessment Act 1979*.
- Conservation Management Plan & Landscape Master Plan are enforceable under the *Heritage Act 1977* and the *Environmental Planning and Assessment Act 1979*.

### Summary of capacity to manage heritage and environmental values whilst sustaining cemetery operation

- **Heritage:** The heritage sites are present because of the existence of the cemetery and are mostly European heritage, designed structures and landscapes for the crematorium use. Aboriginal heritage in the area before 1788 was abundant, although this is not apparent on the site.
- **Cultural landscape:** The character of this part of Sydney includes the highly meandering Lane Cove River and associated steep gully slopes dissecting the landscape and separated by ridgelines. Many of the promontories in the immediate vicinity are occupied for public functions: CSIRO, UTS Ku-ring-gai campus, Macquarie Park Cemetery and Northern Suburbs Crematorium. As such, each of these functions maintain a larger scale landscape. This is in contrast to the smaller scale of the landscape within residential areas and continues the character of a 'green belt.'
- **Visual values and view corridors:** The visual break in scale and character provided by the crematorium, along with the Lane Cove National Park, positively contribute to this locality. The predominant green treed canopy of this ridgeline location is visible from areas such as Chatswood commercial and urban area.
- **Flora:** Part of the forested areas within the lower slopes of the site remain, with memorial gardens set within the canopy. The ability to retain trees whilst providing for natural areas for ash deposition is well represented within these areas. Apart from the buildings and paved carpark areas, green spaces abound, providing significant landscapes, otherwise not present in more highly built areas.
- **Fauna:** Habitat potential is increased by the presence of canopy trees as well as a predominant green ground layer. Birds and microbats may use the trees, along with possums and other marsupials. (It is not known if any fauna studies have been done, other than observing the fauna present on the site).
- **Landform:** Little change to the original topography has occurred, other than minor grading for roads and drainage. The ridge location is very evident.
- **Multiple uses:** These include:
  - ❖ Walking trails are present adjacent to the crematorium site leading to the Lane Cove River. These do not connect with the cemetery, apart from through the front entry gates, but could potentially be made available, based on management of impacts and agreement by Invocare.
  - ❖ Passive recreation, could be possible within the grounds, but currently the majority of use is through the memorial park functions arranged by Invocare, such as the Open Day.
  - ❖ Visitation to the site to view memorials and monuments is open to all.
  - ❖ Visits by students of architecture and heritage to the crematorium as well as other heritage/design groups is possible.
  - ❖ The Skyline café is available for cemetery functions with scenic views over the locality.

### 6.4 Castlereagh General Cemetery – 1811 to 1973



# CASTLEREAGH GENERAL CEMETERY



## Overview and general summary

- Castlereagh Cemetery is managed by Penrith City Council as a historic cemetery in accordance with its heritage status.
- The cemetery is listed in Penrith City Council's LEP as a heritage site and is on the National Trust register of historic sites. It is a pioneer cemetery, largely unchanged in character, and is one of the oldest burial grounds within Sydney. Evidence of early settlement patterns; life and death, as well as the grave inscriptions, contribute to the principle reasons for listing.
- The cemetery is not on the State Heritage Register, although this has been recommended and it has been put forward for listing, but requires additional evidence.
- The cemetery is a pioneer cemetery and is important as a surviving portion of one of the five proposed Governor Macquarie towns. It is part of the few remaining areas of the original Castlereagh town, proclaimed in 1810. These towns were proposed to bring together settlement in the colony. Most families did not take up in the town, preferring to stay on their farms by the Nepean River.
- The cemetery contains First Fleet graves, as well as early pioneering families of the district. In some cases these may be the only record of some individuals, due to the early time of their death, pre-dating civil registration in 1856 (Godden, 1989).
- Although John Cartwright maintained a register of burials at St Matthew's Windsor, parsonage was taken up by Rev. Henry Fulton who maintained registers of baptisms, marriages and burials. Interestingly after then moving to St Stephen's Church in Penrith in 1839, he died a year later and was buried at Castlereagh Cemetery (PoM). He is known for his role in the Irish Rebellion of 1798 (Murray, 2017). The historical associations and understanding of the pioneer settlement areas within Sydney can be obtained from these accounts.
- A Plan of Management provides management strategies and guidelines, enforceable under the *Local Government Act 1993*, along with a Conservation Management Plan enforceable under the *Heritage Act 1977*.
- As a bushland cemetery the predominant indigenous vegetation contributes to the character of the cemetery and protects some of the plant species and provides habitat particularly for birds.
- Penrith City Council's Local Studies Library has copies of relevant documents for the cemetery. Additional information is available in Appendix- case studies and in references cited.

## Heritage and environmental values maintained by the presence of cemetery

### Heritage

- The location of the cemetery in this area of the Penrith local government area, provides a significant contribution to understanding the early land grants and settlement within the area around the Nepean River, bringing this history to those that visit. The interpretive entry sign tells the story.
- Castlereagh General Cemetery is the only visible evidence of the unsuccessful planned Macquarie town of Castlereagh (Fox Associates, 1987).

- Many convicts are buried here, with a number of First Fleeters. Stories of these earlier convicts and pioneers have been recorded and can be traced through this cemetery, with many of the family histories written. There is significant genealogical information available through the evidence within the cemetery.
- The heritage values within the site are monitored and managed through a Plan of Management and Conservation Management Plan.
- Any restoration of monuments is managed by Penrith City Council and through family contact to obtain approval to carry out work.

#### Aboriginal archaeology

- No Aboriginal heritage sites are known within the cemetery, however this does not preclude Aboriginal significance for this area.

#### Cultural landscape

- The cemetery is a fine example of early burial practices, grave furniture, utilising the available materials of the day: sandstone stelae and footstones, chain fencing and sandstone corner posts defining grave plots and family groups of graves.
- Combined with the woodland present on and adjacent to the site, the natural character of the cemetery is one of remote un-spoilt isolation.
- Castlereagh Cemetery is one of the oldest undisturbed burial grounds remaining in NSW (Godden, 1989), and represents a cultural landscape of high value.

#### Visual

- The cemetery is flat and highly treed, with short views revealed as the meandering paths are travelled.
- The layout of the cemetery is informal and appears slightly haphazard, with burial groups in small cleared areas. This contributes to the character.
- Views along the disused, semi-cleared road easement to the south of the entrance are available for a short distance.

#### Flora and fauna

- Much of the original but modified Castlereagh Ironbark vegetation is present within the cemetery, along with possible occurrences of the endangered species *Dillwynia tenuifolia*, present in the adjacent woodlands.
- Monuments are seen within a bushland setting, with a lack of exotic and introduced plants.
- Valuable groundcover layers of native grasses, along with a shrub layer of native species all tolerate the poor drainage and Wianamatta shale derived soils.
- Abundant bird life is present, with many small birds, often missing in more developed areas. The presence of the dense shrub layer and ground layer provides good habitat for these birds.

### Landform

- The topography of the cemetery is flat with little variation, and unchanged by the cemetery except for a low ditch and bank formation defining the boundary of the cemetery and also providing drainage. This remains inside the fence line and is a heritage item itself.

### Multiple uses

- The cemetery provides an area of open space, vegetation conservation and valuable community resource including genealogy, research, education, passive recreation, walking/meandering, filming and amateur photography. It is visited by historians and also some who are intrigued by the mysterious death of Sarah Simpson (nee Marshall). The story behind her death is not validated, increasing the interest for some visitors. There is some vandalism within the remote cemetery, possibly because of this.

### Management tools in place and enforcement

- The Plan of Management is enforceable under the *Local Government Act 1993*.
- Conservation Management Plan is enforceable under the *Heritage Act 1977*.

### Summary of capacity to manage heritage and environmental values whilst sustaining cemetery operation

- **Heritage:** The heritage sites are present because of the existence of the cemetery - in particular pioneer graves and the stories that can be researched from their presence.
- **Cultural landscape:** Early Sydney settlement patterns of the colony and the nature of memorialisation in an early colony are evident.
- **Visual values and view corridors:** Retention of the scale of family burial groups provides distinct burial precincts, uncommon in later cemeteries.
- **Flora:** Original flora remains on most of the site with graves set within this vegetation. Little clearing of ground layer or tree cover occurs, allowing low density burial to be sustained amongst the vegetation. This provides a good example of potential natural type burial areas, with small areas of above ground memorialisation.
- **Fauna:** Habitat appears to be sustained, due to the strong intactness of the vegetation. Many small birds are present due to the dense, prickly layer of shrubs along the boundaries and within part of the cemetery. Some kangaroos/wallabies are present in surrounding areas.
- **Landform:** There has been no change to the existing flat topography, except for the minor drainage of the boundary ditch.
- **Multiple uses:** These include:
  - ❖ Historian and descendant research.
  - ❖ Walking within the grounds.
  - ❖ Study of early burial markers and photography of such.
  - ❖ Visitor destination - probably to a limited history oriented clientele.

- ❖ Recreational (active) activities are not permitted within any of Penrith City Council cemeteries, including ball games, riding of bicycles, skate boards, rollerblades, frisbees, picnics or barbecues. This relates specifically to active recreation. Animals are also not allowed within cemeteries. There are no seats within the cemetery, as it is very small and most visits are associated with walking through the grounds, observing monuments and taking photographs.



Aerial photo of Castlereagh Cemetery – from PoM

6.5 Rookwood Necropolis- 1867 to present

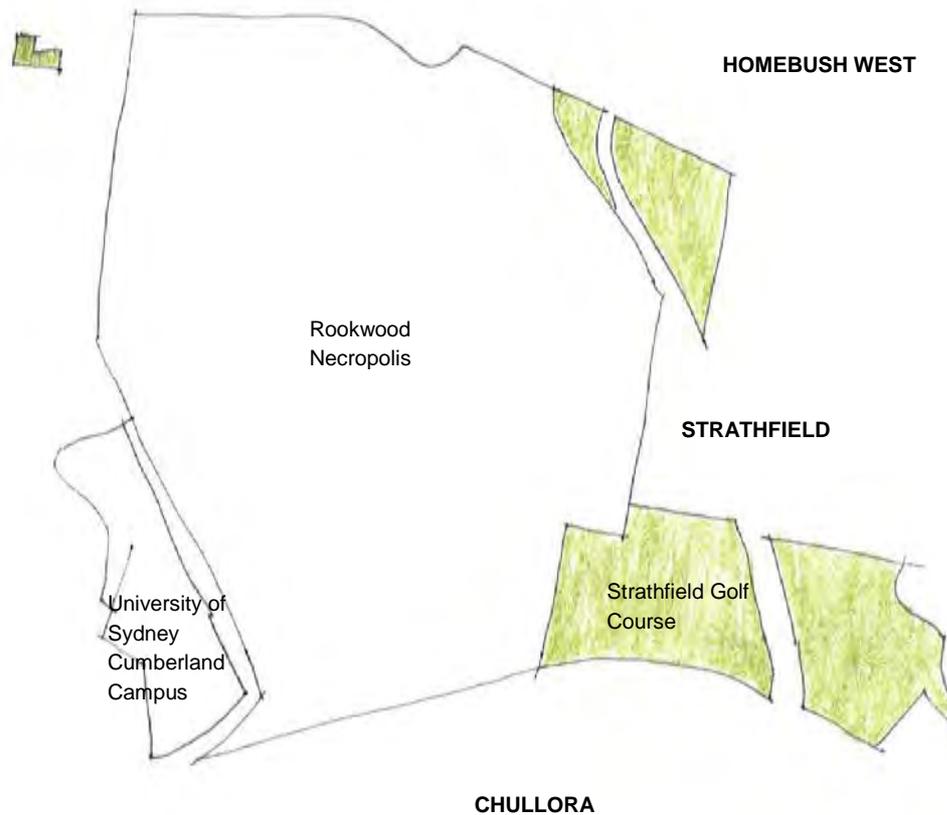
ROOKWOOD NECROPOLIS



## Overview and general summary

- Rookwood is a Crown cemetery, managed by Rookwood Necropolis Land Manager - previously Rookwood Necropolis Trust - as a historic cemetery in accordance with its heritage status. The original 200 acre cemetery is on the State Heritage Register of the Office of Environment and Heritage and is an active cemetery with ongoing interment. Heritage is managed under the *NSW Heritage Act 1977* and areas outside the State Heritage Register by the *Environmental Planning and Assessment Act 1979* and *Local Government Act 1993*.
- The entire site is listed as a heritage site In the Auburn Local Environmental Plan. Any development consent is accompanied by a Statement of Heritage Impact and Environmental Impact Statement.
- This is the largest cemetery in the southern hemisphere - 286 hectares. The two land managers are responsible for their area within the Necropolis: Rookwood General Cemeteries Reserve Land Manager and Catholic Cemeteries Board. The Rookwood Necropolis Land Manager manages the common areas and whole of Rookwood functions with a board comprising CEOs of the two land managers and a nominee of the Minister as Chair. Invocare Pty Ltd leases the site of the Rookwood Memorial Gardens and Crematorium whilst Office of War Graves has care of the Sydney War Cemetery and Garden of Remembrance.
- The Necropolis is a rich and varied site with significant values present, much appreciated by the community. There are significant quantities of heritage buildings, structures and monuments in their own right, all having their own heritage management requirements.
- The Plan of Management (PoM), is endorsed under the updated *Crown Lands Management Act 2016*, with supporting documents in the PoM managed under the respective legislation.
- Rookwood has an annual bushland management program for the endangered ecological communities, species and populations of flora, along with the fauna species present as endangered or vulnerable within Sydney. Approximately 21 hectares are managed. A Bushland Management Plan and Property Management Plan, approved by the Office of Environment and Heritage, guide this work in accordance with the *Biodiversity Conservation Act 2016*.
- Significant trees mark nodes, circulation routes, define boundaries and delineate hierarchy and use areas. Other planting and gardens are evidence of the time in which the areas of the cemetery were developed. All require maintenance and monitoring.
- An active 'Friends of Rookwood' group carries out significant work, including maintenance days every second weekend, tours of the cemetery, organise the Open Day and funding of some monument restoration.
- The Necropolis is an active cemetery with many values that need to be appreciated, managed and conserved, whilst allowing for the ongoing functions of a fully operational cemetery. This is a complex and rich site with the ongoing need for additional buildings/vaults, functions and interment areas, to be managed whilst conservation and environmental values are sustained.
- Additional information is available in Appendix- case studies, in references cited and websites for the respective land managers (previously Trusts).

LIDCOMBE



## Heritage and environmental values maintained by the presence of cemetery

### Heritage

- Most of the heritage values maintained within the Necropolis are a product of the cemetery's existence. There are few heritage sites that were present before the cemetery existed - other than flora and fauna values discussed later, and 'moderate Aboriginal archaeological potential' (GML, 2016) in a small area of the Vegetation Conservation Areas. This is generally a result of the long term presence of the cemetery in this location.
- The original No. 1 heritage areas of the cemetery were laid out on J.C Loudon's model of cemetery design by Charles Moore and later Simeon Pearce and J.H. Maiden; Moore and Maiden being directors of the Botanic Gardens. This relationship with prominent individuals, responsible for the landscape design of many early areas within Sydney is demonstrated at Rookwood. Moore planned areas such as Centennial Park, Hyde Park and the Botanic Gardens.
- The presence of Rookwood in what was known as Haslem's Creek has protected monuments that were relocated from Devonshire Street and Petersham cemeteries when these were closed, and placed within a memorial landscape. In some cases these are clustered in dense groups and do not entirely maintain the landscape values of their original setting or spatial features. In some areas their placement is now being reviewed. The Devonshire Street gates were also relocated to Rookwood. As a result, Rookwood conserves heritage items that were present elsewhere.

- Each Land Manager has a program of monument restoration works. The Rookwood General Cemeteries Reserve Land Manager work involves heritage consultants and stonemasons, experienced in sensitive practices to protect and slow down weathering and deterioration. This is a huge task at Rookwood and is ongoing. Priorities are made and need to be constantly monitored and updated to manage deterioration of valuable heritage.
- The Catholic Cemeteries Board also carry out restoration of heritage monuments on a project basis.
- Always in need of extra funding, due to the magnitude of the monuments, it has been important to establish an implementation strategy. This prioritises conservation work plans, evaluates what has been achieved and adjusts as necessary. The scale in achieving this work on a 286 hectare site is large and areas of additional funding, such as grants and bequests, will always enable this work to be accelerated.
- The Landscape Master Plan (LMP) (Jacquet, 2014), includes an implementation strategy, as does the Conservation Management Plan (CMP). Performance against this strategy is through annual monitoring.
- A number of exceptional heritage structures are listed briefly below. These are examples of some of the heritage within the cemetery. For a more comprehensive list and description the Rookwood Conservation Management Plan includes these sites (GML Heritage, 2016).
- Thirty-five significant buildings, cultural landscapes, or monuments/memorial fabric have been identified as exceptional within the cemetery. Another ten have been identified as having high significance, and another ten as moderate. The sites are not all mentioned here.
- The crematorium is the first to be built in NSW in 1925 and was designed by Frank L'Anson Bloomfield, who also designed the Northern Suburbs Crematorium, completed in 1933. The building is in the Inter-war Mediterranean style of architecture with its associated memorial gardens of topiary plants, trees and decorative gardens. The walled crematorium garden, residence and pavilion were also designed by Bloomfield to complement the crematorium and together form a distinctive cultural precinct.
- The Sydney War Cemetery sandstone loggia (1949), is assessed as exceptional in its significance, and along with the military cemetery, forms a significant cultural landscape memorialising soldiers who died during operational service, sickness or accident. As such it is an important military memorial, providing historical references to war zones around the globe. Maintenance of this area is conducted by Office of War Graves.
- St Michael's Mortuary Chapel was consecrated in 1890. It is a Victorian Gothic Revival building constructed in Pyrmont sandstone and designed by Sheerin and Hennessy. Located within the No. 1 Catholic burial grounds, a part of the State Heritage Register, the chapel is used for services, weddings and funerals. It provides church functions beyond those strictly required within the cemetery's function.
- The previous railway operated at Rookwood connecting trains from Central Station to the No. 1 Mortuary Station, opening in 1869. Three more stations were constructed with a railway corridor connecting the areas of the expanding cemetery. The stations are no longer present, however footings are evident in some areas and the No. 1 Mortuary Station is an interpretive site.

- The Frazer Mausoleum, previous Independent Office (cottage), Elephant House, Stationmaster's Store, Gravediggers Hut, Anglican Brick Shelters and Jewish Martyr's Memorial, are all identified as having exceptional significance.
- These sites are all within priority conservation action plans, and are being maintained and conserved on an ongoing basis.

#### Aboriginal archaeology

- A small portion of land has been identified as having 'moderate Aboriginal archaeological potential' in the Conservation Management Plan. These are principally within areas of no burial, or little ground disturbance and are recommended to be further investigated if any activity is proposed in these areas. Most of the areas fall within the Vegetation Conservation Areas, being protected by the Property Management Plan discussed under Flora.

#### Cultural landscape

- Rookwood is home to a diverse range of funerary monuments set within a landscape that records the changing styles and nature of landscape and building practices since the Victorian period.
- A number of cultural landscapes are identified as exceptional in their significance along with the former railway corridor and the serpentine canal, bridges, ponds and underground conduits.
- The cultural landscapes within Rookwood recognise that human intervention in the landscape records activities and values over time and not only physical changes. This is a valuable characteristic of such a large diverse site and provides a unique visitor experience. Refer to the Visual Significance Study and Management Unit Policies discussed next for the management guidelines for these landscapes.

#### Visual

- A Visual Significance Study was prepared in 2010 and identified significant views within the cemetery and Management Units; areas with similar physical, cultural and visual values (DEM, 2010).
- The Necropolis was assessed on the basis of Management Units, each having key management priorities, directions, principles and guidelines. Each Management Unit has been used to form the basis for actions that have been elaborated within the Conservation Management Plan and Landscape Master Plan.
- The significant views within Rookwood were identified in the Visual Significance Study, and reinforced in the Landscape Master Plan. Protection of these views and recognition of them when any potential changes are to be made, is an important management function. Protection of these views is a key factor in maintaining the cultural and visual landscape of Rookwood.
- Views within Rookwood provide an orientation of its context in Sydney where easterly views catch glimpses of the CBD and Sydney Harbour Bridge, westerly views of the Blue Mountains, and northerly views of Sydney Olympic Park.

#### Flora and fauna

- A full flora and fauna study was undertaken in 1999 (P and J Smith Ecological Consultants) and updated in 2013 (UBM Ecological Consultants).

- Vegetation Conservation Areas at Rookwood were identified in the Flora and Fauna Study, as areas comprising the majority of the Endangered Ecological Communities, species and populations. These were ground truthed in consultation with the Office of Environment and Heritage representatives, fenced and set aside for conservation and excluding interment or cemetery operations. A Property Management Plan, sets out the original ten year plan and then ongoing five year plans for conservation works associated with the Vegetation Conservation areas.
- A number of fauna species, including birds, bats and flying fox, listed as vulnerable under the *Biodiversity Conservation Act 2016*, are resident or visit the site. Protection of the Vegetation Conservation Areas and connecting vegetation corridors is critical to their habitat being maintained. However this needs to be followed in areas external to the cemetery, on land managed by others.
- An active bushland management program occurs with annual works programs undertaken by specialists, monitored by ecologists and evaluated against performance measures. A Bushland Management Plan sets the management recommendations for each Vegetation Conservation Area and the implementation priorities.
- Ongoing monitoring of the Vegetation Conservation Areas occurs with a Plant Census for the endangered and vulnerable species, and communities prepared. An audit of the work was originally undertaken every two years and is now undertaken every five years; as the program is well advanced and has been operating since 1996, and formally through Office of Environment and Heritage approvals from 2002.
- The cost of the implementation of these works, based on Office of Environment and Heritage requirements and reporting, is significant. Work is incorporated in annual budgets for the Rookwood Necropolis as a whole.
- Cultural and exotic plants are significant as symbolic plantings, with value to the community beyond the Rookwood site itself. Heritage roses are located in the older burial areas and form important gardens. Many areas of memorial garden landscapes are present and provide strong examples of landscape practices over time.
- Significant trees and gardens are present as part of the original Victorian garden cemetery and developing landscape since 1867. Some are rare historic cultivars. These require maintenance, weeding and supplementary planting. As older trees senesce new trees need to be planted. This has occurred over time, and whilst ongoing planting is currently occurring the volume of the areas requiring maintenance is high and priorities are defined.

### Landform

- The topography of the cemetery has been described in most of the studies for the site, with its predominant ridgeline, highpoints, and valleys sloping to three separate catchments. The existence of the cemetery has not changed topography to any extent, except for localised drainage swales, canals, and ponds to manage water movement across the site. In many cases these are now heritage items.
- The existing landform can be read when visiting the cemetery, with these contributing to the views and vistas available from various areas both into the site and beyond.

### Multiple uses

- The cemetery provides an area of significant green space within this area of Sydney, connecting with the neighbouring areas.
- Cemetery tourism is a growing and 'real' concept, which is promoted at Rookwood through open days, themed tours, demonstration rose pruning days, Christmas services and carols, and the annual sculpture exhibition and walk – 'HIDDEN'.
- There is a high visitation rate by family groups, genealogists, photographers, researchers, educationalists, bush regeneration groups, arboriculture students and many more.
- Friends of Rookwood run themed tours on a regular basis and publish a newsletter of activities within the Necropolis. They also fund restoration work to monuments. Other activities this year included a Dusk Ceremony on the evening of the Winter Solstice.
- There are numerous areas where walking paths are located and used by the community for passive recreation. Neighbours along the extensive boundary walk their dogs through the place, whilst informal cycling along the many roadways is also common.
- An opportunity for a boundary walking and bicycle trail has been identified in the Landscape Master Plan and is being considered in areas around the cemetery to provide for additional community use.
- A café and function space at 'The Village at Rookwood' provides for the adjacent community as well as visitors to the cemetery. Frequented by adjacent site workers, visiting cyclists and groups, this facility is provided for all.
- Interpretation centres occur within the two land manager areas, with signage along heritage walks catering to visitor's recreational needs. These areas are being expanded as funds permit.
- Multiple uses are listed at the end of this section.

### Management tools in place and enforcement

- The Plan of Management (2014) is in place and is enforceable under the *Crown Lands Management Act 2016*.
- The Conservation Management Plan Draft (2016), is enforceable under the *Heritage Act 1977* and the *Environmental Planning and Assessment Act 1979* for areas outside the State Heritage Register.
- The Property Management Plan and conservation of threatened species is enforceable under the *Biodiversity Conservation Act 2016*.
- Any development other than ongoing operational works requires Development Consent from Cumberland Council and is enforceable under the *Environmental Planning and Assessment Act 1979*. Each application is accompanied with a Statement of Heritage Impact and Statement of Environmental Effects.

### Summary of capacity to manage heritage and environmental values whilst sustaining cemetery operation

- **Heritage:** The heritage sites have been generated by the cemetery and are significant on the national and world stage. Similar to the tours of international cemeteries that are common, Rookwood sits on the same world circuit, due to its heritage and all of the values it embodies. Aboriginal archaeology is not evident. A 'moderate Aboriginal archaeological potential' in unburied areas of two of the Vegetation Conservation Areas has been identified.
- **Cultural landscape:** The cultural landscape is maintained by the ongoing protection of the significant elements that make up the landscape. This is achieved through the many documents that govern the activities within the Necropolis. Often activities are complex and competing, requiring these documents to be prioritised and monitored through all actions.
- **Visual values and view corridors:** Each Management Unit identifies visual values and view corridors. These are recognised for protection when any activity is undertaken, and are important to the ongoing conservation of Rookwood. In some cases views change due to vegetation growth. This is an area that is considered and needs ongoing management where important views may be obscured by such growth. Landmark monuments and structures act as orientation markers, as well as heritage items.
- **Flora:** The original indigenous flora communities are protected, maintained and managed. Cultural plantings are significant. Monitoring and replanting when areas become senescent is an ongoing challenge, given the size of Rookwood. Additional funding, if available, allows for this to be accelerated.
- **Fauna:** Habitat is protected by maintaining the vegetation and connecting corridors as much as possible, whilst maintaining the cemetery. This is a challenge at Rookwood, as well as all areas of Sydney. Any loss in habitat, even in surrounding areas, can provide an 'island' effect, with poor fauna outcomes.
- **Landform:** The landform of the site is retained, visible and celebrated, by the use of heritage canals, and monuments acting as landmarks.
- **Multiple uses:** These include:
  - ❖ Tours, walks, activities of 'Friends of Rookwood'.
  - ❖ Special Days - heritage rose exhibitions and pruning demonstrations.
  - ❖ Passive recreation - walking.
  - ❖ Commemorative memorials and special commemoration days.
  - ❖ Heritage research, genealogy, family history.
  - ❖ Open Day, sculpture exhibition, recitals, weddings in chapels.
  - ❖ Visitor destination and tourism site within itself.
  - ❖ Informal cycling.
  - ❖ Other - Café and function rooms.

## 6.6 Macarthur Memorial Park --Varroville proposed cemetery

### Overview and general summary

- Macarthur Memorial Park is the subject of a Development Application (DA) lodged in November 2017 on land at 166-176 St Andrews Road Varroville, immediately north of the Hume Highway near Campbelltown to *'develop a landscaped cemetery which retains the character and look of the existing landscape, hence protecting the scenic environment'* (Jacquet, Master Plan). The information discussed here relates to the planning process in relation to cemetery development and not the detail of the environment, scenic and heritage values. Discussion is based on the process and rigour required for a development under applicable legislation, and in this case cemetery land use.
- Information is from the public documents in relation to the Gateway and Joint Regional Planning Panel (JRPP) dating from 2013 through to the September 2016 JRPP decision, with additions from the information available relating to the DA in 2017.
- A proposal by the Catholic Metropolitan Cemetery Trust (CMCT) was detailed in the Planning Proposal by Urbis dated September 2013, (then updated October 2015) and supported by a Masterplan Report by Florence Jacquet, August 2013 and updated in September 2017. Other documents include ecological constraints, watercourse assessment, bushfire, transport, cemetery demand, heritage and Aboriginal heritage, amongst others, forming part of the proposal. The documents have been based on identifying the values of the site and the means of protecting them.
- The initial proposal to amend the Campbelltown Local Environmental Plan to permit an additional permitted use 'cemetery' on the subject land, was submitted to Campbelltown City Council.
- The proposal was assessed by the Sydney West Joint Regional Planning Panel (SWJRPP), reviewing all public submissions, with a determination dated 9 September 2016 to request that the Department of Planning and Environment draft and finalise an amendment to the Campbelltown Local Environmental Plan 2015 (CLEP2015), to enable this use.
- Particulars in relation to the proposal and the SWJRPP determination relate to the required management of environment, heritage, cemetery and public recreation values and are noted following.
- The proposal is on land zoned E3 Environmental Management, covering the majority of the land, and RE1 Public Recreation, on the highest part of the land including Bunbury Curran Hill.
- The Development Application, submitted in November 2017, included a suite of design, analysis, interpretation and impact assessment reports. At the time of writing, this application remains with the authorities.
- The Minister for Planning has delegated functions in relation to the assessment of the DA under the *Environmental Planning & Assessment Act 1979* to the Independent Planning Commission to *'appropriately balance the various interests'* (IPC Media Statement 14 Jun 2018).

## Heritage and environmental values that need to be maintained by the presence of cemetery

The following information provides an overview of the planning process for this site in relation to the heritage and environmental values to be managed. It identifies:

- ❖ The presence of heritage and environmental values associated with the site as identified in the proposal.
- ❖ The planning process required to manage these values.
- ❖ The initial South West Joint Planning Panel (SWJRPP) decision and requirements in relation to protection of the heritage and environmental values of the site.
- ❖ The planning process and the enforceable management conditions in relation to cemetery use of the land if approved.

### Heritage scenic and environmental values

- The site has been identified as having significant heritage and environmental values. The detail of these are not discussed here. Instead the required retention and management of these values is the subject of the planning phases prior to the DA and associated submissions, as well as the DA inclusions.
- A planning proposal was submitted to Campbelltown City Council to amend the Campbelltown Local Environmental Plan (CLEP 2015) to permit (on a site-specific basis) cemeteries as an additional permitted use on the subject land. The submission was assessed by the Joint Regional Planning Panel with a determination to request that the Department of Planning and Environment draft and finalise an amendment to the (CLEP2015), to enable this use. The proposed amendments to the CLEP include protection clauses in relation to heritage, scenic and environmental qualities of the site and are as follows:

*'Clause 7.20 Development for the purpose of a Cemetery within the Campbelltown Local Government Area*

- ❖ *(1) The objective of this clause is to preserve the historical, scenic and environmental quality of the Campbelltown landscape.*
- ❖ *(2) This clause applies to all land identified as Lot 1 DP 218016, Lot 22 DP 564065 and Lot B DP 370979.*
- ❖ *(3) Development consent must not be granted to development on land to which this clause applies for the purpose of a cemetery unless the consent authority is satisfied that the development:*
  - *(a) will be undertaken in accordance with a Conservation Management Plan which has been endorsed by the Department of Planning;*
  - *(b) will complement the landscape and scenic quality of the site particularly when viewed from the Campbelltown Urban Area, "Varro Ville" homestead group and the Hume Highway;*

- (c) includes provision for the partial use of the site for publically accessible passive recreation space, and
- (d) will not adversely affect the visual or physical environmental qualities of the site.

*Clause 40 Use of certain land at St Andrew's Road, Varroville*

- ❖ (1) This clause applies to land at Lot 1 DP 218016, Lot 22 DP 564065 and Lot B DP 370979 St Andrews Road, Varroville.
  - ❖ (2) Development for the purpose of a cemetery is permitted with development consent' (Extract from proposed amendments to Campbelltown Local Environmental Plan 2015).
- The submission of the current Development Application in November 2017, was on the basis of the amendments to the zoning wording as noted and permissible uses to allow for cemetery use.
  - The documents prepared for the site addressing heritage impacts, Aboriginal archaeological impacts, scenic quality and views, flora and fauna impacts, water management, interpretation, and community uses of the site, have all been prepared under their required legislative frameworks.
  - Should the proposal be approved the Development Conditions of Consent and management conditions would be enforceable under the Acts described previously with some noted below.
  - The planning panel assessment of the planning proposal noted that *'the proposal includes a large area of attractive open space that will be accessible to the public and provide opportunities to experience the scenic qualities and vistas of the locality and believes this will be a substantial public benefit given that no public access is currently available to the subject land'* (Sydney West Joint Regional Planning Panel, September 2016).
  - *'The Panel notes that a number of uses now permitted on the site have the potential to impact upon the visual, cultural and environmental qualities of the locality, including educational establishments and places of public worship, which if located on this site could create a significant or greater impact on those qualities than the proposed development when regulated by the Local Environmental Plan amendments recommended by the Department of Planning and Environment.'* (Sydney West Joint Regional Planning Panel, September 2016).

### Management tools and enforcement

- A Plan of Management would be required and be enforceable under the *Crown Lands Management Act 2016*.
- A Conservation Management Plan was prepared for the DA, and would be enforceable under the *Heritage Act 1977* and the *Environmental Planning and Assessment Act 1979*. This would provide management of curtilage issues associated with Varroville homestead, including for any extended curtilage if this were to be expanded.
- Aboriginal archaeological heritage management would be enforceable under the *National Parks and Wildlife Act 1974*.
- Protection of the scenic and cultural landscape values would be a requirement in the development conditions under the *Environmental Planning and Assessment Act 1979* and *Heritage Act 1977*.

- Threatened species conservation and vegetation management, would be enforceable under the *Biodiversity Conservation Act 2016* as well as the *Environmental Planning and Assessment Act 1979*.
- Management of the water courses and riparian zones would be managed under a Vegetation Management Plan and enforceable under the *Water Management Act 2000* with the WaterNSW.
- Provision of appropriate community and recreational resources, landscape amenity, tree planting, weed control, management and maintenance would all be part of the development conditions under the *Environmental Planning and Assessment Act 1979*.

#### Summary of Macarthur Memorial Park

The decision in relation to the Development Application on this site remains, with the proposal currently with the planning authorities and is not available at the time of writing.

This project in itself outlines the complexities facing future land uses on key lands particularly within the urban context of a growing Sydney and, in particular, cemeteries. It also illustrates the conflicting values placed on this land and various interpretations of appropriate protection and management. Ultimately it is a matter for planning authorities to evaluate all submissions and make a determination based on the values present.

## 7 Conclusion

The local opposition to new cemetery development has always been strong, even though management practices have improved considerably since the earliest burial grounds were established in the colony. The Old Burial Ground on the site of the current Sydney Town Hall was relocated to the New Burial Ground at Devonshire Street, to be further away from the expanding population areas. When the colony further expanded a site was sought that could cater to the need for a large interment space for future generations. Burials were again relocated, to the new Haslem's Creek Cemetery, now Rookwood Necropolis, with the majority of the existing monuments relocated to Botany Cemetery, and others to Waverley Cemetery, Gore Hill Memorial Cemetery and most metropolitan cemeteries at the time. This continued the practice of relocating cemeteries from areas close to human habitation, with the sometimes real perception that they were unhygienic and derelict places. An 'out of sight - out of mind' perception prevailed. These concerns were principally related to the nineteenth century issues of hygiene and odour, prevalent at the time not only in cemeteries. This is not an issue today.

This perception of cemeteries changed when the garden cemeteries were established following the prolific writings of the Scottish botanist, garden designer and author, John Claudius Loudon in his publication of 1843 *'On the Laying out, Planting and Managing of Cemeteries'*. The Victorian principle of a properly designed landscape following gardenesque design principles was adopted. The cemetery became a place to visit, walk amongst the extensive gardens, picnic in the shelters provided and be orientated and impressed by magnificent large scale trees defining circulation areas.

Would Rookwood, Waverley, Eastern Suburbs, Northern Suburbs, or Castlereagh cemeteries be built if they were proposed on their sites today? What opposition would occur? Waverley Cemetery would probably not have been located within the highly scenic area along the coast, as the view may have been considered 'too good to be wasted on the dead'; whilst the actual result from the cemetery's siting is that the view is open to a greater number of people, and the coastal walk along the cliff frontage is available to all, acting as a major piece connecting Bondi to Clovelly and beyond.

What would the public outcry be if these existing cemeteries, currently managing green space, recreation, heritage and environmental values, were to be rezoned for other land uses? Opposition to cemeteries may be considered to be time limited, with these places often becoming much loved community spaces.

Visits to cemeteries have changed over time and there was a period during the war years and depression when maintenance was less, due to reduced personnel and funding. Some plants became overgrown, and some cemeteries became regarded as unkempt. In the current period cemetery operators and Councils responsible for these spaces have developed creative ways to maintain cemeteries as relevant places, even if there is no longer revenue to be made from interment. Maintenance procedures are formalised into binding obligations through Plans of Management and applicable legislative frameworks.

Earlier cemeteries now function as green open spaces in many otherwise highly urban and densely populated areas. Where previous functions and principle values were as places of burial and remembrance, these cemeteries now deliver other significant public values, otherwise available only in very limited supply in highly urban areas. These values include public access, green space, heritage and environmental values.

A renewed audience for cemeteries is here. Most of the earlier cemeteries are respected as repositories of social, aesthetic, scientific and historical values; embodying the place, setting, landscape design, botanical/vegetation and ecological significance. Cemeteries such as Gore Hill Memorial Cemetery is visited by the surrounding office workers/hospital visitors as an open space area, essentially functioning as a municipal park.

A visitor's guide to cemeteries has been published, in Lisa Murray's *Sydney Cemeteries - A Field Guide*. Much like the publications available in England, such as London's Cemeteries by Darren Beach, these places are becoming tourist destinations, along with being much loved by the local community surrounding them.

Current assessments in relation to planning and approvals for new cemeteries, require that they deliver a range of public values well beyond providing for interment and remembrance. Values such as public access, landscaped open space, and management of heritage and environmental values are all benchmark provisions for all new facilities. Melbourne's Bunurong Memorial Park states its function as designed '*to respectfully honour and celebrate life within vast and vibrant native parkland, Bunurong has also been purpose-built for daily community enjoyment*' ([HTTPS://bmp.smct.org.au/about-our-cemetery/](https://bmp.smct.org.au/about-our-cemetery/)).

Multipurpose open and green spaces are being provided across Sydney, to ensure valuable and limited land resources are not provided for single-use functions, instead catering to the many functions open space can perform. Cemeteries can provide some of the functions of this open space, if carefully planned and managed, thereby increasing their relevance to those living and visiting Sydney.

The idea of a large landscaped park should be a principle for new cemeteries and ongoing functions of old cemeteries, providing multipurpose open space for the entire community, whilst providing for a range of interment options. In addition interment types and practices are diverse and continue to develop with the changing attitudes to memorialisation, the need for land uses to be multi-functional, and ecological and sustainable approaches become essential.

High density of predominantly granite monuments is not the contemporary approach to cemetery design. As baby boomers are expected to be the predominant deaths in the next decades, approaches to memorialisation will continue to change. Although cultural/faith, beliefs and values are deeply ingrained in the approach to death and memorialisation, and Australia's increasing multi-cultural population has special interment needs, there will be opportunities for further advancements in the way cemeteries present themselves to the wider public audience. A re-imagination of our relationship to death is likely to evolve.

Management of the environment and heritage within these areas is an obligation under the relevant planning approvals and legislation described previously. Detailed assessment, appreciation and recognition of these values, along with ongoing management and maintenance contracts, ensure these practices are carried out, monitored and successful.

## 7.1 Summary of management tools currently in place in cemeteries

As a final summary the following management tools provide a brief description of those that are carried out in cemeteries to assist in the management of heritage and environmental values, along with the complex operational aspects of managing a cemetery. The complexity associated with each are dependent on the size and nature of the cemetery. They are listed to assist in potential management practices and are similar to those practices within any large public realm entity. They should be designed to not only provide for legislative compliance but to be useful tools to assist management.

An overarching document, particularly for Crown land, is usually a Plan of Management (PoM). Part of this Plan includes a number of other associated or related plans that make up the Plan of Management. These are usually separate documents that were often prepared as volumes of the overall PoM. Undertaking these separately as complementary documents, assists in the overall document being less cumbersome, and user friendly. The planning requirements for some of these documents were identified earlier in this report.

**PLAN OF MANAGEMENT** - A legal document to guide how an area is managed sustainably. Usually outlines the key information about the place, such as Aboriginal heritage, history, natural and ecological values, recreational values and social values. It outlines how a place is to be managed through principles, guidelines and actions. Managed and enforced under the *Crown Lands Management Act 2016*, for all Crown land cemeteries, with those managed by local government, enforced under the *Local Government Act 1993*.

**HERITAGE MANAGEMENT**- A number of documents can assist in identifying/recognising heritage. The key is to embody heritage in all its respects. Conservation Management Plans (CMP), Heritage Asset Management, Conservation and Restoration programs and Interpretation Plans are some of these tools. Activities undertaken by 'Friends' groups are also of considerable importance. Heritage embodies Aboriginal heritage and post-contact European heritage. The CMP is managed and enforced by the *NSW Heritage Act 1977*, with the Heritage Council of NSW responsible for endorsing. Aboriginal heritage is protected under the *National Parks and Wildlife Act 1974*. The *Environmental Planning and Assessment Act 1979*, through the development approval process, manages heritage items that are not within the State Heritage Register.

**CULTURAL LANDSCAPES**- A special component of heritage and landscape management can be identified and managed in the following: Conservation Management Plans, Landscape Master Plans, Visual and Cultural Significance studies, Significant Tree/Landscape Registers/Symbolic Vegetation and Management. Ongoing work can be outlined in more detail through Landscape Plans for specific areas –all usually developing areas identified in an overall Master Plan. The cultural landscapes, if identified in the CMP, are managed under the same legislation as Heritage management listed above.

**FLORA AND FAUNA**- Identified and then managed through Flora and Fauna surveys, Vegetation Management Plans, Bushland Management Plans, Tree/Landscape Management Plans. Endangered flora and fauna, and ecological communities are managed through the *Biodiversity Conservation Act 2016*.

**INFRASTRUCTURE-** Managed through identification of ongoing needs via Annual Capital Works programs as well as studies as required: such as traffic studies, services and IT needs and asset management. A Master Plan may identify these requirements. Other infrastructure requirements such as Fire Management Plans relate to infrastructure as well as flora and fauna. Environmental Management Plans will be important in reducing waste, recycling, energy, emissions, selection of materials and lifecycle costs as well as many more.

**INTERMENT AREA IDENTIFICATION AND DESIGN-** The principle function for cemeteries is interment, and the designs for burial and interment are usually identified in a Master Plan for the cemetery or site. Cemetery areas are often required progressively, as demand arises, allowing areas of the site to potentially remain in an undeveloped state. This addresses the need to have specific guidelines generally included within a Master Plan to identify some of the following: designs and guidelines for burial and interment types including buffer zones between areas, materials palette, street/path hierarchy and treatment, infill guidelines along with architectural designs/standards/guidelines/materials for new structures.

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## 9 Appendices

### 9.1 Expanding cemetery interment design approaches

Interment types vary significantly with many approaches available for contemporary memorialisation. Some approaches are variations on time honoured traditions, but reinterpreted. Contemporary cemetery design can explore many innovative approaches to memorialisation and expand the potential for multi-purpose spaces.

Some of these may include:

- Crypts, vaults and built-form located underground, (as occurred in Greek, Egyptian, middle-eastern burials), with green roofs to continue the existing green landscape character.
- Structures set into slopes enabling the ground and vegetation to seamlessly flow over.
- Columbarium and niche walls that are sculptural landscape elements.
- Lawn burial areas, with minimal impact plaques set flush with the ground, and small in size.
- Memory boxes- set into the ground housing favourite items from the deceased.
- Native grasses for lawn burial areas, where the pre-European settlement ground layer of indigenous grasses are re-established or allowed to regenerate.
- Gardens over monumental lawn burials, where heritage plants can flourish.
- Memorialising trees to accommodate ash interment whilst funding planting and maintenance.
- Modern sculpture memorials to increase art within these open space areas.
- Floating vegetation islands with memorials.
- Regenerating indigenous vegetation areas to improve fauna use, whilst providing for natural burial or scattering of ashes.
- Providing interpretation of heritage sites present, with possible memorial ash deposits to fund conservation.
- Increasing open space uses within the cemetery layout as commemorative public realm.
- Providing walking trails and bicycle trails for use by all, connected to trails outside the cemetery.
- Making condolence areas and cafes available for use outside the cemetery as function and meeting spaces.
- Managing water on the site to provide fauna habitat, whilst being a high value landscape feature.
- Further exploration of natural burials or 'green burials'- some examples used elsewhere include 'reef balls'- that could be reinterpreted as 'wetland balls', or other uses that may appear revolutionary.

More options will be explored as designers continue to be involved in the complex issue of increasing interment due to the population growth and corresponding deaths within the global city of Sydney and major population centres.

## 9.2 Case studies for each cemetery

Waverley Cemetery – 1877 to Present

Eastern Suburbs Memorial Park and Crematorium – 1893 to Present

Northern Suburbs Crematorium and Memorial Gardens – 1933 to Present

Castlereagh General Cemetery – 1811 to 1973

Rookwood Necropolis – 1867 to Present

## Waverley Cemetery: 1877 - present

**Address:** St Thomas Street - Cnr Trafalgar Street Bronte

**Local Government Area:** Waverley

**Managed by:** Waverley Council



PHOTO OF ENTRY AND INTERNAL STREET, CEMETERY PLAN

### Short Description and General Comments:

The cemetery is located in a spectacular coastal setting and consists principally of marble monuments set within an east facing small gully draining to the coast. It has a lack of landscape plantings, unlike other cemeteries of similar time, such as Rookwood Necropolis and Gore Hill Memorial Cemetery (Musescape and Beaver, 1996. Plan of Management). Views to the water predominate and allow the surrounding streets to gain the same views.

As a visual green break in this highly developed coastal area, the surrounding residential areas benefit significantly from the cemetery as an open space system. The coastal walk provides for increased recreational use adjacent and through the cemetery, with this formalised as a lower boardwalk adjacent to the cliff top. Although damaged by storm surges in 2016, this walkway is currently under repair, bringing the coast walk diversion into the cemetery again temporarily while the construction occurs.

Many prominent individuals are buried in the cemetery, with significant sculptural stone masonry skills on display. The boundary cast iron fence, sandstone base and piers at the entry to the cemetery, along with the small shelter provide high quality heritage value. The plan of the cemetery layout includes long east-west axis paths, and some enchanting curved paths with intact sandstone kerbs to direct drainage.

New interment has been provided by columbarium walls along the northern boundary and memorial gardens for ashes.

Granite horse drinking troughs remain at the main entry gates, along with the monument to the 1798 Irish Rebellion. Henry Kendall is buried in the cemetery along with Henry Lawson and Dorothea McKellar, to name a few.

The cemetery was listed in the State Heritage Register in October 2016.

<b>Cemetery Information – Summary</b>		
<ul style="list-style-type: none"> <li>▪ Heritage Status</li> <li>▪ Aboriginal Heritage listing with NPWS.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Register of the National Estate: Reg. 002474 now closed to entries</li> <li>➤ SHR: Database No. 01975 Registered in 2016 SHR Nomination by Penny Mora in 2015</li> <li>➤ LEP: Waverley Council</li> <li>➤ National Trust Listed: 1980</li> <li>➤ NPWS Listing: Aboriginal Heritage sites listing</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p>
<ul style="list-style-type: none"> <li>▪ Heritage Values present (European)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Buildings: Sandstone structures at entry including cemetery office built 1915</li> <li>➤ Monuments and structures- many fine examples of white marble and sandstone monuments</li> <li>➤ Cultural Landscape: An important gardenesque Victorian cemetery layout</li> <li>➤ Plan and Layout significant: circulation routes. Simeon Pierce laid out with trees marking junctions</li> <li>➤ Views and Vistas: significant</li> <li>➤ Interpretation of values present</li> <li>➤ Heritage entry gates and fence</li> <li>➤ Horse trough: marble at entry</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Aboriginal cultural heritage and archaeology</li> </ul>	<ul style="list-style-type: none"> <li>➤ Known sites present: None identified but potential</li> <li>➤ High cultural and educational significance for LALC</li> <li>➤ Assessed as medium Aboriginal archaeological research potential. (Dominic Steel Consulting Archaeology, 2009 Waverley Aboriginal Cultural Heritage Study: Waverley LGA and 2003 Indigenous Heritage Study Waverley Cemetery)</li> </ul>	<p>High cultural significance</p> <p>Medium Archaeol. Potential</p>
<ul style="list-style-type: none"> <li>▪ Flora and Fauna conservation issues</li> </ul>	<ul style="list-style-type: none"> <li>➤ Vegetation Management Plan in place</li> <li>➤ Contains any Endangered or vulnerable species, or communities</li> <li>➤ Original Eastern Suburbs Coast Banksia Scrub: degraded remnants on the eastern boundary, important to maintain coastal species present on boundaries and replant</li> <li>➤ Fauna present: The hanging swamp located on the rock platform below the cemetery supports at least two frog species. The Green space within the cemetery and along its edges provide significant area for fauna and bird use</li> <li>➤ Birds: Species lists in the PoM</li> </ul>	<p>Part of PoM</p> <p>Only on coastal cliff &amp; remnants</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Landscape &amp; Visual values</li> <li>▪ Green Links/ Recreational uses</li> </ul>	<ul style="list-style-type: none"> <li>➤ Northern boundary Norfolk Island Pines are important landscape elements.</li> <li>➤ Connection to surrounding Green Space: Significant connections to adjacent open spaces - plus significant coastal walk highly used by the community.</li> <li>➤ Other Rec uses: Other walking paths within the cemetery allow for community use as passive open space.</li> </ul>	<p>Yes</p> <p>Yes. Open at all times</p> <p>Gates close at sunset.</p>
<ul style="list-style-type: none"> <li>▪ Friends or volunteer presence</li> </ul>	<ul style="list-style-type: none"> <li>➤ A local bushcare group has maintained the coastal strip, particularly around the frog habitat, hanging swamp</li> <li>➤ Maintenance by family groups of individual graves may occur periodically</li> <li>➤ Most other maintenance is undertaken by Waverley Council</li> <li>➤ Friends of Waverley Cemetery runs heritage tours</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Management tools in place</li> </ul>	<ul style="list-style-type: none"> <li>➤ Plan of Management: 1996 (Musecape &amp; Beaver), Updated 2008 by Waverley Council with input from AJ+C Conservation Management Plan (CMP)</li> <li>➤ Master Plan: part of CMP by AJ+C</li> <li>➤ Conservation Management Plan- AJ+C Cultural landscape input from Craig Burton 2002- Landscape Architect</li> <li>➤ Monument conservation works program</li> <li>➤ Asset management formalised in Heritage Asset Management Sheets or similar</li> <li>➤ Vegetation Management Plan or Species Impact Statements prepare</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes- adopted</p> <p>Yes with grants</p> <p>In PoM</p> <p>In PoM</p>
<ul style="list-style-type: none"> <li>▪ Management actions current</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dedicated management of heritage present</li> <li>➤ Dedicated management of flora present: part of general maintenance</li> <li>➤ Other: Regular mowing of turf access between graves Planted grave tops with alternative species evident- ie gazania, coreopsis</li> <li>➤ Other: Weeds are managed and the ability for the Cemetery to maintain the flora and fauna values is high</li> </ul>	<p>Yes in PoM</p> <p>Yes in PoM</p>

**Conservation of Heritage and Environmental Values:**

The cemetery is an example of a much loved regional and local space, providing for multitude uses beyond memorialisation. The formal coastal walk passing within the edge of the cemetery brings thousands of users to the cemetery. Some divert their walk and explore the epitaphs and monuments.

The visual relief provided by the cemetery in this important coastal area has survived pressures to redevelop as residential use, or remove monuments to become a remembrance park, substantiating the value this place has for the community. Surrounding views are retained across the cemetery, with long views north and south along the coastline.

The heritage entry gates, pavilion, marble horse troughs and cemetery layout are important heritage values protected and managed as a result of the cemetery occupying this land. The coastal heath vegetation is being maintained and regenerated, with weeding assisted by a local bush care group.

The heritage and environmental values of this place are well known and it is surprising it has taken so long for it to be heritage listed on the State Heritage Register, in 2016.

**Success of Management in Conservation of Heritage and Environmental Values**

Maintenance of heritage graves is undertaken by Waverley Council. The integrity of the original cemetery plan and layout remains intact with the various stages of burial visible. The landscape character is intact and can be appreciated from many viewpoints, where long views over the cemetery to the water are spectacular. Many significant monuments and sculptural grave architecture are well preserved. All are considered of considerable significance in the Plan of Management.



SPECTACULAR VIEWS IN ALL WEATHER, SIGNIFICANT MONUMENTS IN MARBLE AND HERITAGE SANDSTONE KERBS.

## **Management Tools Currently in Place – Discussion:**

**Plan of Management:** 1996 Musecape and David Beaver.

2008 Waverley Council with excerpts from the CMP by Allen Jack +Cottier (AJ+C)

This document has identified the character and nature of the place.

The SHR listing notes: *‘Once sited on the periphery of the Sydney colony, the retention of Waverley Cemetery in its now urban and desirable setting has seen the cemetery become a strikingly significant and intact open space in metropolitan Sydney.’*

The cemetery contains *‘key landscape elements including mature Norfolk Island Pines on the boundaries, Canary Island Date Palms within the Cemetery and numerous remnant historic shrubs and grave plantings’.*

Major monuments and memorials within Waverley Cemetery are situated at key points such as at the junction of main roads and pathways and other key vantage points at the edge of the cemetery sections. This makes these major monuments prominent items in the landscape when within the cemetery. Examples include the Irish Martyrs’ Memorial, The Governor Duff monument, The Henry Kendall monument, The Johnston family vault, the Greek Revival monument to Sir James Martin, and the Chowder Bay monument.

**Master Plan:** Part of the CMP prepared by AJ+C.

**Draft Conservation Management Plan:** Allen Jack + Cottier

Most of the inclusions of this document have been incorporated into the PoM noted above. Craig Burton, Landscape Architect, provided cultural landscape, geological, and vegetation assessment, amongst other detailed assessment in this study, with this incorporated into the updated Plan of Management in 2008 by Waverley Council.

### **Heritage Asset Management sheets:**

Management items are included in the works program and the PoM 2008. Work has been completed on restoring the entry walls, gates and fencing.

**Vegetation Management Plan:** A list of plantings is included in a significance table within the PoM with rankings of the significance. Significant trees could be further identified and kept on a register, along with records of the works carried out. The PoM identifies further work to be done in assessment of these elements prior to conservation work being undertaken. Vegetation within the cemetery is managed by nature of the cemetery’s presence, with Council staff being responsible for this work.

**Maintenance Schedules or Works programs:** These are part of Waverley Council’s management of the cemetery. As a site maintained by local government, this ensures that the values present within the cemetery are maintained as the funds allow. Funds for maintenance and special conservation work have been set aside over a ten year program (Waverley Cemetery website).

**Interpretation and Signage:** These are being updated and undertaken as funds permit. No separate Interpretation strategy has been prepared. Signage along the coast walk has identified areas of significance on this walk.

### **OTHER:**

**Access Audit:** Included in PoM.

### **Grants and Funding:**

A grant from the NSW Government led to the restoring of Sir Charles Wade memorial in April 2017 (former NSW Premier, Supreme Court judge and Agent-General for NSW).

Crowd funding of over \$2,000 towards a new marble etched grave table on Dorothea MacKellar’s grave was undertaken in 2017.



RESTORED CAST IRON BOUNDARY FENCING AND SANDSTONE PLINTH AND PIERS AT THE ENTRY

# Eastern Suburbs Memorial Park and Crematorium: 1893 - present

**Address:** 12 Military Road, Matraville

**Local Government Area:** Randwick

**Managed by:** Southern Metropolitan Cemeteries Trust (now Land Manager)  
Crown Cemetery



CEMETERY LOOKING SOUTH AND CREMATORIUM BY LOUIS ROBERTSON 1938. BELOW MAP OF CEMETERY SOURCE: SMCT WEB SITE



### **Short Description and General Comments:**

The cemetery started as Botany Cemetery, located on Military Road, and Bunnerong Cemetery. In 1901, due to the need to close Devonshire Street Cemetery in the area now occupied by Central Railway Station, monuments and remains were transferred to many cemeteries existing at the time around Sydney. The majority of monuments were taken to Bunnerong Cemetery on Bunnerong Road on a purpose built tram line. The Pioneer Memorial Park places these monuments in back to back rows, set around the Blake family tomb as a centrepiece. All monuments were sandstone, except for 5 marble (Zelenka S. Tender Sympathies). Botany Cemetery and Bunnerong Cemetery acted as two separate cemeteries for many years with separate Trusts and a caretaker appointed to administer Bunnerong Cemetery, totally dedicated to the relocated monuments, with no additional interments permitted. By 1971 the two cemeteries were amalgamated by a Government bill. Further discussion in relation to Pioneer Park is included later.

The Memorial Park includes the Eastern Suburbs Crematorium, completed in 1938 and designed by Louis Robertson, in the low square Inter-war functionalist style. This is a centrepiece of the Memorial Park.

Of particular relevance is the adjacent Chinese Market Gardens - listed on the SHR No.01299 13 Aug 1999; LEP listing as heritage item on 30 April 1999; and National Trust of Australia register on 30 Mar 2011 (Urbis, 2012 Heritage Peer Review, Chinese Market Gardens La Perouse).

Previous controversy over an application to extend the cemetery to the adjacent Market Garden site has now been alleviated by shelving these plans. The market garden continues to function alongside the cemetery.

The adjacent Lot 4858 Bumborah Point has received Randwick Council 'in principle' support for an application to rezone this site for cemetery use. This has been undertaken with consultation with the La Perouse Local Aboriginal land Council, with an agreement to provide sites for 10-15 years for burial of Aboriginal people on the land. This is the first dedicated Aboriginal burial area, allowing Aboriginal elders to be buried in their local community and on country.

Part of the plan for the site includes public access and open space along the foreshore of Yarra Bay with access into the cemetery site. This also provides connection with Bicentennial Park at Yarra Bay, continuing the importance of 'green links' within this area, particularly connecting the foreshore with the areas beyond.

Due to cemetery reforms in 2014, the management of the site is through the Southern Metropolitan Cemeteries Trust (now Land Manager), who administers Woronora Cemetery also.

<b>Cemetery Information –</b>		
<ul style="list-style-type: none"> <li>▪ Heritage Status</li> <li>▪ Aboriginal Heritage listing with NPWS.</li> </ul>	<ul style="list-style-type: none"> <li>➤ SHR</li> <li>➤ LEP: Pioneer Park, crematorium, former Bunnerong Power station &amp; Botany Bay NP Landsc Conser. Area</li> <li>➤ National Trust Listed: Pioneer Park listing</li> <li>➤ Note: Adjacent Chinese market gardens listed on SHR #01299, in the LEP and National Trust</li> <li>➤ NPWS Listing: Aboriginal heritage sites listing</li> </ul>	<p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p>
<ul style="list-style-type: none"> <li>▪ Heritage Values present (European)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Buildings: Crematorium 1938 Louis Robertson Architect - in the Inter-war functionalist &amp; art deco 'modern style'. New administration building on the Military Road Botany Cemetery site. Previous office and flower kiosk along Military road &amp; West Chapel</li> <li>➤ Monuments and structures: Many examples of fine funerary monuments. Pioneer Park significant</li> <li>➤ Cultural Landscape: Layers of history and development phases evident in the landscape</li> <li>➤ Plan and Layout significant: Planned cemetery layout</li> <li>➤ Views and Vistas: views to Botany Bay visible from most of cemetery</li> <li>➤ Interpretation of some values present</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Aboriginal cultural heritage and archaeology</li> </ul>	<ul style="list-style-type: none"> <li>➤ Known sites present: No known Aboriginal Archaeological sites identified, apart from current planning study for Bumborah site extension. It is expected the area is significant to the Aboriginal community. Located near area where First Fleet landed and early contact</li> <li>➤ Prominent coastal site: need for coord. with LALC</li> </ul>	<p>No</p> <p>Potential for arch. sites</p>
<ul style="list-style-type: none"> <li>▪ Flora and Fauna conservation issues</li> </ul>	<ul style="list-style-type: none"> <li>➤ Vegetation Management Plan in place: not specific</li> <li>➤ Landscape plans prepared when work is proposed</li> <li>➤ Contains any endangered or vulnerable species, or communities</li> <li>➤ Fauna present: known species, Studies or surveys confirm on foreshore and within adjacent areas</li> <li>➤ Birds: surveys</li> </ul>	<p>Landscape Plans</p> <p>Not found on site</p> <p>Species in locality</p> <p>None known</p>
<ul style="list-style-type: none"> <li>▪ Landscape values</li> <li>▪ Green Links/ Recreational uses</li> </ul>	<ul style="list-style-type: none"> <li>➤ Planted avenues of significance. In this harsh salt laden microclimate all vegetation is valuable</li> <li>➤ Connection to surrounding Green Space: Bicentennial Park and Bumborah Point links are available and planned to be upgraded as part of proposed extension into adjacent site</li> <li>➤ Other Rec uses: Walking paths allow for community use through cemetery</li> </ul>	<p>Yes in some areas</p> <p>Yes</p> <p>Access Available at all times</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Friends or volunteer presence</li> </ul>	<ul style="list-style-type: none"> <li>➤ Cape Banks Society has transcribed Pioneer Park monuments, updated from previous transcribes.</li> <li>➤ Maintenance by family groups of individual graves may occur periodically</li> <li>➤ Friends of Chinese market gardens facebook site and support for retention of adjacent site</li> </ul>	<p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Management tools in place</li> </ul>	<ul style="list-style-type: none"> <li>➤ Plan of Management: past documents prepared</li> <li>➤ Conservation Management Plan:</li> <li>➤ Monument conservation works program: on risk basis</li> <li>➤ Master Plan: numerous for new areas- refer text</li> <li>➤ Asset management formalised in Heritage Asset Management Sheets or similar - Capital Works plans.</li> <li>➤ Vegetation Management Plan or Species Impact Statements prepared</li> </ul>	<p>Yes</p> <p>For specific area</p> <p>Master plan in place</p> <p>For new areas</p>
<ul style="list-style-type: none"> <li>▪ Management actions current</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dedicated management of heritage present: refer notes</li> <li>➤ Dedicated management of flora present:</li> <li>➤ Other: Maintenance of landscape areas occurs</li> <li>➤ Other: Few weeds are present and the ability for the cemetery to maintain the flora and fauna values appears good</li> </ul>	<p>As funds allow</p> <p>Horticultural maintenance</p>
<ul style="list-style-type: none"> <li>▪ Other</li> </ul>	<ul style="list-style-type: none"> <li>➤ Garden areas around crematorium maintained with rose gardens and Centenary Park provides a green area with waterbody as a distinct microclimate</li> </ul>	

**Conservation of Heritage and Environmental Values:**

The memorial park successfully manages various stages of development. The western area combines the original Botany Cemetery with the new 'Garden of Innocence' and 'Garden of Loving memories', along with a number of special memorials including the Stolen Generations memorial, the Police Memorial, the Military Memorial, the Bicycle Rider's Memorial, and 'Mention My Name' memorial.

The memorial park is set within an area of high industrialisation, including the Boral Plant, along with the container terminals of Port Botany. The open space connections between the Pioneer Park on Bunnerong Road, and the cemetery leading to Bicentennial Park and Yarra Bay, allow for it to play an important role in 'greenspace' connections, with wonderful views over Yarra Bay.

Valued and maintained rose gardens are located around the crematorium, protected from strong winds by an enclosing wall. These are memorial gardens and are being upgraded with various roses.

The central Centenary Park, undertaken for the cemetery's centenary celebrations, also improves this greenspace, considerably improving a previous problem drainage area. Current links are possible from the cemetery to the foreshore walk and Bicentennial Park, providing strong open space links between the uses.

Pioneer Park, located on the Bunnerong Road frontage, has retained the main stelae and headstones of some of the monuments transferred from Devonshire St Cemetery, however it was not supported by the National Trust nor most historians at the time, due to the loss of the footstones and the loss of landscape character of the graves themselves, when they were consolidated into a smaller area in the 1970s. With today's knowledge the setout of the graves would have retained their inter-relationship, more of the grave furniture and landscape characteristics. There also remain far less than the original monuments transferred, with an account in Sue Zelinka's book *Tender Sympathies, a social history of Botany Cemetery*.



CLOCKWISE FROM TOP: MAGNIFICENT VIEWS OVER YARRA BAY AND BOTANY BAY, MARKET GARDEN AS SEEN FROM CEMETERY, PIONEER PARK MONUMENTS, NORTHERN SIDE OF MILITARY ROAD WITH THE POLICE MEMORIAL SET WITHIN PAPERBARKS

As most of the monuments are sandstone of varied original quality, this material is more prone to deterioration with many not surviving the transfer from Devonshire St in the first place. Some monuments from the original Sydney Burial Ground are purportedly contained within those remaining, with these now having been relocated three times.

This is a past loss that cannot now be reversed, apart from looking at the remaining monuments to conserve and protect them from further deterioration as much as possible. The reasons for the past actions appear complex and mired by controversy, with many relating to the lack of dedicated financial support. Conservation of the remaining monuments and management to reduce climatic deterioration and past deterioration, due to wind born atmospheric pollution is recommended, along with recommendations for adjacent cemetery activities and maintenance. Funding for this work, should be sought via grants and special funds. This is an activity that currently does not generate any revenue for the Trust, and as for many cemeteries, is an ongoing factor that will continue as burial space decreases. Maintenance of these monuments has been factored into the new precinct described next.

Unveiled in 2016 this area has been designed as 'First Fleet Memorial Park', where ten 'First Fleeters' and two naval personnel are memorialised, with interpretive panels describing the area. It is the only memorial where the names of every member of the First Fleet have been cited, including the ships names, the crew, civilians and all convicts on board are recorded.

Interpretive signage and graphics interprets this event. This provides a significant memory of the early colonisation of Australia and is a destination that could be promoted, along with the other sculptural elements within the cemetery.

Interpretation of the Aboriginal heritage of the site and its context with the Yarra Bay foreshore and La Perouse could also provide balance to the history of the area. It is understood this is intended for the Bumborah Point site.

#### **Success of Management in conservation of heritage and environmental values:**

Maintenance is undertaken by SMCT. The cemetery has grown over the years, mostly following a plan, developed for various areas. This has enabled the environmental values of the site to be improved. Without the presence of the cemetery this area would probably have developed for industrial use, as has occurred in the northern and western surrounds. Much of the site's character is obtained due to its location on Botany Bay, with views over the water and the sloping landform remaining intact. The presence of the cemetery has been able to interpret European cultural values for the community through the First Fleet Memorial Garden and previous Pioneer Park, with additional recommended actions noted.

The linking of the cemetery to Bumborah Point and Yarra Bay Bicentennial Park will further increase the value of this cemetery through recreational walking trails and foreshore connections.

#### **Management Tools Currently in Place - Discussion:**

**Master Plans:** A Master Plan was prepared in 1986 by Mitchell Clouston, later updated by Mitchell Blanche. A number of Master Plans have been prepared for the cemetery over time. The original plan for Botany Cemetery was prepared by the Government Surveyor. In 1983 landscape architecture students at Sydney University were asked to look at areas adjacent to the old Total oil refinery. In order to include a wider look at the entire cemetery in 1986, Landscape Architects Mitchell + Clouston were engaged to prepare development plans (essentially a master plan) in three stages for the entire cemetery and crematorium (Zelinka, Sue. 1991 *Tender Sympathies*). Concepts were presented by Jim Mitchell, including beautification of the crematorium forecourt, entries, and a bicentennial project to improve the poor drainage line running through the site, to become Centenary Park. Later, the landscape architects having changed to Mitchell Blanche, developed this area into a landscaped environment of linked water bodies. This included mature trees with a reticulated water system, replacing the old car bodies and waste areas from the previous industrial use drainage overflow. The poor conditions of this part of the site have been improved directly as a result of the cemetery presence and the work carried out. Many of the benefits as a result of the Master Plan involved the consideration of screening areas adjacent to the site, using the placement of taller vaults along these boundaries and working with the natural contours of the land to provide for drainage, tree planting, restoration of gullies and improvement works.

Master plans and Landscape Plans are being prepared for cemetery areas when they are developed, within some for the north-western areas of the site, with consideration of underground catacomb style vaults. This is making use of the slope present in this area of the site. The Bumborah Point area would include an assessment of opportunities to incorporate the values present on that site and integrate it with the cemetery and other areas beyond.

**Maintenance Schedules or Capital Works programs:**

The annual works are determined through capital works programs allocating funds and personnel to the projects and ongoing maintenance work.

Grants and heritage assistance could be the subject of ongoing capital works to assist in the management of heritage on the site.

**Interpretation and Signage:**

Significant work was undertaken as part of development of First Fleet Memorial Park extending the original Pioneer Memorial Park. Interpretive signage was included in this work.

**Multiple uses:**

The cemetery has a number of memorials that go beyond the site itself: Police Memorial, Military Memorial commemorating the Battle of Pozieres. Also included is a memorial for the War Widows Guild and Legacy, along with the other special memorials including the Stolen Generation memorial and others noted previously in this case study. Other events such as open days, Christmas carols and special memorial commemorations, all contribute to increasing community awareness and visits to the cemetery.

## **Northern Suburbs Memorial Gardens and Crematorium: 1922 land set aside 1933 - present**

**Address:** Delhi Road – North Ryde

**Local Government Area:** City of Ryde

**Managed by:** Invocare Pty Ltd



THE CREMATORIUM IS SET WITHIN A COMPLEMENTARY LANDSCAPE DESIGNED AS A WALLED ITALIAN GARDEN

### **Short Description and General Comments:**

The crematorium building, designed by Bloomfield, was the second to be built in NSW after Rookwood's, by the same architect. Completed in 1933, the building is built in the Inter-war Romanesque style of architecture, with a decorative tower. Additional chapels have been constructed in a sympathetic style with memorial gardens providing a distinctive Mediterranean setting (OEH Heritage Listing, updated Dec 12). The gardens have a historical association with Norman Weekes, who expanded the landscape philosophy from the 1940's to the 1960's. These gardens illustrate an aesthetic significance of the Inter-war period of landscape design, with a variety of garden areas, ranging from bushland settings to topiary gardens associated with the crematorium building.

The crematorium and associated gardens are sited on a prominent ridge allowing views to many high points in the locality. Views to the Chatswood towers are available. The placement of the relatively low buildings on the site afford bushland views and a vegetated skyline from other prominent high points. The memorial gardens maintain a 'green' ridgeline in contrast to some of the other surrounding commercial areas to the west, providing visual relief when combined with the heavily vegetated surrounding Lane Cove National Park.

Many prominent individuals are interred in the cemetery, with the ability to memorialise these individuals for future generations.

<b>Cemetery Information –</b>		
<ul style="list-style-type: none"> <li>▪ Heritage Status</li> <li>▪ Aboriginal Heritage listing with NPWS.</li> </ul>	<ul style="list-style-type: none"> <li>➤ SHR: Listed as significant early 20<sup>th</sup> Century Crematorium building with a designed landscape setting</li> <li>➤ LEP: Listing Number I46 Ryde LEP Sep 14</li> <li>➤ National Trust</li> <li>➤ NPWS Listing: Aboriginal Heritage sites listing</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p>
<ul style="list-style-type: none"> <li>▪ Heritage Values present (European)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Buildings: Crematorium by Bloomfield, the 2nd crematorium to be built in NSW, historically significant</li> <li>➤ Skyline function centre, provides low elevation building set within gardens</li> <li>➤ Monuments and structures: Columbarium walls along boundaries and within courtyards</li> <li>➤ Cultural Landscape: Gardens associated with the crematorium create a complementary setting in the style of the building, associated with Norman Weekes</li> <li>➤ Plan and Layout significant: Circulation routes, gardens and layout form a significant planned setting</li> <li>➤ Views and Vistas: Significant, long views available</li> <li>➤ Interpretation of values present</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Aboriginal cultural heritage and archaeology</li> </ul>	<ul style="list-style-type: none"> <li>➤ Known sites present: Unknown</li> <li>➤ Strong association with the original Aboriginal inhabitants of this area of the north shore, along with the important bushland areas adjacent within Lane Cove National Park</li> </ul>	<p>No</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Flora and Fauna conservation issues</li> </ul>	<ul style="list-style-type: none"> <li>➤ Vegetation Management Plan: CMP guides maintenance</li> <li>➤ Contains any endangered or vulnerable species, or communities: unknown</li> <li>➤ Fauna present: The edges merge with the Lane Cove National Park with a high level of indigenous canopy trees maintained, allowing for fauna and bird use</li> <li>➤ Birds</li> </ul>	<p>Vegetation is managed by horticultural trained staff</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Landscape values</li> <li>▪ Green Links/ Recreational uses</li> </ul>	<ul style="list-style-type: none"> <li>➤ Planted avenues of significance with trees of funerary significance marking path nodes and entries. Strong use of clipped conifers and pines complementing the Mediterranean style of the crematorium</li> <li>➤ Connection to surrounding Green Space: Significant visual connections to adjacent Lane Cove National Park. No physical connection via walkways are present, except through front entry</li> <li>➤ Other Rec uses: Other walking paths within the cemetery do not prohibit general community use as passive open space</li> </ul>	<p>Yes</p> <p>Yes. Open only through entry gates</p> <p>Gates close at sunset</p>
<ul style="list-style-type: none"> <li>▪ Friends or volunteer presence</li> </ul>	<ul style="list-style-type: none"> <li>➤ Bushcare: Adjacent Lane Cove National Park has and a 'Friends' group.</li> <li>➤ Maintenance: High, by a dedicated team of gardeners (hort C trained) for all of the areas.</li> </ul>	<p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Management tools in place</li> </ul>	<ul style="list-style-type: none"> <li>➤ Plan of Management: part of CMP</li> <li>➤ Conservation Management Plan &amp; Landscape Master Plan: 2005 Betteridge and Beaver - includes heritage, interpretation, landscape conservation</li> <li>➤ Monument conservation works program:</li> <li>➤ Asset management formalised in Asset Management Plan</li> <li>➤ Vegetation Management Plan or Species Impact Statements</li> </ul>	<p>Yes</p> <p>Yes</p> <p>As required</p> <p>Part of maintenance</p> <p>On site team- no special plan</p>
<ul style="list-style-type: none"> <li>▪ Management actions current</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dedicated management of heritage present</li> <li>➤ Dedicated management of flora present: part of general maintenance</li> <li>➤ Other: Regular maintenance of all landscape evident- including maintaining the clipped conifers and Mediterranean style garden around the crematorium</li> </ul>	<p>Yes</p> <p>Yes</p>

**Conservation of Heritage and Environmental Values:**

The crematorium is a fine example of a managed and maintained heritage precinct with the cultural landscape remaining intact.

Maintenance of site is undertaken by Invocare's gardening team. Integrity of the original crematorium plan and layout remains intact. The landscape character is intact and can be appreciated from many viewpoints. New memorial gardens are provided, catering to the bushland memorial popularity, along the bushland edges of the site. Trees are retained and managed to maintain a bushland boundary and character. Memorial styles are controlled in the original heritage areas with more flexibility in the newer areas. Further design guidelines in these areas would assist in these being of higher design quality.

The visual relief provided by the crematorium on this prominent ridge provides important bushland views from surrounding areas, due to the low heights of the crematorium and its comfortable setting within the landscape. In turn long views are available from the cemetery over this part of the north shore. This is beneficial in the context of the development areas surrounding the area and provides 'green links' in this part of Sydney, of immense environmental benefit.

Visual links with the green space and important indigenous vegetation of the adjacent Lane Cove National Park are available. The potential for physical connections via walking trails are possible, but would need to be managed to deal with the impacts this may create on this memorial landscape- eg. higher maintenance requirements.



## **Management Tools Currently in Place - Discussion:**

### **Conservation Management Plan and Landscape Master Plan:**

2005 Musecape and David Beaver.

This document has identified the character and nature of the place, site management issues and recommendations as well as precinct analysis and policy recommendations. It identifies the key contributions by designers such as Bloomfield and later Norman Weekes in providing ongoing designs that complemented the original schemes. A comprehensive list of plant species gleaned from a planting scheme by Norman Weekes, has been interpreted and current nomenclature provided to enable this to be utilised for ongoing garden replacement species.

Statements of Heritage Impact have occurred when additions or alterations have been required to the crematorium building, with this being done by Noel Bell Ridley Smith and Partners in 1984 and 2004.

Heritage studies for City of Ryde include this site as part of the heritage of the locality.

On-site training of the horticulturalists on site occurs, with additional input from arborist's appointed to review and advise on tree health annually as a minimum.

Pruning within the site aims at maintaining vistas from the original plan and design.

## Castlereagh Cemetery: 1811 - 1973

**Address:** Church Lane, Cnr Wilchard Rd, Castlereagh

**Local Government Area:** Penrith City

**Managed by:** Penrith City Council

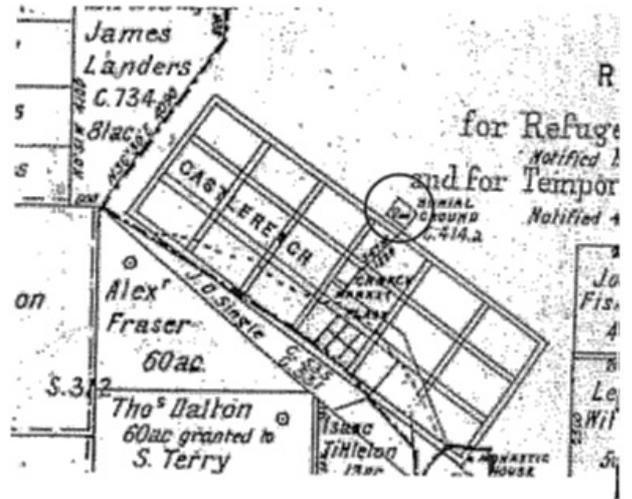


PHOTO FROM CLOSE TO ENTRY

### Short Description and General Comments:

The cemetery is a pioneer cemetery and one of the five Governor Macquarie towns. It is part of the few remaining areas of the original Castlereagh town, proclaimed in 1810. These towns were proposed to bring together settlement in the colony. Families did not take up in the town, preferring to stay on their farms by the Nepean River.

It contains First Fleet graves, as well as early pioneering families. Interment is no longer permitted in the cemetery.

Cemetery Information – Castlereagh General Cemetery Penrith		
<ul style="list-style-type: none"> <li>▪ Heritage Status</li> <li>▪ Aboriginal Heritage Values or listing with NPWS</li> </ul>	Pioneer Cemetery ➤ State Heritage Register SHR: ➤ Local Environment Plan LEP: ➤ National Trust: ➤ NPWS Listing: for Aboriginal Heritage site	No Yes Yes No
<ul style="list-style-type: none"> <li>▪ Heritage Values present (European)</li> </ul>	➤ No buildings ➤ Monuments and structures: Fine examples of early pioneer grave furniture ➤ Cultural Landscape: Natural grave setting, similar to bushland cemetery ➤ Plan and Layout significant: as informal bushland style cemetery ➤ Views and Vistas: views at entry important into the Cemetery. Flat ground with limited long views ➤ Interpretation of values present:	No Yes Yes Yes Yes Yes
<ul style="list-style-type: none"> <li>▪ Aboriginal cultural heritage and archaeology</li> </ul>	➤ No known sites present	
<ul style="list-style-type: none"> <li>▪ Flora and Fauna conservation issues</li> </ul>	➤ Vegetation Management Plan in place: Part of PoM ➤ Contains Castlereagh Ironbark vegetation, and is located adjacent to the Castlereagh Woodlands ➤ May include endangered population <i>Dillwynia tenuifolia</i> OEH, identified in 1989 (Lembit) ➤ Fauna present: Abundant birdlife due to excellent native grass and groundcover, dense shrub layer for small bird habitat. Boundaries provide cover for other fauna	Yes Yes Yes Yes
<ul style="list-style-type: none"> <li>▪ Landscape Values</li> <li>▪ Green Links</li> </ul>	➤ Excellent connection to surrounding woodland on 3 sides ➤ Adjacent low density houses set on large lots provide ability to connect with green corridors ➤ Walking paths informal inside cemetery. Locked at night Some break-ins known	Yes Access only avail during day
<ul style="list-style-type: none"> <li>▪ Friends or volunteer presence</li> </ul>	➤ Friends of Castlereagh Cemetery have been active in the past, but appear to be no longer activ. ➤ Maintenance by family groups of individual graves may occur periodically	No Yes
<ul style="list-style-type: none"> <li>▪ Management tools in place</li> </ul>	➤ Plan of Management: Prepared for Council ➤ Conservation Management Plan: ➤ Monument conservation works program: family group maintenance in assoc. with Council ➤ Asset management formalised in Asset Management Plan or similar. ➤ Vegetation Management Plan or Species Impact Statements prepared.	Yes Yes Yes Part of PoM No
<ul style="list-style-type: none"> <li>▪ Management actions current</li> </ul>	➤ Dedicated management heritage present: ➤ Dedicated management of flora present: ➤ Periodic mowing of the predominant native grasses, retains the integrity and allows for self-seeding as a sustainable management practice ➤ Few weeds are present and the ability for the Cemetery to maintain the flora and fauna values is high	Yes Yes

**Conservation of Heritage and Environmental Values:**

The cemetery is significant in conserving heritage and environmental values whilst the cemetery is no longer operational. It is an important location of early pioneer graves and marks the settlement history of the early colony and the land grants in the west of Sydney. As a surviving example of Governor Macquarie’s proposed towns to promote settlement in the colony, this is the only remaining part of the proposed town. Proclaimed in 1810 this is an important part of Sydney’s settlement pattern.

Sustaining remnant floristics of Castlereagh Ironbark vegetation, along with habitat for birdlife and fauna, this cemetery fulfils multiple functions. It is a valuable example of the ongoing functions cemeteries can play beyond their ‘productive life’ as a cemetery.

**Management Tools Currently in Place – Discussion:**

**Plan of Management:**

A Plan of Management for all of Penrith City Council’s cemeteries was prepared in 2013, including Castlereagh General Cemetery (Tallents, PoM). This provided an assessment of the cemetery values based on heritage, landscape and visual, infrastructure and management. Management principles, guidelines and actions based on these values were identified, and key performance measures. The cemetery is to be managed as a historic cemetery with conservation of all historic monuments undertaken with priorities to conserve those at the highest risk.

**Conservation Management Plan:**

A Conservation Management Plan was prepared by Don Godden and Associates in 1989 for Penrith City Council’s cemeteries. In 2001 Otto Cserhalmi & Partners prepared a Conservation Management and Maintenance Plan for Castlereagh Cemetery. This provides conservation principles and is used by council for the management of the site along with the PoM.



MONUMENTS SET WITHIN NATIVE GRASSLAND AND WOODLAND, HERITAGE GRAVE FENCING AND BORDERS WITH FOOTSTONES REMAINING, SANDSTONE ALTER AND ENTRY INTERPRETIVE SIGN

**Maintenance Works programs:**

Council mows the predominantly native grasses, as outlined in the PoM; to encourage the seeding of the grasses, promote the bushland character of the cemetery, as well as regenerating the vegetation to reduce weed encroachment. This has been successful. The mowing is not to maintain a pristine lawn, which would be totally inappropriate to the cultural landscape character of the cemetery. A guide for mowing and maintenance of the grave surrounds is included in the PoM and on-site activities are following the principles of management of these values successfully.

**Interpretation and Signage:**

A main entry sign identifies the heritage of the cemetery and its origin as one of Macquarie's towns. Photographs explain the context. Other oral history and family history records are available in Penrith City Council Library Local Studies section providing information about some of the pioneering families buried within the cemetery. Rope and Pulley, namely two, are referenced along with information from the Rope and Pulley family history group. This allows a greater understanding of the historical associations of the locality, the social groups with interest in the cemetery, and research as well as ongoing research potential.



AERIAL VIEW OF THE CEMETERY, BUSHLAND CHARACTER AND CONTEXT

## Rookwood Necropolis: 1867 - present

**Address:** Hawthorne Avenue Rookwood, Barnet Avenue Rookwood are within the site however it is a suburb within itself.

Area: 286 Hectares

**Local Government Area:** Cumberland Council, division Auburn.

Managed by: Rookwood Necropolis Land Manager, Rookwood General Cemeteries Reserve Land Manager, Catholic Cemeteries Board. Invocare leases the Rookwood Memorial Gardens and Crematorium whilst Office of War Graves maintains the Sydney War Cemetery and Garden of Remembrance.



AERIAL PHOTO OF ROOKWOOD 2010

### Short Description and General Comments:

Rookwood is one of the largest burial grounds in the world and contains the largest 19<sup>th</sup> Century cemetery within Australia. The history and features of Rookwood are well documented. An update to the Plan of Management for Rookwood was published in 2014 outlining the values, strategic directions, management principles, guidelines and actions.

As part of the Plan of Management, related management plans have been developed over the last 3 years.

As part of the NSW cemetery legislation reforms Rookwood Necropolis Land Manager is responsible for management of common infrastructure, boundaries and roads. The Rookwood General Cemeteries Reserve Land Manager united the previous Anglican, General, Independent, Jewish and Muslim Trust.

The Catholic Cemeteries Board manages the Catholic Cemetery within Rookwood. Other management areas are included within the Sydney War Graves, and the Rookwood Memorial Gardens and Crematorium.

<b>Rookwood Necropolis- Rookwood</b>		
<ul style="list-style-type: none"> <li>▪ Heritage Status</li> <li>▪ Aboriginal Heritage Values or listing with NPWS</li> </ul>	<ul style="list-style-type: none"> <li>➤ SHR: SHR No. 00718 for the first 200 acres of Cemetery built</li> <li>➤ LEP:</li> <li>➤ National Trust:</li> <li>➤ NPWS Listing: for Aboriginal Heritage sites</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p>
<ul style="list-style-type: none"> <li>▪ Heritage Values present (European)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Many buildings within Rookwood display significant heritage values and are acknowledged on various heritage lists</li> <li>➤ Monuments and structures: Fine examples of monuments over many decades display fine stonemasonry art</li> <li>➤ Landmark structures abound throughout the cemetery</li> <li>➤ Cultural Landscape: significant and varied cultural landscapes throughout the entire Necropolis of 286 Hectares</li> <li>➤ Plan and layout significant: and representative of ongoing phases of use</li> <li>➤ Views and vistas: Views from cemetery available to the CBD, Blue mountains, Olympic site. Many important internal views to structures and monuments</li> <li>➤ Interpretation of values present:</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Aboriginal cultural heritage and archaeology</li> </ul>	<ul style="list-style-type: none"> <li>➤ No known sites present- areas of medium archaeological potential identified in the Conservation Management Plan– to be investigated further</li> </ul>	<p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Flora and Fauna conservation issues</li> </ul>	<ul style="list-style-type: none"> <li>➤ Vegetation Management Plan in place: Property Management Plan for vegetation and fauna conservation</li> <li>➤ Endangered ecological communities, species, and vulnerable species and communities are listed within the OEH TSC Act 1995, and amended <i>Biodiversity Conservation Act 2016</i>.</li> <li>➤ It includes endangered flora: <i>Pomaderris prunifolia</i>, <i>Wahlenbergia multicaulis</i>, vulnerable flora; <i>Acacia pubescens</i> and <i>Epacris purpurascens</i> var. <i>purpurascens</i>. OEH. (Note: TSC Act terminology used)</li> <li>➤ Fauna present: Threatened or vulnerable fauna species; Grey headed Flying Fox and Common Bent-wing Bat present. Regent Honeyeater may visit the site but not recorded &amp; Green &amp; Golden Bell Frog present on adjacent Chullora site and may utilise the adjacent areas</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Landscape Values</li> <li>▪ Green Links</li> </ul>	<ul style="list-style-type: none"> <li>➤ Good connection within the site of Vegetation Conservation Areas</li> <li>➤ Open space links with pedestrian access available along boundaries into the site for use of walking paths</li> <li>➤ Walking paths, heritage walks, annual sculpture exhibitions, and use of all of the site is freely available. Locked at night</li> <li>➤ Cultural plantings present with heritage rose gardens and gardenesque plantings from early plans</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Access only avail during day</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Friends or volunteer presence</li> </ul>	<ul style="list-style-type: none"> <li>➤ Friends of Rookwood have been active for many years and run regular themed tours, as well as a Newsletter and Open Day</li> <li>➤ Maintenance by family groups of individual graves occurs with some areas that are visited regularly by family, particularly certain cultural groups</li> <li>➤ The Friends of Rookwood also fund restoration of various monuments, often with assistance from the Trusts (Land Managers</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Management tools in place</li> </ul>	<ul style="list-style-type: none"> <li>➤ Plan of Management: 2014</li> <li>➤ Management Unit Policies 2014</li> <li>➤ Conservation Management Plan: Draft 2016</li> <li>➤ Monument conservation works apparent: all Land Managers</li> <li>➤ Asset management formalised in Asset Management Plan or similar:</li> <li>➤ Vegetation Management Plan or Species Impact Statements prepared: Property Management Plan 2014, Bushland Management Plan 2015</li> <li>➤ Flora and Fauna study 2013</li> <li>➤ Landscape Master Plan 2014</li> <li>➤ Tree Management Study: completed 2016</li> <li>➤ Canal Study completed 2015</li> <li>➤ Visual Significance Study 2010</li> </ul>	<p>Yes</p>
<ul style="list-style-type: none"> <li>▪ Management actions current</li> </ul>	<ul style="list-style-type: none"> <li>➤ Dedicated management heritage present:</li> <li>➤ Dedicated management of flora and fauna present:</li> <li>➤ The Land Managers maintain their individual areas within the cemetery</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p>

## Conservation of Heritage and Environmental Values

A large area of dedicated land, as a Crown cemetery, Rookwood actively manages heritage and environmental values. Due to its size there are many areas of heritage starting from before the cemetery opened, with monuments transferred from Devonshire St, and Lewisham. Heritage conservation of monuments is undertaken in the No.1 burial areas. The Jewish monuments have been part of a conservation program ensuring these remain intact for future generations. This task is a huge undertaking and is progressively carried out as restoration funds permit.

There are significant representations of burial practices for all faiths over many years, providing a rich social history. Many management documents guide the work associated with these values. These are updated on a regular basis.

Flora and fauna habitat in the cemetery is managed through a bushland management program that reports to the Office of Environment and Heritage. Endangered ecological communities and species are present within 21 hectares of Vegetation Conservation Areas, where further burial is not permitted.

Exotic planting areas of cultural heritage value exist, with significant heritage rose gardens located in a number of areas. Maintenance of these areas is assisted by the heritage rose society, and Friends of Rookwood. Other plantings from early plans include significant tree plantings at nodes, along circulation routes, defining boundaries and designating different uses. These mark the importance of early designers including Charles Moore and JH Maiden, who had significant roles to play in areas in Sydney's development. These include the Botanic Gardens, Centennial Park and some street layouts within Sydney, where popular street trees and palms were planted. Simeon Pierce, who became the Mayor of Randwick, was a trustee of the Anglian cemetery and was responsible for selection of trees and laying out areas around the serpentine.

Architectural masterpieces within the cemetery include some of the rest houses in the No.1 areas, St Michael the Archangel, The Elephant house, crematorium, and vaults, such as the Frazer vault. This also extends to the monuments where funerary architecture of magnificent stonemasonry skills can be seen.

The No. 1 Mortuary Station, was a significant architectural structure by James Barnett, colonial architect, unfortunately now relocated outside the cemetery. This link with the Mortuary Station at Central Station is not entirely lost, with an interpretive structure, landscape layout and signage, marking the site of this important part of the early history of Rookwood. Footings of another of the four railway stations at Rookwood can be seen and interpretation of these elements is planned.

As an ongoing cemetery providing functions that extend well beyond burial and interment, the cemetery successfully manages multiples uses and values. It is probably the best example in Sydney of the use of a cemetery for open space, and visitation other than for interment, and is a model that could be followed.





This does require resources and will continue to be a management challenge. New initiatives will undoubtedly be required for this to continue, however these are part of the ongoing cemetery functions that will need to be maintained into the future.

Multipurpose functions within Rookwood include an Open Day every second year, an annual HIDDEN Sculpture exhibition, carols, services on special days, and recitals to name a few. The Friends of Rookwood carry out many fund raising and restoration activities with one noted below.

Samuel and Rosetta Terry monument is shown in the original location in Devonshire St and then far right relocated to Rookwood. Samuel was an emancipated convict, who arrived on the 'Earl Cornwallis' in 1801, later becoming a merchant in NSW. His wife Rosetta Terry, nee Pracy arrived on the Hillsborough in 1799. She married Henry in 1810. This monument is being restored by the Family, Friends of Rookwood and RGCRT. The families started a donation drive, working with the Friends. (Information from R.I.P NEWSLETTER, March 2018. Newsletter of The Friends of Rookwood Inc. Vol 23 Number 1)



PHOTOS OF TERRY MONUMENT. SOURCE: R.I.P NEWSLETTER ROOKWOOD, SHOWING ORIGINAL LOCATION OF MONUMENT AT OLD DEVONSHIRE ST CEMETERY AND LATER RELOCATED TO ROOKWOOD AFTER THE MONUMENTS WERE MOVED TO MAKE WAY FOR CONSTRUCTION OF CENTRAL STATION.

The Rookwood General Cemeteries Reserve Land Managers has a monumental heritage team with Sach Killam, monumental team leader. His experience over many years, with masonry and cemeteries, provides significant value to the knowledge and understanding of the place. Ongoing restoration work is undertaken in the cemetery and also beyond to contribute these values to other cemeteries.

### **Management Tools current in place- Discussion**

The following descriptions are a brief summary.

#### **Plan of Management 2014** Department of Primary Industries

This is the overriding document prepared to manage the values within the Rookwood site. It outlines the key information about the place, including Aboriginal heritage, history, natural and ecological values, and social values as well as management framework, governance and sustainability issues. The challenges are identified to balance demand and supply, burial practices, ecology, environment, heritage, financial sustainability, governance and communication.

It outlines how the place is to be managed through principles, guidelines and actions. A key to this PoM is the supporting documents, as Related Management Plans that deal with details and ongoing issues.

#### **Management Unit Policies 2014** DEM (Aust)

Prepared to provide more detailed principles and guidelines for each management area, as a component of the PoM. The management units group areas with similar characteristics, as a result of the Visual Significance Study prepared in 2010. The areas are defined through similar physical, cultural and visual values, rather than denominational areas or management structure. It is a landscape led framework with areas defining key management priorities for each Unit.

#### **Landscape Master Plan 2014-** Florence Jacquet & subconsultants

Providing a detailed analysis of this large site, the landscape Master Plan identifies issues to be addressed and a number of proposals; based on the need for beautification/consistency, increased recreational activities, the need for sustainability and an implementation strategy. Design guidelines for various elements are included.

#### **Draft Conservation Management Plan- 2016** GML Heritage

Building on heritage and archaeological studies prepared over many years, the Draft CMP draws this information together as well as updating significance assessment, recommended conservation policies and management actions. Heritage Asset Management Sheets are prepared for key cultural landscapes,

heritage items, memorial groups, structures and infrastructure. An interpretation strategy and Aboriginal Due Diligence study is included.

**Property Management Plan 2015-2020** UBM Ecological Consultants and C.Tallents

This document builds on earlier Vegetation Management Plans prepared for the site and the management of the endangered ecological communities and species present on the site. It deals with the ongoing bushland management at Rookwood, maintaining the ecology, and management actions that are part of a bushland management program, carried out since 1996 and earlier. An audit was carried out every two years, and was then extended to five years; to review the actions against the performance measures. This work is undertaken with approval and authorisation from the Office of Environment and Heritage (OEH).

**Bushland Management Plan 2014-2019** UBM Ecological Consultants

As part of the ongoing work to the Vegetation Conservation Areas (VCAs) at Rookwood, the Bushland Management Plan identifies the core performance measures for the VCAs along with management priorities for each area. Part of the management of the bushland is a Threatened Plant Census for the endangered ecological communities, and species within the site, carried out every five years and reported to the OEH.

**Survey of Rookwood Necropolis *Wahlenbergia multicaulis* annual reports.** P and J Smith Ecological Consultants

An Annual Plant Census for *Wahlenbergia multicaulis* is a requirement of the PMP and undertaken by experts in identification and management of this species.

**Biodiversity Studies: Flora and Fauna investigations for Native Bushland at Rookwood Necropolis,** August 2013. UBM Ecological Consultants

This updates the previous flora and fauna surveys carried out over various years as a baseline for the updated PMP. It has identified the presence of the vegetation communities and species within the VCAs as well as fauna extant, and those migratory species visiting the site.

**Visual Significance Study** DEM August 2010

Prepared to extend the previous studies from the earlier Plans of Management, where aesthetic characteristics were considered, this study assessed the landscape, visual and cultural significance through consideration of the layers of history, landmarks, burial types, topography, vegetation and landscape pattern, circulation routes, internal and external views, ability to interpret historic layers, and ability to absorb change. Key significance was defined and a comprehensive analysis of each Unit was undertaken, with aerial photographic layers over time providing an understanding of the historic layers of the site. A brief summary of this is embodied in the Management Unit Policies.

Others:

A **Traffic Study** identifying the traffic volumes through the primary road network has informed activities within the Necropolis.

A **Canal Study** by Hyder Consulting has reported on the condition of the historic canals and recommended remedial works and maintenance actions.

**Wayfinding and Signage Strategy** 2016-2017 by Anne Gordon Design (AGD), provided a study to improve navigating around this huge site. A signage strategy and suite of signs was developed. The first phase of this has been implemented.

Other reports are prepared when new works are proposed or specific assessment is required.