



**COUNCIL MEETING**

**ATTACHMENTS UNDER SEPARATE COVER**

**7.00 PM, TUESDAY 20 AUGUST 2019**

Waverley Council  
PO Box 9  
Bondi Junction NSW 1355  
DX 12006 Bondi Junction  
Tel. 9083 8000  
E-mail: [info@waverley.nsw.gov.au](mailto:info@waverley.nsw.gov.au)



## ATTACHMENTS UNDER SEPARATE COVER

### **CM/7.9/19.08      Herbicide Reduction Study - Assessment Report**

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# Assessment Report

## WAVERLEY COUNCIL HERBICIDE REDUCTION STUDY


JULY 2019



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NGH Environmental Pty Ltd (ACN: 124 444 622. ABN: 31 124 444 622)



## EXECUTIVE SUMMARY

Waverley Council uses a range of herbicides in the control and management of weeds as part of the maintenance and upkeep of turf, bushland areas, parks, streets and laneways within the Local Government Area. This weed management is undertaken to upkeep sports fields and recreational areas, to protect remnant native vegetation from weed ingress, and to meet community expectations. Waverley Council understands that there are potential health, safety and environmental risks with the use of herbicides.

The recent decision of the Californian Superior Court (Baum Hedlund Aristei Goldman pc, 2019) relating to the potential health and environmental risks arising from glyphosate herbicides and the International Agency for Research on Cancer (IARC) upgraded carcinogenic status of glyphosate herbicides, has raised community concerns about Council's herbicide use. As a result, a recent Council motion (CM/5.2/18.09 Herbicide and Pesticide Use (A06/0333) identified the need to review governance and operational procedures around herbicide use to ensure the safe and responsible use of herbicides on Council-managed lands, or the elimination of glyphosate herbicides if the chemical is found to be unsafe.

An independent review of Council's policies and procedures governing herbicide use has been undertaken. This study comprised of the following tasks:

- Review of Council's herbicide operations including policies and procedures governing herbicide use
- Review of Council's certification and training procedures, documentation of herbicide use and record keeping
- A workshop with Council staff to discuss Public Places/Parks/Urban Ecology Teams application procedures, staff knowledge and training, and concerns with the herbicide use and potential transition process
- Quantifying Waverley Council's herbicide use and other Council's herbicide use
- Interviews with Byron Shire and Inner West Council to discuss alternative weed management practices, and lessons learned
- Desktop research of alternative weed management techniques.

The objectives of this study are to identify opportunities to optimise responsible herbicide use through safe and sustainable weed management solutions on Council-managed land, in order to ensure the protection of employees, residents and the local environment.

Since glyphosate is the predominant herbicide used with the broadest range of applications, and has been the focus of the media, public and international agencies, this study has focused on glyphosate herbicides. It is recognised that, based on current usages, any reductions in glyphosate herbicides would result with a significant overall reduction in herbicide use.

Neonicotinoids are not a herbicide. Therefore, detailed discussion of these chemicals is beyond the scope of this review. A brief discussion on the management of neonicotinoids in France and the Australian Pesticides and Veterinary Medicines Authority's (APVMA) position on this chemical is provided in Appendix N.



The results of this study identified the following:

- Waverley Council currently has the basic policies, plans and procedures in place to ensure that weed management is undertaken in accordance with the Biosecurity Act 2015. Currently, Council is able to continue to fulfil its obligations under the updated Acts and Regulations. Minor updating and adjustments of the current policies and plans is only needed to ensure that these documents reference the new regulations and acts.
- The priority for Council is to minimise glyphosate herbicides usage by the Public Places/Parks/Urban Ecology teams.
- Overall herbicide use could be minimised by mapping the treatment areas, improving treatment practices, avoiding use in certain areas, timing treatment with plant life cycles, and staff training in weed identification and suitable treatment method.
- Byron Shire Council and Inner West Council have started the process of reducing herbicide use. They have updated their management plans and implemented alternative weed treatment methods to meet the social obligations of addressing their community's concerns with glyphosate herbicides.
- Neither Byron Shire Council or Inner West Council has successfully transitioned to an LGA wide herbicide free weed control program.
- Glyphosate usage across Councils vary considerably. However, a direct comparison of use is not possible with the available information, as the total area of open space, land use types and treatment methods vary between the LGAs.
- The APVMA advises that "products containing glyphosate can continue to be used safely according to label directions" (Australian Pesticides and Veterinary Medicines Authority, 2019). As such, under the current legislation Waverley Council may continue to use glyphosate herbicides.

The following table of recommendations identifies the actions that will enable Council to transition toward the minimisation of glyphosate herbicide use on Council managed land. A detailed description of these measure in provided in Appendix E.

Subject	Recommendation
<b>Mapping</b>	Map herbicide treatment areas using Waverley Councils mapping system to understand herbicide usage patterns. This information should be available for Council staff use.  Identify locations of 'Sensitive Places' under the herbicide regulation, 'Chemically Sensitive Places' to the Waverley community and 'Weed complaint' and make these available on the map.  Survey weeds throughout Waverley Local Government Area.
<b>Alternative Treatment Methods</b>	Create a team within the Council to oversee and record trials of alternative to herbicide use. Trial non-herbicide weed control methods and consider the costs and benefits of these methods.
<b>Reporting and Documentation Control</b>	Use Waverley Councils record keeping system, TRIM, to document herbicide use compliance (dilution ratios and surfactant use).
<b>Contractor and staff training and education</b>	Ensure Council staff and subcontractors are trained in weed identification, plant lifecycle and knowledgeable of the appropriate treatment methods.



Subject	Recommendation
<b>Identifying, categorising and evaluating Council managed Land</b>	Classify Council managed land into 3 categories where the goals for herbicide use/elimination are clearly defined, and where alternative control methods can be trialled.
<b>Policy, Strategy and Plans</b>	<p>Update weed management Policy, Plans and Notifications Procedures to align with the new Acts and Regulations.</p> <p>Update the weed list in the Weed Action Plan to include weeds specifically troublesome in Waverley Council.</p> <p>Develop an Integrated Pest Management Plan (IPM) and Strategy, which would specifically address the objective of reducing and/or eliminating herbicide use.</p>
<b>Community Awareness</b>	Develop a community information and communication plan to inform the public on the initiative to reduce herbicide use, the planning process, selection process, testing process, timeframes and community feedback mechanisms

#### Trade - off considerations

Council needs to recognise the inherent challenges and complexities associated with reducing or phasing out herbicides. Herbicide alternatives may work, but generally require additional start-up and ongoing costs. Some of the issues associated with herbicide alternatives are:

- Availability of the alternative treatment
- Initial cost to purchase new equipment
- Staff training
- Health and safety risks to the operator
- Potential damage of infrastructure (cracks, staining)
- Increased effort (man hours) per treatment to achieve the same results as glyphosate treatment
- Increased frequency of treatment
- Practicality of treatment over large areas

These issues would require proactive and ongoing management from Council. Cumulative negative outcome of alternative weed treatment may be gradual and unnoticeable.



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## ACRONYMS AND ABBREVIATIONS

APVMA	Australian Pesticides and Veterinary Medicines Authority
AQF	Australian Qualifications Framework
CRS-RCP	Community & Recreation Services, Recreation & Community Planning
Cwth	Commonwealth
DEC	Department of Environment and Conservation
DECCW	Refer to OEH or Department of Planning Industry and the Environment
DPIE	Department of Planning, Industry and Environment
DP&I	(NSW) Department of Planning and Infrastructure
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPA	Environment Protection Authority (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwth)</i>
GHS	Globally Harmonized System
ha	hectares
IARC	International Agency for Research on Cancer
km	kilometres
LCA	Local Control Authority
LEP	Local Environment Plan
LGA	Local Government Authority
m	Metres
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NSW	New South Wales
OEH	(NSW) Office of Environment and Heritage, formerly Department of Environment, Climate Change and Water
PPC	Public Place Cleansing
REF	Review of Environmental Factors
REP	Regional Environmental Plan
SDS	Safety Data Sheet
SEPP	State Environmental Planning Policy (NSW)
SSROC	Southern Sydney Regional Organisation of Councils
SWC	Sydney Weeds Committee
US EPA	United States Environmental Protection Agency
WHO	World Health Organisation
WONS	Weeds of National Significance







# 1 INTRODUCTION

## 1.1 BACKGROUND

Weeds are a major threat to our natural environments; threatening the health and survival of hundreds of native plants and animal species in New South Wales (NSW) alone. Weeds also impact on human health through allergies and asthma, disrupt and curtail recreational activities and add substantial costs to our economy.

Waverley Council uses herbicides in the control and management of weeds as part of the maintenance and upkeep of turf, bushland areas, parks, streets and laneways. Waverley Council understands that there are potential health, safety and environmental risks with the use of herbicides.

The recent decision of the Californian Superior Court (Baum Hedlund Aristei Goldman pc, 2019) Company regarding glyphosate use, and the French national ban on neonicotinoids coupled with the current research evidence from the International Agency for Research on Cancer (IARC), leading to an upgraded carcinogenic status of the herbicide glyphosate, has raised community concerns about Council's herbicide use. As a result, a recent Council motion (CM/5.2/18.09 Herbicide and Pesticide Use (A06/0333) requested a review of the governance and operational procedures around herbicide use to ensure the safe and responsible use of herbicides on Council-managed lands, or to eliminate the use of glyphosate if the chemical is found to be unsafe. Councillors have requested information on the extent of herbicide use and have requested officers investigate alternatives to herbicide use as well as options to minimise use (biological treatments, different maintenance schedules and alternative non-chemical treatments).

## 1.2 OBJECTIVES

The objective of this project is to provide an independent expert review of Waverley Council's current policies and procedures governing herbicide use to ensure that safe and sustainable weed management solutions are adopted for the protection of employees, residents and the local environment.

The review will identify opportunities to optimise responsible herbicide use through the minimisation or cessation of the use of glyphosate and other herbicides on Council-managed lands.

Neonicotinoids are not a herbicide. Therefore, detailed discussion is beyond the scope of this review. A brief discussion on the management of neonicotinoids in France and the Australian Pesticides and Veterinary Medicines Authority's (APVMA) position on this chemical is provided in Appendix N.



## 2 METHODS

Several limitations were identified during the phases of background research, data gathering from other councils and discussion of herbicide record keeping within Waverley Council. The original scope of the Herbicide Reduction Study comprised of the following tasks:

- Analysis of Waverley Council's current policies, procedures and activities around the use of herbicides. This would include a review of Australian regulations, verification of compliance by Council staff and contractors with Council's current Policies and procedure, and an analysis of Council's policies and procedures in light of ongoing research on the impacts of herbicides on human health. These three activities are addressed in Sections 3.1, 3.2, 4 and 5.
- An analysis of Council's current herbicide use across all operations, including the use of glyphosate and other selective and non-selective herbicides. This is addressed in Section 3.2 – Workshop Results, although some limitations were discovered during the Workshop, these are discussed in Section 6.
- A comparative data analysis on the herbicide use of at least 3 other similar sized Australian urban Councils. Limited quantitative data was obtained from other Councils, discussed below. As such the comparative study was modified, as shown in Section 3.3.
- A quantification of Waverley Council's total herbicide use by staff and contractor across the LGA, and a quantification of the other council's total herbicide use across their LGAs. This information is provided in Section 3.2 and 3.3.
- A gap analysis comparing Council's herbicide usage and application practices against current best practice sustainable weed management techniques. Limitations are discussed below.

### Comparative analysis from other Councils

The intended methodology for gathering information from other Councils consisted of sending out letters requesting types of herbicide used, volumes used for each herbicide and total surface area of weed treated land. Councils were not able to provide this information, either due to limited data availability, reluctance to share the information, or low prioritisation to coordinate the data gathering exercise. Of the six councils that were approached, Inner West and Byron Shire Councils provided copies of their Weed Management Plans and associated strategies. Port Phillip only advised on their attempts to transition out of herbicide use, and the other councils declined to provide any information. As a consequence, the review of provided documentation was modified to study how the two Councils that responded have adapted their weed management policies and procedures to meet the public's concerns relating to the potential environmental and health risks associated with Glyphosate. The analysis of these Councils reports is provided in Section 3.3.

### Best practice techniques

Quantitative benchmarks that could be used to develop a best practice technique for sustainable weed management are not available and cannot be established from other NSW Council's use, as the application procedures and schedules are based on a subjective benchmark established by each land authority. This subjective benchmark is dictated by a Council's stated policy on sustainability which takes into account environmental protection and community health when developing performance



objectives for weed management. As such, a qualitative approach to establishing a best practice benchmark was used to examine Waverley Council's current herbicide practices.

This qualitative approach consisted of reviewing other NSW Councils' weed management policies and the mechanisms they used to identify strategies for herbicide reduction; to evaluate Council's current herbicide use and recommend a herbicide reduction strategy that Waverley Council could potentially implement.

#### **Other non-glyphosate herbicides**

Given the media spotlight on glyphosate herbicides, the focus of other Councils on glyphosate herbicides, and the difficulties in obtaining quantitative use of glyphosate and non- glyphosate herbicides from contacted Councils, the herbicide reduction study ultimately focused on glyphosate herbicides. It is acknowledged, that since glyphosates are the predominant herbicide used with the broadest range of application, the greatest reductions in use would be achieved by identifying alternative treatments for glyphosate herbicides.

On the basis of the above limitations, and following discussion with Sue Stevens (Urban Ecology Coordinator) and Chavvauhn Calver (Bushland & Bushcare Officer) on May 29<sup>th</sup> 2019, the independent review of Waverley's herbicide use was revised and the following evaluation methods were used:

- Review of Council's herbicide operations including policies and procedures governing herbicide use
- Review of Council's certification and training procedures, documentation of herbicide use and record keeping
- A workshop with Council staff to discuss Public Places/Parks/Urban Ecology Teams application procedures, staff knowledge and training, and concerns with the herbicide use and potential transition process
- Interviews with Byron Shire and Inner West Council to discuss alternative weed management practices, and lessons learned
- Desktop research of alternative weed management techniques.



## 3 RESULTS

### 3.1 DATA REVIEW

The following documents were reviewed to understand Waverley's implementation procedures and compliance with statutory guidelines on herbicide use:

- a) Review of relevant council documents and practices against legal requirements, including:
  - *Pesticides Act 1999* and *Pesticide Regulation 2017*
  - *Biosecurity Act 2016* and *Biosecurity Regulation 2017*
  - *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2017*.
- b) Review of Council's current Policies and procedures:
  - Waverley Council Weed Management Policy 2012
  - Waverley Weed Action Plan 2014
  - Pesticide Use Notification Plan 2016.

#### 3.1.1 Acts and Regulations applicable to weed management

There are four (4) Acts that set the policy for regulating the use of pesticides and the control of weeds in NSW as summarised in Table 3-1. Key words relating to the minute actions have been highlighted in the legislations to help with identifying Council's obligations and options for implementing alternative treatment methods.

Table 3-1: Weed management legislation

Act and Regulation	Description
<b>Pesticides Act 1999</b> <b>Pesticides Regulation 2017</b>	<p>The objects of this Act are to protect and minimise harm to human health, the environment, property and trade in relation to the use of pesticides.</p> <p>The Act establishes a legislative framework to regulate the use of pesticides, through the NSW Environment Protection Authority (EPA) which regulates the proper use of pesticides by implementing the provisions of the Pesticides Regulation 2017.</p> <p>The Pesticides Regulation 2017 sets out the requirements and procedures for licensing, training, record keeping and public notifications where pesticides are used.</p> <p>The Australian Pesticides and Veterinary Medicines Authority (APVMA) controls which pesticides are registered and sold in Australia.</p>
<b>Biosecurity Act 2015</b> <b>(repeals the Noxious Weeds Act 1993)</b> <b>Biosecurity Regulation 2017</b>	<p><b>The Biosecurity Act 2015 provides</b> a framework for the prevention, elimination and minimisation of biosecurity risks. The Act and supporting <i>Biosecurity Regulation 2017</i> provide for the establishment and functions of Local Control Authorities for weeds (LGA or County Councils), and <b>weed control obligations on public and private land</b>.</p> <p>Key NSW legislation relevant to weed management that operates in tandem with the NSW <i>Biosecurity Act 2015</i>, includes:</p> <ul style="list-style-type: none"> <li>• Local Government Act 1993</li> <li>• Local Land Services Act 2013</li> <li>• National Parks and Wildlife Act 1974</li> <li>• Biodiversity Conservation Act 2016</li> </ul>



Act and Regulation	Description
	<ul style="list-style-type: none"> <li>Forestry and National Park Estate Act 1998</li> </ul>
<b>Work Health and Safety Act 2011 (WHS Act)</b> <b>Work Health and Safety Regulation 2017</b>	<p>The main aim of the WHS Act is to protect workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work or from specified types of substances or plant. The Act promotes the provision of advice, information, education and training in relation to work health and safety.</p> <p>Also under the WHS Act workers and others are to be given the highest level of protection against harm to their health, safety and welfare from hazards and risks arising from work or from specified types of substances or plant as is reasonably practicable.</p> <p>The Regulation specifies requirements for the supply and use of hazardous substances and dangerous goods in workplaces. Under Clause 13, employers must provide appropriate induction and on-going training for employees.</p> <p>SafeWork NSW is the state's workplace health and safety regulator. SafeWork NSW's code of practice provides guidance about how to comply with these requirements. Information on dealing with pesticides is provided in SafeWork NSW's Safe Use of Pesticides including Herbicides in Non-agricultural Workplaces Code of Practice 2006. (SafeWork NSW, 2006).</p> <p>Labels for pesticides approved by the AVPMA under the Agricultural and Veterinary Chemicals Code Act 1994, are usually suitable labels under the Regulation.</p>
<b>Local Government Act 1993</b>	<p>The <i>Local Government Act 1993</i> (LG Act) provides the legal framework for the operation of local government in NSW. Section 8A of the LG Act specifies:</p> <ul style="list-style-type: none"> <li>Councils should carry out functions in a way that <b>provides the best possible value</b> for residents and ratepayers.</li> <li>Councils should plan strategically, using the integrated planning and reporting framework, for the provision of effective and efficient services and regulation to meet the diverse needs of the local community.</li> <li>Councils should apply the integrated planning and reporting framework in carrying out their functions so as to achieve desired outcomes and continuous improvements.</li> <li>Councils should work co-operatively with other councils and the State government to achieve desired outcomes for the local community.</li> <li>Councils should manage lands and other assets so that current and future local <b>community needs can be met in an affordable way</b>.</li> <li>Councils should work with others to secure appropriate services for local community needs.</li> <li>Councils should act fairly, ethically and without bias in the interests of the local community.</li> <li>Councils should <b>consider the long term and cumulative effects</b> of actions on future generations.</li> <li>Councils should consider the principles of ecologically sustainable development.</li> </ul>

### 3.1.2 Waverley Council policies and plans

In accordance with the requirement of the *Noxious Weeds Act 1993* (NWA), Waverley Council drafted the *Waverley Council Weed Management Policy* (2012) and *Waverley Weed Action Plan 2014* (2014) that details how Council will fulfil its requirements to control noxious weeds. These policies and plans were prepared before the NWA was repealed and replaced by the *Biosecurity Act 2015*.



The *Waverley Council Weed Management Policy* (2012) states its objectives for complying with the NWA and provides the list of declared noxious weeds in Waverley Council.

The *Waverley Weed Action Plan* 2014 outlines the plan of action to manage weeds in Waverley Council, and was written to be consistent with the *Australian Weeds Strategy* (2007) (AWS). However, the 2007 AWS has been replaced by the *Australian Weeds Strategy* 2017-2027.

Waverley's *Pesticide Use Notification Plan* 2016 has been prepared in accordance with the requirements of the *Pesticides Regulation* 2009. The plan sets out how Waverley Council will notify members of the community of pesticide applications in public open spaces and lands that it manages.

The table in Appendix B summarises information from Waverley's policies and plans that is relevant to the development of a strategy for transitioning to either an elimination of glyphosate or reduction in herbicide use. The recommendation section 7 identifies how the policies and plans can be updated to incorporate the requirements of the *Biosecurity Act* 2015 and relevant updated Acts and Regulations.

## 3.2 WORKSHOP

A workshop was held on the 29th of May 2019 by NGH. The purpose of the workshop was to gain a deeper understanding of Council's current weed treatment procedures, record keeping and to enable a forum for discussion of trialling alternative weed management methods, the list of attendees is provided in the Appendix A.

The following subjects were discussed at the workshop:

- Treatment Schedules
- Types of herbicides used
- Subcontractor scope of work and requirements
- Monitoring and record keeping
- Community complaints
- Training and Certification
- Current opportunities for trialling alternative treatment

The workshop summary of discussion is provided in Appendix A.

### 3.2.1 Key findings from the workshop

NGH has distilled the following key findings as a result of the discussions at the workshop:

- The majority of herbicide treatment consists of spot spraying, therefore, measuring volumes used or application rates or monitoring change over time is difficult.
- Although herbicide use record keeping meets the regulatory requirements, the information recorded does not provide enough data to measure the effectiveness of spraying programmes. (i.e. are weeds decreasing as a result of spraying regimes?).
- Different techniques are used for different locations/assets (broad scale spraying in sporting fields, vs spot spraying in open spaces, cut and paint in bushland).



- Council staff have already undertaken trials of alternative herbicides and non-herbicide treatment. The trials broadly found that alternative products may work, but they need more frequent application, with a resulting increase in operational costs.
- Treatment teams are limited for time and effort. Most teams are on a three month schedule, and as such a treatment has to be effective until the next visit.
- Trials have not been recorded in a central database, and the Public Places/Parks/Urban Ecology Teams do not consistently discuss the success/weakness of treatments they have trialled. Information sharing is not consistent across these teams.
- Record keeping is not centralised and is managed independently by each Public Places/Parks/Urban Ecology Team, as such it is not possible to easily retrieve information regarding herbicide use across the LGA in order to measure the LGA's overall herbicide use over time.
- Competency of staff is variable, as such consistency and reliability in weed identification and appropriate treatment is not guaranteed. Willingness to take on more tasks or responsibility is skill dependent.

### 3.3 WAVERLEY AND OTHER COUNCIL'S HERBICIDE USE

Herbicide use information was requested from Northern Beaches, Byron Bay, Inner West, Woollahra and Randwick Councils. The total herbicide use across the following LGA in 2018-2019 was provided:

- Woollahra LGA was 2,405 Litres. 49% glyphosate usage was within the streetscape area.
- Inner West LGA was 1,320 Litres. 94% of glyphosate usage was within the streetscape areas.
- Waverley LGA was 342 Litres, with 97% of glyphosate usage within the streetscape areas.

When considering the total area of open space per 1,000 people in each of these LGAs, we find:

- Woollahra LGA provides 4.28 hectares per 1,000 people.
- Ashfield and Leichhardt provide 3.36 hectares per 1,000 people (Inner West LGA comprises of Ashfield, Leichhardt and Marrickville).
- Waverley LGA provides 1.48 hectares of open space per 1,000 people.

### 3.4 STRATEGIES ADOPTED BY OTHER COUNCILS

Several European Nations, such as Belgium, France, Denmark, the Netherlands and Portugal are moving towards pesticide free management of government owned land.

In NSW, several Councils have developed strategies to implement alternative weed management methods. The strategies of two NSW Councils, Byron Shire and Inner West, have been reviewed during this study. The review comprised of exploring their processes, timeline and outcomes of their journey towards pesticide free vegetation management. It is noted that Byron Shire is a rural Council and therefore comparison of treatment methods and strategies should consider the different proportion and diversity of land use types and consequently the objectives of treatment.

#### 3.4.1 Byron Shire Council

In November 2013, Byron Shire Council passed *Resolution 13-621* to develop a Shire wide integrated pest management policy and strategy. The two main objectives of the Resolution were:



- Cessation of the use of all herbicide (and repetitive use of pesticides to control pest animals) in highly frequented public use area within five years
- Promotion of Integrated Pest Management using methods with the least adverse effect on human health and the environment in all other areas that are not considered as a highly frequented public use area.

A draft Integrated Pest Management Strategy was prepared to take account of new information about pesticide risk, an audit of pesticide uses by Council and a review of alternative methods including their advantages and limitations. An internal Pest Management Working Group was established within Council to review the preliminary draft Strategy and make progress on the implementation of the Resolution. The table in Appendix C summarises Byron Shire Council's pest management policy and associated plans which have been developed since the draft Strategy.

In summary, Byron Shire Council states that it has achieved a high degree of success around the implementation of the Resolution, although not without cost in services, safety, biosecurity or public amenity. Within five years from passing the Resolution, pesticide use by Byron Shire Council has ceased in:

- All children's playgrounds (34)
- All formal bus stops (41)
- All public garden beds (207) and kerbs in town and village centres (excluding roundabouts)
- Roadsides (600km<sup>2</sup>) where there is no safety or known biosecurity issue
- Town and village centres, garden beds and kerbs
- 15 of 23 sports fields.

The cessation of herbicide use in these land use types occurred within a reasonable level of acceptable cost. The alternative treatments comprised of manual weed removal, weed-contaminated soil removal, steam cleaning of soil from cracks in pavements, steam weeding, brushcutting and mowing (Byron Shire Council, 2017). The initial purchase cost of the steam weeder was \$23 668, the cost of operating the steam weeder over 3 financial years across the Shire was \$88,376 in 2017, \$106,951 in 2018 and \$113,141 in 2019 (2019 financial year attributed to vehicle hire cost).

Areas where cessation was achieved but with unacceptable cost (i.e. reduction in amenity, services and the risk of failure to meet statutory obligations around operator and public safety) included:

- Roadsides where safety may have been compromised or operators may have been placed at higher risk of accidents
- Drains at high risk of failure due to build-up of vegetation
- Road resurfacing where the infrastructure is compromised by laying the surface over live weeds
- Village centre roundabouts where high quality trees cannot be excavated as a way to remove nutgrass.

### 3.4.2 Inner West Council

In October 2018, Inner West Council passed a Notice of Motion on glyphosate, where Council resolved to review their policy and procedures around d glyphosate use. A Working Group was established to



look into the environmental and health risks of glyphosate, a quantitative assessment of glyphosate use by Council and verification that Council was using regulated safety practices to minimise exposure risks and safe use of glyphosate. The results and observations from the Working Group were used to update Council's Weed management Policy 2019 and Pesticide Use Notification Plan 2019-2022. The table in Appendix D summarises the main discussion points and findings from the Working Group, and Inner West Council's weed management policy and associated notification plan. In summary, Inner West Council uses steam weeding, mechanical weeding and or hand weeding in the following land use types:

- Commercial areas
- Town centre areas
- Areas adjacent to childcare centres
- Areas adjacent to schools
- Playgrounds equipment areas in Council parks
- Waterplay parks in Council parks
- Water Sensitive Urban Design devices (WSUD) or rain garden areas
- Within 50 metres of watercourses and wetlands
- Any public areas nominated by residences which are adjacent to their private property (the resident is then responsible for weed control)

A summary of various weed methods trialled by the Inner West Council, with an evaluation of positives and negatives of each alternative treatment is also provided in Appendix D.

Glyphosate is currently limited to localised spraying, utilising spray wands. It is not used for broad acre crop spraying such as seen on farms. Glyphosate is mixed with water at a dilution rate of 1:100 before being sprayed. .

The following text extract provides an example of the cost impact when utilising alternative herbicide treatment methods:

*'In the former Leichhardt LGA, the contract specifies 26 non-chemical weed treatments in all areas each year. Based on the unit rates currently paid in the former Leichhardt, the additional operating cost to Council for 26 treatments per year across the Inner West, would be in the order of \$5.2 million per annum. This includes treatment for an additional 967km of kerb & gutter and footpath, 1,100 verge gardens and 929 LATMs. If this were reduced to 12 treatments per year, the additional cost would be \$1.9 million per annum. This has not been funded through the budget process'.*

It is noted that all alternative treatment options are more expensive to implement (capital and/or operational cost) than glyphosate to achieve the same level of treatment. As such the cost benefit analysis should take into account the social and environmental benefit of using the alternative treatment and the risks to health and environment associated with continued use of glyphosate.



## 4 ENVIRONMENTAL AND HEALTH RISKS OF HERBICIDES

The three main service providers and subcontractors involved in weed management use a variety of herbicides to control weeds within Waverley Council owned land. In order to understand the potential environmental and health risks of these herbicides, information on the most widely used herbicides, typical concentrations, and application location and method has been summarised in Table 4-1 and Table 4-2. Note these lists are not comprehensive.

Table 4-1 summarises the health and environmental risks of the herbicides predominantly used by Waverley Council. The review is based on studies and fact sheets provided by the World Health Organisation, Safety Data Sheets and APVMA.

Table 4-1 Summary of health and environmental risks of herbicides used by Waverley Council

Herbicide generic name	Active ingredient and concentration <sup>1</sup>	Other Ingredients	Use	Purpose/Use by Council and Contractors	Where applied to
<b>RoundUp, RoundUp Bioactive, ClearUp Bio360</b>	Glyphosate 3-7g/L (RoundUp), 300g/L (ClearUp)	Surfactant(s), water and minor formulating ingredients	Used by council, spot spraying	Non selective herbicide. Used to spray weeds in bush regeneration areas, in garden beds, growing through pavement	All council managed land
<b>Stone Wall</b>	Oryzalin, 500g/L	'non hazardous' secret	Used by council, spot spraying in garden beds only	pre-emergent treatment to prevent weed seeds germinating.	Garden beds, and shared pathways in Council managed parks and reserves
<b>Spearhead, Javelin</b>	For Spearhead: MCPA 25.64%, Clopyralid 1.71%, Diflufenican 1.28%, 1,2-Propanediol >= 1.00 - <= 5.00% Javelin uses the same active ingredients.	'non hazardous'	Selective use by Council open space teams, generally in response to customer requests	Selective (broadleaf), post-emergent treatment to kill Bindi ( <i>Soliva sessilis</i> )	Council managed parks and reserves, sporting fields and/or nature strips



Herbicide generic name	Active ingredient and concentration <sup>1</sup>	Other ingredients	Use	Purpose/Use by Council and Contractors	Where applied to
<b>Casper</b>	Dicamba sodium salt 50 %w/v, Prosulfuron 5 %w/v	'non hazardous' secret	Used by contractors to council, broadacre application. Used with Barricade.	Broad-spectrum selective, Broadleaf / Bindii ( <i>Soliva sessilis</i> ) control	Sporting fields, parks and reserves
<b>Barricade</b>	Prodiamine 40 %w/w, propylene glycol 30-60 %w/w	'non hazardous'	Used by contractors to council, broadacre application. Used with Casper.	Pre-emergent, Bindii ( <i>Soliva sessilis</i> ) control	Sporting fields, parks and reserves
<b>Primo MAXX</b>	Trinexapac-ethyl 12 %w/v, tetrahydrofurfuryl alcohol 30-60 %w/v	'non hazardous'	Used by contractors to council, broadacre application	Growth regulator for turf, prevent scalping of grass	Waverley Oval only

Notes to table

Usage information is derived from the workshop with Waverley Council

1: Concentrations are reported from safety data sheet of the relevant product. A variety of units are presented in this documentation, therefore units are not consistent in this column: w= weight, v = volume, g = grams, L = litres.

Table 4-2 provides information that is derived from a review of the Safety Data Sheets (SDS) of the products used by Waverley. The SDS is prepared in accordance with the Globally Harmonized System (GHS) of classification and labelling of chemicals, which is a United Nations effort to internationally standardise chemical classification. Section 11 of a GHS-SDS contains detailed information about the adverse health effects that result from exposure to the product, as well as data about how these effects are influenced by dosage and route of exposure. The information will help medical professionals and emergency responders evaluate long-term and short-term health risks. Section 12 of a GHS-SDS contains ecological and ecotoxicological data for both terrestrial and aquatic environments. This section is designed to assist environmental stewardship, prevent harmful effects to the health of local ecosystems, and help businesses evaluate one product against another. It should be noted that the information is general in nature, so both the toxicological data and ecological data need to be interpreted for the context in which the product is used and stored (ERA Environmental Management Solutions, n.d.).



Table 4-2 Summary of the SDS for herbicides used by Waverley Council

Herbicide generic name	GHS <sup>1</sup> signal word	SDS hazard statement <sup>2</sup>	Recommended PPE	Toxicological information, undiluted (Section 11 of the SDS)	Ecological information (Section 12 of the SDS)
<b>RoundUp</b>	Warning	This material is hazardous according to Safe Work Australia <ul style="list-style-type: none"> <li>Acute Aquatic Toxicity</li> <li>Chronic Aquatic Toxicity</li> </ul>	Overalls, safety shoes, chemical goggles, gloves	<ul style="list-style-type: none"> <li>Nausea and vomiting at high dose when ingested</li> <li>Eye irritant.</li> <li>Possible skin irritant.</li> <li>Possible respiratory irritant</li> </ul>	<ul style="list-style-type: none"> <li>Toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life.</li> </ul>
<b>Stone Wall</b>	None	This product is classified as: Not classified as hazardous according to the criteria of Safe Work Australia	Use in well ventilated area. No other PPE usually required	<ul style="list-style-type: none"> <li>Unlikely to cause inhalation irritation</li> <li>Possibly skin, eye and ingestion irritant</li> <li>No health data for long term exposure</li> <li>Not classified as a carcinogen by Safe Work Australia</li> </ul>	<ul style="list-style-type: none"> <li>Ecological effects not reported</li> <li>Usually needs sunlight or microbial activity to break down</li> <li>Does not break down in water without sunlight</li> </ul>
<b>Spearhead, Javelin</b>	Danger	<ul style="list-style-type: none"> <li>Harmful if swallowed.</li> <li>Causes skin irritation.</li> <li>Causes serious eye damage.</li> <li>Very toxic to aquatic life.</li> <li>Very toxic to aquatic life with long lasting effects</li> </ul>	<ul style="list-style-type: none"> <li>Respiratory protection</li> <li>Safety glasses with side shields</li> <li>Impermeable protective clothing</li> <li>PVC or nitrile gloves</li> </ul>	<ul style="list-style-type: none"> <li>Harmful if swallowed.</li> <li>Causes skin irritation.</li> <li>Causes serious eye damage.</li> <li>One active ingredient has caused delayed foetal growth in studies.</li> <li>Not known to be a carcinogen based on studies on rats</li> </ul>	<ul style="list-style-type: none"> <li>Toxic to fish and aquatic invertebrates in the short and long term</li> <li>Other receivers not known</li> </ul>
<b>Casper</b>	None	Not classified as hazardous under GHS criteria.	<ul style="list-style-type: none"> <li>Cotton overalls, over normal clothing, buttoned</li> </ul>	<ul style="list-style-type: none"> <li>Low toxicity for oral, dermal (skin) and inhalation exposure</li> </ul>	<ul style="list-style-type: none"> <li>'practically non-toxic' to fish, toxic to fish</li> </ul>



Herbicide generic name	GHS <sup>1</sup> signal word	SDS hazard statement <sup>2</sup>	Recommended PPE	Toxicological information, undiluted (Section 11 of the SDS)	Ecological information (Section 12 of the SDS)
			<ul style="list-style-type: none"> <li>to the neck and wrist</li> <li>• A washable hat</li> <li>• Elbow-length chemical resistant gloves</li> <li>• Half face piece respirator</li> </ul>	<ul style="list-style-type: none"> <li>• Non irritant for skin or eyes</li> <li>• Not a carcinogen based on laboratory mammal and test tube system research</li> <li>• Long term toxicity not reported</li> </ul>	<ul style="list-style-type: none"> <li>• Highly toxic to fish</li> <li>• Breaks down readily in soil and water</li> <li>• Highly mobile in soil and water</li> <li>• Low potential for bioaccumulation</li> </ul>
<b>Barricade</b>	None	Not classified as hazardous under GHS criteria.	<ul style="list-style-type: none"> <li>• Cotton overalls, over normal clothing, buttoned to the neck and wrist</li> <li>• A washable hat (if applied by high pressure wand)</li> <li>• Elbow-length chemical resistant gloves</li> </ul>	<ul style="list-style-type: none"> <li>• Low toxicity for oral, dermal (skin) and inhalation exposure</li> <li>• Non irritant for skin or eyes</li> <li>• Not a carcinogen based on laboratory mammal and test tube system research</li> <li>• Long term toxicity not reported</li> </ul>	<ul style="list-style-type: none"> <li>• Highly toxic to fish and aquatic invertebrates</li> <li>• Moderately toxic to algae</li> <li>• Low toxic to bees</li> <li>• 'practically non-toxic' to earth worms</li> </ul>
<b>Primo MAXX</b>	Danger	Eye irritation - Category 2, Reproductive toxicity Category 1B <ul style="list-style-type: none"> <li>• Causes serious eye irritation</li> <li>• May damage the unborn child. Suspected of damaging fertility</li> </ul>	<ul style="list-style-type: none"> <li>• Cotton overalls buttoned to the neck and wrist</li> <li>• Elbow-length nitrile or PVC gloves</li> <li>• A washable hat</li> <li>• Face shield or goggles</li> </ul>	<ul style="list-style-type: none"> <li>• Low toxicity for oral, dermal (skin)</li> <li>• Harmful when inhaled</li> <li>• Non irritant for skin or eyes</li> <li>• Not a carcinogen based on laboratory mammal and test tube system research</li> <li>• Long term, high doses of product found to affect</li> </ul>	<ul style="list-style-type: none"> <li>• 'Practically non-toxic' to earth worms, algae, aquatic invertebrates and fish</li> </ul>



Herbicide generic name	GHS <sup>1</sup> signal word	SDS hazard statement <sup>2</sup>	Recommended PPE	Toxicological information, undiluted (Section 11 of the SDS)	Ecological information (Section 12 of the SDS)
				liver, kidney and brain of dogs	

Notes to table

1: GHS is the globally harmonised system for the chemical classification and hazard communication of chemicals. This system uses two signal words to describe the hazard level of a chemical: Danger or Warning.

2: The statement of hazards is reported from the safety data sheet prepared by the manufacturer of the product. Additional hazards may be noted in the SDS. Additional hazards not noted may exist.



## 5 REGULATORY AND RESEARCH CONTEXT OF HERBICIDE AND PESTICIDE USE

### 5.1 WORLD HEALTH ORGANISATION POSITION ON GLYPHOSATE

In 2015, the International Agency for Research on Cancer (IARC) (part of the United Nations World Health Organisation (WHO)) classified Glyphosate as “probably carcinogenic to humans” (Group 2A) (International Agency for Research on Cancer, 2015). This classification was based on an independent expert review of about 1000 studies. The studies reviewed included epidemiological studies, such as of populations with occupational exposure to glyphosate, and experimental studies such as rat testing following various doses of glyphosate (International Agency for Research on Cancer, 2016). The review found that there was ‘strong’ evidence of genotoxicity, ‘sufficient’ evidence of carcinogenicity in rats and ‘limited’ evidence of carcinogenicity in humans (International Agency for Research on Cancer, 2016). The position of the IARC is that:

- The laboratory tests of animals exposed to glyphosate used pure glyphosate (without co-formulants), and found a link between cancer and glyphosate.
- Even if the co-formulants are responsible for the epidemiological effects observed, the ‘real world’ use of glyphosate includes the use of co-formulants, and therefore the glyphosate containing products are still probably carcinogenic.

### 5.2 AUSTRALIAN PESTICIDES AND VETERINARY MEDICINES AUTHORITY’S POSITION ON GLYPHOSATE

The APVMA is the Australian Governments agricultural and veterinary chemical regulator. It is the role of the APVMA to consider all relevant scientific information when determining the likely risk before allowing a product to be used in Australia. Their assessment includes considering the impact on human health and worker safety—including long- and short-term exposure to users, as well as environmental and animal health risks, and residues in food.

In 2016, following the IARC assessment, the APVMA considered glyphosate and found no grounds to place it under formal reconsideration. Glyphosate is registered for use in Australia, and APVMA approved products containing glyphosate can continue to be used safely according to label directions (Australian Pesticides and Veterinary Medicines Authority, 2019).

The APVMA has not specifically analysed the risk posed by glyphosate co-formulants (including surfactants). They note that the composition of glyphosate containing herbicides varies. They also note that the IARC specifically don’t list any co-formulants as carcinogenic (Australian Pesticides and Veterinary Medicines Authority, 2019).



### 5.3 INTERNATIONAL MANAGEMENT OF GLYPHOSATES

Table 5-1 summarises glyphosate regulation and management in the United States of America, Canada, and several European Countries

Table 5-1 International management or regulatory approach to Glyphosate use

Country	Description of approach
<b>United States of America</b>	<p>The United States Environmental Protection Agency (US EPA) is the federal agency responsible for agricultural chemical regulation in the United States. It is the position of the US EPA that glyphosate, when used as directed, has:</p> <ul style="list-style-type: none"> <li>• No risk to human health from current uses of glyphosate...</li> <li>• No indication that children are more sensitive to glyphosate...</li> <li>• No evidence that glyphosate causes cancer...</li> <li>• No indication that glyphosate is an endocrine disruptor..." (United States Environmental Protection Agency, 2019)</li> </ul> <p>The US EPA is currently undergoing a review of Glyphosate regulation, which has included an opportunity for public comment. The report on the review will be available in late 2019.</p> <p>California, a state of the United States of America, has seen numerous lawsuits filed against the producers of glyphosate. Monsanto, now owned by Bayer, is reportedly facing (as of June 2019) more than 13,400 lawsuits related to the cancer risk posed by glyphosate (Reuters, 2019). News outlets have widely reported the verdicts of several high profile cases, for example Pilliod v Monsanto, which resulted in an award of over \$2 billion US dollars.</p> <p>The Californian government has implemented a system to inform consumers and other users of products that have the potential to be carcinogenic, cause birth defects or other reproductive harm. The system is called Proposition 65. Within the system, the State of California considers glyphosate to be a carcinogen (State of California, 2018).</p> <p>The State of California has not issued a statewide ban on glyphosate, however cities have taken varying initiatives from banning to restricting the use of Round up on City Properties, through the development of an Integrated Pest Management (IPM) program. With regards to other US States, various Cities have also moved to either restrict or ban the use of Round-up on City Property.</p>
<b>Canada</b>	<p>The Government of Canada's health branch, Health Canada, undertook a re-evaluation of the health risks of glyphosate in 2017. The evaluation experienced considerable public scrutiny. Eight formal notices of objection were lodged even following the finalisation of the evaluation.</p> <p>The position of Health Canada, following their re-evaluation process, what that:</p> <p>"An evaluation of available scientific information found that products containing glyphosate do not present risks of concern to human health or the environment when used according to the revised label directions." (Health Canada, 2017).</p> <p>Glyphosate continues to be used in Canada, subject to the label directions.</p>
<b>European Union</b>	<p>In December 2017, the European Union commission approved the use of glyphosate for the use in plant protection products for five years (European Union, n.d.).</p> <p>In April 2019, four member states (France, Hungary, Netherlands and Sweden), were appointed as 'rapporteurs' for the assessment of glyphosate. Their assessment is not yet complete (European Union, n.d.). However, additional restrictions may be implemented following this assessment.</p> <p>Therefore, glyphosate can be continued to be used until December 2022 according to the European Union Commission, provided the use also complies with the member states national authorities (European Union, n.d.).</p>
<b>United Kingdom</b>	<p>The United Kingdom's (UK) Health and Safety Executive, responsible for regulating occupational safety in the UK takes the following position on glyphosate:</p>



Country	Description of approach
	<p>'Neither the EU's assessment of glyphosate as an active substance nor the UK's assessments of applications for authorisation of products which contain it have found the substance unacceptable for use.' (Health and Safety Executive, n.d.)</p> <p>The Health and Safety Executive has not issued bans on uses of glyphosate on playgrounds, parks and similar areas, and makes note of the value of these products for environmental management (Health and Safety Executive, n.d.).</p> <p>However, local government of the UK have responded to glyphosate concerns. Responses vary, but generally councils have ceased applying the products to public places. For example Brighton Hove City Council has implemented a plan to be pesticide free by 2022 in all the city's parks, open spaces, pavements, verges and housing land. (Brighton Hove City Council, 2019).</p>
<b>Germany</b>	<p>The use of Glyphosate is permitted in Germany, as per the conditions of the European Union. Germany is currently undergoing discussions with Luxembourg to phase out glyphosate (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2018).</p>
<b>France</b>	<p>The French President, Emmanuel Macron, pledged in 2018 to phase out Glyphosate use by 2021. Pressure from the agricultural sector, and a lack of available alternatives that are economically and environmentally viable, has seen Macron shift priorities to an 80% reduction by 2012 and a phase out some point later (Elzas, 2019)</p>



## 6 DISCUSSION

### Waverley Council observations

Waverley Council currently has the basic policies, plans and procedures to ensure that weed management is undertaken in accordance with the *Biosecurity Act 2015*. Currently, Council is able to continue to fulfil its obligations under the updated Acts and Regulations. Minor updating and adjustments of the current policies and plans is only needed to ensure that these documents reference the new regulations and acts.

It should be noted that the current policies aren't designed for the purpose of minimising or eliminating glyphosate herbicides and they may not fit the future aspirations of the Council due to the potential increase in cost or changes in level of service to implement some or all the alternatives.

With regards to the chosen weed control methods, and chemical use procedures, Council is complying with the APVMA recommendations and notifications procedures under the *Pesticides Regulation 2017*.

The initial intent of the workshop with Waverley Council's Public Places, Parks and Urban Ecology teams was to gather quantitative information on the use of herbicides (all types) across all of Council's managed lands, to gain an understanding of the scheduling of herbicide treatment, to identify record keeping and document control of application activities and to understand the communication protocols and procedures between Council precincts. The workshop revealed the following constraints:

- The limited use of TRIM by team members and/or absence of a centralised database which resulted with different data collection methods between teams, and the inability to analyse application records across Council .
- The limited use of the Exponare mapping portal which could be used to show the treatment boundaries of each team, and therefore avoid overlapping treatment areas.
- Information from TRIM is not linked to the Exponare portal, so the capacity to perform a spatial analysis of herbicide use is not available.
- For the Public Place Cleansing (PPC) teams who work across most Council areas, the application of herbicides is reactive to the presence of any weed and a spot treatment is subsequently applied. As such, monitoring herbicide application rates cannot be tracked over time for a specific site, as the coverage of weeds or density of weeds is not being monitored and therefore a change in application rates cannot be established.
- Each team functions autonomously and uses professional judgment and experience when selecting herbicides and treatment procedures. Whilst this approach would enable team members to adapt their treatment procedures to meet the expectations of the community and potentially use their judgment to use alternative treatments, it does not ensure that there is a consistent or cohesive approach to weed management across all teams. As such, there is a lost opportunity to share information, share resources, align treatment schedules and generally explore attempts to maximise resource use and potentially minimise herbicide use in treatment areas.



### Other Council Observations

Byron Shire Council and Inner West Council have started the process of reducing herbicide use and have developed either an Integrated Pest Management (IPM) plan or revised their weed management policy to meet the social obligations of addressing their community's concerns with herbicide use, and specifically glyphosate herbicides. These councils have trialled various alternative methods with various degrees of success and have chosen to implement some of these in spite of the added operational costs and budgetary impacts. It is noted that these councils have varying geographical, biodiversity and social factors that would uniquely influence the decisions taken by Council, and therefore the successful implementation of an alternative treatment method is subject to these variations. **It should be noted that neither of these Councils has successfully transitioned to an LGA wide herbicide free weed control program.**

### Herbicide usage between Councils

Waverley Council used 342 litres of glyphosate in the year 2018-2019. The total glyphosate usage varies considerably between councils, with Woollahra using 2,405 Litres and Inner West using 1,320 Litres. It should be noted that a direct comparison of use is not currently possible with the available information, as the total area of open space, land use types and treatment methods vary between the LGAs.

### Environmental and Health Assessment of Glyphosate

With the regards to the environmental and health risks associated with the use of glyphosate herbicides the two main authorities that are relied upon are the IARC and the APVMA.

- The IARC classified glyphosate as “probably carcinogenic to humans”, however it does not believe that glyphosate containing herbicide co-formulants (such as surfactants) are responsible for the carcinogenic or toxic effects of the product observed (International Agency for Research on Cancer, 2016).
- The APVMA advises that “products containing glyphosate can continue to be used safely according to label directions” (Australian Pesticides and Veterinary Medicines Authority, 2019).

While the APVMA position may appear contradictory to the IARC, these organisations are asking slightly different questions with respect to the potential for glyphosate to cause cancer.

It is worth noting that there is not complete scientific agreement on the toxicity and carcinogenic potential of glyphosate. Many studies have found positive correlations between glyphosate and cancers while other studies have found no significant correlation. The IARC has come to the classification of “probably carcinogenic to humans” based on their interpretation of the range of results that were available.

The IARC is an assessment of hazard rather than risk (International Agency for Research on Cancer, 2016). The distinction between these terms is important in understanding what their classification of glyphosate means. A Hazard is something that has the potential to cause harm. It does not determine whether or not the harm will occur. A risk is the likelihood of the harm occurring.

APVMA has undertaken a risk-based assessment of glyphosate. Their assessment is based on ‘real world’ risks posed by using the product as specified by the instructions (Australian Pesticides and



Veterinary Medicines Authority, 2019). It is also worth noting that the APVMA does not state the glyphosate use is risk free, only that use of the product does not pose an unacceptable risk.

Finally, the IARC assessment looked at the intrinsic toxic potential or 'hazard' of the chemical glyphosate as a cancer-causing agent only. Indoor emissions from burning wood and high temperature frying, some shift work, and consumption of red meat are also classified as probably carcinogenic to humans and are in the same category as glyphosate. Agents classified by IARC in the highest category (carcinogenic to humans) include all alcoholic beverages, consumption of processed meat, solar and ultraviolet radiation (ie sunlight), diesel engine exhaust, post-menopausal oestrogen and oestrogen-progestogen therapy, outdoor air pollution, occupational exposure as a painter, and soot and wood dust (Australian Pesticides and Veterinary Medicines Authority, 2019).

With regards to the international status of banning glyphosate herbicides, these bans are being phased in at either the national level, or interim actions are being taken to limit or eliminate the use of these herbicides independently by local authorities and Cities.

#### Trade - off considerations

Council needs to recognise the inherent road blocks and complexities to phasing out herbicide use. The trials of alternative herbicides and non-herbicide treatment have broadly found that alternative products may work, but they need more frequent application, and consequently greater operational costs. Typical issues that have to be considered when selecting an alternative treatment include:

- Availability of the alternative treatment
- Initial cost to purchase new equipment
- Staff training
- Health and safety risks to the operator
- Potential damage of infrastructure (cracks, staining)
- Increased effort (man hours) per treatment to achieve the same results as glyphosate treatment
- Increased frequency of treatment in a season or year to achieve the same results as glyphosate treatment
- Practicality of treatment over large areas

It is recognised that managing weeds using alternative methods is likely to be less time efficient in the short term. Council should recognise that the area of land that can be treated herbicide free is likely to be less than the area of land that would be treated with herbicides.

This reduction in area treated could result in substantial effects on areas that hold value for biodiversity and /or landscaped areas. The cumulative negative outcome, maybe gradual and may not be initially visible.



## 7 RECOMMENDATIONS

The priority for Council is to minimise glyphosate herbicides usage across Council operations. The following table of recommendations identifies the actions that will enable Council to transition toward the minimisation of glyphosate herbicide use on Council owned or managed land, including Community land, Operational Land and Crown Land where Council acts as Trust Manager.

A main recommendation that would facilitate the implementation of subsequent recommendations concerns improving communication and coordination between the sustainability department, design & urban planning department and the Public Places/Parks/Urban Ecology teams which would ensure a consistent approach to weed management and to support the successful implementation of a herbicide reduction strategy.

Overall herbicide use could be minimised by mapping the treatment areas, improving treatment practices, avoiding use in certain areas, timing treatment with plant life cycles, and staff training in weed identification and suitable treatment method.

Since glyphosate is a broad-spectrum herbicide and is the most widely used herbicide in the LGA, by implementing these recommendations, an immediate reduction in the use of glyphosate would be achieved. Further reductions could be achieved by identifying suitable non-glyphosate herbicides or alternative treatment mechanisms (mechanical, and biological).

The second priority would be to eliminate glyphosate herbicides in locations where the health and social benefits outweigh the environmental risk from weeds and/or to maintain open spaces to current community expectations.

Medium term recommendations focus on updating Waverley Council's policies and plans, creating a centralised data management system and mapping portal and modifying weed treatment methods to minimise herbicide use.

A detailed description of the recommendations is provided in Appendix E.

Table 7-1 Recommendations for glyphosate -based herbicide reduction

Subject	Recommendation
<b>Mapping</b>	<p>Ensure that the Exponare mapping portal is updated with the locations of all treatment areas, and that all information relating to weed treatment is available via this portal.</p> <p>The first objective of the mapping tool is to understand usage – how much is being used and where.</p> <p>Ensure that Exponare is used by Public Places, Parks and Urban Ecology Teams to identify treatment areas and scheduling of activities.</p> <p>Three new mapping layers should be created:</p> <ul style="list-style-type: none"> <li>• Sensitive Places as defined in Clause 18 of the Pesticides Regulation</li> <li>• Chemically Sensitive Places, which identifies locations that the public has requested herbicide free treatments</li> <li>• Weed complaint map, which identifies locations that the public has complained of weeds and requested targeted treatment</li> </ul> <p>Conduct an LGA wide weed survey</p>



Subject	Recommendation
<b>Alternative Treatment Methods</b>	<p>Identify alternative treatments that are suitable for the land use and weeds that are being controlled.</p> <p>Conduct a cost benefit analysis of the selected alternative treatment.</p> <p>Setup a central taskforce/team comprising of team members who are interested to run trials throughout the council area. This would ensure consistency in the trial evaluation method, and would engage team members to collaborate.</p> <p>Trials could be done on a regional basis, e.g. through Sydney Weeds Committee or Southern Sydney Regional Organisation of Councils (SSROC)</p>
<b>Avoidance by design</b>	<p>During design and maintenance of council managed assets, consider strategies to avoid and minimise herbicide use. These could range from relatively simple interventions, such as:</p> <ul style="list-style-type: none"> <li>• Sealing cracks weeds are growing through</li> <li>• Installing garden edging that prevents weeds growing through.</li> <li>• Encouraging and managing for 'spontaneous vegetation', naturally germinating native or non-weed species that grow in-situ and out compete less desirable species.</li> </ul> <p>To more in-depth interventions such as:</p> <ul style="list-style-type: none"> <li>• Synthetic turf for sporting fields</li> <li>• Use more rubber softfall in playgrounds</li> <li>• Avoid using unit pavers when designing footpaths</li> <li>• Planting landscaped areas with higher densities of vegetation to smother weeds growing through</li> </ul>
<b>Reporting and Documentation Control</b>	<p>Ensure that TRIM is used as a central record keeping and document control portal, which would be used by Public Places, Parks and Urban Ecology Teams to manage their information.</p> <p>Develop a tracking system within TRIM for monitoring use., such as following dilution ratios and surfactant use as per the product label.</p>
<b>Contractor and staff training and education</b>	<p>Ensure Council staff and subcontractor operators are suitably trained in weed identification, plant lifecycle and knowledgeable of the appropriate treatment methods for specific weeds.</p>
<b>Identifying, categorising and evaluating Council managed Land</b>	<p>Classify Council managed land into 3 categories where the goals for herbicide use/elimination are clearly defined, and where alternative control methods can be trialled.</p>



Subject	Recommendation
<b>Policy, Strategy and Plans</b>	<p>Update weed management Policy, Plans and Notifications Procedures to align with the new Acts and Regulations.</p> <p>Replace the <i>Waverley Council Weed Management Policy (2012)</i> with a 'Weed Biosecurity Management Policy' to outline Council's weed management responsibilities and obligations under the <i>NSW Biosecurity Act 2015</i> and; update Council's positions on community concerns and expectations around weed management, and provides guidance for various Council programs.</p> <p>Update the weed list in the Weed Action Plan to include weeds specifically troublesome in Waverley Council.</p> <p>Develop an Integrated Pest Management Plan (IPM) and Strategy, which would specifically address the objective of reducing and/or eliminating herbicide use.</p> <p>Refer to the General Biosecurity Duty decision tool (developed by the Regional Weeds Committee, appendix M) to assist with compliance decisions regarding weeds.</p>
<b>Community Awareness</b>	<p>Develop a community information and communication plan to inform the public on the initiative to reduce herbicide use, the planning process, selection process, testing process, timeframes and community feedback mechanisms.</p>



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## APPENDIX A WORKSHOP ATTENDANCE LIST AND SUMMARY OF DISCUSSION

Date: 29 May 2019

Location: Waverley Council Depot (67a Bourke Road, Alexandria, NSW, 2015)

Attendance:

- NGH Environmental: Zeina Jokadar and Clancy Bowman
- Waverley Council: Team leaders and supervisors from Public Place Cleaning, Urban Ecology, Open Space Coastal, Open Space Major Parks, Open Space Minor Parks & Streetscapes, Cemetery, and Work Health and Safety supervisor.

Subject	Discussion
<b>Treatment Schedule</b>	<p>Each precinct has a distinct application schedule. Either monthly or a 3 month rotation.</p> <p>The majority of open spaces (parks/playgrounds, nature strips, arterial roads), are treated by spot spraying, if weeds are large they will be pulled.</p> <p>Treatment may be carried out at night by contractors.</p> <p>Cutting is used at most car parks, Bondi car park in particular. Spot spraying may be used in some precincts.</p> <p>In coastal areas, hand weeding is the main method. The treated areas are heavily mulched and native planting re-introduced. Habitat areas are not disturbed as much as possible. Only spot spray when there is a complaint.</p> <p>Coastal team tries to promote programs for protecting the habitat areas like rocks and wet areas where frogs and lizards are likely to be present.</p> <p>Bush regen uses spot spraying weeds for and neat application on cut stumps.</p>
<b>Herbicides Used</b>	<p>RoundUp, RoundUp Bioactive, ClearUp Bio360: non-selective control of annual and perennial weeds.</p> <p>Javelin, spearhead for broadleaf weeds</p> <p>Barricade and Stonewall as a pre-emergent.</p> <p>Selective monocot or dicot herbicides are very rarely used. Likely a couple of times a year, depending on the weed.</p> <p>Contractors treat larger areas with Casper, a selective post-emergent herbicide specifically formulated for use on turf.</p> <p>Barricade will be used for sports field and reserves, once a year.</p> <p>Bindii is the main concern on sports field and playgrounds. One treatment at end of June spray and a pre-emergent is also applied. So 2 sprays per year.</p> <p>Contractors may also use growth regulators</p> <p>Alternatives trialled</p> <p>A product called LocalSafe was trialed briefly as an alternative treatment option. The product was not adopted in the treatment strategy mainly due to the corrosive nature of the product, posing a risk to health and safety of operators. Operators noted that the product corroded the bottom of the spray pack containers when the containers weren't rinsed out after use and the product sat in the containers overnight. The product also had an offensive odour which would've caused problems in public places.</p> <p>Steam Weeding was trialled over a 3-4month period. Not an effective solution as it kills the surface of the plant, but not the roots or seeds. Consequently, repeat applications are</p>



Subject	Discussion
	required, which affects tight schedules and is not cos effective. Also, the equipment is bulky, and therefore not practical in hard to reach areas.
<b>Subcontractor scope of work and requirements</b>	The supervisors direct the treatment methods used by contractors. The contracts are very prescriptive, with maps provided showing treatment areas.
<b>Monitoring and record keeping</b>	Hard copy application records are kept by each precinct. These are not systematically entered online, or saved to a single database. Contractors provide records of their application, in hard copy.
<b>Community complaints</b>	Complaints are handled within 24hrs of receipt. The Council's herbicide treatment policy is re-active, i.e. if a complaint is received about weeds, they go and treat. If someone doesn't want herbicide treatment, then they won't treat.
<b>Training and Certification</b>	<p>All Council staff working in weed management have received ChemCert 3 level certification. This includes supervisors and team members.</p> <p>However, it is noted that operators and gardeners are not ChemCert level 3 trained.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Training in pesticide use is required under the Pesticides Regulation 2017. The minimum level of competency in pesticide use required under the Regulation is Australian Qualifications Framework Level 2 (AQF2). This is for people applying pesticides under supervision.</p> <p>Unit code AHCCHM201 - Apply chemicals under supervision( earlier versions of this unit are also acceptable).</p> <p>An unsupervised operator or independent business person, receives training in Australian Qualifications Framework Level 3 (AQF3).</p> <p>Units AHCCHM307 - Prepare and apply chemicals to control pest, weeds and diseases</p> <p>Units AHCCHM304 - Transport and store chemicals.</p> <p>Older competency units including those with a RTC prefix are still recognised.</p> <p>An example of suitable training is the Farm Chemical End User Training Course (also known as the ChemCert).</p> <p>Competency must be maintained by:</p> <p>Renewing the training every 5 years by completing a short refresher course, or</p> <p>Participating in a quality assurance (QA) or stewardship program that has been approved by the EPA</p> <p>Advice on the level of training required under the Pesticides Act 1999 can be found on the web site <a href="http://www.dec.nsw.gov.au/pesticides/training.htm">www.dec.nsw.gov.au/pesticides/training.htm</a></p> <p>Consider using SafeWork NSW code to help establish an industry best practice approach to occupational health and safety in your workplace.</p> </div>
<b>Current opportunities for trialling alternative treatment</b>	<p>Council does not have a policy against trialling. The supervisors can decide to trial. Some employees may be interested, but not all. The gardeners and operators would not volunteer to trial different methods. The initiative would have to come from the operator or supervisor.</p> <p>Due to time constraints, it is likely that trialling is not adopted as much. However, if there was a clear policy that sanctioned trials, then it would be done more.</p>



Following the Workshop, additional internal discussions among the park staff identified issues and solutions regarding urban design, costs/benefit, community expectations, and staff training. These are summarised below:

#### Prevention by design

- Herbicide use on footpaths could be significantly reduced in places like Bondi Park if the paths were designed differently, i.e. not constructed of unit pavers.
- The playground design could be improved to include rubber softfall which could lead to reduced weed growth in those spaces. Although it is noted that 90% of playgrounds already have no chemical use.
- Main chemical use is in nature strips/verges and median strips. Weed growth could be reduced by redesigning the planting scheme.

#### Staff training

- Many parks staff were reluctant to be involved in trials as they felt that this took them away from their work. Trials could be done on a regional basis, e.g. through Sydney Weeds Committee or SSROC
- PPC and Parks Staff need more training in weed identification and weed plant life cycles

#### Cost Benefit

- A higher upfront cost could lead to many longer term savings and less herbicide use

#### Community Expectations

- Waverley residents expect high standards of successful weed treatment, and will complain when weeds are not treated
- There is a lack of community awareness around what Parks staff do – a knapsack does not necessarily mean herbicide use
- Suggest mapping the areas where complaints about weeds came from to target weed treatments



## APPENDIX B WAVERLEY COUNCIL POLICIES AND PLANS

Item	Council Description																				
Waverley Council Weed Management Policy 2012	<p>Waverley Council's Weed Management Policy 2012 endorses the control of noxious weeds on private and public land within the Waverley Local Government Area (LGA) and establishes a list of environmental and nuisance weeds to be managed within Council managed land.</p> <p>This policy deals with weeds in the following three categories:</p> <ul style="list-style-type: none"><li>Noxious Weeds; declared noxious under the Noxious Weeds Act 1993;</li><li>Environmental Weeds, that have a measurable negative impact on natural ecosystems within the Waverley LGA and therefore have the potential to be declared noxious at a future date;</li><li>Urban Weeds, considered by Council to be pest species in public open space.</li></ul> <p>A full list of weeds Class 1 to 5 is provided in Appendix A, B and C of the Policy.</p> <p>This Policy provides the framework for Council's Weed Management Strategy (DRAFT), and guides the on-ground implementation of the Weed Management Strategy, and the Environmental Action Plan 2 (EAP2).</p>																				
Waverley Weed Action Plan 2014	<p>The goals of this plan are consistent with those of the Australian Weeds Strategy (2007).</p> <p>Two weed surveys have been carried out in Waverley:</p> <ul style="list-style-type: none"><li>2005. Twelve Noxious weeds and seven non-noxious weeds were surveyed in coastal reserves and selected streets and laneways.</li><li>2013. All public space was surveyed for the presence of any of the Weeds of National Significance (WONS), and all Noxious, Environmental and Nuisance weeds as listed in the Waverley Weed Management Policy 2012. The survey report identified changes in weed distribution since the 2005 survey and provided recommendations for weed management in Waverley.</li></ul> <p>Both the 2005 and 2013 survey data can be viewed on Council's mapping system Exponare.</p> <p><b>Priority 1 Weeds.</b> Include all WONS found in our LGA in the 2013 survey that also have regional Weed Management Plans (WMP) and are listed as Noxious Weeds in Waverley.</p> <p><b>Priority 2 Weeds</b> are those weeds found in the LGA that have regional WMPs, and are listed as an environmental or urban weed in Waverley.</p> <p>Table 2 and 3 of the Action Plan lists the Priority 1 &amp; 2 weeds and identifies the coverage of each from the 2013 survey.</p> <p>The following table identifies the priority areas, where greater weed treatment effort is provided (A-Amenity; B-Biodiversity)</p> <table><tr><th>Public Open Space - Parks &amp; Reserves.</th><th>High</th><th>Med</th><th>Low</th></tr><tr><td>Contains threatened species or ecological community<ul style="list-style-type: none"><li>ESBS, Queens Park - regional facility</li><li>ESBS, Moriah College (private open space)</li><li>Sunshine Wattle, Loombah Cliffs, Dover Heights (private open space)</li></ul></td><td>B</td><td></td><td></td></tr><tr><td>Contains Remnant vegetation, refer to Street Trees and Bushland layer in Exponare. Key areas of remnant vegetation: Diamond Bay Reserve, Rodney &amp; Raleigh &amp; Eastern Reserves, Caffyn Park, Hugh Bamford, North Bondi Golf Course, Tamarama Park (upper), Hunter Park, Marks Park, Calga Reserve, Waverley Cemetery</td><td>B</td><td></td><td></td></tr><tr><td>Contains Bushcare volunteer Site: Bronte Gully, Tamarama Park, Hugh Bamford, Eastern Reserve, Diamond Bay.</td><td>B</td><td></td><td></td></tr><tr><td>Identified or Recognised Habitat area or within a Habitat Corridor: Bronte Park &amp; Gully, Hunter Park, Waverley Park, Thomas Hogan, Varna Park</td><td></td><td>B</td><td></td></tr></table>	Public Open Space - Parks & Reserves.	High	Med	Low	Contains threatened species or ecological community <ul style="list-style-type: none"><li>ESBS, Queens Park - regional facility</li><li>ESBS, Moriah College (private open space)</li><li>Sunshine Wattle, Loombah Cliffs, Dover Heights (private open space)</li></ul>	B			Contains Remnant vegetation, refer to Street Trees and Bushland layer in Exponare. Key areas of remnant vegetation: Diamond Bay Reserve, Rodney & Raleigh & Eastern Reserves, Caffyn Park, Hugh Bamford, North Bondi Golf Course, Tamarama Park (upper), Hunter Park, Marks Park, Calga Reserve, Waverley Cemetery	B			Contains Bushcare volunteer Site: Bronte Gully, Tamarama Park, Hugh Bamford, Eastern Reserve, Diamond Bay.	B			Identified or Recognised Habitat area or within a Habitat Corridor: Bronte Park & Gully, Hunter Park, Waverley Park, Thomas Hogan, Varna Park		B	
Public Open Space - Parks & Reserves.	High	Med	Low																		
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Identified or Recognised Habitat area or within a Habitat Corridor: Bronte Park & Gully, Hunter Park, Waverley Park, Thomas Hogan, Varna Park		B																			

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Item	Council Description			
	Contains regional Sports Field (Queens Park), Waverley Park	A		
	Contains local sports field		A	
	Small <2 hectares			A
	Public Open Space – Streetscape/ Nature strip	High	Med	Low
	Contains threatened species or ecological community <ul style="list-style-type: none"><li>ESBS York Road verge</li></ul>	B		
	Commercial & Village Areas	A		
	Gateways and Main Roads		A	
	Difficult to mow areas			A
	Public lanes and special needs			A
	Private Open Space	High	Med	Low
	Contains threatened species or ecological community	B		
	Contains remnant vegetation	B		
	Private open space within Habitat Corridor		B	
Weed Management in Waverley is coordinated by three main service providers:				
Service Provider		Where	Key Activity	
Parks Maintenance Staff Clean and Attractive Waverley (Community, Assets and Operations Directorate)		Parks, reserves and laneways, and all road reserves	General horticultural activities, mowing, hand weed, chemical control	
Public Place Cleansing Staff Clean and Attractive Waverley (Community, Assets and Operations Directorate)		Commercial centres & local villages	Cleaning including hand removal (chipping) of weeds, Chemical control of weeds in paved areas	
Urban Ecology staff Environmental Sustainability (Planning, Environment and Regulatory Directorate)		Remnant bushland vegetation. Recognised habitat area or corridor, ecological restoration and revegetation sites	Bush regeneration and ecological restoration contracts Bushcare volunteer groups	
Sometimes contractors employed by Major Projects also use herbicides				
Waverley Council is a financial member of the Sydney Weeds Committee (SWC) and supports its function by attending Sydney Central regional committee meetings and contributing to the development and implementation of strategic state and regional weed management plans. A series of documents guide the operations of the SWC, these include High Risk Pathways and Regional Inspections Plan, Incursion and Rapid Response Plan, NSW Weeds Action Communications Strategy, NSW Weeds Action MERI Plans 2010 - 2015.				
Pesticide Notification 2016	Use Plan	This plan has been prepared in accordance with the repealed <i>Pesticide Regulation 2009</i> Council is committed to ensure that pesticide use is justified, minimised and the lowest toxicity of pesticides necessary to achieve the desired outcome. The Council will continue to investigate alternatives to pesticide use where available. Pesticide use on Council’s controlled land includes programmed and reactive applications, such as <ul style="list-style-type: none"><li>Application of herbicides to all public places, including parks, reserves, roads and pathways is applied reactively to control weeds on an as needs basis.</li><li>The application of insecticides, fungicides, rodenticides, soil additives, growth inhibitors, and algaecides is also applied reactively to control pests on an as needs basis.</li></ul>		



Item	Council Description
	<ul style="list-style-type: none"> <li>Baits are used to control outbreaks of vermin in public open spaces and to protect buildings and structures from damage by termites and soil pests.</li> </ul> <p>Public places covered by the Plan:</p> <ul style="list-style-type: none"> <li>Public parks and reserves</li> <li>Cemeteries</li> <li>Playgrounds</li> <li>Picnic and BBQ areas</li> <li>Sports fields, ovals and courts, and skate facilities</li> <li>Street Trees and planter boxes</li> <li>Civic spaces</li> <li>Road verges and streetscape planting</li> <li>Outdoor swimming pool surrounds</li> <li>Footpaths, laneways, and public roads</li> <li>Easements accessible to the public, including drains</li> <li>Car parks and public toilets</li> <li>Crown Lands controlled by Council</li> <li>Grounds and interiors of Council owned buildings</li> </ul> <p>Notification of pesticide use will be provided by a combination of:</p> <ul style="list-style-type: none"> <li>Signs erected at main entrance of parks, reserves, playgrounds, sports fields and other public open space for all pesticide application (noting that public signage is occasionally subject to removal and vandalism)</li> <li>Information on Councils web site</li> <li>Letterbox drops</li> </ul> <p>Duration of notification</p> <ul style="list-style-type: none"> <li>Spot applications: signage will remain in place only for the duration of the application</li> <li>Broad acre applications: 48 hours prior remain in place until 48 hours following application</li> </ul> <p>This signage will indicate</p> <ul style="list-style-type: none"> <li>The full product name of the pesticide used</li> <li>The purpose of the use, clearly setting out what pest or pests are being treated</li> <li>The proposed date/s or date range of the pesticide use</li> <li>The places where the pesticide is to be used</li> <li>Contact telephone number and email address of the Council officer who people can contact to discuss the notice</li> <li>Any warnings regarding re-entry to, or use of the place, if specified on the pesticide product label, or the Australian Pesticides and Veterinary Medicines Authority permit; the proposed date range for application, purpose of application, product name, type and risk phrases as per label.</li> </ul> <p>Special measures for sensitive sites Clause 18 of the <i>Pesticide Regulations</i> defines a sensitive site to be any:</p> <ul style="list-style-type: none"> <li>School or pre-school</li> <li>Kindergarten</li> <li>Childcare centre</li> <li>Hospital</li> <li>Community health centre</li> <li>Nursing home</li> <li>Place declared to be a sensitive place by the Environment Protection Authority (EPA)</li> </ul> <p>Waverley Council also considers community and communal gardens to be a "sensitive site". Notification by a letter box drop to local residents and/or businesses before the application date. For emergency or reactive pesticide use in outdoor places adjacent to sensitive sites the Council will provide signs in the vicinity at the time of application.</p> <p>In line with legislated requirements, instances where the Council will not give prior notice of pesticide use include:</p>



Item	Council Description
	<ul style="list-style-type: none"> <li>• Spot spraying of domestic strength herbicides used by hand, or by cut and paint, or stem injection techniques.</li> <li>• Domestic strength insecticides used by hand for insect and rodent baiting in garden beds, tree bases, planters, indoor car parks and public toilets.</li> </ul>
<b>Council guide for Notification plans Feb 2016</b>	<p>Under the <i>Pesticides Regulation</i> the following information must be included in a council's notification plan:</p> <ul style="list-style-type: none"> <li>• The categories of outdoor public places owned or controlled by council where pesticides will be used</li> <li>• Who regularly uses these public places and an estimate of the level of use (for example, high, medium, low)</li> <li>• How and when council will provide those people with information about proposed pesticides use in these public places (for example, what notification arrangements will be used)</li> <li>• The special steps council will take when pesticides are used in outdoor public places that are adjacent to sensitive places (for example, childcare centres, schools, nursing homes)</li> <li>• What information will be provided (this must include the name of the pesticide used, why it is being used, date/s of use, place of use, council officer contact details and any re-entry warnings on the label/permit)</li> <li>• How the community will be informed of the notification plan</li> <li>• How future reviews of the notification plan will be conducted</li> <li>• Contact details for anyone wishing to discuss the notification plan with council</li> </ul>



## APPENDIX C BYRON SHIRE COUNCIL PEST MANAGEMENT DOCUMENT REVIEW

Document name	Summary
<b>Directions Document 2018 - A Case for Continuous Improvement</b>	<p>The Directions Document reports on current success and impediments to implementing Council's 2013 resolution (13-621); while clarifying a secure framework for the development of a Shire-wide Integrated Pest Management Policy and Strategy. It also defines the terminology used within the Resolution and considered the areas where complete cessation was restricted by either:</p> <ul style="list-style-type: none"> <li>• Unacceptable risk to Human Health and Safety or</li> <li>• Prohibitive cost to maintain the site without decreasing its functional, environmental or aesthetic value.</li> </ul> <p>Within five years from passing the Resolution, pesticide use by Council has ceased in:</p> <ul style="list-style-type: none"> <li>• All children's playgrounds (34)</li> <li>• Formal bus stops (41)</li> <li>• Roadsides</li> <li>• Town and village centres, garden beds and kerbs</li> <li>• 15 of 23 sports fields.</li> </ul> <p>Methods used include: manual weed removal, timely treatments, steam cleaning (of kerbs), steam weeding, garden bed edging and mowing.</p> <p>The remaining eight fields are still treated with herbicides, as they have high quality turf. However, where herbicides are required, their use is minimised through the adoption of improved horticultural practices. The minimum amount of the least hazardous herbicide to achieve successful weed removal is applied.</p> <p>Reducing herbicide use has in some instances compromised the effectiveness of weed management. The trade-off is not always acceptable. For example, cessation or reduced use of herbicide may impact public/operator safety, infrastructure integrity, and biosecurity management.</p> <p>Responsible financial management also plays a significant role in the decision to reduce pesticide use in a type of open space.</p> <p>As such, the Council needs to identify circumstances in which pesticides, while the least preferred option, might at times be essential to ensure that Council meets its overall obligations using methods with least adverse effect on human health and the environment.</p> <p>The recommendation from the 2018 Directions Document is <i>'that there is a need for change so that the underlying intent of the Resolution is secured for the long-term while not compromising Council's services and other obligations. To achieve this, it is recommended Council develops and adopts an enduring Policy to ensure its goals and aspirations are applied on a 'continuous improvement' basis rather than confining them to any short-term timeframe. Reaffirming of the aspiration to cease pesticide use in (mapped) high use and sensitive areas is recommended, along with introducing an added goal of 'minimisation' of pesticide use in all other areas. Council staff should, however, have an overriding discretionary capacity, guided by strict protocols, to using pesticides in any zone if no alternative exists if there is an overriding need to meet public safety, biosecurity or infrastructure protection obligations within a framework of responsible financial management'</i>.</p>
<b>Integrated Management Policy 2018</b>	<p>This Policy guides the control of pests in Byron Shire in a manner that supports the intent of the original Resolution while setting it in a more <b>practical and secure long-term policy framework</b>.</p> <p><b>Integrated Pest Management (IPM)</b></p> <p>The IPM aims to reduce the use of pesticides through a series of pest management evaluations and decisions that progressively improve the competitive ability of desirable plants and animals, coupled with the application of alternative pest control methods.</p> <p>These control methods may include but are not limited to biological control, endemic plantings, fire, steam, slashing, and manual methods (for plants), and trapping and shooting (for animals).</p> <p>Integrated pest management requires competence in three areas:</p> <ul style="list-style-type: none"> <li>• Prevention (strategies that can be rationalised to suit local conditions)</li> </ul>

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Document name	Summary
	<ul style="list-style-type: none"> <li>• Observation (monitoring with decision making)</li> <li>• Intervention (range of physical, biological and pesticidal methods optimally employed to cease or minimise effects on social, economic and environmental aspects).</li> </ul> <p>Implementation of IPM involves:</p> <ul style="list-style-type: none"> <li>• Identify and monitor (Not all pests require control, monitor pests and identify risks accurately)</li> <li>• Prevention (avoid pests or prevent their spread)</li> <li>• Action thresholds (point at which pest populations or environmental conditions indicate that pest control action must be taken. This will be species-dependent and scenario-dependent)</li> <li>• Evaluation of Control method (takes into account effectiveness of the method to achieve the pest management outcome and minimising the risk to human and environmental health, infrastructure and responsible financial management).</li> <li>• Control (implement the most appropriate control method. Wherever possible a non-pesticide method should be tried prior to a pesticide method.)</li> </ul> <p><b>Distinction is made between hazard and risks.</b> The Policy defines these terms as follows:  <b>Hazard</b> means the inherent property of a substance, agent or situation having the potential to cause undesirable consequence (e.g. properties that can cause adverse effects or damage to health, the environment or property).  <b>Risk</b> is a function of the probability of an adverse health or environmental effect, and the severity of that effect, following exposure to a pesticide.  Risk can thus be reduced by using less hazardous products and/or by reducing exposure to the product.  <b>Continuous improvement</b> in the minimisation of pesticide use within an Integrated Pest Management context is a desirable policy position for staff to encourage aspiration and innovation while at the same time taking into account any real constraints.</p>
Byron Shire Council Integrated Pest Management Strategy 2019-2029	<p>The 2018 Integrated Pest Management Policy and IPM Strategy 2019–2029 sets out Council’s approach to pesticide minimisation. The use of any pesticide is subject to strict protocols for decision-making.. It is also recognised that pesticides may be required to act quickly and responsibly in addressing biosecurity risks under NSW Biosecurity legislation.</p> <p>Byron Shire Council is committed to on-going research, trials of new technologies and innovative methods as they become available. Management of pests will continue to evolve to encompass all the tools such as bio-controls, turf management and restoration techniques that facilitate resilience. The integration of these technologies will require education (as it is knowledge-intensive) and time, in order to trial and experiment.</p> <p>The IPM suite of tools, comprises innovations such as specialised turf management, steam weeding, bio-controls and low toxicity selective herbicides. Procedures for continuous improvement and clearly defined protocols for when pesticides can be used are also detailed.</p> <p>The IPM Strategy is divided into three parts:</p> <ul style="list-style-type: none"> <li>• Provides information on the new legislative requirements, planning context and current practice.</li> <li>• Describes the development of the IPM Strategy, Councils integrated improvements in practice, IPM Framework and methodology alongside available control methods to date.</li> <li>• Delivers tools supporting IPM, including Council’s pesticide exclusion and minimisation zone mapping, Pesticide Use Decision Tree, Pesticide Notification Plan and Invasive Plant Species List.</li> </ul> <p>Management actions further outline how and when Council will deliver each goal alongside the reporting mechanisms that support continuous improvement.</p> <p>The Strategy is delivered on a continuous improvement basis for ten years, with a review at five years.</p> <p>The IPM Methodology comprises of the following 4 steps:</p>



Document name	Summary
	<p><b>Step 1 Set Action Threshold.</b> Based on the generalised invasion curve, action thresholds are listed in the Local Land Services Plan (2017-2022). Once the appropriate action is decided, control of the pest should be timely, efficient and monitored.</p> <p><b>Step 2 Prevention.</b> Early detection and intervention is the most cost and resource effective control method available and implemented by:</p> <ul style="list-style-type: none"> <li>• Correct identification of the pest threat then immediate establishment of protocols to limit its spread and the conditions it requires to survive such as; ensuring wash down procedures, complete removal of the species from equipment or sensitive areas</li> <li>• Immediate action by the control authority (where necessary) or the land manager to eradicate or control the threat (e.g. Fire ants, Prohibited Matter or Control Order plants)</li> <li>• Education and training to recognise the threat and the varying control mechanisms available for its control</li> </ul> <p><b>Step 3 Identify and Monitor</b> Council's Invasive Plant Species List provides information on invasive plants flowering and seeding regimes. Monitoring the occurrence of pest species is vital to ensure containment and appraisal of action thresholds of biosecurity risks.</p> <p><b>Step 4 Evaluate and Control.</b> The most effective known control method with the least risk to human health and the environment is employed. The appropriate method is determined by utilising the IPM tool box and if necessary, Council's Pesticide Use Decision Tree.</p> <p>The Pesticide Use Decision Tree includes criteria to enable transparency in the decision process with clearly defined pathways that must be adhered to for any change in current best practice methodology (refer to Appendix F)</p> <p>The IPM has also set 3 goals that ensure the long-term vision for reducing the use of herbicides. Within each goal are a set of actions and associated deliverables that should be implemented within either a 5 year or 10 year period. Generally the deliverables include, but are not limited to the following list. The full details are provided in Appendix G.</p> <ul style="list-style-type: none"> <li>• Engage an IPM Officer to implement the IPM Strategy, regularly update the IPM tools and monitor progress.</li> <li>• Instigate a protocol for briefing contractors that aligns with IPM procedures.</li> <li>• Adopt the National Standards for ecological restoration</li> <li>• Maintain the IPM Working group meetings for information sharing twice yearly with Council representatives to include Parks, Works, Utilities and Landcare.</li> <li>• Update the Invasive Species list on Council's website with relevant control techniques as they become available.</li> <li>• Provide on-going training to key on-ground staff on methods that reduce pesticide use through: Timing, using a variety of controls, encouraging certain species and or replacing invasive species by incorporating Australian Standards restoration techniques (e.g. replacing roadside grasses with low stature species over time).</li> <li>• Conduct formal trials of alternative technologies on a site by site basis that are underpinned by proven up-to-date scientific methods and results.</li> <li>• Conduct formal trials of restoration techniques that reduce herbicide use over time on Council owned or managed land particularly on rural roadsides.</li> <li>• Develop record keeping proformas to collate data for pest species and their actions across Council owned and managed land.</li> <li>• Continue to monitor pesticide use and report on a yearly basis enabling continuous improvement for all Council managed land.</li> <li>• Collate and share data with other LGAs on species movement and emergency procedures.</li> <li>• Actively seek funding opportunities for habitat restoration of TECs and Threatened Species.</li> <li>• Audit the current Chemical Sensitive Register and update to current, including all registered organic farms.</li> <li>• Update the Pesticide Use Notifications on Council website on a regular basis.</li> <li>• On a yearly basis ensure Council's Invasive Plant Species List published on the website is current and updated and information is sent to relevant Landcare groups.</li> </ul>



Document name	Summary
	<ul style="list-style-type: none"> <li>Facilitate community workshops for information sharing, current best practice, new technologies for trial and citizen science activities (e.g. WoNS survey).</li> <li>Provide information on the Shire's worst weeds on Council's website, Facebook page, front desk and real estates.</li> <li>Support rural landowners to control invasive species on roadsides utilising the Goonengerry Landcare model and <i>National Standards for Ecological Restoration</i> on a trial basis.</li> <li>Promote the use of green organics waste bins to reduce garden dumping in the bush.</li> </ul>
<b>Byron Shire Council</b> <b>Pesticide Use</b> <b>Notification Plan 2018</b>	<p>Byron Shire Council is aware that some members of the community may wish to avoid contact with pesticides, therefore application is minimised or avoided in the vicinity of these properties which are listed on Councils' <b>Chemically Sensitive Register</b></p> <p>In addition, Council considers the following <b>Sensitive Places</b> as defined in Clause 18 of the <i>Pesticide Regulation</i>:</p> <ul style="list-style-type: none"> <li>School or pre-school</li> <li>Kindergarten</li> <li>Childcare centre</li> <li>Hospital</li> <li>Community health centre</li> <li>Nursing home</li> <li>Other category of place declared to be a sensitive public place by the Environment Protection Authority by notice in the NSW Government Gazette.</li> </ul> <p>For pesticide use within 100 metres of these sensitive places, Council will provide prior or concurrent notice to that sensitive place by phone, door-knocking or letterbox drop.</p> <p>Council staff, or contractors, undertaking spraying near 'Sensitive Persons' and 'Organic Growers' will:</p> <ul style="list-style-type: none"> <li>Provide prior notification for all scheduled broad scale applications (bindii and broad leaf weeds, ants) for works within 100 metres of such locations.</li> <li>Minimise other herbicide applications within 100 metres of the boundary of such locations. This will be achieved by using spot applications (back pack), rather than directed methods of herbicide application and other herbicides, where appropriate.</li> </ul> <p>Notification requirements are based on Council's consideration of the following matters:</p> <ul style="list-style-type: none"> <li>Some areas have high visitor use (e.g. picnic areas and camp grounds in areas visited frequently, popular areas close to urban areas); other areas are rarely visited by the public (e.g. sewage treatment plants)</li> <li>Some users groups may be more sensitive to pesticides than others</li> <li>Some user groups may be more likely than others to encounter pesticides e.g. campers vs. passing motorists</li> <li>For some application techniques, the public is unlikely to come into direct contact with pesticides e.g. bush regeneration programs using the cut-and paint or stem injection techniques</li> <li>The toxicity of pesticides vary.</li> </ul>



## APPENDIX D INNER WEST COUNCIL PEST MANAGEMENT DOCUMENT REVIEW

Document Name	Summary
<b>Council Meeting 26 February 2019</b> <b>Item No: C0219(3)</b> <b>Item 5</b> <b>Subject: WEED MANAGEMENT</b>	<p>Inner West Council held a meeting on the 30 October 2018, and considered Notice of Motion on glyphosate. Council resolved:</p> <ul style="list-style-type: none"> <li>• A report outlining when and where and how frequently the Inner West Council is using Glyphosate and what processes are in place to protect council staff and local residents and their pets. The report would also include what other safer products can use to substitute Glyphosate</li> <li>• The Inner West Council joins with the Cancer Council of Australia in calling for an independent review on the health and safety impacts of using Glyphosate to be instigated as soon as possible</li> </ul> <p>An internal working group was established to review the current use of glyphosate by Council. The general findings were that 'Glyphosate is currently limited to localised spraying, utilising spray wands... On an annual basis, Council utilises approximately 1,320 litres of 360g/L glyphosate concentrate. Glyphosate is mixed with water at a dilution rate of 1:100 before being sprayed. 94% of glyphosate usage is within the streetscape areas.'</p> <p>The risks associated with glyphosate, to the community, to staff and the environment, are currently mitigated by Inner West Council utilising the following means:</p> <ul style="list-style-type: none"> <li>• Material Safety Data Sheets</li> <li>• Safe Work Method Statements</li> <li>• Pesticide Notification Plan</li> <li>• Sensitive Area Identification</li> </ul> <p>Council currently has a number of identified "sensitive areas" where glyphosate is not utilised for weed treatment. A contractor has been engaged to do steam weeding or hand removal as an alternative. These sensitive areas include:</p> <ul style="list-style-type: none"> <li>• Commercial areas</li> <li>• Town centre areas</li> <li>• Areas adjacent to childcare centres</li> <li>• Areas adjacent to schools</li> <li>• Playgrounds in Council parks</li> <li>• Where residents have nominated to "opt out" of having glyphosate applied adjacent to their property</li> <li>• Water Sensitive Urban Drainage or rain garden areas</li> </ul> <p>Alternative weed management methodologies are detailed in Appendix J of this report.</p> <p>The following text extract provides an example of the cost impact when utilising alternative herbicide treatment methods: <i>'In the former Leichhardt, the contract specifies 26 non-chemical weed treatments in all areas each year. Based on the unit rates currently paid in the former Leichhardt, the additional operating cost to Council for 26 treatments per year across the Inner West, would be in the order of \$5.2 million per annum. This includes treatment for an additional 967km of kerb &amp; gutter and footpath, 1,100 verge gardens and 929 LATMs. If this were reduced to 12 treatments per year, the additional cost would be \$1.9 million per annum. This has not been funded through the budget process.'</i></p> <p>The meeting concluded with the following recommendation:</p>



Document Name	Summary
	<i>'Council take a hierarchical approach to weed management. In the first instance, weed management is undertaken by mechanical methods (mowing and whipper snipper) with minimum disturbance to the surrounding environment. Weed management will be undertaken by alternatives to herbicides where feasible and practical. Herbicides are utilised where other methods are not feasible and practicable, and for spot control of persistent weeds that resist other treatments. This excludes sensitive areas'.</i>
<b>Weed Management Policy 2019</b>	<p>One of the stated objectives of Inner West Council's Policy is 'Demonstrate Council's commitment to ecologically sustainable development and minimising chemical pollution by minimising the use of herbicide weed control and to use alternatives where required, practicable and feasible'.</p> <p>Inner West Council undertakes eradication of weed species for the Greater Sydney Local Land Services region as per Weed Management Annexure, and Greater Sydney Regional Strategic Weed Management Plan.</p> <p>Inner West Council manages weeds in streetscape areas in accordance with the following priorities:</p> <ul style="list-style-type: none"> <li>• Vision of vehicular traffic</li> <li>• Health and safety of pedestrian users</li> <li>• Contribution to Greater Sydney's regional biodiversity and biosecurity</li> <li>• Aesthetic values</li> </ul> <p>Inner West Council manages weeds in parks and sports fields in accordance with the following priorities:</p> <ul style="list-style-type: none"> <li>• Health and safety of recreational users</li> <li>• Contribution to Greater Sydney's regional biodiversity and biosecurity</li> <li>• Use and enjoyment of recreational users</li> <li>• Aesthetic values</li> </ul> <p>Inner West Council has established a weed management hierarchy as follows:</p> <ul style="list-style-type: none"> <li>• In the first instance, weed management is undertaken by mechanical methods (mowing and whipper snipper) with minimum disturbance to the surrounding environment.</li> <li>• Weed management will be undertaken by alternatives to herbicides where required, feasible and practical.</li> <li>• Herbicides are utilised where other methods are not feasible and practicable, and for spot control of persistent weeds that resist other treatments. This excludes sensitive areas.</li> </ul> <p>Sensitive areas include:</p> <ul style="list-style-type: none"> <li>• Commercial areas</li> <li>• Town centre areas</li> <li>• Areas adjacent to childcare centres</li> <li>• Areas adjacent to schools</li> <li>• Playgrounds equipment areas in Council parks</li> <li>• Waterplay parks in Council parks</li> <li>• Water Sensitive Urban Design devices (WSUD) or rain garden areas</li> </ul>



Document Name	Summary
	<ul style="list-style-type: none"> <li>Within 50 metres of watercourses and wetlands</li> </ul> <p>In sensitive areas, weed management is undertaken by steam weeding, mechanical weeding and/ or hand weeding.</p> <p>Residents may nominate the public area adjacent to their property to be added to the sensitive areas list. Consequently, residents will be requested to be responsible for mechanical weed removal.</p> <p>Only herbicides registered by the APVMA are used by Council. IN addition to the standard health and safety application procedures, Council uses blue vegetable-based dye, to show areas that have been treated.</p>
<b>Pesticide Notification Plan 2019 - 2022</b>	<b>Use</b> The majority of pesticide use by Council consists of applying herbicides for weed control. Programmed herbicide use on sports fields range from 1-2 applications per year for general park turf surfaces and up to 8 times per year for public thoroughfares. All other herbicides and insecticides used for the control of weeds and insects in Councils parks are as required and are generally less than four times a year.

The following was provided by Inner West Council. It summarises the various weed methods trialled by Council, and lists the positives and negatives of each alternative treatment as experienced by the Council.

Glyphosate Alternative	Brief Description	Positives	Negatives
<b>Heat treatment - steam weeding</b>	Pressurising water to boiling point and then targeting the weeds with an applicator. The released steam ruptures plant cells, killing the above ground portion of the plant.	<ul style="list-style-type: none"> <li>Effective on young annual weeds</li> <li>More water efficient than hot water treatment.</li> <li>Low risk of non-target plant damage.</li> <li>Suitable in areas with high/ sensitive populations</li> </ul>	<ul style="list-style-type: none"> <li>Not effective on older perennial weeds.</li> <li>Works best in areas with low weed density.</li> <li>Poor ground penetration/ Only burns the plant foliage contacted by the steam (not the root).</li> <li>The steam method experiences rapid cooling which reduces its effectiveness.</li> <li>Utilises high amounts of water (approx. 220 litres per hour).</li> <li>Accidental contact with steam can cause severe burns.</li> <li>Best results requires a second treatment 4-6 weeks after the initial treatment.</li> <li>More expensive than glyphosate treatment.</li> </ul>
<b>Heat treatment - flame weeding</b>	Flames are used on targeted weeds. Flame weeding can mimic control burns.	<ul style="list-style-type: none"> <li>Can stimulate germination of native plants while killing annual weeds.</li> </ul>	<ul style="list-style-type: none"> <li>Flame weeding is not generally suitable as it provides an unacceptable fire risk in Australian conditions and it is unsuitable for urban situations.</li> <li>Cannot be used on materials such as playground softfall.</li> <li>Requires repeated treatments.</li> </ul>



Glyphosate Alternative	Brief Description	Positives	Negatives
			<ul style="list-style-type: none"> <li>• More expensive than glyphosate treatment.</li> </ul>
<b>Heat treatment - hot water</b>	Hot water targeted at the weeds with an applicator.	<ul style="list-style-type: none"> <li>• Temperature impact 10mm below the ground is considered very effective.</li> <li>• Low risk of non-target plant damage.</li> <li>• Suitable in areas with high/ sensitive populations</li> </ul>	<ul style="list-style-type: none"> <li>• Utilises very high amounts of water (&gt;600 litres per hour)</li> <li>• Slow operational speeds needed to ensure effective weed kill.</li> <li>• Requires repeated treatments.</li> <li>• More expensive than glyphosate treatment.</li> <li>•</li> </ul>
<b>Mechanical treatment - hand removal</b>	Hand weeding	<ul style="list-style-type: none"> <li>• Effective on all types of weeds.</li> <li>• No impact on the environment.</li> <li>• Suitable in areas with high/ sensitive populations.</li> </ul>	<ul style="list-style-type: none"> <li>• Labour intensive.</li> <li>• Insufficient existing staff resources/ impractical to do this over large areas.</li> <li>• Increases WHS (ergonomic) risks for staff.</li> <li>• More expensive than glyphosate treatment.</li> </ul>
<b>Mechanical treatment - mowers</b>	Weeds are removed whilst undertaking mowing of the grass (verges or parks)	<ul style="list-style-type: none"> <li>• Efficient, as the removal occurs as the same time as scheduled mowing</li> <li>• Minimal impact on the environment (other than petrol use in the mowers).</li> <li>• Effective on most types of weeds.</li> </ul>	<ul style="list-style-type: none"> <li>• Removes the weed above the ground only/ roots remain.</li> <li>• Does not remove broadleaf weeds.</li> <li>• Some spot weeding of persistent weeds would still be required.</li> <li>• Requires repeated treatments.</li> </ul>
<b>Mechanical treatment - whipper snippers</b>	Weeds are removed by whipper snipper	<ul style="list-style-type: none"> <li>• Minimal impact on the environment (other than petrol use in the whipper snippers).</li> <li>• Effective on all types of weeds.</li> </ul>	<ul style="list-style-type: none"> <li>• Labour intensive.</li> <li>• Insufficient existing staff resources/ impractical to do this over large areas.</li> <li>• Removes the weed above the ground only/ roots remain.</li> <li>• Requires repeated treatments.</li> <li>• Some spot weeding of persistent weeds would still be required.</li> <li>• The associated noise is unpleasant to many residents.</li> <li>• More expensive than glyphosate treatment.</li> </ul>
<b>Mechanical treatment - high pressure gurneys</b>	High pressure gurneys, also known as hydro mechanical obliteration, can be utilised to blast apart plants.	<ul style="list-style-type: none"> <li>• Effective on all types of weeds.</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Removes soil, which may then end up in the stormwater/ downstream waterways.</li> <li>• Utilises very high amounts of water.</li> <li>• Removes the weed above the ground only/ roots remain.</li> <li>• This treatment may not be appropriate/ practical in high use public spaces.</li> </ul>

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Glyphosate Alternative	Brief Description	Positives	Negatives
			<ul style="list-style-type: none"> <li>Requires repeated treatments.</li> <li>More expensive than glyphosate treatment.</li> </ul>
<b>Foam weeding</b>	Foam weeding is a biodegradable foam made from natural plant oils and sugars which is applied to weeds together with hot water.	Removes the risk of fire hazard (compared with flame weeding)	<p>Utilises high amounts of water (approx. 220 litres per hour). Accidental contact with foam can cause severe burns.</p> <p>This treatment does not yet appear to be commercially available in Australia. *now available: <a href="https://www.herbicidefreeaustralia.com.au/">https://www.herbicidefreeaustralia.com.au/</a></p> <p>More expensive than glyphosate treatment.</p>
<b>Naturally occurring chemical treatment - botanical oils (clove oil/ pine oil)</b>	Botanical oils are spot sprayed onto weeds.	<ul style="list-style-type: none"> <li>Effective on soft seedlings, grasses, herbaceous plants and seeds</li> </ul>	<ul style="list-style-type: none"> <li>Less effective on woody plants or plants with runners, rhizomes or tap roots.</li> <li>Accumulates in soil, creating a toxic environment to other plants.</li> <li>Not effective on older perennial weeds.</li> <li>Only burns the plant foliage contacted by the product/ does not translocate to the roots of treated plants.</li> <li>High impact on aquatic species.</li> <li>Higher dermal toxicity than synthetic herbicides. Potential for severe skin irritation, eye irritation.</li> <li>More expensive than glyphosate treatment.</li> </ul>
<b>Naturally occurring chemical treatment - acetic acid (vinegar)</b>	Acetic acid affects the cell membranes of a plant, causing rapid breakdown/ desiccation of foliage tissue on contact.	<ul style="list-style-type: none"> <li>Effective on small, young seedlings.</li> <li>Rapid symptom development (&lt;1 hour on sunny days).</li> <li>Breaks down quickly in the environment.</li> <li>Works effectively on hard surfaces (roads, footpaths).</li> </ul>	<ul style="list-style-type: none"> <li>Weeds must be sprayed within two weeks of germination.</li> <li>No residual activity.</li> <li>Only burns the plant foliage contacted by the product/ does not translocate to the roots of treated plants.</li> <li>Only burn the foliage of perennial weeds, large annual weeds and grasses.</li> <li>Sharp vinegar odour may be unpleasant</li> <li>Reacts with metal street/ park furniture</li> <li>Higher dermal toxicity than synthetic herbicides. Potential for severe skin irritation, eye irritation (including blindness).</li> <li>Requires repeated treatments.</li> <li>More expensive than glyphosate treatment.</li> </ul>



Glyphosate Alternative	Brief Description	Positives	Negatives
Naturally occurring chemical treatment - herbicides (other than glyphosate)	Pre-emergent herbicides could be sprayed across all parks (the whole site)	<ul style="list-style-type: none"> <li>Different herbicides work effectively on specific species of weeds. Effective on the targeted weeds.</li> </ul>	<ul style="list-style-type: none"> <li>This would result in a large increase in herbicide use.</li> <li>This is unlikely to be popular with residents and it is not appropriate in urban public areas.</li> <li>This is not an appropriate treatment for hard surface areas (roads).</li> <li>More expensive than glyphosate treatment.</li> </ul>
Naturally occurring chemical treatment - pelargonic acid (slasher)	Post-emergent, contact herbicide (applied after the weed has appeared).	<ul style="list-style-type: none"> <li>This has been trialed in former Marrickville</li> <li>Controls small seedling broadleaf weeds.</li> <li>Rapid symptom development (&lt;30 minutes).</li> <li>Low risk of non-target plant damage.</li> <li>Perceived by some as an alternative to traditional herbicides/ "herbicidal soap".</li> </ul>	<ul style="list-style-type: none"> <li>It only works well in hot conditions.</li> <li>Burns the plant foliage contacted by the product/ does not translocate to the roots of treated plants.</li> <li>Requires the plants to be completely covered (drenched) in the acid to be effective. That is, spot spraying does not work.</li> <li>Large annual weeds and perennials will be injured but not killed.</li> <li>The odour is persistent and offensive to some people.</li> <li>Spray drift can be a severe eye irritant.</li> <li>Requires repeated treatments.</li> <li>More expensive than glyphosate treatment.</li> </ul>
Naturally occurring chemical treatment - diquat	Post-emergent contact weed killer	<ul style="list-style-type: none"> <li>Rapid kill of small seedling weeds.</li> <li>Relatively low cost compared with other chemical alternatives.</li> <li>Small amounts of spray draft will cause only cosmetic damage to landscape plants and will not translocate to kill desirable plants.</li> <li>Is not as temperature sensitive as many other herbicides, working in cool and warm weather.</li> </ul>	<ul style="list-style-type: none"> <li>Only burns the plant foliage contacted by the product/ does not translocate to the roots of treated plants.</li> <li>Large annual weeds, grasses and perennials will be injured but not killed.</li> <li>Requires repeated treatments.</li> <li>More expensive than glyphosate treatment.</li> </ul>
Naturally occurring chemical treatment - glufosinate	Non-selective post-emergent herbicide	<ul style="list-style-type: none"> <li>Control for annual weeds.</li> <li>May avoid systemic damage to landscape ornamentals from inadvertent spray drift.</li> </ul>	<ul style="list-style-type: none"> <li>Locally systemic (moves with the treated foliage) but does not translocate throughout the plant.</li> <li>No potential for root uptake when applied to the soil.</li> <li>Does not control perennial weeds.</li> <li>Requires repeated treatments.</li> <li>More expensive than glyphosate treatment.</li> </ul>
Reducing areas for weeds to grow	Species selection and planting density that discourages weed growth.	<ul style="list-style-type: none"> <li>Effective on all types of weeds.</li> <li>No/ low impact on the environment.</li> </ul>	<ul style="list-style-type: none"> <li>Expensive to install and maintain.</li> </ul>

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Glyphosate Alternative	Brief Description	Positives	Negatives
	Covering of garden beds with materials such as high heat black plastic, mulch, or crushed sandstone to reduce the likelihood of weeds growing.	<ul style="list-style-type: none"> <li>Suitable in areas with high/ sensitive populations.</li> </ul>	<ul style="list-style-type: none"> <li>Some spot weeding of persistent weeds would still be required.</li> <li>More expensive than glyphosate treatment.</li> </ul>
<b>Reducing areas for weeds to grow - Sealing cracks in kerb &amp; gutter and footpaths</b>	Reduce the number of cracks in kerb & gutter and footpaths to provide less opportunities for weeds to grow.	<ul style="list-style-type: none"> <li>Reduced impact on the environment.</li> <li>Suitable in areas with high/ sensitive populations.</li> </ul>	<ul style="list-style-type: none"> <li>This would not prevent all weeds from growing</li> <li>The cost to implement this would be substantial</li> </ul>
<b>Reducing the requirements for weeding through changing community expectations on service levels</b>	<p>Undertake a community education campaign to advise them on the reasons for reduced service levels.</p> <p>Encourage residents to contribute to weed control adjacent to their property/ within their neighbourhood</p>	<p>Effective on all types of weeds.</p> <p>Reduced impact on the environment.</p> <p>Suitable in areas with high/ sensitive populations.</p>	<p>The Inner West community has been used to high service levels and this expectation is likely to continue.</p> <p>Loss of amenity for residents.</p>



## APPENDIX E DETAILED DESCRIPTION OF RECOMMENDATIONS

### Mapping

Council has an Exponare mapping portal which could be adapted to show all Council managed land and provide a quick reference for the following minimum information:

- Public Places/Parks/Urban Ecology Teams responsibility
- Name/ID and size
- Land use type
- User group
- Level of Use
- Biodiversity and amenity sensitivity ranking for each land use type
- Target weeds within each land use type
- Pesticide, treatment method and frequency at each land use type

The mapping portal would help identify if there is any overlap or duplication in treatment areas between Public Places/Parks/Urban Ecology Teams. This would enable the teams to discuss the duplications and agree on which team will be solely responsible for treatment.

The mapping portal should be linked to the central data portal so that reporting forms and monitoring forms can be tracked down via the mapping tool.

Develop a Chemically Sensitive map, which shows the locations where members of the community have requested that pesticides are not applied near their property boundary.

Develop a Sensitive Places map as defined in Clause 18 of the Pesticides Regulation.

Develop a weed complaint map, which shows the locations where members of the community have complained that weeds are present and which can be used for targeted treatment.

Conduct an LGA wide weed survey, to identify the species of weeds and map the density and coverage of these weeds. The results would be used to establish a baseline for monitoring and continuous improvement.

### Alternative Treatment Methods

The identification of alternative treatment methods and implementation procedures are a key component of an Integrated Pest Management Plan (IPM). The development of the alternative treatment plans ensures that the potential reduction in herbicide use is maximised by systematically identifying suitable alternative treatment methods for most if not all Council managed land. In the development of alternative treatment methods, alternative treatment plans should be developed with short-term and long-term goals.

- Short term plans should target sensitive areas, small areas, high visibility areas that the community will notice, and where the community is most vocal. The community wants to see action, so council needs to identify the sites where implementing an alternative treatment is likely to have the most success in the short-term.
- Long-term alternative treatment plans would be based on the success of trials (refer to Appendix K) and results of the matrix analysis tool to identify which sites will be transitioned, when and how. These transitions are not expected to start right away or all at the same time. The objective is to ensure the success of the transition. The long-term treatment should have detailed procedures that include monitoring and treatment options based on species invasiveness and threats to assets (including natural assets). The plan has to provide for contingencies/emergency/unusual events.

Examples of alternative treatment methods are provided in Appendix L.

The alternative treatment methods are likely to result with a lower service level than current herbicide-based treatment methods. Service level describes the total area of weed treatment within a specified time period, or using the same amount of resources. The majority of currently available alternative treatment methods are more labour intensive, or more time consuming to treat the same area that was previously treated with herbicides. Typically, increasing resources or time on site is not financially possible or technically feasible. Consequently, the community and Council should re-evaluate their service level expectations from a quantitative evaluation (i.e. surface area treated) to an outcomes-based evaluation (i.e. effectiveness of the treatment, weed growth control).



### Reporting and Documentation Control

Set up a central data portal (i.e TRIM) where all Public Places/Parks/Urban Ecology Teams would upload reports, monitoring forms, training schedules, certifications, alternative treatment trials, contractor documentation and any other documents relating to pest/weed management. This would avoid loss or compartmentalisation of information, and facilitate quality control and information sharing within Public Places/Parks/Urban Ecology Teams and between Councils.

Develop a herbicide application form that can be used to monitor herbicide use over time. The information reported should track the number of repeat sprays or required return period to spray vs what would be expected for the treatment type. Refer to example in Appendix H.

Consider using portable devices (i.e tablets) that are connected to the portal and can immediately upload the information as the work is completed.

### Contractor and staff training and education

Ensure employees have a basic knowledge of council specific weeds. Training should include:

- Weed identification
- Knowledge of weed life cycles and growth patterns
- Treatment methods for these weeds and the limitation of the treatment methods.
- Native plant identification to avoid treatment

Develop a notification procedure to inform employees of training modules relating to alternative treatments, weed identification, weed plant life cycle and herbicide application rates.

Provide training to operators, that includes application rates for each type/ category of weed, season or plant lifecycle requirements for application to achieve best results (eg before seed sets etc), weather conditions etc. It is understood that some of this information is included in ChemCert training but this training would be tailored for Waverley weeds and conditions.

Consult with Council officers with extensive native plant experience (e.g. Urban Ecology Team) to modify the planting scheme.

### Identifying, categorising and evaluating Council managed Land

Classify Council managed land into 3 categories where the goals for herbicide use/elimination are clearly defined. For example

- Category 1 would include land use that should be completely herbicide free, and would include the Sensitive Places and Chemically Sensitive register
- Category 2 Would include land uses where reductions in herbicide use will be implemented
- Category 3 would include land uses where herbicide use will continue, until a suitable alternative method is identified. However, other mechanisms to reduce the herbicide use will be considered, such as requiring higher quality materials, revising the infrastructure design and other mechanism that would prevent the establishment or generation of weeds from the on-set.

Council would first need to identify all open spaces that are being treated (by Council staff and contractors). The mapping tool would help with this task.

Once these areas are known, they should be categorised by Environmental and Health sensitivity (i.e. a playground has a high health sensitivity, while a coastal bushland has a high environmental sensitivity). In order to determine the level of sensitivity, factors such as public use of the site, frequency of use, contact with treated areas, and social/environmental value may be used to help rank the sensitivity. Typically sensitivity would be ranked from 1 to 4 with 1 being the lowest and 4 the highest sensitivity)

Once the sensitivity ranking of each area is identified, the next step is to rank the risk/benefit of herbicide reduction from a social and environmental basis (using the same 1-4 scale).

For example, a play ground, which has high health sensitivity (4), would have a high social benefit (4) and a low environmental risk (1) (as it is mostly a built area, with low biodiversity value). Alternatively, weed management on a road



side would have a low environmental sensitivity, and low social benefit, there is also the safety risk for the operator to be consider as some alternative treatments would expose the operator to road hazards.

The financial implication of implementing the herbicide reduction is the last evaluation tool. A percentage increase from current treatment costs may be used to rank the cost impact.

The final step is to use the total score to place the site into one of the 3 lists (elimination (score 7-8), reduction (score 4-6), or no change (score 2-3)).

A sample Matrix is provided in Appendix I.

#### Policy, Strategy and Plans

Council to verify that all policies, strategies and management plans reference the updated legislation. For example the *Noxious Weeds Act* (NWA) 1993, was repealed by the *Biosecurity Act 2016*.

The updated Australian Weeds Strategy (2017-2027), should be referenced in Waverley's Weed Action Plan.

Weeds listed in the Australian Weeds Strategy 2017-2027 do not include the most troublesome weeds present within the Waverley LGA. As such Waverley Council should ensure that the updated Weed Action Plan includes a list of weeds that are specific to the LGA.

Replace the *Waverley Council Weed Management Policy (2012)* with a 'Weed Biosecurity Management Policy' to outline Council's weed management responsibilities and obligations under the NSW Biosecurity Act 2015 and; update Council's positions on community concerns and expectations around weed management, and provides guidance for various Council programs.

Council should develop a pesticide use policy that sets clear objectives for herbicides/pesticide reduction, identifies target areas, priorities and timeframes.

Notification plans, certification requirements and application protocols should be developed with reference to resources available on the NSW EPA website, which provides guidelines and templates that are compliant with the latest regulations.

Refer to the General Biosecurity Duty decision tool (developed by the Regional Weeds Committee, appendix M) to assist with compliance decisions regarding weeds.

#### Integrated Pest Management Plan

Waverley Council should consider drafting an Integrated Pest Management Plan (IPM) and Strategy, which would specifically address the objective of reducing and or eliminating herbicide use. An IPM working group should be established that includes members that work in weed management, systems development and community engagement.

The IPM could still provide for chemical use, but chemical intervention would be justified and would reduce or minimise the risks to human health and the environment.

If a herbicide is required, the following criteria may help to establish a protocol to guide the use of herbicide:

1. The task is necessary to manage threats to safety, biodiversity, community assets or amenity within a framework of responsible financial management
2. There is no other effective alternative
3. The pesticide has the lowest potential to cause harm, e.g. the lowest Poisons Schedule rating to achieve the efficiency level required;
4. The pesticide can be used in a way that does not present an unacceptable risk to the health of the public, the operator or the environment;
5. The benefits outweigh the risks in item 1

Byron Shire Council has developed a Herbicide Use Decision Tree, provided in Appendix F, which is an example of such a protocol.

#### Community Awareness



Develop a community information and communication plan to inform the public on the initiative to reduce herbicide use, the planning process, selection process, testing process, timeframes and community feedback mechanisms. The plan could include:

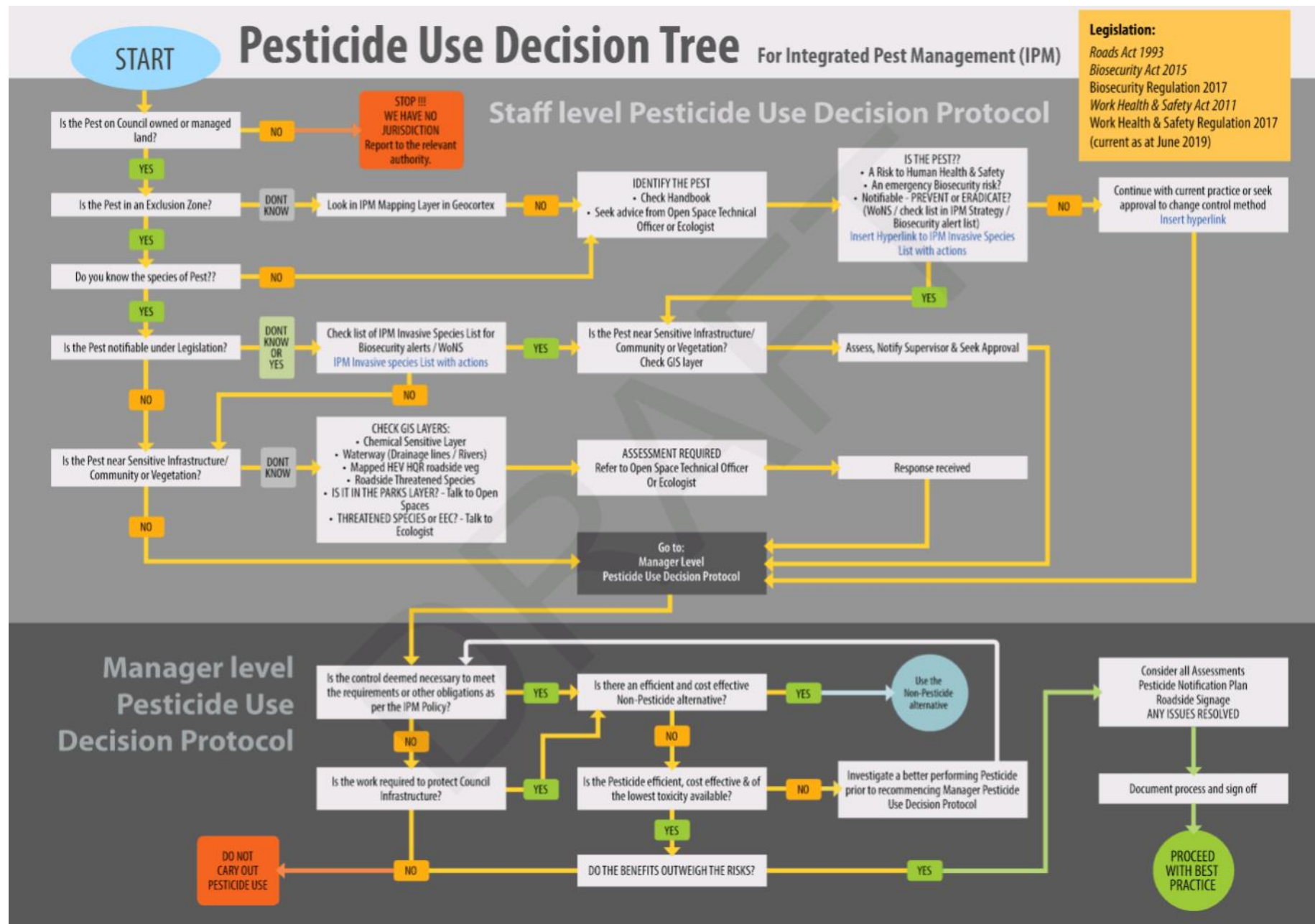
- Different forms of public communication: Posters, web-site, flyers, in schools, on the radio, public seminars, volunteer programs, news articles, during national events (environment day), Notices at the parks.
- Inclusion of information about the treatment changes on the Spray notification forms, with a link to a site that explains the transition process.

Ensure that notification forms include an explanation of the activities that will be undertaken and the equipment that will be used, so as to educate the public on park staff activities while working on site.



## APPENDIX F      HERBICIDE USE DECISION TREE







## **APPENDIX G      BYRON SHIRE 5 YEAR AND 10 YEAR DELIVERABLE PLAN**

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## 5 Actions

The following three goals are to achieve a long-term vision for the IPM Strategy where the underpinning ideology is to increase the resilience of vegetation on Council owned or managed land while addressing Invasive species threats. Delivery of the actions for each objective is prioritised numerically enabling progressive outcomes at five and ten year intervals, and in order to monitor continuous improvement.

**Mission:** To continuously improve upon and integrate new pest management technologies on Council owned and managed land that increase and facilitate resilience while maintaining human health, biosecurity, infrastructure and our unique biodiversity values across the Shire.

### Action table for IPM delivery prioritisation

#### GOAL 1 Meet all statutory and legislative responsibilities; Biosecurity, Public and Work Health and Safety, NSW Pesticide Act and Environmental Protection.

Objective	Action	Deliverable	Priority
Develop and deliver Shire wide Integrated Pest Management tools that are current, transparent and support human health and the environment.	1.1 Complete an audit of The Roadside Vegetation Management Plan (RVMP) and Roadside mapping ensuring the Threatened Species are current and tagged.	1.1.1 Engage an IPM Officer to implement the IPM Strategy, regularly update the IPM tools and monitor progress. 1.1.2 Integrate the RVMP Roadside mapping into Infrastructure Services "Reflect" on-ground application. 1.1.3 Utilise the mapping to inform all on-ground roadside maintenance. 1.1.4 Update on-ground Roadside Maintenance programs to incorporate IPM practices that align with Council Policies.	5 year
	1.2 Deliver training to On-ground staff, contractors and support teams on current legislative requirements, weed categories and associated control techniques.	1.2.1 In conjunction with Rous County Council, provide on-going training in Weed identification and controls for all ground crews at least twice yearly. 1.2.2 Update and provide the Roadside Vegetation Management Booklet to all ground crew staff and in all vehicles used on Roadside Maintenance. 1.2.3 Instigate a protocol for briefing contractors who work on Roadside Maintenance that aligns with IPM procedures. 1.2.4 Adopt the National Standards for ecological restoration to ensure roadside maintenance programs incorporate correct methodology around High Quality Vegetation, Communities and the protection of Threatened Species. 1.2.5 Adopt the Pesticide Use form currently in use by Open Space alongside the Pesticide Notification actions for roadside on-ground works.	5 year
	1.3 Continue to liaise with local agencies, government and interest groups on alternative control methods and share methodologies and trialled alternatives across stakeholder groups.	1.3.1 Maintain the IPM Working group meetings for information sharing twice yearly with Council representatives to include Parks, Works, Utilities and Landcare. 1.3.2 Update the Invasive Species list on Council's website with relevant control techniques as they become available.	10 year
	1.4 Maintain Roadside vegetation to ensure public health and safety requirements and protection of infrastructure and assets.	1.4.1 Progressively increase the km covered by roadside maintenance programs on a yearly basis through adopting IPM practices while reducing the use of herbicides by Year 5 review. 1.4.2 Provide on-going training to key on-ground staff on methods that reduce pesticide use through: Timing, using a variety of controls, encouraging certain species and or replacing invasive species by incorporating Australian Standards restoration techniques (e.g. replacing roadside grasses with low stature species over time). 1.4.3 Update and maintain the Chemical Sensitive layer within Council's mapping program and incorporate this layer into "Reflect" to enable on-ground crews information sharing.	10 year
	1.5 Ensure compliance with current legislative requirements through partnerships across land tenure, state agencies and neighbouring LGA's.	1.5.1 Enable mapping and reporting protocols in conjunction with Rous County Council for early detection and on-going monitoring of invasive species.	10 year



**GOAL 2 Continuously improve best practice IPM techniques on council owned and managed land and continue to reduce pesticide use in minimisation zones.**

Objective	Action	Deliverable	Priority
Establish a long-term commitment to Integrated Pest Management practices that continuously improve upon and update to adopt new technology and horticultural best practice as they become available.	2.1 Incorporate and acknowledge new technologies as they become available including but not limited to bio-controls, manual and mechanical controls, fire and lower or zero toxicity pesticides.	2.1.1 Conduct formal trials of alternative technologies on a site by site basis that are under-pinned by proven up-to-date scientific methods and results. 2.1.2 Conduct formal trials of restoration techniques that reduce herbicide use over time on Council owned or managed land particularly on rural roadsides.	5 year
	2.2 Instigate robust weed mapping to include all WoNS on council owned and managed land.	2.2.1 Progressively introduce weed mapping protocols for roadside maintenance applications that will cross over into Local Land Services mapping programs. 2.2.2 Incorporate an Invasive Species layer in Council's Geocortex mapping which aligns with Local Land Services State-wide weed mapping.	10 year
	2.3 Establish, document and adopt practices that reduce invasive species development and spread.	2.3.1 Develop record keeping proformas to collate data for pest species and their actions across Council owned and managed land. 2.3.2 Continue to monitor pesticide use and report on a yearly basis enabling continuous improvement for all Council bush regeneration sites and implement the same monitoring and reporting procedures for roadside maintenance. 2.3.3 Incorporate Australian Standards restoration techniques on all High Quality roadside vegetation as per the RVMP & aligning with "Small Steps to Healthier Roadsides". 2.3.4 Actively manage Crown and Council bush regeneration sites to maintenance levels before instigating new on-ground works within budgetary constraints. 2.3.5 Collate and share data with other LGAs on species movement and emergency procedures. 2.3.6 Actively seek funding opportunities for habitat restoration of TECs and Threatened Species.	10 year

**GOAL 3 Improve community engagement by providing relevant and up to date information on Invasive species and their control methods.**

Objective	Action	Deliverable	Priority
Maintain and improve transparency of pesticide use and efforts to cease or minimise pesticides on Council owned or managed land.	3.1 Maintain, review and update BSC Pesticide Use Notification Plan in accordance with BSC IPM Policy and Strategy.	3.1.1 Audit the current Chemical Sensitive Register and update to current, including all registered organic farms. 3.1.2 Update the Pesticide Use Notifications on Council website on a regular basis.	5 year
	3.2 Maintain, review and update the Council's Invasive Plant Species list and control methods for listed WoNS.	3.2.1 On a yearly basis ensure Council's Invasive Plant Species List published on the website is current and updated and information is sent to relevant Landcare groups. 3.2.2 Facilitate community workshops for information sharing, current best practice, new technologies for trial and citizen science activities (e.g. WoNS survey).	10 year
	3.3 Engage with local community groups, residents and visitors to inform and prevent the introduction of Invasive species to Byron Shire.	3.3.1 Provide information on the Shire's worst weeds on Council's website, Facebook page, front desk and real estates. 3.3.2 Support rural landowners to control invasive species on roadsides utilising the Goonengerry Landcare model and <i>National Standards for Ecological Restoration</i> on a trial basis. 3.3.3 Promote the use of green organics waste bins to reduce garden dumping in the bush.	5 year



## APPENDIX H      SAMPLE HERBICIDES USAGE RECORD FORM



## APPENDIX 2 – A record of pesticide usage form (field application)

Have you read the label?		Y/N											
Date, start and finish time	Operator details	Place where pesticide was applied	Type of equipment used	Name of pesticide used	Amount of concentrated product used (L or kg)	Total quantity applied	Size of block sprayed	Order blocks were treated	Estimated wind speed and direction	Other weather details			

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Application method	Nozzle type	Last calibration date	Pressure of operation	Protective equipment	Y/N	(To be filled in later)
a. Boom b. Knapsack c. Air blast d. CDA e. Aerial f. Other (Specify)				Apron Gloves Face mask Goggles Respirator – half, full Overalls Impervious boots Tractor cab (filtered air) Other – specify		Effect on pest population  Effects/pollution off target (plants, streams, wildlife etc)  Action taken as a result of reports of pollution

Pesticide application by: \_\_\_\_\_



## APPENDIX I      SAMPLE SENSITIVITY AND BENEFIT ASSESSMENT MATRIX

In order to obtain a credible evaluation of the suitability of an open space for alternative weed treatment, the assignment of a 'Benefit Level' to each identified open space should be carried out in a consistent and transparent process. The methodology to assess 'Benefit Level' is outlined below and follows an International Best Practice based on the assumption that the level of benefit on an open space is considered to result from an interaction between three factors:

- The environmental/health sensitivity of the open space.
- Community concern
- The magnitude of the benefit from applying an alternative treatment

A three-step approach has been used to determine the level of benefit, as follows:

- Step 1 – evaluation of sensitivity
- Step 2 – assessing the magnitude of the benefit
- Step 3 – determining the 'Benefit level'.

The sensitivity of the open space can be defined by using the criteria in Table 1. The valuation is based on the biodiversity and amenity value of the open space.

**Table 1 Environmental/Health Sensitivity of a treatment area**

Sensitivity	Description of Sensitivity
Very High - 4	<ul style="list-style-type: none"> <li>• Very high biodiversity sensitivity it is a protected habitat under legislation.</li> <li>• Very high amenity sensitivity. Limited alternative sites or no potential for substitution, e.g. Grade A playing field, or playground.</li> <li>• Social receptors are highly sensitive to exposure (i.e. children in playgrounds or picnic areas)</li> <li>• Site is listed on a sensitive register/chemical exclusion zone</li> <li>• Safety consideration for staff when applying the treatment and users (traffic, collisions, injuries)</li> </ul>
High - 3	<ul style="list-style-type: none"> <li>• High biodiversity sensitivity, biodiversity corridor.</li> <li>• High amenity sensitivity. High use area.</li> <li>• Social receptors are sensitive to exposure (Adults, dog parks)</li> <li>• High public expectations for alternative treatment at a particular site (i.e. community concerns biased towards certain land use types)</li> <li>• Proximity of site to a Very High Sensitivity site</li> </ul>
Medium - 2	<ul style="list-style-type: none"> <li>• Medium biodiversity sensitivity, landscaped site with planted natives or naturally occurring natives.</li> <li>• Medium use area (cemetery, car park)</li> <li>• Medium Amenity</li> <li>• Social receptors have limited contact, passing thru the area</li> </ul>
Low - 1	<ul style="list-style-type: none"> <li>• Low biodiversity, landscaped area</li> <li>• No public contact</li> <li>• High incursion of weeds</li> <li>• Important to maintain/protect infrastructure</li> </ul>

The magnitude of the benefit considers a number of different components, for example: change in weed coverage, change in weed diversity, frequency of application, condition of infrastructure, community feedback.

**Table 2 Criteria for Benefit Magnitude**

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Magnitude of Benefit	Description of Magnitude
Very High - 4	<p>Social</p> <ul style="list-style-type: none"> <li>• The majority of the community is satisfied.</li> <li>• Infrastructure condition will not be compromised</li> <li>• Safety of maintenance staff is not compromised.</li> </ul> <p>Environmental</p> <ul style="list-style-type: none"> <li>• Weed coverage and diversity is successfully managed. The results are comparable to herbicide treatment.</li> <li>• No additional training or specialized equipment is needed</li> <li>• A suitable alternative option is readily available</li> </ul>
High - 3	<p>Social</p> <ul style="list-style-type: none"> <li>• The majority of the community is satisfied</li> <li>• Infrastructure condition will not be compromised</li> <li>• Safety of maintenance staff is not compromised.</li> </ul> <p>Environmental</p> <ul style="list-style-type: none"> <li>• A moderate amount of additional effort is required to achieve the same results as herbicide treatment.</li> <li>• Some additional training is needed</li> <li>• A suitable alternative option is available</li> </ul>
Medium - 2	<p>Social</p> <ul style="list-style-type: none"> <li>• The community is divided</li> <li>• Some infrastructure may be compromised</li> <li>• Safety of maintenance staff may be compromised.</li> </ul> <p>Environmental</p> <ul style="list-style-type: none"> <li>• A significant amount of additional effort is required to achieve the same results as herbicide treatment.</li> <li>• Training will be required and possible additional certifications</li> </ul>
Low - 1	<p>Social</p> <ul style="list-style-type: none"> <li>• High number of community complaints</li> <li>• Infrastructure condition is compromised</li> <li>• Safety of maintenance staff is compromised.</li> </ul> <p>Environmental</p> <ul style="list-style-type: none"> <li>• Weeds are not being adequately controlled</li> <li>• Staff training is required, or additional certification is required.</li> <li>• A suitable alternative option is not readily available</li> </ul>

In addition to the factors outlined in the table above, the financial implication of using the alternative weed treatment will be taken into consideration in the determination of the magnitude.



The Benefit Level is a combination of the sensitivity and the magnitude, as shown in Table 3 below.

Table 3 Sensitivity and magnitude matrix

		Magnitude			
		Negligible 1	Minor 2	Moderate 3	Major 4
Sensitivity	Very High 4	5	6	7	8
	High 3	4	5	6	7
	Medium 2	3	4	5	6
	Low 1	2	3	4	5



## APPENDIX J ALTERNATIVE HERBICIDE COST COMPARISON

Product	Active ingredient/s	Aquatic safe?	Systemic?	Oral LD50 (mg/kg)	Dermal LD50 (mg/kg)	EC50 (48hr)(aquatic organisms)	Cost per 100L of ready to use mix
<b>Eraze 360 (Concentrate)</b>	Glyphosate (360g/L)	Yes	Yes	>5600 (Rat)	>5000 (Mice)	780 mg/L(Daphnia)	\$4.50
<b>Weed Blitz (Concentrate)</b>	Pine Oil (136g/L)	No	No	3200 (Rat)	5000 (Rabbit)	10.9 mg/L (Daphnia)	\$380
<b>Localsafe Weed Terminator (Concentrate) + Booster</b>	Acetic acid 60-79% w/w, Hydrochloric acid <2%w/w + Citric acid (Booster)	unsure*	No	>4000 (Rat)	>1500 (Rabbit)	N/A	\$52.66
<b>Slasher organic weedkiller (Concentrate)</b>	525g/L Nonanoic acid	No	No	Est. >2000 (not specified)	Est. >2000 (not specified)	Est. >100mg/L (not specified)	\$113.40
<b>Richgro Beat-A-Weed Natural Weedkiller (Concentrate)</b>	Acetic acid 270g/L, Sodium chloride 120g/L, other non-hazardous ingredients (not specified) <100g/L	No	No	N/A	N/A	N/A §	\$249.58
<b>Yates Natures Way organic Weed Spray (RTU, not available as concentrate)</b>	Acetic acid 40g/L, Clove leaf oil 40g/L	No	No	Est. >2000 (not specified)	Est. >2000 (not specified)	35 mg/L	\$1,776
* Website says for use on watercourses but SDS says likely toxic to aquatic organisms § "This product is biodegradable. Expected to not be an environmental hazard in the long term. However, until diluted it will kill all aquatic organisms it contacts due to low pH and its salt content."							



## APPENDIX K TRIAL EVALUATION MODEL

Develop an evaluation model to assess the success of the alternative weed management method. The assessment would rely on the information uploaded and managed in the data portal and mapping portal. The parameters that would be used to evaluate the success of the alternative treatment would include:

- Change in weed coverage within a treatment area
- Change in weed diversity within a treatment area
- Record of new weeds within a treatment area
- Treatment frequency within a treatment area
- Spread of weeds off-site/beyond the boundaries of the treatment area
- Impact to infrastructure
- Impact to amenity of treatment site.

The evaluation would be carried out on a routine basis to monitor the success of the alternative treatment and to determine if corrective measures should be implemented in order to avoid loss of biodiversity or amenity value and any potential safety issues for users and operators.

A trigger threshold should be implemented which could be based on either the change in coverage, new weed, or spread to location. A suite of thresholds would be developed to suit the land use and amenity/biodiversity value.

A control site should also be set up in the same conditions as the trial site, in order to compare the effectiveness of the alternative treatment over the same period.

Develop a trial register which documents and evaluates the success and feasibility of alternative methods. The register should include duration of trial, description of method, effort and cost, complexity of implementation, results, overall success rate, feedback from application team and recommendations for adoption, review or elimination.

When evaluating the effectiveness of treatment, the evaluation needs to consider the total area of the treatment site, not just the zones that are treated within the site.



## APPENDIX L EXAMPLES OF ALTERNATIVE TREATMENT METHODS

This section provides examples of alternative treatment methods that have been used nationally and internationally. The selection of an alternative treatment is typically based on an analysis of the following factors:

- Material availability
- Ease of application (training, specialist knowledge)
- Access/ Impact on infrastructure
- Health risk/benefit
- Environmental risk/benefit
- Cost effectiveness (increased effort/time)

The resulting assessment would vary based on the type of weed, extent of weed cover, type of land use and timeframe to name a few.

Treatment Type	Description
<b>Chemical Treatments</b>	<ul style="list-style-type: none"> <li>• Broad spectrum herbicides (with active ingredients including eg: glufosinate-ammonium, imazipyr).</li> <li>• Pine Oil (136g/L)</li> <li>• Acetic acid 60-79% w/w, Hydrochloric acid &lt;2%w/w + Citric acid (Booster)</li> <li>• 525g/L Nonanoic acid</li> <li>• Acetic acid 270g/L, Sodium chloride 120g/L, other non-hazardous ingredients (not specified) &lt;100g/L</li> <li>• Acetic acid 40g/L, Clove leaf oil 40g/L</li> </ul>
<b>Mechanical Treatment</b>	<p><b>Slashing or mowing/brush cutting</b> can be used to control grasses and some small stature herbs or forbs. This control method requires on-going repeated treatments as it does not remove or kill the weed.</p> <p>Some noted drawbacks from this methodology include:</p> <ul style="list-style-type: none"> <li>• Potholes due to encroaching weed vegetation (which undermines the road surface)</li> <li>• Increased diversity of invasive species along roadsides and in culverts</li> <li>• Invasive species dispersal due to mechanical removal and spread</li> <li>• Increased cost of maintaining the roadside maintenance program</li> </ul> <p>While the benefit of this change in methodology has reduced pesticide use and the risk of exposure to herbicide, safety and infrastructure maintenance costs and risks would likely increase.</p> <p><b>Steam cleaning/weeding</b> is often used in built areas, playgrounds, and garden beds. Accessibility is a key issue, as the equipment is large. Steam cleaners can also be used to clean public equipment, such as picnic areas, park equipment and play structures.</p> <p>Steam cleaning is most effective when combined with mulching and hand weeding; This control is successful on annuals, but has little effect on the root system of plants with rhizomes, bulbs or corms, as the boiling water only penetrates to approximately 5 mm below the ground surface. Repeated treatments on a regular basis are therefore necessary.</p> <p><b>Flame weeding</b> is the use of an open flame (propane fuelled), to kill or damage weeds. The objective of flame weeding is to vaporize the water in the surface cells, which desiccates the weed within a few hours to a day. Flame treatment does not kill perennial weeds, and usually grasses and larger broadleaf weeds will recover. However, it is effective to remove small broadleaf weeds. Flame weeding works best when the weeds are dry. To kill small weeds, the flame should pass over the weeds at about a normal walking speed.</p>



Treatment Type	Description
	Flame weeding is quick and easy to learn. This method can be used to control weeds in the cracks between pavers and along fences.
<b>Biological Control</b>	Biological control is the use of a plant's natural enemies such as insects, mites, rust or fungus, to reduce the cover and extent of a specific weed to a level where it can then be easily and cost effectively controlled by other methods. As such, this method is a useful tool in an Integrated Pest Management plan, as it helps to supplement other methods.
<b>Manual treatment methods</b>	<p>These methods have been trialled and implemented by Byron Shire Council. The following list is extracted from the Byron Shire Council Integrated Pest Management Strategy 2019-2029.</p> <ul style="list-style-type: none"> <li>• Introduction of plant species selection that outcompete invasive species and require little maintenance</li> <li>• Installation of garden bed edging and an improved mulching regime that reduce the ability of invasive species to survive</li> <li>• Staff training in timing of control mechanisms to enable budgetary constraints.</li> <li>• Introduction of soft fall rubber in playgrounds which require minimal maintenance and limit pest species growth.</li> <li>• On sports fields, improved practices in turf management such as soil aeration, fertilisation and irrigation.</li> <li>• The Goonengerry Landcare model promote the gradual replacement of invasive weeds with suitable native species on rural roadsides, reducing both financial and environmental impacts over time.</li> <li>• Adjacent landowners have volunteered to improve their roadside vegetation utilising the National Standards for Ecological Restoration (2017) techniques.</li> <li>• Solarisation using physical barriers such as black plastic or woven weed mat to exclude sunlight, heating the soil and preventing or controlling establishment — also used for hard to control weeds such as Madeira vine and Syngonium where the weed is collected and covered in black plastic which 'cooks' the vegetative matter over time</li> </ul> <p>The use of manual controls is a long-term commitment in order to be effective in containment or eradication. Effective manual control requires specialised knowledge of plant ecology and root type, seed viability and dispersal, growing season and location.</p>
<b>Prevention by Design</b>	<p>Prevention of weed infestation by using improved paving materials and garden bed edging, in combination with improved horticultural practices such as aeration of turf to improve its health and resistance to weed.</p> <p>Ensuring that the urban infrastructure design specifications, particularly around soft landscaping include species selection, building materials, and construction methods that prevent the establishment of weeds. Selection of materials should also consider resilience to alternative weed treatment methods (e.g. staining, cracking from heat).</p> <p>New urban landscapes and softscape should also consider the accessibility of areas and safety of treatment teams when carrying out the weed maintenance programs.</p>

### Singapore case study - Urban Spontaneous Vegetation as a Landscape Material

Urban spontaneous vegetation has great values in terms of ecological, aesthetic, and managerial aspects. Considering spontaneous vegetation as a component of manmade landscape is not new. It has been widely applied in Dutch heemparks since the 1920s under the name 'managed naturalism'.

Recent researches indicate that spontaneous vegetation can be useful landscape materials in cities, because such vegetations are highly tolerant to urban conditions and can easily adapt to the harsh urban environment without any special treatment. The growth pattern of urban spontaneous vegetation depends on each species as well as the given conditions such as their surroundings, neighbouring vegetation, and micro-climate.

The following three main values of urban spontaneous vegetation validate their usage as landscape materials.



- Easy and Low-Cost Maintenance
- Ecological functions
- Aesthetic Value

In NSW, bush regeneration may be considered a form of encouraging and maintaining natural vegetation communities within the urban setting. However, these bushland areas usually occur by default, in areas where the land is not suitable for development or as an open space (recreation, picnic, playground).

The concept of urban spontaneous vegetation in the NSW context would be to encourage the growth of native vegetation within the boundaries of a maintained open space. Selecting plants which need very little maintenance cost (Kuhn, 2006), or allowing ruderal perennials to grow in areas where turf grass would need significant maintenance costs.



## APPENDIX M      GENERAL BIOSECURITY DUTY

For some time now, the regional weed committee has been developing a General Biosecurity Duty decision tool to assist local control authorities and authorised officers with compliance decisions regarding weeds. The tool has been tested by a number of local control authorities and reviewed by staff from NSW DPI, including staff from the legal team. The decision tool and diagram have now been finalised and are attached for your information and use.



## LANDHOLDER GENERAL BIOSECURITY DUTY DECISION SUPPORT TOOL

### DISCLAIMER

This Decision Support Tool has been developed by the Greater Sydney Regional Weed Committee and is in draft. It has been developed to its current state in good faith using the best available information on the General Biosecurity Duty to provide guidance to Local Control Authorities. The tool has not been formally reviewed or endorsed by the Department of Primary Industries or the State Weed Committee, and should not be relied upon to support compliance action.

### Introduction

This guide has been developed as a tool for Local Control Authority (LCA) Authorised Officers to support education and compliance decisions regarding weeds. The guide identifies the various situations which trigger the General Biosecurity Duty (GBD) for a landholder, as well as the actions or responses that are necessary to meet legal requirements and/or community expectations for managing weeds.

The guide clarifies when a GBD exists for a landholder and what the landholder could do to discharge their GBD in regards to weed management. It can be used by LCA Authorised Officers as a basis for advice and compliance actions to landholders, by landholders to clarify their weed management obligations, and by volunteers undertaking weed control on land managed by others.

### General Biosecurity Duty (GBD)

The *Biosecurity Act 2015* represents a significant move away from the prescriptive nature of the *Noxious Weeds Act 1993*. While State level determined priority weeds (see Priority Weeds section) continue to be regulated by specific legal requirements (i.e. Prohibited Matter, Control Orders, Biosecurity Zones and Mandatory Measures), for the most part the prescriptive control requirements of the *Noxious Weeds Act* have been replaced by a General Biosecurity Duty.

The General Biosecurity Duty is defined in Part 3 of the *Biosecurity Act 2015*.

*Any person who deals with biosecurity matter or a carrier and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised.*

For weeds, the General Biosecurity Duty means that any person dealing with plant matter must take measures to prevent, minimise or eliminate the biosecurity risk (as far as is reasonably practicable). Note that the risk-based approach is fundamental to the General Biosecurity Duty. The risk posed by the plant must have been the subject of a risk assessment that determines there is a risk present that requires control action.

A person or organisation is not expected to know about all biosecurity risks, but is expected to know about risks associated with their industry, business, day-to-day work, and hobbies and interests including activities undertaken on a voluntary basis.



This less prescriptive approach to managing biosecurity risks provides greater flexibility in managing risks posed by plants. For example;

- Plants are no longer required to be identified on a list or declared “noxious” before action can be taken to address the risks posed by the plant.
- The general biosecurity duty is outcomes focused. In many cases, there is no need to prescribe exactly how a person is to discharge their general biosecurity duty. A less prescriptive approach recognizes that there may be more than one way to prevent, eliminate or minimise the particular biosecurity risk, and that the person with the biosecurity duty is best placed to decide how the desired outcome can be achieved.

The General Biosecurity Duty supports the principle of 'shared responsibility'. It increases flexibility in how we can manage biosecurity risks, including weeds. It provides a strong foundation for a proactive and outcome-focused framework based on education and advice instead of prescriptive regulations and processes, but also includes a framework to manage non-compliance.

Although the general biosecurity duty applies broadly, there are a number of elements that must be satisfied for a GBD to exist:

**Dealing with** – the general biosecurity duty only applies to a person who 'deals with' biosecurity matter or a carrier of biosecurity matter. 'Deal with' includes a wide range of activities, a full list of which can be found in [section 12](#) of the Act. Some examples of dealing with biosecurity matter relevant to weeds are; to keep, possess, grow, breed, move, supply, manufacture, use or treat. biosecurity matter.

**Biosecurity risk** – is to have or the potential to have an adverse impact on the economy, the environment or the community. Examples of an adverse impact could include:

- Reduction of quality or quantity of agricultural, horticultural and forestry products
- Changes to natural diversity and balance of ecological communities threatening survival of native plants and animals
- Human health problems such as asthma and other respiratory diseases, skin irritations and poison.

Note that a risk assessment is required to determine if there is a risk present and the significance of the adverse impact.

**Knowledge** – a person must know, or ought reasonably to know, that there is or is likely to be a biosecurity risk arising from the plant. This is a question of fact and will depend on the circumstances of each situation.

LCA Authorised Officers should, in the first instance, use advisory techniques to guide and teach landholders about how to best manage their weeds. The aim is to still achieve compliance with the Act, but for this to be done in a voluntary capacity.

People who know or ought reasonably to know will generally include people who deal with biosecurity matter or carriers on a regular basis as part of a commercial, recreational or voluntary activity, and people who work professionally (i.e. 'deal') with a particular type of biosecurity matter or carrier. From a compliance/enforcement perspective, you cannot assume that a person knows simply because of their occupation or activities. It is the responsibility of the regulator (ie LCA in this instance) to ensure the person knows by providing information about the risk, that the person has a GBD and some options available to discharge the GBD.



**'Reasonably practicable'** – what is reasonably practicable for the prevention, elimination or minimisation of a biosecurity risk will depend on what is reasonably able to be done at a particular time, taking into account all relevant matters such as:

- the nature and potential impact of the biosecurity risk,
- the person's level of knowledge of the risk and related actions that could reasonably be taken to prevent, eliminate or minimise the risk, and
- the cost, availability and effectiveness of these actions.

It is not likely to be reasonably practicable if the cost is greatly disproportionate to the risk.

For weeds, this basically means that it must be both reasonable and feasible to prevent, eliminate or reduce the risk associated with the weed. For weeds that are not widespread and that have the potential to degrade land in the region, this will generally mean eradicating the plant or preventing its spread from the property. For widespread weeds that are beyond eradication at a regional level, this will generally mean taking measures to reduce the extent of the weed to no greater than that occurring on other lands in the area. See [section 16](#) of the Act for the legal definition.

**Preventing, eliminating or minimising the biosecurity risk** – the risk must be prevented or eliminated if reasonably practicable, otherwise it must be minimised so far as is reasonably practicable.

**It should be noted that a landholder or land manager is free to control weeds more rigorously than required to meet their general biosecurity duty, and may consider it desirable to do so to protect their high value commercial or environmental assets.**

More information regarding the General Biosecurity Duty can be found on the [NSW DPI website](#).

## Priority Weeds

The priority weeds for the Greater Sydney Local Land Services region are identified in Appendix 1 of the Greater Sydney Regional Strategic Weed Management Plan (RSWMP). Appendix 1 covers State level determined priorities (A1.1) and regionally determined priorities (A1.2).

State level determined priority weeds are subject to other legislative requirements. The *Biosecurity Act 2015* and regulations provide specific legal tools for managing state level priority weeds (A1.1). These specific regulatory tools include Prohibited Matter, Control Orders, Biosecurity Zones and Mandatory Measures Regulation.

**Table 1 Requirements for State level priority weeds**

### Prohibited Matter

Biosecurity matter listed in Schedule 2, Part 1 of the [Biosecurity Act 2015](#) for the purpose of preventing entry of that matter into NSW or a part of NSW. Prohibited matter relevant to the Greater Sydney region is listed in Appendix A1.1 of the [Greater Sydney RSWMP](#). Prohibited matter includes weeds nationally targeted for eradication and presently not in NSW.



**Control Orders**

These are to establish one or more control zones and related measures to prevent, eliminate, minimise or manage a biosecurity risk or impact. Control orders are for managing weeds under approved eradication programs and last for five years (or can be renewed for longer-term eradication programs). Control orders are published in the [NSW Government Gazette](#) and/or NSW DPI website. Control orders currently in place for Boneseed, Parkinsonia and Tropical Soda Apple and can be found in Appendix A1.1 of the [Greater Sydney RSWMP](#).

**Biosecurity Zones**

These aim at containment of a species and provide for ongoing strategic management in a defined area of the state. A Biosecurity Zone specifies the measures that must be taken in the defined area to manage the weed. Species may also be subject to other measures tailored by the region either within the zone or outside it. Biosecurity zones for Alligator Weed, Bitou Bush and Water Hyacinth are established under Part 5 of the [Biosecurity Regulation 2017](#) and can also be found in Appendix A1.1 of the [Greater Sydney RSWMP](#).

**Mandatory Measures Regulation**

This requires parties to take specific actions with respect to weeds or carriers of weeds. Mandatory Measures are defined in the [Biosecurity Regulation 2017](#) and include prohibition on certain dealings - including Weeds of National Significance (WoNS) (Division 8 Clause 33), Parthenium weed carriers - machinery and equipment (Division 8 Clause 35), and duty to notify of importation of plants into the state (Division 8 Clause 34). Mandatory measures relevant to the region are listed in Appendix A1.1 of the [Greater Sydney RSWMP](#).

**Regional priority weeds**

Appendix 1.2 (A1.2) of the [Greater Sydney RSWMP](#) identifies regionally prioritised weeds and outcomes to demonstrate compliance with the General Biosecurity Duty. Recommended measures for these weeds are included in A1.2 and also provided in the NSW DPI web and mobile based application [WeedWise](#), as practical advice on achieving these outcomes.

**Other weeds**

If a weed poses a biosecurity risk in a particular area, but is not the subject of any specific legislation, or identified as a priority weed in Appendix 1 of a Regional Strategic Weed Management Plan, then LCA Authorised Officers may in some cases rely on the general biosecurity duty to manage that weed.

Remember, there are a number of elements (i.e. dealing with, biosecurity risk, knowledge and reasonably practicable) that must be met for the GBD to exist.

It is essential that the risk posed by the plant has been the subject of a risk assessment that determines there is a biosecurity risk present that requires control action.

The general biosecurity duty only applies to people who deal with the particular weed and who know or should reasonably know of the biosecurity risks associated with that weed.

Information should be made available to property owners about ways to control the spread of a particular weed. However, in the absence of specific legislative requirements, property owners are not required to follow any specific method so long as they take reasonably practicable measures to control the spread of the weed.



If the general biosecurity duty applies, typically, property owners including those in urban environments might be required to discharge their duty by controlling the movement of weeds onto and off their land by:

- reducing the risk of weeds spreading to neighbouring properties, taking into account the likely means of distribution, and
- taking measures to avoid introducing weeds to the property when acquiring ornamental plants, and
- finding out where products brought onto the property (such as soil, mulch or gravel) originated and taking steps to manage any risks from it, and
- eradicating those weeds that are likely to result in degradation of land in the region.

Property owners in peri-urban or rural environments might also be required to:

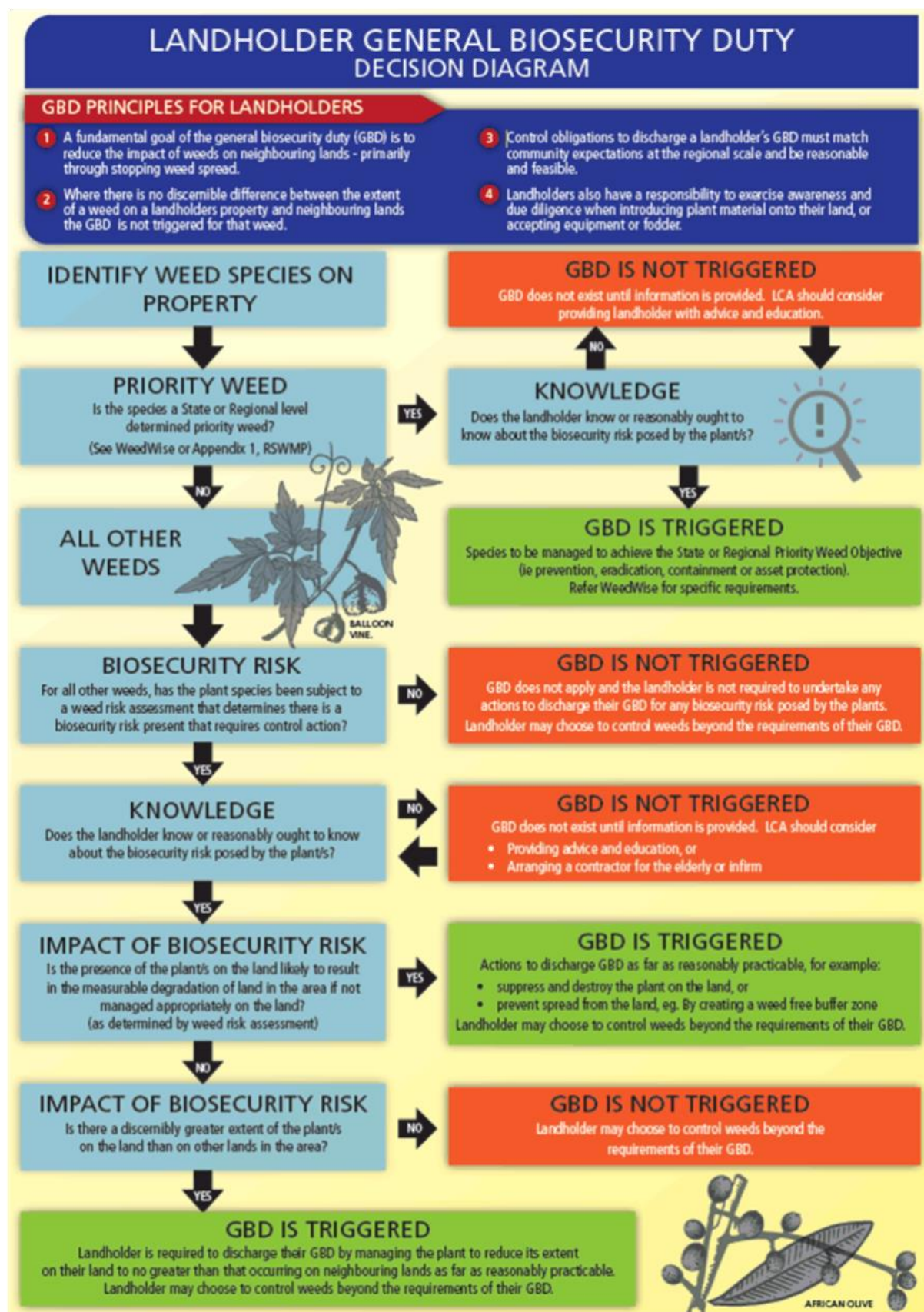
- hold newly acquired livestock in a restricted area before releasing them onto the property,
- hold stock in a weed-free area before transporting them off the property if they have been exposed to weed seed, and
- avoid selling or bringing onto the property feed, soil, gravel or other products that might contain weed seed.

### **Landholder General Biosecurity Duty decision diagram**

The following decision diagram has been developed as a guide for LCA Authorised Officers to help determine if landholders have a general biosecurity duty in relation to a specific weed species on their land, and how this duty is satisfied. The decision diagram may be applied to both terrestrial and aquatic weeds.

This decision diagram is not intended to apply to determining the general biosecurity obligation requirements for people other than landholders who also deal with biosecurity matter.







## APPENDIX N      INTERNATIONAL MANAGEMENT OF NEONICS

Neonicotinoids are a class of insecticides that bind on receptors in central and peripheral nervous system of animals (Australian Pesticides and Veterinary Medicines Authority, 2013). They cause paralysis and death in insects by overstimulating the nervous system. Neonicotinoids bind much more strongly to receptors in insects than mammals and are therefore selectively more toxic to insects (Australian Pesticides and Veterinary Medicines Authority, 2013).

Neonicotinoids are a contributing factor in honeybee population decline outside of Australia (Tsvetkov, et al., 2017). From 1 September 2018, France banned the use of five neonicotinoid substances, based on environmental impacts, particularly to honeybees. This ban concerns all users, whether professional or amateur, and all currently authorised products in France, irrespective of their application method – as a treatment for soil, seeds or the aerial parts of plants. There is no grace period for using up residual stocks (Government of France, 2018). Additional substances with similar modes of action are currently proposed to be banned (Government of France, 2018). More broadly, the European Union is moving to potentially further restrict neonicotinoids (Authority, Australian Pesticides and Veterinary Medicines, 2018).

Within Australia, honeybee populations are not considered to be in decline (Heimbach, et al., 2016). Therefore, the APVMA has not restricted their use, but will continue to monitor honeybee populations (Authority, Australian Pesticides and Veterinary Medicines, 2018).

Neonicotinoids are not a herbicide. Therefore, detailed discussion is beyond the scope of this review. The ban on neonicotinoids shows there is some global precedent for government authorities to restrict the use of certain chemicals with unacceptable environmental risks. It is too early to conclude the effectiveness of this ban, but because of the availability of alternatives, it is not expected that there will be major impacts.





# Environmental Partnership & Waverley Council

Williams Park and Hugh Bamford Reserve Community Engagement Stages 2 to 6.

Prepared by: Micromex Research

Date: June 14, 2019



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# Background





# Background

## Background:

Environmental Partnership was commissioned by Waverley Council to prepare a Plan of Management for Williams Park and Hugh Bamford Reserve. As part of that process, Environmental Partnership partnered with Micromex Research to undertake a multi-stage community engagement program to inform the development of the Plan of Management.

Stage 1 of the engagement program consisted of intercept interviews with park users at the two parks. This stage essentially helped shape the content of the subsequent community engagement stages (please see the separate Stage 1 Intercept report).

## Stages 2-4:

This report is **primarily based** on the results of Stages 2, 3, and 4 of the engagement program:

### - Stage 2: 'Have a Say' Day Pop-up Engagement

Approximately 56 participants visited the community 'Have a Say Day' on 13<sup>th</sup> April 2019 at Hugh Bamford Reserve. The majority of participants were aware of the Have a Say Day after receiving flyers delivered by Waverley Council or being informed by the Golf Club, however, some participants simply 'happened' upon the event.

### - Stage 3: Stakeholder Workshop

3 key stakeholders of the parks (representing two 'user organisations' – Sydney Archery and Kyokushin Karate) attended an evening workshop at Hugh Bamford Reserve Hall on May 2, 2019.

### - Stage 4: Online Submissions

273 online submissions were completed via Council's "Have Your Say" website. The survey link was promoted by Council and open for completion between 11<sup>th</sup> April - 16<sup>th</sup> May 2019 (and was used as part of Stage 2).

**It should be noted that Stages 2 to 4 are essentially opt-in methodologies – that is, those with a particular interest in the precinct (rather than the broader community) are potentially more likely to have participated.**



# Background

## **Additional Input:**

In addition to Stages 2-4 mentioned on the previous page, the following feedback has also been incorporated into this Report, for the sake of completeness:

- (Stage 5): Two (unstructured) written submissions received by Council, and
- (Stage 6): A summary of a specific engagement with the North Bondi Golf Club (facilitated by Environmental Partnership and Waverley Council).

## **Objectives of Stages 2-4 were to:**

- Identify current usage patterns of the parklands.
- Determine the community's views on potential alternative uses of the parklands to better benefit the community.





# Key Findings





# Key Findings

Many likes/dislikes/improvements etc. were raised by participants across the various engagement activities – too many to summarise here. However, a number of key themes/values emerged from the data:

- **It's all about the nature:** This includes the views, the vegetation, the open spaces:
  - References to natural beauty dominated the open-ended likes on the online survey
  - And support ratings for 'enhancing the vegetation' scored the highest of four options on the online survey.
  - However, there were concerns raised in the online responses and the workshop about the lack of maintenance of bushland/vegetation, including along Military Road – in fact, these were the highest dislikes recorded for both Hugh Bamford Reserve and Williams Park.
  - Similarly, concerns were also raised by residents about the amount of rubbish dumped in amongst the vegetation.
  - There were also one or two mentions of protecting the bush care region.
- **The precinct is 'old Bondi', and participants want it to stay that way:** This was a recurring theme across all engagements, with comments from residents/stakeholders such as 'part of the very fabric of Bondi', 'need to find a balance between making it more visible and still keeping it isolated', and 'secluded and unique to Bondi'. And a participant at the Golf Club meeting mentioned they '...want the club house to be a local club, not a trendy Bondi Club'.
- **It's for locals:** Following on from the above, comments from residents were also made about it being a 'quiet local place', 'not many people know it's here', and 'it's a local treasure'. The Golf Club meeting mentioned 'it's a club for locals' – although they also acknowledged that tourists playing golf love the view.





# Key Findings

- **Maintenance, not Change:** Following on from the previous slide, a common theme across most engagements was to maintain but not change the precinct – these comments were mainly in relation to Williams Park/the golf course – although Hugh Bamford Reserve was also mentioned: ‘Minimal makeover (HBR)’, ‘We love the golf course and space and would like it kept as is’, ‘Prefer existing layout, don’t change’, ‘Williams Park is fine the way it is – I do not want it to change’, ‘Keep everything the same as it [is] ... just keep it up to speed (WP)’:
  - As a subset of the above, two or so participants at the Have a Say Day specifically mentioned their concerns around a depot being constructed on Williams Park.
- **Emotional Connection:** Perhaps drawing on the earlier themes of ‘nature’, ‘old Bondi’ and ‘for locals’, there were also references to emotional connections, particularly for Hugh Bamford Reserve, with ‘likes’ comments such as ‘quiet/peaceful/relaxing’, ‘casual recreation’, and ‘sense of belonging in the community’.
- **Social Capital of the Clubhouse:** Many participants commented on the social capital value of the clubhouse – that it is more a community centre than a clubhouse: ‘Golf club building being used for karate club which is a great community facility’, ‘We’re providing for a lot of kids ... from age 5 to teenage years, form strong bonds there’, ‘I think the building is more valuable than the rest of the whole site – social, economic usage value’:
  - That said, there was mention that the building needed some upgrading, without losing its character: ‘Like to see the area upgraded, but not to the point where it becomes an exclusive Club, where whoever pays the most gets priority’
- **Community, Culture and Heritage:** Interestingly, none of the Have a Say Day participants provided post-it note comments about the ‘Community, culture and heritage’ board – although several did fondly mention the old gun emplacement in passing conversation. Similarly, only one post-it was placed on the board at the workshop. And only a handful of online respondents mentioned ‘history and heritage’ or ‘Aboriginal carvings’ on the open-ended likes questions about Hugh Bamford Reserve/Williams Park. In short, heritage is seemingly not a top-of-mind issue:
  - However, the option of ‘providing onsite interpretation such as information boards...’ generated the second highest positive support rating based on four options.
  - And the written submission from the North Bondi Precinct Committee dealt with heritage protection.



# Key Findings

- **Public Access:** This is a complex issue:
  - On the one hand, there were numerous positive comments about how both Hugh Bamford Reserve and Williams Park are open/public/shared spaces – with comments such as: 'It's for the community (HBR)', 'Anyone can rent the hall (HBR)', 'Public access/for everyone (7% of likes mentions for HBR)', 'Public/open for everyone (18% of likes mentions for WP)', 'Community space (13% of likes mentions for WP)', 'Shared space/multitude of uses (10% of likes comments for WP)'.
    - And during the Have a Say Day the golfers that attended felt there was existing harmony between golfers and walkers who use the course: 'Great harmony between golf course and community – lots of tourists and dog walkers use the perimeter without trouble /interference with each other', 'The best compromise for continued public use is to keep the golf course the way it is, and coexist with enhancing public use of the park area', 'Already good relationship between golf club and passive users'.
  - However, there were a handful of dislikes comments from the online survey about how Williams Park could better serve the community and that there is a lack of signage to say that it is a public space. And some online respondents suggested 'Allow both access for public and golf course but don't take away from either'.
  - Interestingly, when the online sample was presented with four potential future options for the precinct, the 'Council to explore whether the current Williams Park area could support both active and passive recreation, without there being conflict between different users' option generated a polarised response – and the lowest support rating.
  - The messages from the Golf Club meeting were mixed, with one comment being 'Williams Park was not seen as a destination walk by the Golf Board' – but other comments suggesting the Golf Club would look at ways to review the course layout to make it safer, and to consider options such as partitioning golf/casual use days or hours.



# Key Findings

- **Hugh Bamford Reserve – Other Comments:** Some of the other key suggestions/observations around Hugh Bamford Reserve included the following:
  - Improve accessibility/difficult to access
  - Water bubblers (for people and dogs)
  - 8% of online respondents commented positively about 'accessible for dogs/dog walking' – although 3% mentioned 'dogs off leash' as a dislike.
  - Lack of seats/needs more seats
  - Lack of toilets
  - It's good for sports/improve sports fields/shared sports area
  - Picnic facilities were mentioned as the second highest suggested improvement
  - Playground for children was the third highest suggested improvement
  - More trees/shade/sun shelters
  - Smell from water treatment plant





# Key Findings

- **Williams Park – Other Comments:** Some of the other key suggestions/observations around Williams Park included the following:
  - The golf course/Clubhouse is loved by its members/users!
  - The option of a walkway linking the two parks appears to have polarised the community – this is evident not only in verbatim comments at the Have a Say Day/Workshop (e.g.: 'Do not agree with a coastal walkway as it will impact on the golf course too much' versus 'Could be changed to make it more user friendly for those other than golfers. You could take the area on the [water side] and make it into a walking path'), but also in the online survey where the 'Council to investigate extending the existing Coastal Walk...' option had 41% commit to the top two support codes and 42% commit to the bottom two support codes:
    - Opposition to a walkway was linked to a loss of natural beauty: 'A walkway would spoil the natural beauty of the park', 'No fencing, no built structures, no hard/concrete surfaces – if anything, nature landscaping only'. This view was repeated at the Golf Club meeting: 'Concerns about changing the look and feel of the park ie: installing barriers/handrails or hard surfaces would change character'.
    - It should be noted that one or two participants felt fencing was required to make the area safer for children.
  - Lack of parking for the golf course was a concern – this was mentioned by both the community and at the Golf Club meeting.
  - Smell from water treatment plant
  - The problems with irrigating the golf course were mentioned once at the Have a Say Day and again at the Golf Club meeting.





# Stage 2: Community “Have A Say Day”

Approximately 56 participants attended the ‘Have a Say Day’ at Hugh Bamford Reserve.

Insights were obtained via two approaches:

- Participants were able to complete the Stage 4 online survey using computer tablets.
- Participants were also able to record their thoughts on post-its based on different poster prompts (see Appendix A):
  - Reactions to five ‘planning directions’
  - Likes and improvements about the two Parks

**Have a  
Say Day**



Stakeholder  
Workshop

Online  
Submissions

Community  
written  
submissions

Council  
Facilitated  
Golf Club  
Workshop



WAVERLEY  
COUNCIL

micromex  
research

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# Online Submissions at the ‘Have a Say Day’ Pop-up



Q1a. How often, if at all, do you visit Hugh Bamford Reserve?

Hugh Bamford		Pop-up Submissions Base: N=31	Online Submissions Base: N=237
	Daily or most days of the week	19%	16%
	Once or twice a week	19%	33%
	Two or three times a month	16%	15%
	Once a month	10%	11%
	Every few months	10%	11%
	Once or twice a year	13%	10%
	Never/this is my first time	13%	5%

Q1d. In your opinion, do you feel that the public land at Hugh Bamford Reserve could be used differently to better benefit the community?

	Pop- Up Submissions Base: N=30	Online Submissions Base: N=234
Yes	50%	18%
No	47%	68%
Can't say	3%	14%

Q2a. How often, if at all, do you visit Williams Park

Williams Park		Pop-up Submissions Base: N=31	Online Submissions Base: N=240
	Daily or most days of the week	52%	20%
	Once or twice a week	23%	35%
	Two or three times a month	6%	16%
	Once a month	6%	7%
	Every few months	0%	6%
	Once or twice a year	10%	5%
	Never	3%	11%

Q2d. In your opinion, do you feel that the public land at Williams Park could be used differently to better benefit the community?

	Pop- Up Submissions Base: N=30	Online Submissions Base: N=229
Yes	33%	14%
No	57%	78%
Can't say	10%	8%



# Diagnostic Feedback – Core Values



Using the 'Have a Say' boards, participants were also encouraged to note down their positive and negative reactions to five planning directions:

- 'Design and setting', and 'Enhancing the environment' (combined on one board)
- 'Community, culture and heritage' (although no post-its were specifically left for this topic)
- 'Getting to and around the Parks'
- 'Playing and relaxing'

Participants could also record their likes and suggested improvements for each of the two Parks.





# Getting to, and Around, the Parks



## Likes/Suggested Improvements to Proposed Plan of Management

I like the walkway idea

Leave as is, just improve signage for way finding

Great harmony between golf course and community. Lots of tourists and dog walkers use the perimeter without trouble/interference with each other

Improve park access points and lighting

Improve signage

## Concerns About Proposed Plan of Management

A walkway would spoil the natural beauty of the park

A walkway would look terrible, it is beautiful as it is

Keep it how it is, don't agree with this

Do not agree with a coastal walkway as it will impact on the golf course too much

No fence along the golf course

Based on the post-it responses, the sense is that participants preferred for the parks to remain as they are, rather than adding a walkway which could ruin the natural beauty and have too much impact on the golf course.

Some other suggestions include improving signage, park access and lighting.



# Playing and Relaxing



## Likes/Suggested Improvements to Proposed Plan of Management

Golf course is used very well these days, weekends really busy, which is great to see

Shade trees along Military Road

The best compromise for continued public use is to keep the golf course the way it is, and coexist with enhancing public use of the park area

Williams Park, with its amazing view, is the last bastion of the old Bondi. It is a testimony to the land and its original people

Already good relationship between Golf Club and passive users

Golf Club building being used for Karate Club which is a great community facility

## Concerns About Proposed Plan of Management

No fences, no sewage outflow, no big changes

We love the golf course and space and would like it kept as is. Purlieu from 16 Military Rd

From a 'Playing and relaxing' perspective, Users felt that the current usage is appropriate, with a good relationship between the Golf Club and passive users - thus, there was little appetite for change.

More shade trees was a suggestion to improve the parks.



# Design and Setting; Enhancing the Environment



## Likes/Suggested Improvements to Proposed Plan of Management

Improve parking and facilities (toilets).

Although a coastal walk is a good idea, don't make it a Bondi to Bronte walk

## Concerns About Proposed Plan of Management

Prefer existing layout - don't change

Keep it how it is!

No fencing, no built structures, no hard/concrete surfaces. If anything - nature landscaping only

No coastal walk, we don't need another Bondi-Bronte

Please keep the golf course

4 participants would prefer to keep the parks as they are, another 2 were against the idea of constructing a coastal walk. One respondent suggested improving parking and facilities (toilets)



# Hugh Bamford Reserve – Likes and Improvements

## Likes/Suggested Improvements to Proposed Plan of Management

Would like improved fencing and viewpoints for safety. I worry about my kids crawling through a hole in the fence at Hugh Bamford

Please add in drinking stations – for humans and dogs

Concerns about people camping in bushland at Hugh Bamford, due to fire hazards

Waverley Land

Love this quiet local place but it could have improved recreational facilities


Foxes

## Concerned about Change at Hugh Bamford Reserve

Do not develop on bush care area

Hugh Bamford is good. I say no to too much change

Rubbish to ramp dumping

 Improvements to Hugh Bamford Reserve include adding drinking stations, improved recreational facilities, reduction of foxes, and safety concerns in regards to fire hazards and children crawling through holes in fences.



# Williams Park – Likes and Improvements



## Likes/Suggested Improvements to Proposed Plan of Management

Great golf course accessible to everyone. Needs irrigation to improve fairways, could retain water onsite/use greywater

Improve parking for the golf course

Path for walkers to walk safely through the golf course

Golf Club should have a whole building made available for community use. No club, pokies or bar use

More trees, historical signage, more communal activities

## Concerned about Change at Williams Park

Leave golf course alone, my grandkids play there

Williams Park is fine the way it is. I do not want it to change

No truck depot

Major concern is a depot/large construction project that would change everything

Part of the very fabric of Bondi and would be so sad to see it changed

Williams Park is the only golf course in the LGA which should be retained. Has scenic views

4 respondents did not want to see Williams Park changed while another 2 respondents were concerned about a potential truck depot. Suggested improvements included more communal activities, improved parking, more trees, historical signage and a path for walkers to move safely through the golf course.



# Stage 3: Stakeholder Workshop

3 stakeholders (representing two separate 'user organisations' of the precinct) attended a workshop help on May 2, 2019.

Have a Say  
Day

**Stakeholder  
Workshop**



Online  
Submissions

Community  
written  
submissions

Council  
Facilitated  
Golf Club  
Workshop



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# Hugh Bamford Reserve – Likes/Improvements



## What Participants Like about Hugh Bamford Reserve

"The views are magnificent, it's a nice open space. Judging by today it's serving its purpose; its for the community. Open for the children for sports training. There are very little open parks where people can ride bicycles, kids can play and exercise in the Eastern Suburbs. Its all about the community, having things for kids and adults. The key is health; physical and mental."

"It's an opportunity to get out in open space and not see people for a little while. A nice thing about this space is not very many people know that it's here, and if you do, you're really lucky to be able to come up here and get some space. It's so close to Bondi. It's a local treasure."

## Suggested Improvements to Hugh Bamford Reserve

"Anyone can rent the hall, it's on offer on the Council website. The issue is that the community hall is sitting here and no one is using it."

"Lack of facilities up here, no toilets. We have to send someone right down to the beach just to go to the toilet. Beautiful spot up here but there are no facilities. That is just the tip of the iceberg of what could be up improved, however, you need to be careful of what you do put up here. "

Apart from the natural environment, one participant valued the open space for the community to use as both children's play and exercise areas. Another included that the area is a 'local treasure' and the hidden nature of Hugh Bamford Reserve.

Suggested improvements to Hugh Bamford Reserve included increased awareness and encouragement to utilise the Hugh Bamford Hall, as well as improving the facilities currently offered at the hall e.g. public toilets.



# Williams Park – Likes/Improvements



## What Participants Like about Williams Park

"People like a golf course in the area that's closer. I'm not a golfer, but it has good value."

"We have spent a lot of money on the dojo that we have created. It's respected and well cared for. Operate 7 days a week. We do share it with a Jujitsu Club, do physio therapy, fitness program. Multitude of uses."

"I'm no golfer, it's a small course, only a 9-hole golf course. It's a social have-a-bash type of style."

"We're providing for a lot of kids, a huge school from age 5 and upwards to teenage years form strong bonds there. A lot of the kids with their challenges have autistic kids a broad range. It's a fantastic institution."

## Suggested Improvements to Williams Park

"Like to see the area upgraded, but not to the point where it becomes an exclusive Club, where whoever pays the most gets priority. It's more of a Club for locals."

Could be changed to make it more user friendly for those other than golfers. You could take the area on the edge (on the water side) and make it into a walking path."

"Keep everything the same as it was (like it is today), just keep it up to speed. Should have the same availability for the general public to use the facilities. I would hate to think it could be turned into more buildings. I think it is important that there is still open space. In essence, it still needs to be kept open for the general public. We can improve things sensibly. Important to keep bushland, but tidy it up."

Participants like the Golf Club for offering a multitude of uses to the community, as well as the local, casual nature of the Williams Park golf course.

Suggested improvements to Williams Park include upgrades and general upkeep, while maintaining unrestricted public access. One respondent also mentioned adding a walking track to make it more user friendly for non golfers.



# Suggestions For The Future (Next 5-20 Years)



Consider accessibility and visibility	<p>"Population is increasing, wouldn't you want people to access it more easily?"</p> <p>"I'm on the fence, whether you want to be seen or not. It's a beautiful thing to have that isolation, but is it fair to hide it from everybody? Consider a balance between visibility of the park but keeping it isolated."</p> <p>"...Hugh Bamford is very hidden and consideration should be given to its visibility, good and bad. There could be a short-term solution and a long-term vision."</p>
Clearing scrub	<p>"Military Rd, to walk down there, it's a mess. You can't walk around the golf course. Too much scrub which needs to be cleaned up. There would be more people accessing it if it was cleaned up..."</p> <p>"The steep area is a horrible bit of land, that whole area is a dead zone, rubbish and vegetation hides the area."</p>
Consider other options of park usage	<p>"More areas for children to play and relax. Have a children's play area at the golf course."</p> <p>"I think the building is more valuable than the rest of the whole site. Social, economic, usage value. A golf course almost feels like a waste as you are using a few acres for one activity; hitting a ball with a stick."</p> <p>"I'm cautious about saying get rid of it as a golf course, because a lot of people use it. It's a great open space that could be used better. It's a poor golf course compared to some spectacular golf courses in the area."</p> <p>"Upgrade existing facilities, the Golf Club is not well managed. Need clean showers and toilets. The things that keep the golf course alive are the other activities."</p> <p>"It would make sense for multi-fields/uses at Williams park. Change it from playing fields to an open space. Such as a forest, like Centennial Park, trees, ponds, it should be a park. There's no trees there."</p>
Maintaining open space	<p>"These need to be the values; they need to be kept as outdoor recreational areas and accessible to the public."</p>
Access points that work with current use	<p>"Important to have an access point to Hugh Bamford that maintains the viability. You couldn't have that and us do our archery there. We shoot towards the ocean. You'd want to make sure it works with a management strategy."</p>

**Themes raised in suggestions for the future mainly argue that the parks and their uses need to be enhanced or shared, but not removed entirely. For example, making the parks more accessible, as well as having the option to use Williams Park for activities other than just a golf course.**



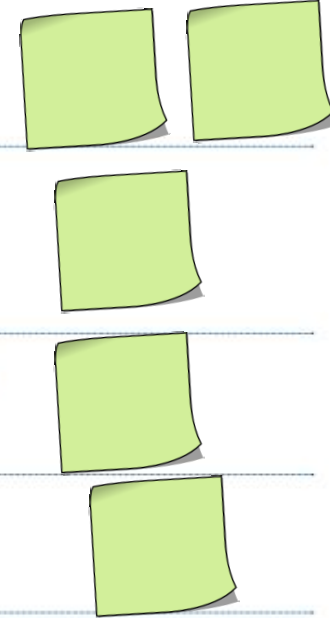
# Have a Say Information Boards



## Design and setting; enhancing the environment



- link areas of remnant vegetation allowing buffer for natural regeneration
- improve & enhance 'Biodiversity Habitat Corridor' - continue weed removal and re-vegetate poor quality areas of vegetation to enhance habitat and provide canopy linkages to adjoining remnants
- protect, mitigate and enhance key views and visual access into the Parks (ie from Military Road into Williams Park)
- provide a vegetated buffer to help stabilisation of soil on cliff edges & deter access to edge.



Using the 'Have a Say' boards, participants were asked to place a green (positive) or pink (negative) post-it note on elements of the various planning directions they agreed/disagreed with. No disagreements were recorded for 'Design and setting; Enhancing the environment'.



# Have a Say Information Boards



## Community, culture and heritage



- heritage items are focused in a 'corridor of heritage and environmental sensitivity' along eastern (cliff) edge
- investigate interpretive opportunities of state and locally significant heritage items
- protect and enhance natural heritage items - vegetation, geological formations, landform, views.



Image: Detail of Murrumbidgee Quarry before the use of the site by Bondi Golf Links showing examples of prismatic sandstone, columnar sandstone and basalt. (Source: Waverley Library photo No. 1692)



Site Photo: Aboriginal rock carvings

Only the natural heritage option generated a favourable response (it was also noted in the previous section that no post-its were prepared by the 'Have a Say Day' participants around the 'Community, culture and heritage' board).



# Have a Say Information Boards



## Playing and relaxing



- eastern corridor with a focus on environment and heritage interpretation

- central zone focused on recreation / parkland

- investigate opportunities for a balance of both active and passive recreational use of Williams Park and how to reduce potential conflict between different users.

- new vegetation positioned to enhance views, increase shade and enhance environmental values on site.



No negative responses recorded.



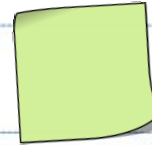
# Have a Say Information Boards



## Getting to and around the Parks



- investigate opportunities to provide a pedestrian link between the parks
- investigate opportunities to extend the 'Coastal Walk' through the parks linking key points of interest
- upgrade existing entries at road junctions to improve visibility and accessibility
- provide safety buffer zones to unstable cliff edges.



The representative from Sydney Archery disagreed with the proposed route to link the two Parks, as it would mean pedestrians would be close to where the archers operate. In fact, the Sydney Archery representative submitted a separate document to Council the day after the workshop with a revised plan for consideration (see next two slides)...





3 May 2019

## **Recommendation from Sydney Archery to Waverley Council re Plan of management for Hugh Bamford Reserve and Williams park**

Sydney Archery supports the development of a coastal walking trail in the area of Williams Park and Hugh Bamford Reserve. We are mindful that an appropriate solution needs to be found to allow access to the general public to greater areas of public space in the Waverly LGA.

The current proposal however presents the walking trail in a manner that will effect safe and effective use of Hugh Bamford Reserve by Sydney Archery and its participants.

The following route modification suggests an alternative that may prove an effective solution. The solution makes way for-

- a. A lack of consent required from Sydney Water to connect the parks
- b. A better route maintaining access to a spectacular vantage point at Hugh Bamford Reserve.  
Sydney Archery currently facilitates public access to this vantage point. Rope barriers are used to guide pedestrian access.
- c. Continue safe and effective use of the sportsfield by Sydney Archery and its participants.

*Sydney*  
**ARCHERY**





# Have a Say Information Boards



## Proposed Walking track route by Waverly Council

### Getting to and around the Parks



- investigate opportunities to provide a pedestrian link between the parks
- investigate opportunities to extend the 'Coastal Walk' through the parks linking key points of interest
- upgrade existing entries at road junctions to improve visibility and accessibility
- provide safety buffer zones to unstable cliff edges.



### Considerations & opportunities

- KEY**
- Existing entry
  - Heritage Item / Point of interest
  - Potential route to link Parks

## Proposed Walking track route by Sydney Archery

### Getting to and around the Parks



- investigate opportunities to provide a pedestrian link between the parks
- investigate opportunities to extend the 'Coastal Walk' through the parks linking key points of interest
- upgrade existing entries at road junctions to improve visibility and accessibility
- provide safety buffer zones to unstable cliff edges.



### Considerations & opportunities

- KEY**
- Existing entry
  - Heritage Item / Point of interest
  - Potential route to link Parks

Sydney Archery Submission (Page 2 of 2)... The original version is on the left, Sydney Archery's proposed option is on the right.



# Stage 4: Online Submissions

A total of 273 online responses were obtained (including 32 that were obtained from the Stage 2 'Have a Say Day' participants). The survey was open from April 11 to May 16, 2019.

As this was a self-completion questionnaire, base sizes for questions can vary – please refer to the base size information at the bottom of each chart/or within each table. All percentages are calculated to the nearest whole number and therefore the total may not exactly equal 100%.





# Sample Profile

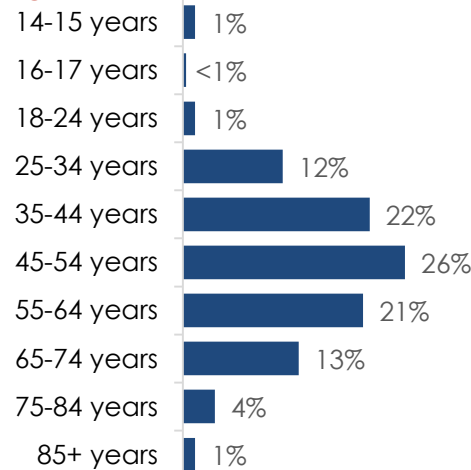


The profile of online respondents was skewed to males and those who lived in the Waverley LGA – particularly those who had lived there for more than 10 years. This may reflect the interest of the local golfers in participating in the engagement program.

## Gender (N=270)



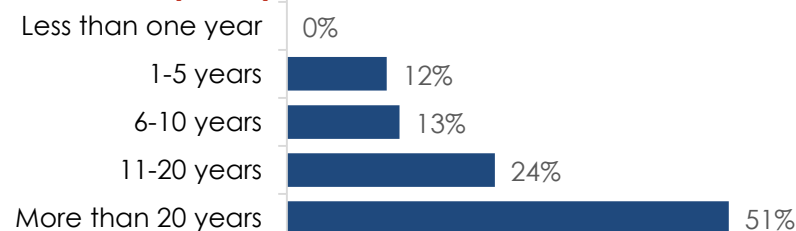
## Age (N=269)



## Area of residence (N=271)



## Time lived in the area\* (N=220)



0% 20% 40% 60% 80% 100%

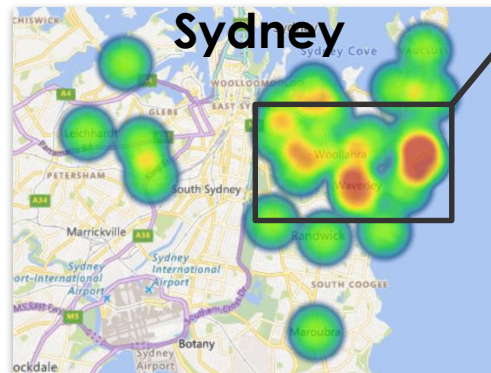
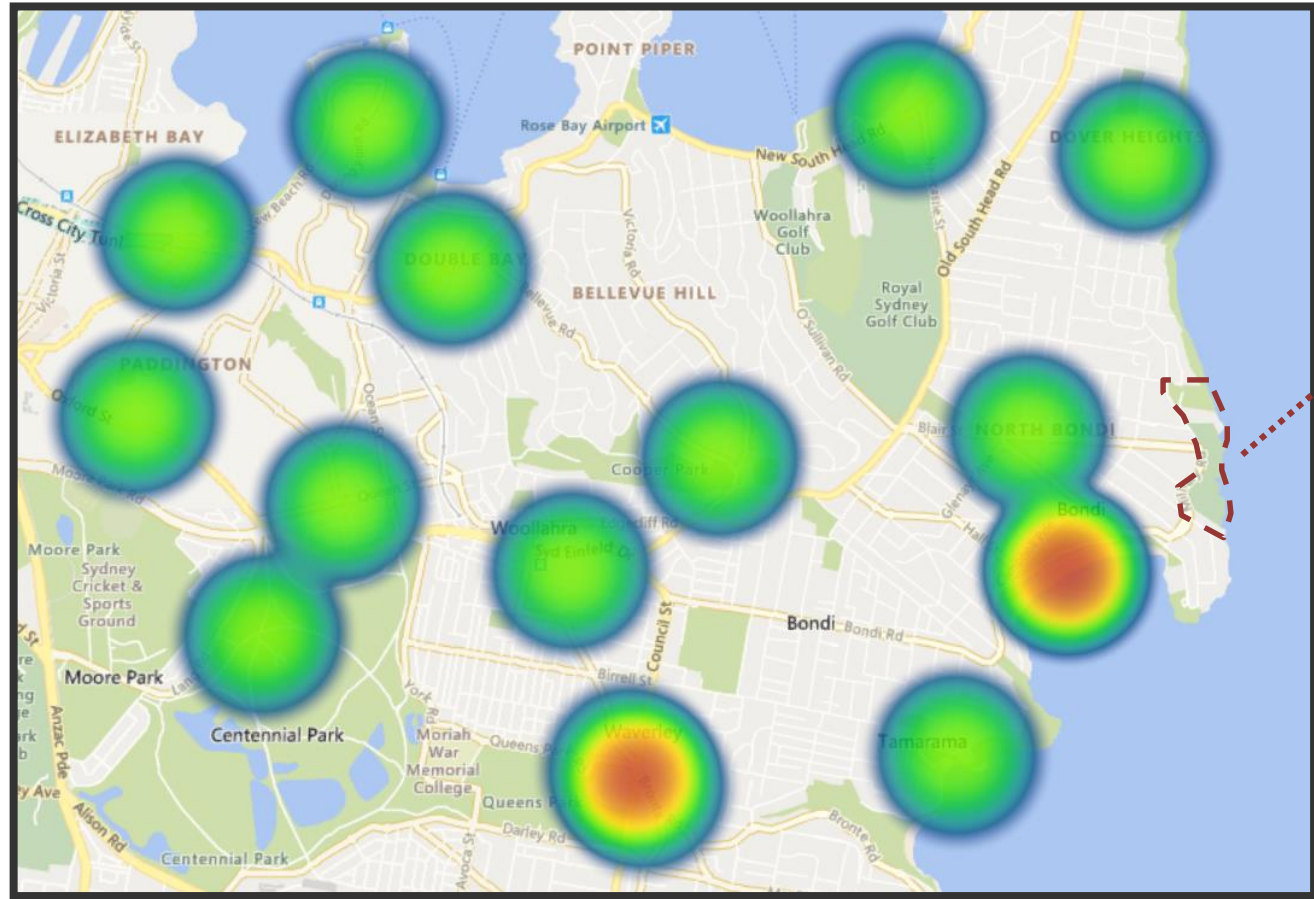
\*Note: Only respondents who reside in the Waverley LGA were asked their duration of residence



# Online Submission Heat Map



Not surprisingly, the majority of respondents live in the Eastern Suburbs of Sydney, however, a few respondents contributing were located as far away as Katoomba, Coffs Harbour, Byron Bay and even Cairns.

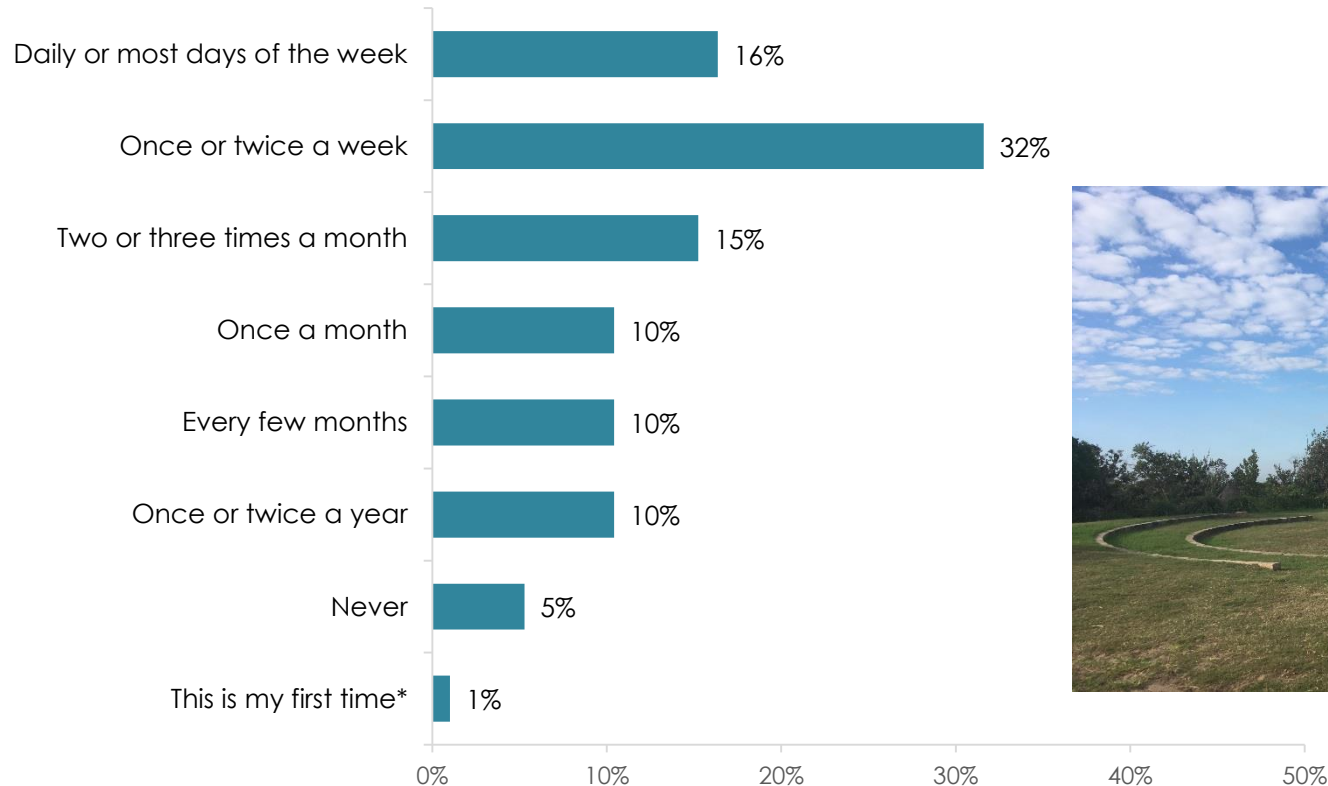




# Frequency of Visiting Hugh Bamford Reserve



Q1a. How often, if at all, do you visit Hugh Bamford Reserve?



\* 4 respondents at the Have a Say Day were first time visitors to Hugh Bamford Reserve

Base: N=269

**Almost one in two respondents (48%) visit Hugh Bamford Reserve at least once a week. Only 6% had not visited the Reserve before.**



# What Respondents Like About Hugh Bamford Reserve



Q1b. What, if anything, do you like about Hugh Bamford Reserve?

Comment	N=218
Amazing views	39%
Open space	31%
Quiet/peaceful/relaxing	21%
Greenery/nature/wildlife	12%
Good for casual recreation	12%
Good for sporting activities/exercise	12%
Secluded/not many people know about it	10%
Natural beauty	9%
Accessible for dogs/dog walking	8%
Public access/for everyone	7%
Archery range	7%
Undeveloped/free of commercial interests	5%
Unique to the Bondi area	4%
Nice place to walk	4%
Plenty of parking spaces	4%
Location	3%
Sense of belonging in the community	3%
Leave it as is	3%
History and heritage of the area	2%
Community facilities e.g. Hugh Bamford Hall	2%
Everything	1%
Safe area	1%
Weather permitting	1%
Close to Bondi/Bondi Beach and public transport	1%
Not being utilised to full potential	1%
No comment	<1%



The natural beauty of Hugh Bamford Reserve ('amazing views', 'open space', 'greenery', 'natural beauty', etc) dominated positive mentions. However, note also the emotional drivers: 'quiet/peaceful/relaxing', 'casual recreation', 'secluded', 'unique to the Bondi area' and 'sense of belonging in the community'.



# What Respondents Dislike About Hugh Bamford Reserve



Q1c. And what, if anything, do you dislike about Hugh Bamford Reserve?

Comment	N=117
Nothing, I like it as is	40%
Lack of maintenance/weeds overgrown	12%
Proximity to the water treatment plant/the smell	10%
Lack of public toilet facilities	5%
Could better serve the community/underutilised	4%
Difficult access	4%
No drinking water facilities	4%
Lack of seats/benches	4%
Dogs off leash	3%
Limited amount of parking	3%
No shaded areas	3%
People using the area as a camp site	3%
Rubbish is dumped/dog poo is left	3%
Lack of playgrounds/recreational space	2%
Lack of vegetation/trees	2%
Poor drainage	2%
Poor lighting	2%

See Appendix C for responses fewer than 2%



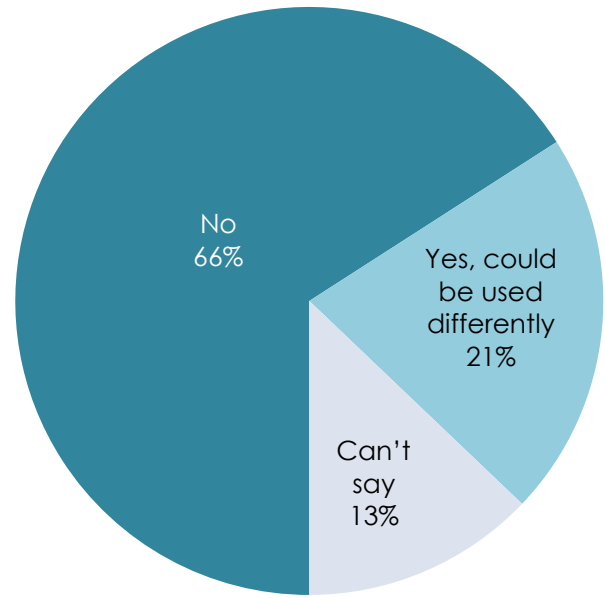
When asked what respondents dislike about Hugh Bamford Reserve, top reasons mentioned were the lack of maintenance of the park, as well as the proximity to the water treatment plant. However, only 117 answered – and 40% of them stated they did not dislike anything about the Reserve.



# How Hugh Bamford Reserve Could be Used Differently



Q1d. In your opinion, do you feel that the public land at Hugh Bamford Reserve could be used differently to better benefit the community?



Base: N=264

	Daily or most days of the week + Once or twice a week	Once a month + Two or three times a month	Never + Once or twice a year + Every few months
No	77%	72%	36%
Yes, could be used differently	17%	22%	29%
Can't say	5%	6%	35%
Base:	128	68	66



# How Hugh Bamford Reserve Could be Used Differently



Q1e. (If yes) How could it be used differently to better benefit the community?

Comment	N=51
Sports field/shared sports area	22%
BBQ/picnic facilities	18%
Playground	14%
Shade/sun shelters	14%
Community activities/events	12%
Minimal makeover	10%
More seats/benches	10%
Install public toilets	8%
Plant more vegetation	8%
Dog friendly/dog off-leash areas	6%
Add water bubblers	4%
Better maintenance	4%
Bike/roller skate track	4%
Link it to Williams Park	4%
Maintain archery range	4%
Make more family friendly	4%
More awareness/attract more people	4%
Nothing/don't know	6%

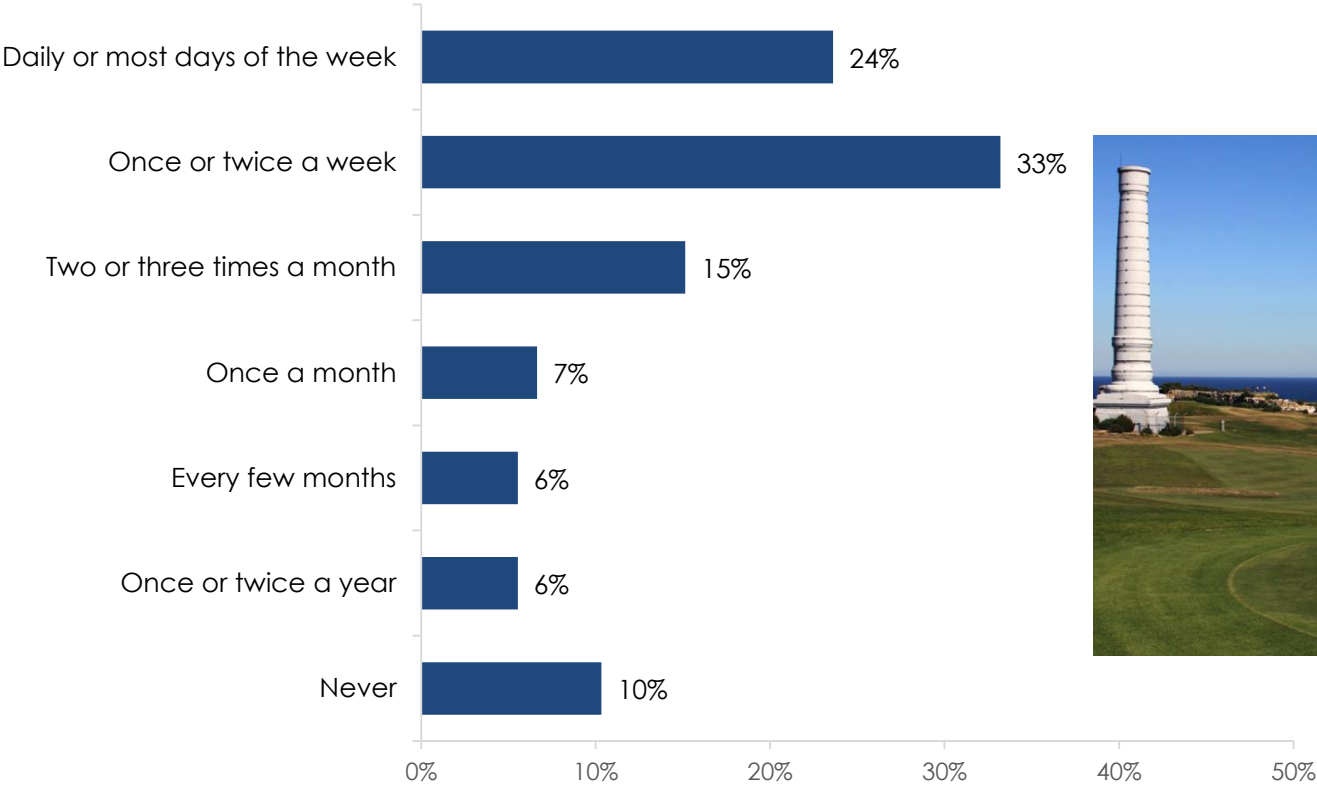
Please note: this question is only asked of those who selected 'yes' in Q1d.

See Appendix C for responses fewer than 4%



# Frequency of Visiting Williams Park/North Bondi Golf Course

Q2a. How often, if at all, do you visit Williams Park or the North Bondi Golf Course?



Base: 271



# What Respondents Like About Williams Park/North Bondi Golf Course



Q2b. What, if anything, do you like about Williams Park or the North Bondi Golf Course?

Comment	N=225
Golf course	40%
Amazing views	31%
Club/Diggers Club	23%
Open space	23%
Public/open for everyone	18%
Community space	13%
Greenery/nature/wildlife	13%
Quiet/peaceful/relaxing	10%
Shared space/multitude of uses	10%
Convenient location	8%
Iconic	8%
Great place to socialise	8%
Affordable	6%
Family friendly	6%
Undeveloped/free of commercial interests	6%
Walkway	5%
Everything	4%
Aboriginal carvings	3%
Exercise	3%
Topography/landscape	3%
History and heritage of the area	3%
Dog access	2%

See Appendix C for responses less than 2%

The most frequently mentioned like about Williams Park was the golf course (and the associated Club). Natural aspects ('amazing views', 'open space', 'greenery' etc) also dominated.

Note also the references to 'public/open for everyone' (18%), 'community space' (13%), and 'shared space' (10%).



# What Respondents Dislike About Williams Park/North Bondi Golf Course



Q2c. And what, if anything, do you dislike about Williams Park or the North Bondi Golf Course?

Comment	N=166
Nothing, I like it as is	43%
Maintenance of the greenery/landscape	11%
Club could use an upgrade	10%
Limited parking	10%
Could better serve the community/underutilised	8%
Proximity to the water treatment plant/the smell	7%
The golf course	5%
Danger of golf balls	3%
Being disrupted while playing golf	2%
Lack of indication that access is public	2%
Council getting involved	1%
Difficult access	1%
Dislike cars driving through the park	1%
Don't rezone these for development	1%
Excludes community members who aren't golfers	1%
General litter	1%
Golf course and holes need upgrading	1%
Lack of shaded areas	1%
Lack of support for the Club	1%
No fence around cliff	1%
Poker machines are a waste	1%
Poor drainage	1%
Vandalism	1%

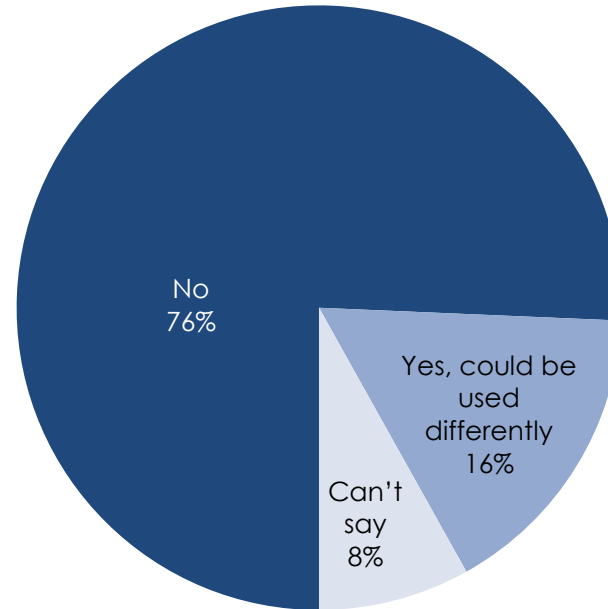
Reasons respondents dislike Williams Park were varied, however, the most common responses included the lack of maintenance, the degradation of the Club building and the lack of parking. Only 166 answered the question – and 43% of them stated they dislike nothing about Williams Park.



# How Williams Park Could be Used Differently



Q2d. In your opinion, do you feel that the public land at Williams Park could be used differently to better benefit the community?



Base: N=259

	Daily or most days of the week + Once or twice a week	Once a month + Two or three times a month	Never + Once or twice a year + Every few months
No	89%▲	76%	36%
Yes, could be used differently	7%	20%	38%▲
Can't say	3%	3%	26%▲
Base	149	59	50

▲ ▼ = Significantly higher/lower (by frequency of visitation)

The majority of respondents (76%) felt that Williams Park could not be used differently to better benefit the community (corresponding result for Hugh Bamford Reserve was 66%). Respondents who used Williams Park often (daily or most days of the week/once or twice a week) were significantly more supportive of maintaining the park as is.



# How Williams Park Could be Used Differently



Q2e. (If yes) How could it be used differently to better benefit the community?

Comment	N=59
Extending the coastal walk/link between both parks	21%
Public park usage	21%
Allow both access for public and golf course but don't take away from either	18%
Turn the Club into a multipurpose facility, e.g. community centre	16%
Use as playing fields for other sports	16%
Allow more dog off-leash areas	11%
Plant more vegetation/trees	11%
Add a cafe/commercial hospitality	8%
Make child friendly/add play areas	8%
Add a public swimming pool	5%
Add area for picnic grounds	5%
More awareness and safe access to Aboriginal history	5%
More car parking	5%
Outdoor gym facilities	5%
Create access from residencies to the park	3%
Encourage people to learn golf	3%
Indoor community centre for disabled people	3%
More seats/benches	3%
Use open space for outdoor events	3%

Please note: this question is only asked of those who selected 'yes' in Q2d.

**Amongst those who felt Williams Park could be used differently to better benefit the community, the most common suggestions were to extend the existing coastal walk to link both parks as well as to turn the area into public land rather than owned by the Golf Club.**

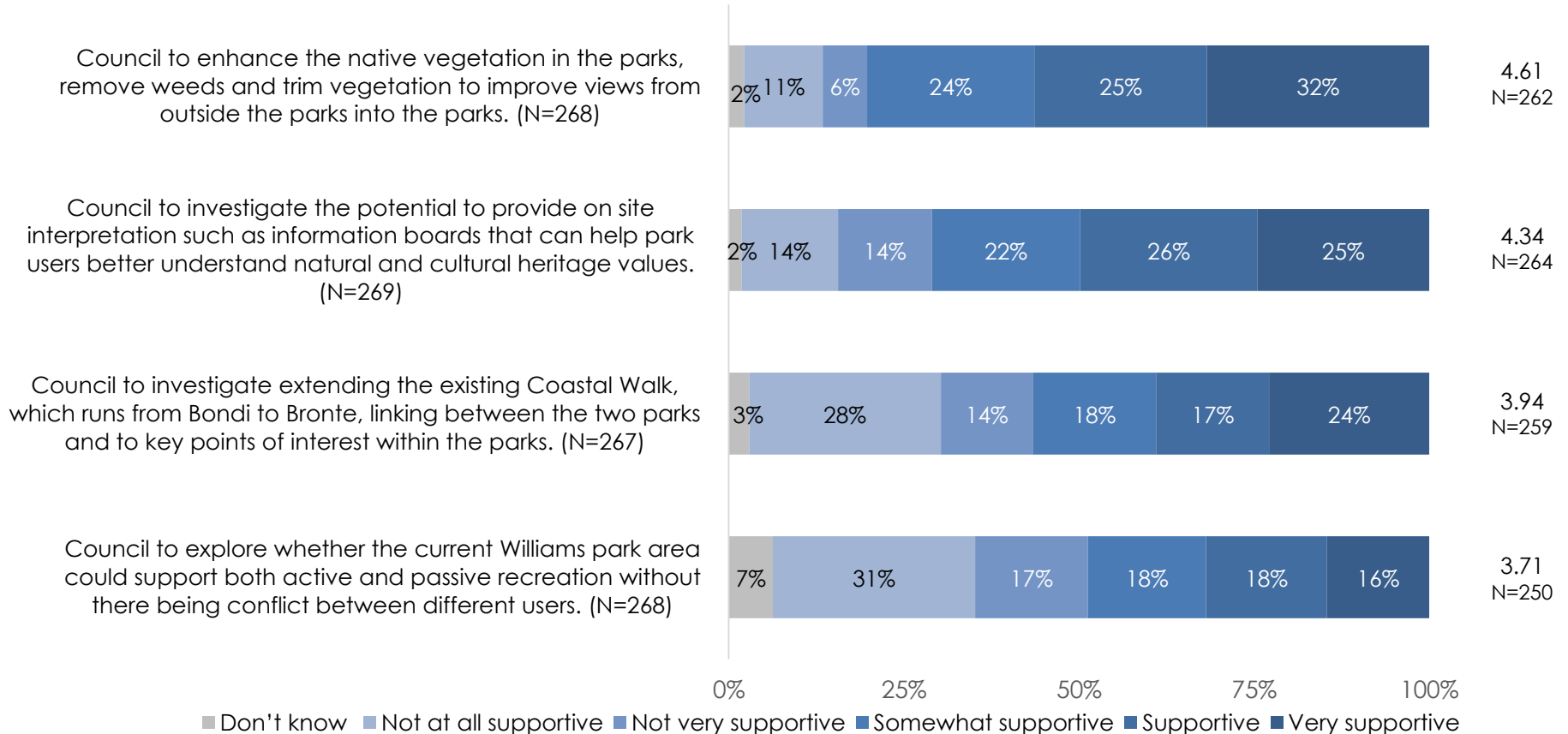


# Support For Potential Enhancements



Q3. Waverley Council is seeking community feedback on a range of potential enhancements that could be implemented at the Parks. At this stage these are just ideas, Council will need to investigate if they are feasible – but they would like to obtain your reactions to them. Please rate on the scale of 1-5, where 1=not at all supportive and 5=very supportive.

Mean Score



Respondents were more inclined to support the two potential options that did not heavily influence current usage but rather enhanced the area (i.e.: 'enhance the native vegetation' and 'provide on-site interpretation').

The 'Coastal Walk' option has polarised respondents whilst the 'Williams Park active/passive mixed use' option has generated the most negative response – although a sizeable minority are at least somewhat supportive, suggesting there is some interest in the idea.



# Support For Potential Enhancements



Q3. Waverley Council is seeking community feedback on a range of potential enhancements that could be implemented at the Parks. At this stage these are just ideas, Council will need to investigate if they are feasible – but they would like to obtain your reactions to them. Please rate on the scale of 1-5, where 1=not at all supportive and 5=very supportive.

Potential Enhancement	Total Mean	Frequency of visiting Hugh Bamford Reserve			Frequency of visiting Williams Park		
		Daily or most days + Once or twice a week	Once a month + Two or three times a month	Every few months + Once or twice a year + Never	Daily or most days + Once or twice a week	Once a month + Two or three times a month	Every few months + Once or twice a year + Never
Enhance the native vegetation in the parks, remove weeds and trim vegetation to improve views from outside the parks into the parks	4.61 (N=262)	4.33 (N=127)	4.54 (N=67)	4.89▲ (N=70)	4.35 (N=150)	4.52 (N=58)	4.95▲ (N=58)
Provide on site interpretation such as information boards that can help park users better understand natural and cultural heritage values	4.34 (N=264)	4.09 (N=128)	4.37 (N=67)	4.53 (N=70)	4.11 (N=151)	4.36 (N=58)	4.57▲ (N=58)
Extend the existing Coastal Walk, linking between the two parks and to key points of interest within the parks	3.94 (N=259)	3.51 (N=127)	4.00 (N=67)	4.36▲ (N=69)	3.53 (N=150)	3.88 (N=57)	4.62▲ (N=58)
Explore whether the current Williams park area could support both active and passive recreation without there being conflict between different users	3.71 (N=250)	3.32 (N=126)	3.35 (N=68)	4.13▲ (N=70)	3.21 (N=150)	3.49 (N=59)	4.46▲ (N=57)

▲ ▼ = Significantly higher/lower (by frequency of visitation)

**When comparing support for the potential enhancements by the frequency of visitation of the parks, it can be seen that respondents that seldom visited the parks (every few months/once or twice a year/never) were in most cases significantly more inclined to support the ideas, than those that visit the park regularly (daily or most days of the week/once or twice a week).**



# Stage 5: Community Written Submissions



Have a Say  
Day

Stakeholder  
Workshop

Online  
Submissions

**Community  
Written  
Submissions**



Council  
Facilitated  
Golf Club  
Workshop



WAVERLEY  
COUNCIL

micromex  
research

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# Submission From Local Community Member



A06/1199  
Bianca Simpson.

Mayor John Wakefield  
Mayor of Waverly Council  
55 Spring St  
Bondi Junction

3 April 2019

Dear Mayor Wakefield

My name is \_\_\_\_\_ I am 10 years old and I attend Sydney Grammar Edgecliff Preparatory School. I am in year 5 we are encourage at school to strive to make a positive difference to our community. I would like for you to help me build a basketball court.

I would like to a basketball court because children aren't getting enough fitness. I would like to have a basketball court because lots of my friends in Bondi like playing basketball like me but there are no courts. Sport is compulsory so I would like a court to play on so I can make it in to the best team.

I think it could be done by a couple of people helping to build it. I would love you to do this because this my favourite sport but I can't play it without the facilities I need. I have seen many people come to Hugh Bamford reserve with a basketball but they can't play with a court.

Your sincerely

A student from Sydney Grammar Edgecliff Preparatory School presented Council with the suggestion to construct a basketball court at Hugh Bamford Reserve.



# Submission From Community Convenor



Mr. Ross McLeod  
General Manager  
Waverley Council  
PO Box 9  
BONDI JUNCTION  
NSW 1355

Dear Ross,

## **HERITAGE – INDIDGINEOUS ROCK CARVINGS**

The Precinct recently passed the following motions, after discussion as set out hereunder:

**a)** It was brought to our attention that there is no signage or safe footpath to the carvings in the golf course, nor is there any appropriate general landscaping. Resolved this be referred to Council via the Mayor, Deputy Mayor, GM & Emily Scott for appropriate sensitive action, so that this piece of our heritage is both better preserved & access is appropriate.

**b)** It was also indicated that the carvings on the cliff top between Bondi & Tamarama are in a similar state and need conservation. Resolved this be referred to Council for appropriate sensitive action so that this piece of our heritage is both better preserved & access is appropriate.

I have subsequently discussed this matter with Jessica Manifold, when looking at the Bondi to Manly walk and made a number of suggestions, including where practical they be covered by Perspex or seminal product to protect them, however, not diminish their accessibility.

I look forward to your assistance in this regard.

A convenor from the North Bondi Precinct Committee presented Council with concerns of the absence of signage and safe footpath access to the indigenous carvings located at Williams Park.

Also discussed was the lack of preservation of both heritage and landscaping of the park area.



# Stage 6: Workshop at the North Bondi Golf Club

(Facilitated by Environmental Partnership and Waverley Council)

Have a Say Day

Stakeholder Workshop

Online Submissions

Community written submissions

**Council Facilitated Golf Club Workshop**



WAVERLEY  
COUNCIL

micromex  
research

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# Golf Club Members Overview of the Club



- Members noted the Golf Club was trading poorly three years ago and had approached East Leagues for support.
- Two years later, the club is more financially sustainable. Both the Club and the Golf Course have been generating improved incomes.
- Golf-green fees and membership generate \$9-10, 000 which covers maintenance costs.
- Weekends are the busiest times for both the Club and Social Golf, which the course can occasionally be booked out.
- More locals use the course, but it is very popular with tourists who can play and take in the views.
- It is a very social and relaxed atmosphere on the Golf Course. It has a different character to one might assume about golf courses.





# Golf Club Vision/Ideas



- Members would like to see continuous improvements across the facility
- Effort to build/promote Club Membership and use of the golf course.
- Short courses (9 holes) are more suitable and becoming popular for time-poor users
- Both the Golf Club and Golf Course work together
- Members are looking at ways for the Golf Course to become more family-friendly, by means of encouraging women and children to get involved in golf.
- A reference was made to the Bondi Icebergs Club, and how improvements to this facility and the Club structure have been noted to increase membership.





# Issues \ Opportunities That Could Be Addressed



- A significant challenge is the health of the greens/vegetation at the Golf Course. There is mention that the sand base affects the quality of the greens and the lack of water/irrigation affects the appearance of the course. The Club has grey water available to use, but have not been able to gain Council approval for its use in the past.
- Although it is recognised that golf or any other recreation use in the area will have similar issues, car parking is considered the biggest limitation for the Club to increase Golf Course use and Member numbers/retention.
- The Golf Club has previously looked into the safety of the Park, including investigating an alternative layout for the course (i.e. clockwise play and an inward-looking course) which can help reduce damage caused by stray balls onto Military Rd but also improve the current tight layout that make the course challenging.
- After-hour use, or unregulated use, of the Golf Course is continually becoming a problem, where people will use the course without paying fees and use Club equipment. Unregulated use is more prominent in Summer, however it also occurs on closed days (City to Surf Day).
- The Golf Club is known as a very 'local club' that has a casual and relaxed atmosphere, used mainly by people living in the area. Members would like to ensure if any redevelopment was to occur to the Club building, that it doesn't become a 'trendy Bondi club'.





# Responses to Consultation Material



- Members are open to suggestion of potential 'no golf days' and or 'designated golf time slots' (i.e. open to public before 7am and after 4pm). The Club is currently closed on Tuesdays.
- Consider solutions which would improve golf experience and other user's experience
- Issues raised about damage to the Course by other users.
- Williams Park was not seen as a destination walk by Golf Board. Avoid any access that adversely impacting course layout.
- Direction of circulation – at the moment players can see other users very easily across the course.
- Concerns about changing the look and feel of the park i.e. installing barriers/handrails or hard surfaced paths etc. would change character.





# Possible Recommendations To Be Outlined In the Plan of Management



- Council to setup a working group to investigate access solutions, 'closed' days and vegetation corridors.
- Review of Golf Course layout to investigate circulation options to reduce possibility of balls being hit out of the Course and even different users of the park.
- Making all users aware of the unique character of the Course and co-existence between different user groups.





# Appendix A – Stimulus Material Used at the “Have a Say Day”





# Williams Park and Hugh Bamford Reserve Plan of Management and Master Plan



## Plan of Management process

Waverley Council is preparing a Plan of Management and Master Plan for Williams Park and Hugh Bamford Reserve. In conjunction with the Plan of Management, a comprehensive long term plan illustrating the design direction for the site (a Master Plan) will be developed.

Together the Plan of Management and the Master Plan will provide strategic and operational direction for the design and management of the park over the coming decade.

A Plan of Management is a report outlining how Council proposes to manage community land for the benefit of the community.

Plans of Management usually derive their management recommendations from the following criteria established by Council and stakeholders:

- Roles and values
- Desired outcomes (objectives)
- Issues (opportunities and constraints)
- Legislative requirements

### Site Description:

- Hugh Bamford Reserve and Williams Park (the Parks) are made up of a mix of parcels of land including Community Land, Crown Land and a parcel of road reserve formed by road closures. Council is the Trustee Manager for the Reserve Trust.
- total park / reserve area 9.7ha
- Williams Park is currently under lease to the Bondi Golf and Diggers Club Ltd
- the Parks contain state and locally significant heritage items
- the Parks elevated location along the sea cliffs and southerly aspect offers spectacular panoramic views.
- remnant vegetation in Hugh Bamford contributes the largest area of remnant bushland in the LGA.

## Project Timeframe

The Plan of Management will take several months to complete before it's endorsed by Council and becomes a public document.

Following the consultation period in March and April, we expect a draft Plan of Management to be available for public comment during July before being presented back to Council requesting adoption.

## Have a say

The values, issues and opportunities identified in consultation with the community provide the key actions that contribute to achieving the overall vision for the Park.

### Leave your comments

Feel free to view the information on display and please take the opportunity to fill in comments by placing notes on the boards.

You may also wish to send your comments to Council via the contact details below.

Once the Plan of Management is drafted it will be made available for public comment before being presented to Council for adoption.

### Mailing List

If you would like to receive further information during the course of the plan of management please fill in the attendance list and tick the box.

## Project Timeline

### Initial Consultation to inform the Plan of Management (POM)

This phase comprises of acquiring information from the community and key stakeholders about their current view on Hugh Bamford Reserve and Williams Park, and their vision for these sites in future.

### Consultation feedback under review

Contributions to this consultation are closed for evaluation and review. The Project team will report back on key outcomes.

### Public Exhibition of Plan of Management

The draft revised Hugh Bamford Reserve and Williams Park Plan of Management (POM) will be placed on public exhibition for your feedback.

### Final report

The final outcomes of the consultation are documented here. This may include a summary of all contributions collected as well as recommendations for future action.



# Williams Park and Hugh Bamford Reserve

## Plan of Management and Master Plan

### Community, Culture and Heritage

#### Historical Timeline Summary

Aboriginal people occupy the Sydney coastline and witness the rise of sea at the end of the ice age	25,000 - 30,000 years ago
Murrivrie Quarry utilised by Darug Aboriginal people	unknown
Arrival of First Fleet and beginning of European settlement of Sydney	1788
First land grants to settlers around Ben Buckler and Bondi Beach	1809
Land Owner Francis O'Brien commences mining for building materials. Reportedly excavates all basalt	Mid-late nineteenth century
30m strip of O'Brien's land reserved for public use by the Crown	1855
Bondi Ocean Outfall Sewer begins construction to reduce amount of sewerage entering and discharging into harbour	1880-1889
Study area dedicated as a Military Reserve	1890s
'Disappearing Gun' delivered to Ben Buckler	1893
Aboriginal artefacts - Bondi points -uncovered after a gale	1900
Current 30m high Sewer Stack constructed to replace damaged vent stack	1910
Historical engravings, possibly from quarry workers	1912
Plans eventuate for the Golf Links after petitioning for the subdivision of part of the Military Reserve for Public Recreation	1935
Above ground sewerage treatment plant between the park and reserve commissioned	1953
Hugh Bamford Community Hall constructed and Williams Park extended Club House constructed	1960s
Metropolitan Water begins construction new sewerage outfall tunnel through Hugh Bamford Reserve exposing the gun placement	1980
Sydney Water provides funding with Waverley Council to improve Hugh Bamford Reserve	1985
Ongoing community and club use of the Parks	2006
	2019



Image: Partially uncovered Ben Buckler gun emplacement in Hugh Bamford Reserve, October 1984. (Source: Waverley Photo Library No. 5577; Copyright Water Board)



Image: Bondi Golf Links Club House from Military Road, c 1930. (Source: Waverley Photo Library picture no 757)



Site Photo: showing existing rock formation of former Murrivrie Quarry.

For more information, about the plan of management, please visit our website [haveyoursay.waverley.nsw.gov.au](http://haveyoursay.waverley.nsw.gov.au) or please email [OpenSpace@waverley.nsw.gov.au](mailto:OpenSpace@waverley.nsw.gov.au)

"HAVE YOUR SAY"  
13 April 2019



# Williams Park and Hugh Bamford Reserve Plan of Management and Master Plan

## Key considerations and opportunities for management

To enable a coordinated approach to open space management Council has developed themes to organise management of parks in the LGA. Under each theme a series of objectives or 'possible outcomes' specific to the individual parks can be identified.

The possible outcomes listed below have been derived from consultation to date and study team investigations. Please let us know if you agree (green dot) or disagree (red dot).

### Design and setting; enhancing the environment



- link areas of remnant vegetation allowing buffer for natural regeneration
- improve & enhance 'Biodiversity Habitat Corridor' - continue weed removal and re-vegetate poor quality areas of vegetation to enhance habitat and provide canopy linkages to adjoining remnants
- protect, mitigate and enhance key views and visual access into the Parks (ie from Military Road into Williams Park)
- provide a vegetated buffer to help stabilisation of soil on cliff edges & deter access to edge.



#### Considerations & opportunities

- KEY**
- Potential Buffer Zone which includes Biodiversity Habitat Corridor
  - Landscape conservation area (Waverley LEP)
  - Heritage Item
  - State listed heritage item

### Community, culture and heritage



- heritage items are focused in a 'corridor of heritage and environmental sensitivity' along eastern (cliff) edge
- investigate interpretive opportunities of state and locally significant heritage items
- protect and enhance natural heritage items - vegetation, geological formations, landform, views.



Image: Detail of Muriel's Quarry before the use of the site by hand golf links showing examples of prismatic sandstone, columnar sandstone and basalt. (Source: Waverley Library photo No. 1692)



Site Photo: Aboriginal rock carvings

#### Considerations & opportunities

- KEY**
- Edge zone & 'Corridor of Heritage Sensitivity'
  - Areas visible from key viewpoints
  - Key viewpoint within Parks
  - Key viewpoint from adjoining streets

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13 April 2019



# Williams Park and Hugh Bamford Reserve Plan of Management and Master Plan

## Key considerations and opportunities for management

To enable a coordinated approach to open space management Council has developed themes to organise management of parks in the LGA. Under each theme a series of objectives or 'possible outcomes' specific to the individual parks can be identified.

The possible outcomes listed below have been derived from consultation to date and study team investigations. Please let us know if you agree (green dot) or disagree (red dot).

### Getting to and around the Parks



- investigate opportunities to provide a pedestrian link between the parks
- investigate opportunities to extend the 'Coastal Walk' through the parks linking key points of interest
- upgrade existing entries at road junctions to improve visibility and accessibility
- provide safety buffer zones to unstable cliff edges.



#### Considerations & opportunities

- KEY**
- Existing entry
  - Potential route to link Parks
  - Heritage Item / Point of Interest

### Playing and relaxing



- eastern corridor with a focus on environment and heritage interpretation
- central zone focused on recreation / parkland
- investigate opportunities for a balance of both active and passive recreational use of Williams Park and how to reduce potential conflict between different users.
- new vegetation positioned to enhance views, increase shade and enhance environmental values on site.



#### Considerations & opportunities

- KEY**
- Edge zones
  - Central zone

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**"HAVE YOUR SAY"**  
13 April 2019



# Williams Park and Hugh Bamford Reserve Plan of Management and Master Plan

## Pressures and Opportunities

### Hugh Bamford Reserve

Place a comment:

What do you like about the place?

What do you think needs to be improved?



### Williams Park (Bondi Golf Course)



Place a comment:

What do you like about the place?

What do you think needs to be improved?

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# Appendix B – Workshop Moderators Guide



# Moderators Guide Used at Stakeholder Workshop

1. Introduction and house rules
2. Discussing the project, why we are here and efforts made to date
3. Community issues to be addressed
4. Site Values discussion using A1 boards from the Have a Say
5. Draft principles discussion using A1 boards from the Have a Say
6. Feedback activity using
7. Where to from here – project timeline and process





# Williams Park and Hugh Bamford Reserve

## Plan of Management and Master Plan

### Planning directions for the future management of the Parks

To enable a coordinated approach to open space management Council has developed six themes to organise management of parks in the LGA. Under each theme a series of objectives or 'possible outcomes' specific to the individual parks can be identified.

The possible outcomes listed below have been derived from consultation to date and study team investigations. Face-to-face interviewing was conducted during the period 15th March – 25th March 2019 in three interview locations - Hugh Bamford Reserve, Williams Park and Campbell Parade Bus Terminus.

#### 1. Design and Setting

visual and physical qualities including design of spaces and buildings, planting types and arrangement, the types of materials used, how users experience the place; safety, views and neighbourhood setting.

##### Possible outcomes:

- Conserve the park's landscape setting and character
- Provide more Shade
- Provide improved landscaping
- Make the area feel safer
- Protect scenic views
- Reduce unattractive views
- Improve quality of fencing and barriers and provide only where required
- Improve visual quality of park edges to Military Road.



#### 2. Enhancing the Environment

natural qualities of the site including micro-climate, geology and soils, topography, hydrology, flora and fauna, and sustainability.

##### Possible outcomes:

- Prevent erosion of unstable edges
- Provide continuity and extent of native vegetation
- Improve quality of vegetation
- Extend local fauna habitat
- Protect remnant vegetation to cliff edges
- Provide interpretation (signage etc) of the areas unique natural qualities.



#### 3. Getting to and around the Parks

the various modes of transport to and from the park; entry and exit points; and wayfinding and circulation in and around the park; access to the cliff edge and points of interest.

##### Possible outcomes:

- Better paths to walk along
- Continue coast walk through park
- Connect pedestrian access between Hugh Bamford Reserve and Williams Park
- Provide more parking
- Increase awareness of the Park / better signage / increase awareness that it is public land, not just a golf course.





# Williams Park and Hugh Bamford Reserve

## Plan of Management and Master Plan

### Planning directions for the future management of the Parks

To enable a coordinated approach to open space management Council has developed six themes to organise management of parks in the LGA. Under each theme a series of objectives or 'possible outcomes' specific to the individual parks can be identified.

The possible outcomes listed below have been derived from consultation to date and study team investigations. Face-to-face interviewing was conducted during the period 15th March – 25th March 2019 in three interview locations - Hugh Bamford Reserve, Williams Park and Campbell Parade Bus Terminus.

#### 4. Community, Culture and Heritage

community activity and events, community spirit and co-operation, Aboriginal and European cultural importance; presence of culturally significant items and natural heritage

##### Possible outcomes:

- Protect Aboriginal heritage features
- Protect European heritage features
- Improve awareness and understanding of heritage features and stories
- Improve conservation and presentation of Aboriginal rock carvings
- Hold more community events / festivals / fairs
- Improve facilities that support community events / festivals / fairs.



#### 5. Playing and relaxing

how the parks are used and types of recreation they can support including organised and non-organised activities; recreational facilities required to support use

##### Possible outcomes:

- More things to do (generic) / make more multi-purpose
- Stop golf use in the area (*to enable safer walking and other park use*) or/
- Reduce impact golf use in the area (*to enable safer walking and other park use*)
- More park seating
- BBQ / picnic facilities
- Improve access to / provide public toilets
- Change facilities / showers to Hugh Bamford
- Outdoor gym equipment
- Play equipment for children
- Maintain / improve restaurant / cafe
- Coffee cart
- Maintain management of off leash dog access.



#### 6. Management and Maintenance

the services that Council provides in managing and maintaining the Parks to ensure the place is well kept and safe, consideration of Sydney Water Sewer Infrastructure under and adjoining the park.

##### Possible outcomes:

- Reduce impact of off leash dog access
- Cleaner / less litter
- Water stations for visitors and dogs
- Improved maintenance of landscaped areas
- Collaborate with Sydney Water for potential future access connection between the parks.



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13 April 2019



# Appendix C – Other Comments





# What Respondents Dislike About Hugh Bamford Reserve

Q3. And what, if anything, do you dislike about Hugh Bamford Reserve? – Additional comments

Comment	N=117
Bondi United lost use of the Club house	1%
Don't want to see this taken away	1%
Feels isolated	1%
Fences/barrier to water treatment plant are unsightly	1%
Lack of public access	1%
Lack of recycling/rubbish bins	1%
Limited facilities	1%
Limited public transport options	1%
Limited to one day a week for use of archery range	1%
North Bondi	1%
Not able to walk to Williams Park	1%
Not enough signage	1%
Oval is not safe	1%
Surface is a little hard	1%
Sydney	1%
The park was shortened	1%
Too many dogs	1%
Too many restrictions on dogs	1%
Vandals	1%
Woollahra	1%





# How Hugh Bamford Reserve Could be Used Differently

Q5. (If yes) How could it be used differently to better benefit the community? – Additional comments

Suggestion	N=51
Development	2%
Different cultural features included	2%
Install a cafe or gym	2%
Look out points	2%
More accessible	2%
More lighting	2%
More parking	2%
No development	2%
Relocate sewage plant	2%
Staying as is/already benefiting the community	2%
Walking track	2%
Increased safety of the area	<1%
Community centre for the disabled	<1%
Remove illegal campers	<1%





# What Respondents Like About Williams Park/North Bondi Golf Course

Q7. What, if anything, do you like about Williams Park or the North Bondi Golf Course? – Additional comments

Comment	N=235
Freedom	1%
Not fenced off	1%
Nothing	1%
Popular	1%
Proximity to the beach/ocean	1%
Well maintained	1%
Didn't know I could visit as I thought it was private land	<1%
Renovate the Club and reopen the parking	<1%
Safe	<1%





# Appendix D – Questionnaire





Environmental Partnership/Waverley Council  
Williams Park and Hugh Bamford Reserve – Pop-up Questionnaire  
April 2019

Thank you for agreeing to complete this important survey about Hugh Bamford Reserve and Williams Park.

The survey will only take four or five minutes to complete, and the information you provide will be used by Waverley Council and Environmental Partnership/Micromex Research for research purposes only and will be treated in the strictest confidence. Results will be reported based on aggregated data.

S1. Are you aged 14 years or over? (Note: MUST obtain parental permission for 14-15-year olds)

- ☐ Yes  
☐ No (If no, thank and end)

S2. Are you or anyone in your household a Councillor or employed by Waverley Council?

- ☐ Yes  
☐ No

Section 1: Hugh Bamford Reserve  
Sections 1 and 2 to be rotated.

Q1a. How often, if at all, do you visit Hugh Bamford Reserve? *Prompt (SR)* (For online version, insert map with HBR highlighted)

- ☐ Daily or most days of the week  
☐ Once or twice a week  
☐ Two or three times a month  
☐ Once a month  
☐ Every few months  
☐ Once or twice a year  
☐ (Only for Pop-up version, NOT Online version) This is my first time  
☐ (Only for online version, NOT Pop-up version) Never

Q1b. What, if anything, do you like about Hugh Bamford Reserve?

.....

Q1c. And what, if anything, do you dislike about Hugh Bamford Reserve?

.....

Q1d. In your opinion, do you feel that the public land (here) at Hugh Bamford Reserve could be used differently to better benefit the community?

- ☐ Yes, could be used differently (Go to Q1e)  
☐ No  
☐ Can't say

Q1e. How could it be used differently to better benefit the community?



Section 2: Williams Park  
Sections 1 and 2 to be rotated.

Q2a. How often, if at all, do you visit Williams Park? *Prompt (SR)* (For online version, insert map with WP highlighted)

- ☐ Daily or most days of the week
- ☐ Once or twice a week
- ☐ Two or three times a month
- ☐ Once a month
- ☐ Every few months
- ☐ Once or twice a year
- ☐ (Only for Pop-up version, NOT Online version) This is my first time
- ☐ (Only for online version, NOT Pop-up version) Never

Q2b. What, if anything, do you like about Williams Park?

.....

Q2c. And what, if anything, do you dislike about Williams Park?

.....

Q2d. In your opinion, do you feel that the public land (here) at Williams Park could be used differently to better benefit the community?

- ☐ Yes, could be used differently (Go to Q2e)
- ☐ No
- ☐ Can't say

Q2e. How could it be used differently to better benefit the community?

.....

Section 3: Support Ratings  
Q3a-d to be randomised.

Waverley Council is seeking community feedback on a range of potential enhancements that could be implemented at the Parks. At this stage these are just ideas. Council will need to investigate if they are feasible – but they would like to obtain your reactions to them.

Q3a. One/Another idea is for Council to investigate whether a pedestrian link could be built between the two parks.

How supportive, if at all, would you be of this idea? *Prompt*

- ☐ Very supportive
- ☐ Supportive
- ☐ Somewhat supportive
- ☐ Not very supportive
- ☐ Not at all supportive
- ☐ (Do NOT Prompt) Don't know



**Q3b. One/Another idea is for Council to enhance the native vegetation in the parks, remove weeds, and trim vegetation to improve views from outside the parks into the parks.**

**How supportive, if at all, would you be of this idea? Prompt**

- ☐ Very supportive
- ☐ Supportive
- ☐ Somewhat supportive
- ☐ Not very supportive
- ☐ Not at all supportive
- ☐ (Do NOT Prompt) Don't know

**Q3c. One/Another idea is for Council to investigate extending the existing Coastal Walk, which runs from Bondi to Bronte, through the parks linking key points of interest within the parks.**

**How supportive, if at all, would you be of this idea? Prompt**

- ☐ Very supportive
- ☐ Supportive
- ☐ Somewhat supportive
- ☐ Not very supportive
- ☐ Not at all supportive
- ☐ (Do NOT Prompt) Don't know

**Q3d. One/Another idea is for Council to explore whether the current Williams Park area could support both active and passive recreation without there being conflict between different users.**

**How supportive, if at all, would you be of this idea? Prompt**

- ☐ Very supportive
- ☐ Supportive
- ☐ Somewhat supportive
- ☐ Not very supportive
- ☐ Not at all supportive
- ☐ (Do NOT Prompt) Don't know

<b>Section 4: Demographics</b>
--------------------------------

**Finally, some questions about you...**

**Q4a. What is your age? Prompt**

- ☐ 14-15 years
- ☐ 16-17 years
- ☐ 18-24 years
- ☐ 25-34 years
- ☐ 35-44 years
- ☐ 45-54 years
- ☐ 55-64 years
- ☐ 65-74 years
- ☐ 75-84 years
- ☐ 85+ years



**Q4b. What is your gender? Do NOT Prompt**

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

**Q4c. Do you live in the Waverley Local Government Area, or elsewhere?**

- ☐ Waverley
- ☐ Elsewhere

**Q4d. [If Waverley on Q4c] How long have you lived in the Waverley Council area? Prompt**

- ☐ Less than one year
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11-20 years
- ☐ More than 20 years

**Q4e. Which suburb do you live in?**

- ☐ Bondi
- ☐ Bondi Beach
- ☐ Bondi Junction
- ☐ Bondi North
- ☐ Bronte
- ☐ Clovelly
- ☐ Dover Heights
- ☐ Queens Park
- ☐ Rose Bay
- ☐ Tamarama
- ☐ Vaucluse
- ☐ Waverley
- ☐ Other (Please specify):.....

**Q4f. Would you be interested in registering your interest to participate in future consultations on this same topic?**

- ☐ Yes
- ☐ No (If no, go to end)

**Q4g. May I please confirm your contact details?**

First name.....  
Surname.....  
Email.....  
Telephone.....

That completes our interview. As this is market research, you can be assured that it is carried out in full compliance with the Privacy Act and the information you provided is used for research purposes only.

Thank you for your time.





Telephone: (02) 4352 2388

Fax: (02) 4352 2117

Web: [www.micromex.com.au](http://www.micromex.com.au)

Email: [mark@micromex.com.au](mailto:mark@micromex.com.au)





# Draft Williams Park and Hugh Bamford Reserve Plan of Management

DRAFT AUGUST 2019



## Caring for Country

Waverley Council respectfully acknowledges our Indigenous heritage and recognises the ongoing Aboriginal traditional custodianship of the land which forms our local government area.

<i>Version</i>	<i>Date</i>	<i>Name</i>	<i>Signature</i>
1	June 2019	Preliminary Draft	Adam Hunter
2	August	Draft POM	Adam Hunter



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HUGH BAMFORD  
RESERVE

WILLIAMS PARK  
(BONDI GOLF  
COURSE)



# Introduction and Purpose

1



# 1. Introduction and Purpose

## 1.1. What is a Plan of Management and Master Plan?

A plan of management is a document providing a strategic framework to guide the sustainable use, improvement, maintenance and management of public land. The plan provides directions and identifies important actions to achieve what is envisioned for the land. These directions and actions are formed through research and consultation with the community to identify an approach to sustainable future use and management of the site. The plan seeks to balance the interests of all users of the land, including the local community, residents, businesses and visitors. Plans of management also serve to consolidate information about a site and its users.

In conjunction with a plan of management, a master plan can be developed. A master plan is a comprehensive long-term plan illustrating an integrated approach and design direction for a site. Together a plan of management and master plan describe the agreed vision and provide strategic and operational direction for the improvement and management of a site for an defined period.

## 1.2. Why is one needed for Williams Park and Hugh Bamford Reserve ?

Williams Park and Hugh Bamford Reserve are much valued and loved open spaces for the local community of Bondi. Nestled above the intense day and night activity of Bondi Beach, they provide a retreat from that world that is both calming and invigorating, with a unique mix of natural and cultural qualities. A Plan of Management for the parks has been prepared to guide community use and manage the natural and cultural values that the parks provide for the Waverley community. The plan addresses both parks because although the Bondi Sewerage Treatment Plant lies between, the parks can and should function as contiguous open space, providing natural systems and recreational opportunities that integrate and complement each other.

The parks are not currently covered by a site specific plan of management but are partially addressed by the following Generic Plan of Management as listed:

- Coastal Reserves POM 2013 -Hugh Bamford Reserve

There are a range of issues that need to be addressed in the parks as part of a holistic long term direction and which are not addressed in these Generic Plans. As such it is appropriate that a Plan of Management be prepared.

The Williams Park and Hugh Bamford Reserve Plan of Management also includes a Master Plan illustrating the key actions under each of the management topics.

## 1.3. Purpose of this Plan

This Plan of Management aims to ensure that the values of Williams Park and Hugh Bamford Reserve are conserved and enhanced, including the environmental, scenic, recreational, heritage, cultural and social values.

There is potential for the parks to play a greater role for community use while conserving existing values. This Plan of Management aims to set out a pathway to appropriately manage the site and improve community facilities to meet current and future demands over the next ten years.

## 1.4. The Plan's Scope and Process

The Plan of Management has been completed in line with the requirements of the Crown Land Management Act 2016. It has been developed in partnership with key stakeholders and the community and is based on evidence-based research and background studies.

A broad range of consultation activities were programed over two stages, gaining stakeholder and community feedback to assist in setting the direction, vision and values identified in this plan.

The methodology for developing the Plan of Management is set out below:

**Research and Background Studies:** The first stage focused on information-gathering, including mapping and research to understand current issues and opportunities for the site. Specialist heritage assessment was also undertaken.

**Consultation Stage One:** To clarify the vision, values and design direction for Williams Park and Hugh Bamford Reserve over the next decade, it is essential to engage with residents, local businesses and visitors. A user survey, intercept interviews, Have a Say Day, and Stakeholder Workshop were undertaken to source community input.

**Draft Plan of Management:** From this basis, the Plan of Management and Master Plan were drafted. The draft Plan of Management outlines what future works will take place, their priority, and main actions for delivery.

**Consultation Stage Two:** On approval from Council, the draft Plan of Management was released for a second round of consultation, formally notified as a Public Exhibition.

**Final Plan of Management:** Following exhibition, the Plan of Management will be updated. The Plan will be submitted to the Minister for Lands whose Department has been consulted during development of the plan.

Council will then consider the plan for final approval and adoption.





Figure 1.1 Study Area







Site Context

2



## 2. Site Context

### 2.1. The Study Area and Surrounds

Williams Park and Hugh Bamford Reserve are located in North Bondi several minutes walk from Bondi Beach, and are bounded by steep sea cliffs to the east and Military Road to the west. The Parks are made up of a mix of parcels of land including Community Land, Crown Land and a parcel of road reserve formed by road closures. Council is the Trustee Manager for the Crown Reserve Trust. The gazetted reserve, No. 93444 is known as Hugh Bamford Reserve and Williams Park.

The total combined park area is approximately 9.7 hectares. Williams Park comprises 7.3 hectares of this, and is currently under lease to the Bondi Golf and Diggers Club Ltd. Hugh Bamford Reserve forms the northern precinct of the Crown Trust lands separated from the southern precinct of Williams Park by the Bondi Sewerage Treatment Plant (STP) owned and operated by Sydney Water.

Hugh Bamford Reserve is predominantly cleared land on a highly modified and filled area. Past filling works have created a half size playing field in the east which is complemented by a carpark, community hall, grassed amphitheatre and lookout with spectacular views south towards Bondi and onto Malabar Headland, and west towards the city and harbour. Williams Park is likewise modified over much of its area, in particular in the north where it lies over the subterranean tunnels and chambers of the Bondi STP. The park is typified by an undulating topography sloping towards the south and south west. The elevated location along the sea cliffs and southerly aspect offers spectacular panoramic views over the ocean, to Bondi Beach, and west to the City.

Despite past clearing, remnant vegetation in Hugh Bamford Reserve contributes the largest area of SEPP 19 Bushland in Urban Areas vegetation in the LGA, and the Parks are identified for their corridor potential in Council's Biodiversity Action Plan 2014-2022.

Williams Park and Hugh Bamford Reserve contain locally significant heritage items as listed in the Waverley Local Environmental Plan 2012. The parks adjoin the Bondi Sewage Treatment Plant that is of state heritage significance and is listed on the Register of the National Trust of Australia (NSW).

### 2.2. Regional and Local Context

Waverley Local Government Area (LGA) offers many attractions to locals and tourists, including the internationally recognised beaches of Bondi, Tamarama and Bronte.

Waverley also offers the Bondi to Bronte Coastal Walk, an interconnecting walkway with views that attract joggers and walkers daily. Centennial Parklands is next to Waverley and is one of the most visited urban parks in Sydney.

Williams Park and Hugh Bamford Reserve are located within the eastern suburbs of North Bondi in Sydney, about eight kilometres by road from the Sydney Central Business District. The parks are connected to the Sydney Buses network with local bus routes running along Military Road to and from

Bondi Beach. Refer to Figure 2.1 for regional context.

Waverley LGA lies within the Central District of the Greater Sydney Commission's District Plan. The Eastern City District includes the City of Sydney and extends west to Rhodes and Burwood, south to Sans Souci, and east to the eastern and south-eastern suburbs. The Eastern City District has a population of 1,013,200 people. Residents of the area are attracted to the lifestyle and natural features, including some of Sydney's prime coastline and public parklands. Bondi Junction is a strategic centre within the Eastern City District accommodating retail, employment and local services for the community focussed around a transit interchange.<sup>1</sup>

The Waverley LGA estimated resident population for 2018 is 74,114 with a density of 80.16 persons per hectare<sup>2</sup>. This is higher than the Greater Sydney estimated resident population density of 4.23 persons per hectare.<sup>3</sup> The estimated resident population of the suburb of North Bondi was 10,454 in 2018, and they reside in 3,998 dwellings, with an average 2.6 people per household.<sup>4</sup> This is a density of 85.28 persons per hectare, higher even than current Waverley LGA density.

In North Bondi 82.8% of the dwellings are medium to high density, with 49.6% medium density dwellings. The greater concentration of higher density dwellings is likely to attract more young adults and smaller households.<sup>5</sup>

The age structure of the Waverley LGA provides important insights into the level of demand for age-based services and facilities. Compared to Greater Sydney's average, significant differences exist in the proportion of 25- to 34-year-olds. The 'young workforce' makes up nearly a quarter (23.6 per cent) compared to Greater Sydney's 16 per cent. Waverley also has a slightly lower proportion of 0- to 15-year-olds, and a marginally higher proportion of working age population (15- to 64-year-olds) and residents aged over 85.<sup>6</sup> Although, North Bondi had a higher proportion of pre-schoolers and a lower proportion of persons at post retirement age than Waverley LGA in 2016.<sup>7</sup> The median age of North Bondi is 34, lower than Waverley LGA's median of 35 and Greater Sydney's median of 36.

Waverley's community is highly educated. 44.5 per cent of people in the Waverley LGA have a tertiary qualification, an increase of 4.2 per cent between 2011 and 2016. This is significantly higher than the 28.3 per cent of Greater Sydney.

1 Australian Bureau of Statistics 2017, North Bondi Quick Stats, viewed 18 March 2019, [http://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/SSC12984?opendocument](http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC12984?opendocument)

2 Waverley LGA Community Profile, viewed 18 March 2019, <https://profile.id.com.au/waverley/about?WebID=150>

3 Australian Bureau of Statistics 2017, Greater Sydney (GCCSA) Regional Profile, viewed 18 March 2019, [http://stat.abs.gov.au/itt/r.jsp?RegionSummary&region=1GSYD&dataset=ABS\\_REGIONAL\\_ASGS2016&geoconcept=ASGS\\_2016&measure=MEASURE&datasetASGS=ABS\\_REGIONAL\\_ASGS2016&datasetLGA=ABS\\_REGIONAL\\_LGA2017&regionLGA=LGA\\_2017&regionASGS=ASGS\\_2016](http://stat.abs.gov.au/itt/r.jsp?RegionSummary&region=1GSYD&dataset=ABS_REGIONAL_ASGS2016&geoconcept=ASGS_2016&measure=MEASURE&datasetASGS=ABS_REGIONAL_ASGS2016&datasetLGA=ABS_REGIONAL_LGA2017&regionLGA=LGA_2017&regionASGS=ASGS_2016)

4 Australian Bureau of Statistics 2017, North Bondi Quick Stats, viewed 18 March 2019, [http://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/SSC12984?opendocument](http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC12984?opendocument)

5 Waverley LGA Community Profile, viewed 18 March 2019, <https://profile.id.com.au/waverley/dwellings?WebID=150>

6 Australian Bureau of Statistics 2017, Greater Sydney (GCCSA) Quick Stats, viewed 18 March 2019, [http://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/1GSYD?opendocument](http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1GSYD?opendocument)

7 Waverley LGA Community Profile, viewed 18 March 2019 <https://profile.id.com.au/waverley/service-age-groups?WebID=150>





Figure 2.1 Regional Context



A further 9.3 per cent have a diploma or advanced diploma as their highest qualification.<sup>8</sup>

There is a larger proportion (39.9 per cent) of high income households in Waverley (that is, those earning \$2,500 per week or more). This is compared with 28.3 per cent for Greater Sydney households.<sup>9</sup>

## 2.3. Future Population

With an annual growth rate of between 1.3 per cent and 1.4 per cent, Waverley's population is projected to increase by approximately 13,000 to 83,570 by 2026. Waverley's birth rate is predicted to peak between 2020 and 2022 with 1200 to 1300 births expected to occur each year. The natural increase (births minus deaths) is currently around 800–900 per year.

The proportion of under 15-year-olds is set to rise to 18 per cent from 2013's figure of 16 per cent, while the proportion of older people (aged 65 and over) is predicted to increase from 12 per cent to 13 per cent. The proportion of people over 85 is predicted to decrease each year by one to two per cent.

The working population of Waverley is also growing. By 2026, Waverley's working-age population is expected to have increased from 51,000 in 2013 to 57,570.<sup>10</sup> This group will seek active and passive recreation opportunities, particularly on weekends. It can be expected that as a result, open spaces for recreation and exercise will come under further pressure.

Accessible facilities and walkways remain an important planning consideration for Council, particularly with a growing family demographic. While the population is not aging as rapidly as had been predicted, Waverley's proportion of older people is substantial. Accessible facilities for an aging population also requires careful consideration in the upgrade and management of the Parks.

More broadly, an increase in population density in the Eastern City District, as identified by the *Greater Sydney Commission's District Plan*, indicates that use and access to Sydney's parks and recreation spaces will be under greater pressure from a growing population. Williams Park and Hugh Bamford Reserve provide a significantly large coastal open space in Waverley LGA, with a district catchment servicing a dense and growing population. As such the parks will continue to experience increased pressure to service the recreation and leisure needs of the growing community.

## 2.4. Users of the Park and Reserve

Council holds very limited data on visitation to Williams Park and Hugh Bamford Reserve. The half field sports training area and Community Hall both have regular bookings across the year, while the sports and fitness activities that run as commercial and community operations out of the Golf Club in Williams Park are also well patronised. Golf Course use is relatively low in relation to other public nine hole courses in Sydney and this is outlined further in section 4.3.

To inform the Plan of Management process a program of community and stakeholder engagement has been undertaken. This has included:

### STAGE 1 - Understanding

- Council-promotion of the engagement program via letterbox drops, social media, local newspapers
- Council-managed 'Have a Say' on line forum
- Intercept interviews
- Have a Say Day
- Community Workshop
- Liaison with Golf Club
- Structured online survey (as part of Council's 'Have a Say' website)

With finalisation of the Draft Plan of Management, further engagement will be undertaken which will include:

### STAGE 2 - Ideas (Draft Plan of Management)

- Have a Say Day
- Key Stakeholder interviews
- Structured online survey (as part of Council's 'Have a Say' website)

An outline of the consultation findings to date follow. This was derived from the *Williams Park and Hugh Bamford Reserve Community Engagement Report* prepared by Micromex, May 2019.

### 2.4.1. Stage 1 Engagement Findings

#### 2.4.1.1. Intercept Interviews

Face-to-face interviewing was conducted during the period 15th March – 25th March 2019 in three interview locations including Hugh Bamford Reserve, Williams Park and Campbell Parade Bus Terminus. The following is a summary of the main themes that emerged from the survey question responses.

- The majority (88%) of respondents visit the parklands as a destination, not a thoroughfare.
- The predominant form of transport used to get to the parklands is a car (60%).
- Over two-thirds of users (67%) were using the open space of Hugh Bamford Reserve. 16% were using the Community Hall at Hugh Bamford Reserve and 16% were using the open spaces of Williams Park.

8 Australian Bureau of Statistics 2017, Greater Sydney (GCCSA) Quick Stats, viewed 18 March 2019, <http://quickstats.censusdata.abs.gov.au/census/services/getproduct/census/2016/quickstat/1GSYD?opendocument>

9 Australian Bureau of Statistics 2017, Greater Sydney (GCCSA) Quick Stats, viewed 18 March 2019, <http://quickstats.censusdata.abs.gov.au/census/services/getproduct/census/2016/quickstat/1GSYD?opendocument>

10 Resource for Ageing Population Planning, Local Government NSW 2012





#### KEY

- |—|— Waverley LGA Boundary
- - - - - Study Area Boundary
- - - - - Bus Route
- - - - - Bicycle Routes / On street
- Bondi Junction Transport Interchange
- Residential Area
- Commercial / Shops
- Education
- Open Space
- Commercial Centre

Figure 2.2 Local Context



Most common activities,were:

- Both parks: -dog walking / exercise (34%)  
-walking (28%).
- Hugh Bamford Reserve: -walking (42%)  
-dog walking / exercise (38%)
- Williams Park: -walking (50%)  
-sitting/ relaxing (26%).
- 72% of users stay at the parklands for up to one hour.
- Of users of the parklands, 18% visit Hugh Bamford Reserve daily or most days of the week.
- Of users of the parklands, 16% visit Williams Park daily or most days of the week.

#### 2.4.1.2. On line survey

An online survey was open from April 11 to May 16, 2019. A total of 273 online responses were obtained (including 32 that were obtained from the Stage 1 'Have a Say Day' participants). The profile of respondents was skewed towards males and those who had lived in LGA for more that 10 years (Refer Figure 2.3 below.

As well as more targeted questions in relation to potential ideas for the parks, respondents were encouraged to provide more open ended feedback on issues that interested them. Some key findings are listed below for each of the reserves:

#### Hugh Bamford Reserve

- highly valued for views
- is a local treasure, hidden away
- like it as it is
- like having views but also enclosed feel to park
- could do with an upgrade to facilities generally
- hall needs a face lift.
- make toilets publicly accessible
- provide more opportunities for children's play such as hard court, low key play equipment
- ensure any access routes take into account current user groups such as Archery group

## Sample Profile

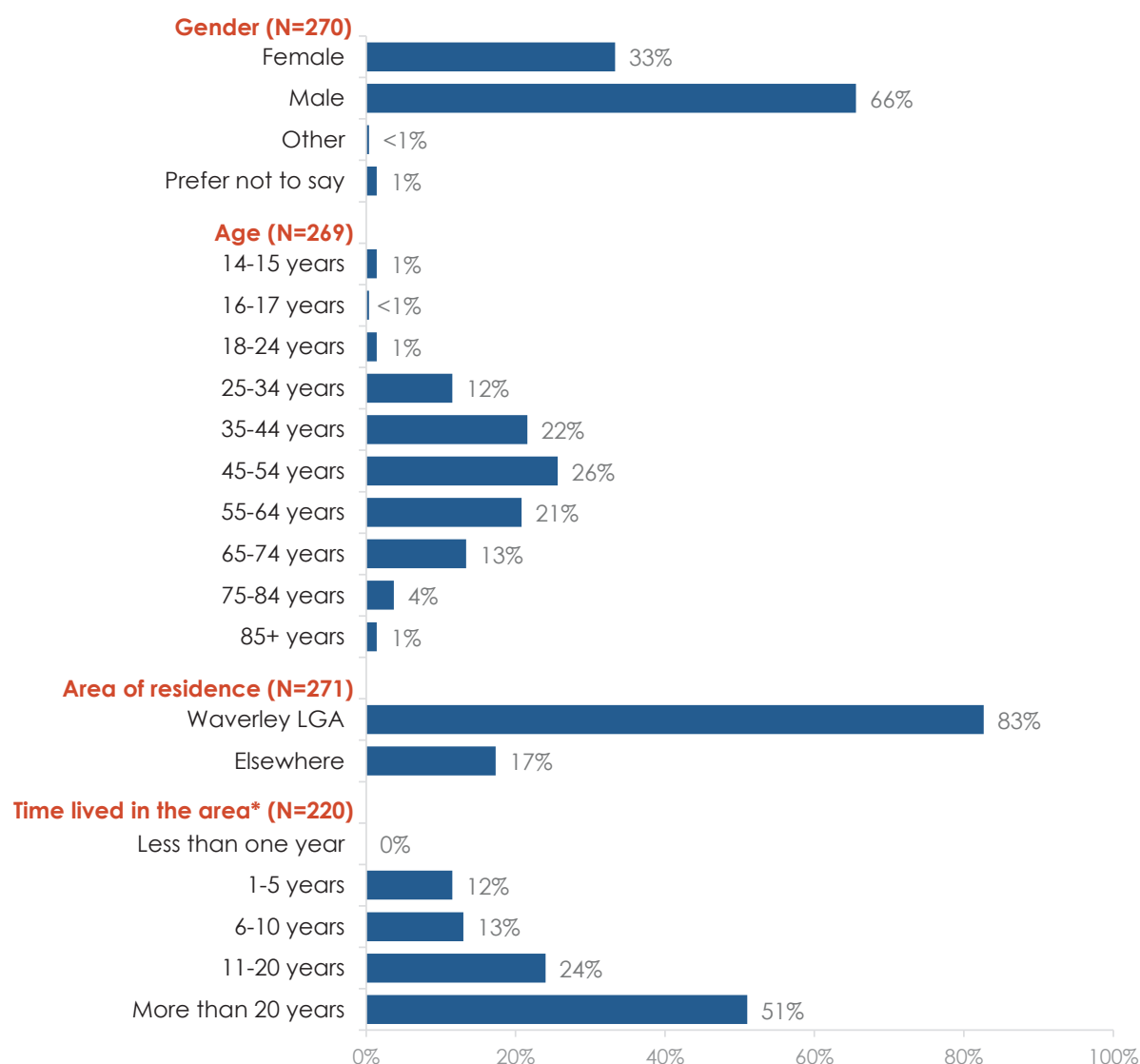


Figure 2.3 On line survey - respondent profile summary



## Williams Park

- highly valued for views and natural character
- Golf Course valued by community for natural qualities and low key character
- The club (bar and bistro) is valued by the local community
- Is a local community hub away from the intensity of Bondi Beach
- People like the laid back “old school” character of the club
- Did not want to see club become too big or modern
- Most recognised that work needs to be done to the building
- Multi-purpose spaces used for martial arts, fitness and the like were highly valued
- A general perception that the golf course is under used
- Locals do walk on the course - informal coexistence that seems to work
- Others do not walk on the course due to perceived danger or do not know they can



Image: Have a Say Day at Hugh Bamford Reserve

Responses in relation to ideas raised in the online and drop in forums are also summarised:

### Should Council explore wider community use of Williams Park ?

Supportive	Not supportive
48.6%	44.7%

### Should Council explore continuation of the coast walk through the parks ?

Supportive	Not supportive
57%	40%

### Should vegetation management including weed control be a high priority ?

Supportive	Not supportive
80%	17.5%

### Can heritage be better celebrated and interpreted in the parks ?

Supportive	Not supportive
71%	27%

Broadly the responses indicate that local residents in particular are concerned about change. More specifically, how other uses or increased use of Williams Park might affect local amenity. At its core this response also reflects a strong valuing of the low key undeveloped nature of the parks, and the natural qualities and character they provide. A key example of this is a concern about structured pathways and the impact that these could have on the natural character of the parks, in particular Williams Park.







# Planning Context

3



## 3. Planning Context

### 3.1. Ownership and Management

The Parks, Williams Park and Hugh Bamford Reserve comprise a mix of parcels of land including Community Land, Crown Land and parcels of road reserve formed by road closures. The Parks, known as Hugh Bamford Reserve and Williams Park with reserve number of *No. 93444* were gazetted on 22nd August 1980 for the reserve trust purpose of “Public Recreation”. Council is the Trustee Manager for the Reserve Trust. The total park area is approximately 9.7 hectares. Williams Park being 7.3 hectares and High Bamford Reserve 2.4 hectares. Refer to Figure 3.1 for land ownership.

Hugh Bamford Reserve forms the northern precinct of the Trust lands separated from the southern precinct of Williams Park by the Bondi STP (owned and operated by Sydney Water).

This Plan of Management has been prepared in accordance with the Crown Lands Act 1989 (CLA), the Crown Lands Regulation 2006, Crown Lands Management Act 2016 and the Local Government Act 1993.

### 3.2. Crown reserve management

As indicated on Figure 3.1 the parks are predominantly Crown Reserve managed by Council. This plan seeks to address the requirements of Crown Lands management including the recent alignment of crown reserve management with community land categorisation under the Local Government Act.

#### 3.2.1. Reservation or Dedication

Where Crown land is set aside for a public purpose, it can be either ‘reserved’ or ‘dedicated’, which makes it available only for a use that will deliver some public benefit or good, and unavailable for private uses. Reservations and dedications are generally all grouped under the name ‘Crown reserves’.

Crown land that has been dedicated as a Crown reserve is a more enduring form of reserve. Dedication can only be revoked with the agreement of both Houses of the NSW Parliament. On the other hand, where Crown land has been reserved, the Minister can decide to revoke that reservation without the matter being considered by Parliament. Parts of Crown reserves may be changed without affecting the remaining parts of the reserve.

Williams Park and Hugh Bamford Reserve are Crown Reserves.

#### 3.2.2. Public Purpose

A Crown Lands Plan of Management will have close regard for the lands identified “public purpose”. The government notification or dedication of a reserve sets out the purposes for which that reserve may be used. Generally, a reserve’s use can only be consistent with or supporting the purposes stated in the reservation or dedication. However, the Crown Lands Regulation 2006 lists various additional purposes for which reserves can be used under temporary licences. Where

possible, multiple uses of reserves are encouraged, where those uses are consistent with the purpose of the reserve. Changes in circumstances or in a community’s needs may require a change in the way in which a reserve is used.

A change in the stated purpose of the reserve may need the existing reservation or dedication to be replaced with a new reservation or dedication. This process will usually require consultation with the local community. Discussions with the NSW Crown Lands should cover the appropriate means and scale of public consultation and whether land assessment will be needed.

Under the changes introduced by the 2005 amendments to the Crown Lands Act 1989, a reserve may be authorised to be used for a purpose which is additional to the purpose for which the land was reserved or dedicated, if the new purpose is generally compatible with the existing purpose, consistent with the principles of Crown land management and in the public interest.

Additional uses of Crown reserves can be authorised by a plan of management or by order of the Minister. In both cases, the Minister for Lands will consult with the reserve trust managing the reserve and with any other Minister who has an interest in the reserve. A reserve trust, or Crown Lands Act trust, is the legal body which enables the temporary ownership of reserved or dedicated Crown land so it can be managed by the trust on behalf of the public. A trust can only make decisions and take actions concerning the reserve in the interests of the reserve itself, and the public.

#### 3.2.3. Reserve Trusts

A reserve trust is set up under the Crown Lands Act 1989 (the Act) to have responsibility for the care, control and management of a Crown reserve. While a reserve trust is a legal entity in its own right, it cannot operate without having someone appointed to manage its affairs. A reserve trust can be managed by an incorporated body, though this is usually a local council.

A reserve trust can now also be managed by more than one manager, with the different management responsibilities being determined on either a geographical or functional basis. This provides increased flexibility in establishing the most appropriate management structure for reserves, particularly where a number of different uses are located on the reserve. A reserve trust manager must not receive any personal benefit from fulfilling their role as manager or through their dealings with the trust property.

When a council or a corporation is appointed as manager, decisions regarding the operation of the reserve must be made in accordance with the rules which govern the council’s operations or the corporation’s own constitution, as applicable, as well as the Crown Lands Act 1989. As reserve trust manager, a council has all the functions of a council under the Local Government Act 1993 in relation to public reserves.





Figure 3.1 Land Ownership



Local councils as reserve trust managers can be authorised by the Minister for Lands to grant leases, licences and related easements over the Crown reserves they manage in certain circumstances (as defined by the Minister for Lands) without the need to obtain the Minister for Lands' consent.

In making the decision to grant this power, the Minister for Lands can take into account the council's performance in managing public land, and may request information on this performance from the Minister for Local Government. This authority does not apply to agreements longer than 21 years, which will still require the Minister for Lands' consent. The provision enables councils, where it is warranted and appropriate, to have similar levels of autonomy and accountability over Crown land as they have under the community land provisions of the Local Government Act 1993.

### 3.2.4. Management of Crown Land

Crown Land will be managed in accordance with the Principles of Crown Lands Management and the lands Gazetted Public Purpose.

#### Principles of Crown Lands Management

- (a) that environmental protection principles be observed in relation to the management and administration of Crown land,
- (b) that the natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible,
- (c) that public use and enjoyment of appropriate Crown land be encouraged,
- (d) that, where appropriate, multiple use of Crown land be encouraged,
- (e) that, where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity, and
- (f) that Crown land be occupied, used, sold, leased, licensed or otherwise dealt with in the best interests of the State consistent with the above principles.

### 3.2.5. Leasing and Licencing on Crown Reserves

The primary existing use of Williams Park is as a golf course managed and maintained under a lease agreement with Bondi Golf & Diggers Club. The current leasing arrangement expired on 31 December 2018 and the Club is looking to renegotiate its lease arrangements with Council.

The Crown Lands Management Bill 2016 passed through the NSW Parliament on 9 November 2016. Once introduced into law, it will amend the current approvals process for leases and licenses on Crown reserves. All future leasing and licensing will be managed in accordance with legislation active at the time of submission.

The Crown Lands Policy for Food and Beverage Outlets on Crown Reserves 2004, outlines additional requirements that are also relevant to the operation of the Bondi Golf and Diggers Club.

The Crown Lands Act 1989 allows a reserve trust to grant a lease or licence to enable a filming project, whether or not this use is consistent with an adopted plan of management, or the purpose of the reserve. The proceeds from any leases or licenses on Crown reserves are received into Council's general fund and are directed back into the maintenance and upkeep of the park through the expenditure of operational budgets linked to the delivery of Council's annual Operational Plan.

### 3.2.6. Classification and Categorisation of Crown Lands

The document *Developing plans of management for community land Crown reserves - guidelines*, December 2018, identifies that Council managers of Crown Reserves must ensure there is a compliant Plan of Management for all Crown land that they manage as community land. This must be in place within three years of the commencement of Part 3 of the Crown Lands Management Act (that is, by 30 June 2021). This is to ensure that Crown land is lawfully used and occupied, which is an essential part of Council's role as the manager of Crown land.

Under the Crown Lands Management Act, Council managers must assign to all Crown land under their management one or more initial categories of community land referred to in Section 36 of the Local Government Act. The initial category must be assigned as soon as practicable after a council's appointment as a Crown land manager. It is important that the initial category aligns closely with the original gazetted reserve purpose, and this should be the over-arching consideration of a council manager when notifying the initial category.

The Local Government Act requires Plans of Management to identify:

- the category of land;
- objectives and outcomes for the land;
- the means by which Council proposes to achieve objectives and outcomes; and
- the way by which council proposes to assess its performance.

The nature and use of community land may not change without an adopted Plan of Management. A Plan of Management for community land must identify management categories for the open space. The Local Government Act sets out a framework for making decisions around categorisation:

#### Local Government Regulation 2005 - Guidelines for categorisation

Provide criteria for deciding which categorisations are most applicable to a piece of community land.

#### Local Government Act Amendment 1993

Identifies core objectives for categories. Objectives provide goals towards which management efforts are directed. A Plan of Management must identify how it is going to achieve these and any other objectives.

The guidelines for categorisation and core objectives for management are listed opposite for the categorisations applicable to Williams Park and Hugh Bamford Reserve.



Category	Guidelines for Categorisation	Core Objectives for Community Land Categories
Natural Area (Bushland)	<p>(1) Land that is categorised as a natural area should be further categorised as bushland under section 36 (5) of the Act if the land contains primarily native vegetation and that vegetation:</p> <p>(a) is the natural vegetation or a remainder of the natural vegetation of the land, or</p> <p>(b) although not the natural vegetation of the land, is still representative of the structure or floristics, or structure and floristics, of the natural vegetation in the locality.</p> <p>(2) Such land includes:</p> <p>(a) bushland that is mostly undisturbed with a good mix of tree ages, and natural regeneration, where the understorey is comprised of native grasses and herbs or native shrubs, and that contains a range of habitats for native fauna (such as logs, shrubs, tree hollows and leaf litter), or</p> <p>(b) moderately disturbed bushland with some regeneration of trees and shrubs, where there may be a regrowth area with trees of even age, where native shrubs and grasses are present in the understorey even though there may be some weed invasion, or</p> <p>(c) highly disturbed bushland where the native understorey has been removed, where there may be significant weed invasion and where dead and dying trees are present, where there is no natural regeneration of trees or shrubs, but where the land is still capable of being rehabilitated.</p>	<p>The core objectives for management of community land categorised as bushland are:</p> <p>(a) to ensure the ongoing ecological viability of the land by protecting the ecological biodiversity and habitat values of the land, the flora and fauna (including invertebrates, fungi and micro-organisms) of the land and other ecological values of the land, and</p> <p>(b) to protect the aesthetic, heritage, recreational, educational and scientific values of the land, and</p> <p>(c) to promote the management of the land in a manner that protects and enhances the values and quality of the land and facilitates public enjoyment of the land, and to implement measures directed to minimising or mitigating any disturbance caused by human intrusion, and</p> <p>(d) to restore degraded bushland, and</p> <p>(e) to protect existing landforms such as natural drainage lines, watercourses and foreshores, and</p> <p>(f) to retain bushland in parcels of a size and configuration that will enable the existing plant and animal communities to survive in the long term, and</p> <p>(g) to protect bushland as a natural stabiliser of the soil surface.</p>
Natural Area (Escarpment)	<p>Land that is categorised as a natural area should be further categorised as an escarpment under section 36 (5) of the Act if:</p> <p>(a) the land includes such features as a long cliff-like ridge or rock, and</p> <p>(b) the land includes significant or unusual geological, geomorphological or scenic qualities.</p>	<p>The core objectives for management of community land categorised as a Natural Area (Escarpment) are:</p> <p>a) to protect any important geological, geomorphological or scenic features of the escarpment, and</p> <p>(b) to facilitate safe community use and enjoyment of the escarpment.</p>
Sportground)	<p>Land should be categorised as a sportsground under section 36 (4) of the Act if the land is used or proposed to be used primarily for active recreation involving organised sports or the playing of outdoor games</p>	<p>The core objectives for management of community land categorised as a sportsground are:</p> <p>(a) to encourage, promote and facilitate recreational pursuits in the community involving organised and informal sporting activities and games, and</p> <p>(b) to ensure that such activities are managed having regard to any adverse impact on nearby residences</p>
Park	<p>Land should be categorised as a park under section 36 (4) of the Act if the land is, or is proposed to be, improved by landscaping, gardens or the provision of non-sporting equipment and facilities, for use mainly for passive or active recreational, social, educational and cultural pursuits that do not unduly intrude on the peaceful enjoyment of the land by others</p>	<p>The core objectives for management of community land categorised as a park are:</p> <p>(a) to encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities, and</p> <p>(b) to provide for passive recreational activities or pastimes and for the casual playing of games, and</p> <p>(c) to improve the land in such a way as to promote and facilitate its use to achieve the other core objectives for its management.</p>



Category	Guidelines for Categorisation	Core Objectives for Community Land Categories
General Community Use	<p>Land should be categorised as general community use under section 36 (4) of the Act if the land:</p> <p>(a) may be made available for use for any purpose for which community land may be used, whether by the public at large or by specific sections of the public, and</p> <p>(b) is not required to be categorised as a natural area under section 36A, 36B or 36C of the Act and does not satisfy the guidelines under clauses 102–105 for categorisation as a natural area, a sportsground, a park or an area of cultural significance</p>	<p>The core objectives for management of community land categorised as general community use are to promote, encourage and provide for the use of the land, and to provide facilities on the land, to meet the current and future needs of the local community and of the wider public:</p> <p>(a) in relation to public recreation and the physical, cultural, social and intellectual welfare or development of individual members of the public, and</p> <p>(b) in relation to purposes for which a lease, licence or other estate may be granted in respect of the land (other than the provision of public utilities and works associated with or ancillary to public utilities)</p>
Area of Cultural Significance	<p>Land should be categorised as an area of cultural significance under section 36 (4) of the Act if the land is:</p> <p>(a) an area of Aboriginal significance, because the land:</p> <p>(i) has been declared an Aboriginal place under section 84 of the National Parks and Wildlife Act 1974, or</p> <p>(ii) whether or not in an undisturbed state, is significant to Aboriginal people in terms of their traditional or contemporary cultures, or</p> <p>(iii) is of significance or interest because of Aboriginal associations, or</p> <p>(iv) displays physical evidence of Aboriginal occupation (for example, items or artifacts such as stone tools, weapons, engraving sites, sacred trees, sharpening grooves or other deposits, and objects or materials that relate to the settlement of the land or place), or</p> <p>(v) is associated with Aboriginal stories, or</p> <p>(vi) contains heritage items dating after European settlement that help to explain the relationship between Aboriginal people and later settlers, or</p> <p>(b) an area of aesthetic significance, by virtue of:</p> <p>(i) having strong visual or sensory appeal or cohesion, or</p> <p>(ii) including a significant landmark, or</p> <p>(iii) having creative or technical qualities, such as architectural excellence, or</p> <p>(c) an area of archaeological significance, because the area contains:</p> <p>(i) evidence of past human activity (for example, below-ground features such as building foundations, occupation deposits, features or artifacts or above-ground features such as buildings, works, industrial structures, and relics, whether intact or ruined), or</p> <p>(ii) any other deposit, object or material that relates to the settlement of the land, or</p> <p>(d) an area of historical significance, because of the importance of an association or position of the land in the evolving pattern of Australian cultural history, or</p> <p>(e) an area of technical or research significance, because of the area's contribution to an understanding of Australia's cultural history or environment, or</p> <p>(f) an area of social significance, because of the area's association with Aboriginal life after 1788 or the area's association with a contemporary community for social, spiritual or other reasons</p>	<p>(1) The core objectives for management of community land categorised as an area of cultural significance are to retain and enhance the cultural significance of the area (namely its Aboriginal, aesthetic, archaeological, historical, technical or research or social significance) for past, present or future generations by the active use of conservation methods.</p> <p>(2) Those conservation methods may include any or all of the following methods:</p> <p>(a) the continuous protective care and maintenance of the physical material of the land or of the context and setting of the area of cultural significance,</p> <p>(b) the restoration of the land, that is, the returning of the existing physical material of the land to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material,</p> <p>(c) the reconstruction of the land, that is, the returning of the land as nearly as possible to a known earlier state,</p> <p>(d) the adaptive reuse of the land, that is, the enhancement or reinforcement of the cultural significance of the land by the introduction of sympathetic alterations or additions to allow compatible uses (that is, uses that involve no changes to the cultural significance of the physical material of the area, or uses that involve changes that are substantially reversible or changes that require a minimum impact),</p> <p>(e) the preservation of the land, that is, the maintenance of the physical material of the land in its existing state and the retardation of deterioration of the land.</p> <p>(3) A reference in subsection (2) to land includes a reference to any buildings erected on the land.</p>



### 3.2.7. Plans of management and native title

As outlined in the document *Guidelines For Council Crown Land Managers* December 2016, Plans of Management for Crown reserves must be compliant with the statutory requirements prescribed by the both Crown Lands Management Act and Local Government Act. This includes a requirement for council crown land managers to obtain written advice from a qualified native title manager that any Plan of Management covers Crown Land that is not 'excluded land'.

Excluded land is defined in the Crown Lands Management Act (CLM) to include:

- a) Land subject to an approved determination of native title (as defined in the Native Title Act 1993 of the Commonwealth) that has determined that:
  - i. All native title rights and interests in relation to the land have been extinguished, or
  - ii. There are no native title rights and interests in relation to the land,
- b) Land where all native title rights and interests in relation to the land have been surrendered under an indigenous land use agreement (as defined in the Native Title Act 1993 of the Commonwealth) registered under that Act,
- c) An area of land to which section 24FA protection (as defined in the Native Title Act 1993 of the Commonwealth) applies,
- d) Land where all native title rights and interests in relation to the land have been compulsorily acquired,
- e) Land for which a native title certificate is in effect.

Section 8.7 of the CLM Act and the Native Title Manager Workbook (available from [industry.nsw.gov.au/lands/what-we-do/our-work/native-title](http://industry.nsw.gov.au/lands/what-we-do/our-work/native-title)) clearly set out that written native title manager advice is required before a council Crown land manager does any of the following:

- a) Grants leases, licences, permits, forestry rights, easements or rights of way over the land
- b) Mortgages the land or allows it to be mortgaged
- c) Imposes, requires or agrees to covenants, conditions or other restrictions on use (or removes or releases, or agrees to remove or release, covenants, conditions, or other restrictions on use) in connection with dealings involving the land
- d) Approves (or submits for approval) a plan of management for the land that authorises or permits any of the kinds of dealings referred to in paragraph (a), (b) or (c). Accordingly, native title manager advice must be obtained prior to the approval (or submittal for approval) of a POM that allows a dealings in (a)–(c) and the execution of any lease, licence, permit, etc. that may be authorised under that plan.

### 3.3. Heritage Significance

As part of the Plan of Management a Heritage Review Study was undertaken by GML Heritage. Detailed findings of this study are provided in section 4.5, however the following Statement of Significance encapsulates the important heritage conservation values of the parks:

*"Williams Park and Hugh Bamford Reserve are recreational and scenic public coastal cliff-top landscapes of natural and cultural value, which include items of state and local heritage significance".*

### 3.4. State Planning Context

The principal planning legislation in New South Wales is the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act) that governs planning and development assessment. The Act requires a determining authority to have written consent from the legal owner of any affected land before granting consent for development. Development on Crown Land in Williams Park and Hugh Bamford Reserve and would require Crown Lands approval for any development application. The NSW Environmental Planning and Assessment Act 1979, regulations, state planning policies and the Waverley Local Environmental Plan 2012 apply to all development in Williams Park and Hugh Bamford Reserve. This legislation defines the process that any proposal must follow. When managing Williams Park and Hugh Bamford Reserve, Council must comply with all relevant laws that apply to the use of the community land. These include:

- State Environmental Planning Policy (Infrastructure) 2007: provides for development permitted without consent and exempt development on State land.
- State Environmental Planning Policy (Exempt and Complying Development Codes 2008): provides for development permitted without consent and exempt development of State land. Exempt development includes works such as compliant access ramps, play equipment, fences, bollards, paths, barbecues and signs.
- Coastal Management Act 2016 No 20: The objects of this Act are to manage the coastal environment of New South Wales in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State.
- State Environment Planning Policy (Coastal Management) 2018: guides development in coastal areas, including land adjacent to beaches, estuaries, coastal lakes, coastal wetlands and littoral rainforests. Hugh Bamford and Williams Park falls within a Coastal Environment Area and Coastal Use Area (the Coastal Vulnerability Area has not been mapped at the time of drafting this Plan). The aim of this Policy is to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the Coastal Management Act 2016, including but not limited to the following management objectives: managing development in the coastal zone and protect the environmental assets of the coast, and establishing a framework for land use planning to guide decision-making in the coastal zone.



- State Environmental Planning Policy 19 – Bushland in Urban Areas: Williams Park and Hugh Bamford Reserve contain bushland covered by this Policy. In this Policy, ‘bushland’ means land on which there is vegetation that is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation. The plan of management should be consistent with the aims of this Policy.
- The Disability Discrimination Act (DDA) 1992: applies to existing premises, including heritage buildings, those under construction, and future premises. It extends beyond the building to include outdoor spaces in Williams Park and Hugh Bamford Reserve. This Act recognises the importance of providing equality, dignity and independence to people with a range of abilities. This Act means it is unlawful to discriminate against people with a disability in the provision of access to premises.
- The Companion Animals Act 1998: requires environmental initiatives by Councils to promote responsible animal ownership. Williams Park and Hugh Bamford Reserve are used by dog walkers.
- Local Government Act 1993: requires plans of management to be prepared for public land and reserves under the responsibility of local councils. It requires that Council-owned community land be ‘categorised’ according to the function desired by the community. Councils must manage this land in accordance with the ‘core objectives’ specified in the Act.
- Crown Lands Act 1989: requires plans of management to be prepared for all public reserves. As well as needing to consider relevant plans of management when undertaking a strategic land use planning process for a locality, these plans of management may be considered when assessing development or activities under the Environmental Planning and Assessment Act in relation to certain activities on or near Crown lands. The Crown Lands Act applies to all Crown land in the study area. The objects and principles of Crown land management are listed in Sections 10 and 11 of the Act and require that:
  - Environmental protection principles be observed in relation to the management and administration of Crown land;
  - The natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible;
  - Public use and enjoyment of appropriate Crown land be encouraged;
  - Where appropriate, multiple use of Crown land be encouraged;
  - Where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity; and
  - Crown land be occupied, used, sold, leased, licensed or otherwise dealt with in the best interests of the State consistent with the above principles.

## 3.5. Regional and Local Planning Context

### 3.5.1. Regional and Metropolitan Planning

The following regional and metropolitan plans are relevant to this Plan of Management.

*The Sydney Regional Coastal Management Strategy 1998* aims to ensure that ecological integrity is maintained and when available, coastal zone resources are fairly and equitably used by the public and commercial interests alike, so that the long-term benefits derived by the community can be optimised. The Strategy also aims to maintain adequate and appropriate access to the coast, so that it is possible to enjoy a range of recreational opportunities.

The NSW Department of Planning and Environment sets out metropolitan plans that inform Waverley’s Local Environmental Plan and Council’s policy position by providing direction on matters including housing, jobs, affordable housing and open space. Relevant metropolitan plans include:

- Greater Sydney Region Plan: A Metropolis of Three Cities. Aims to re-balance growth and deliver its benefits more equally and equitably to residents across Greater Sydney. A Metropolis of Three Cities will transform land use and transport patterns, boosting Greater Sydney’s liveability, productivity and sustainability by spreading the benefits of growth to all its residents. Some of the objectives of the plan are to:
  - Objective 25. The coast and waterways are protected and healthier
  - Objective 27. Biodiversity is protected, urban bushland and remnant vegetation is enhanced.
  - Objective 28: Scenic and cultural landscapes are protected
  - Objective 31. Public open space is accessible, protected and enhanced
- Eastern City District Plan: provides the ‘district-level planning that connects local planning with the longer-term Greater Sydney Region Plan. Some relevant priorities include:
  - Planning Priority E18. Delivering high quality open space



### 3.5.2. Local Planning Context

The following local planning documents are of specific relevance to this Plan of Management.

*The Waverley Local Environmental Plan (2012):* Williams Park and Hugh Bamford Reserve are zoned RE1 Public Recreation. The northern lot adjoining Hugh Bamford Reserve is zoned E2 Environmental Conservation. The LEP contains a listing of environmental heritage referred to as Schedule 5. This includes Williams Park - North Bondi Golf Course which is identified as a Local Landscape Conservation Area. Refer to Figure 3.2.

The Local Environmental Plan makes provision for development of land within the coastal zone for the purpose of implementing the principles in the NSW Coastal Policy. The LEP outlines conditions of development consent within the coastal zone such as: providing and maintaining public access along the foreshore; suitability of the development in relation to the surrounding area and the natural scenic quality (including the location and bulk, scale, size); impact on the amenity including overshadowing and view loss; visual amenity and scenic qualities of the coast; and biodiversity and ecosystems.

*Waverley Development Control Plan 2012:* Williams Park and Hugh Bamford Reserve contain recognised habitat, habitat corridor and habitat buffer.

*Draft Waverley Community Strategic Plan:* is Council's overarching strategic plan. This guides Council in responding to change, challenges, and opportunities in a consistent, sustainable, and coordinated way. Several directions within this plan apply to Williams Park and Hugh Bamford Reserve including *Recreation and Open space*:

- 3.1. Improve health and quality of life through a range of recreational opportunities and quality open spaces
- 3.2. Expand the network of parks and open spaces, sporting and recreational facilities

*The Waverley Coastal Risk Management Policy 2012:* the geotechnical risk map applies to Williams Park and Hugh Bamford Reserve.

Other Council Policies and Guidelines recognised in planning and management of Hugh Bamford and Williams Park include:

- The Access and Mobility Policy 2011–2015
- Waverley Coastal Risk Management Policy 2012
- Waverley Council Recreation Needs Study 2008
- Waverley Public Domain Technical Manual



Figure 3.2 Excerpt from the Waverley LEP 2012 Heritage Map







# Site Analysis

4



## 4. Site Analysis

The following chapter brings together information gathered from site investigations and specialist reports. To coordinate information and ensure important aspects are adequately addressed, the chapters have been organised into major themes:

- Design and Setting;
- Getting to and Around the Park;
- Playing and Relaxing;
- Enhancing the Environment;
- Community, History and Culture; and
- Management and Maintenance

### 4.1. Design and Setting

This section provides an analysis of the site's visual and physical characteristics. Such characteristics are considered to be defined by the design of spaces and buildings, planting types and design, and the types of materials used. People's experience of the place is also considered. Consequently, safety and community values, views and landscape setting are also considered to characterise a site.

#### 4.1.1. The Setting

The suburb of North Bondi is characterised by its coastal location and elevation. The well established low to medium density suburb is bounded by Ramsgate Ave, Mitchell St, Muriverie Rd, Military Rd, Bondi Golf Course and the Pacific Ocean. At the north end of Campbell Parade, the North Bondi Beach bus terminus and associated strip of local shops and cafes is less than 500m to the south of Williams Park. Refer to Figure 2.2 for local context.

The western boundary of both Williams Park and Hugh Bamford Reserve adjacent Military Road varies from low grassed embankments to steeply vegetated slopes which limit clear views into the open spaces. The north and south boundaries are fringed by detached residential properties. The eastern edges are flanked by the coastal cliff edge which rises up to 40m above the Pacific Ocean. In Hugh Bamford Reserve this edge is typified by a mix of remnant vegetation, regeneration planting and weeds. To Williams Park the edge is more open with predominantly mown grass up to the cliff edge and only small patches of low remnant vegetation, weeds or rocky outcrops.

The open space within both parks is characterised by extensive areas of maintained grassland.

The elevation of both spaces provide spectacular views of the ocean, southern coast line, Bondi Beach and Sydney CBD. The key interruption to these views is the Bondi STP Buildings which also physically separate the parks.

#### 4.1.2. Landscape Character

The unique topography and size of the parks generate a series of zones with distinct landscape characters. These zones support certain types of recreational uses. Consideration of these characters in planning and design is essential in reducing conflicts between use and users.

The parks are separated physically by the Bondi STP facility, which acts as a margin between their varied characters. Hugh Bamford Reserve is largely a level open grass area bordered by steep embankments or vegetated areas creating a sense of enclosure. Williams Park is an undulating and expansive open grassed space exposed to the weather and providing expansive panoramic views.

Within these two broad characters several sub zones can also be identified. These areas are generally well defined by topography and site elements, such as planting and fences. The areas suit particular uses such as organised sports, relaxing, walking, dog walking, or informal ball games and exercising. Figure 4.1 defines six landscape character areas: the Coastal Cliff Edge, Park, Embankment/Slopes, Bushland Edge, Golf Course and the Club Building Precinct. These areas are further defined below:

##### Coastal Cliff Edge

The Coastal Cliff Edge lies along the eastern boundary of both Hugh Bamford Reserve and Williams Park. These areas are semi-accessible with fences and /or gated access in Hugh Bamford Reserve, while the zone in Williams Park is easily accessible. The cliff edge in Hugh Bamford is adjacent a vegetated area, which varies in quality from good remnant vegetation to heavily weed impacted and poor quality vegetation. Through Williams Park the zone varies from mown grass, rocky outcrops, remnants of historic quarrying activities, flat rock areas with historic carvings to remnant vegetated areas and weedy areas.

The zone provides views up and down the coastline, to the cliff faces, wave cut rock platform at the base of the cliffs and to the remnant of the basalt vein at the cliff base which once ran through the park.

##### Park

Park comprises the filled level area at the top of the access road / ramp from Military Road. This area provides for passive recreation, parking and a half playing field area used by a wide range of community groups. Panoramic views are available from the park to the City CBD, Harbour bridge, southern coastline and across the Waverley LGA. Sub-areas of the park include:

- Upper Park: passive open grassed area which includes a small amphitheatre and viewing node, carpark, and community hall
- Active Park: level playing field area, fenced or barrier on 3 sides, partial views across the LGA and to the coastal headlands south of Bondi.





Figure 4.1 Design and Setting - Existing Conditions



### Embankment / Slopes

The south and western embankments of the parks are steeply sloped. The slopes are heavily vegetated by woody weeds, native vegetation and trees. There is limited public access, with an existing gate in the aris / steel mesh style fencing located in the fenceline adjacent the Community Hall in Hugh Bamford Reserve, and several informal track accesses through the Williams Park edge to Military Road.

### Bushland edge

The Bushland Edge is an area of predominantly remnant vegetation which is listed under SEPP19 - Bushland in Urban Areas. This area can be accessed from Wentworth Street via a grassed lane which opens out into a small enclosed grassed space to the rear of residential properties. The remnant vegetation is separated from this area by a fence which is in poor condition. Public access to this area is problematic, does not serve a recreational purpose, and should be reviewed.

### Golf course

An undulating open grassed landscape with dramatic ocean views and views to southern headlands. The area integrates the natural sandstone cliffs with the modified grasslands beyond. To the periphery of the golf course on the north, west and southern boundaries, modified levels and in places a steep inaccessible embankment, limit views from Military Road into the parkland. Mixed vegetation including shrubs, trees and weed encroachment typifies the road edge.

### Club building precinct

Site of the original 1930s club building in the south west corner of Williams Park adjoining Military Road. The precinct includes the Golf and Diggers Club building, remnant Sandstone Clubhouse (currently used for storage) and associated facilities, and landscaped garden areas including stone block retaining walls.

## 4.1.3. Views

The elevated topography of the study area enables spectacular views over Bondi Beach, the coastal headlands, the Pacific Ocean and Sydney CBD and Harbour. There are a variety of vantage points which provide varied visual experiences from very natural coastal views to strongly cultural views over a dense town scape. The major views moving from north to south are described following and are indicated on Figure 4.2 opposite.

Arriving at the top of the stairs near the Hugh Bamford Community Hall and from the Wentworth Street edge of the park, a framed view toward the Sydney CBD and 180 degree views over the reserve and south are available. There is a structured viewing space south of the Community Hall in Hugh Bamford Reserve which captures the view south towards Bondi Beach and provides glimpses of Williams Park.

There are various vantage points within Williams Park providing spectacular views of the coastal cliffs and across the golf course to Bondi Beach and beyond. The most notable of these is from the rock above the raised Golf Tee (number 5) which provides 360 degree views, and at the north eastern boundary of the golf course, above hole number 5.



Coastal cliff edge



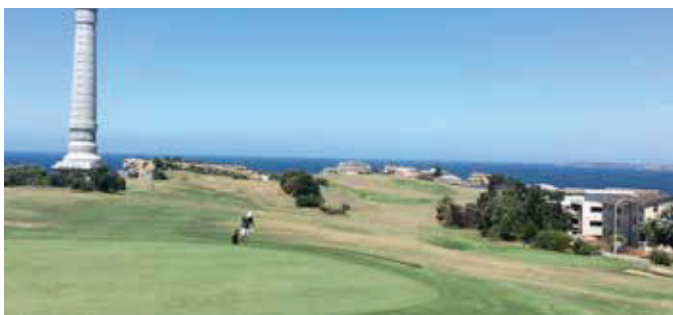
Park



Embankment



Bushland



Golf course



Club building precinct





Figure 4.2 Design and Setting - Key views from the site



The view from the Golf Club House dining area also provides very attractive views towards Bondi Beach.

Views to the parks are also significant considerations in park planning and management. Figure 4.3 on the opposite page outlines key views to the site. The elevation and distinctive form of the Sewer Vent Stack provides a distinctive landmark from a number of locations. Local views and vistas into the parks include:

- along Blair Street from the intersection of Gould Street;
- Wallis Parade; and
- Campbell Parade near the intersection of Brighton Boulevard (glimpses of the golf course and club building).

The study area is also visible from other key landmarks in the LGA including:

- Bondi Beach, Notts Avenue;
- Marks Park/Mackenzie's Point;
- Bronte/Calga Place;
- Waverley Cemetery/Coastal Walk; and
- Ocean Street/ Clovelly Bowling Club.

#### 4.1.4. Parks and Planting Design

Both Williams Park and Hugh Bamford Reserve are predominantly modified landscapes typified by large areas of maintained grassland. Both contain areas of remnant vegetation predominantly along the cliff top edge. The condition of the areas of remnant vegetation varies from good to very poor.

There has not been major planting undertaken in the parks in recent times although bush care activities are carried out through the Hugh Bamford Reserve area. Council landscape plans for Hugh Bamford Reserve from 1990 and 1995 proposed cultural tree plantings of a mix of exotic and native species. These plans appear to have never been fully implemented.

The steep embankments from Military Road up to the level grassed areas of Hugh Bamford Reserve contain a small area of remnant vegetation with the remainder planted species and / or woody weeds. As noted above the volunteer Bushcare group and Council employed professional bushcare workers carry out revegetation works in these areas.

There are some larger canopy trees present at the top of the embankment adjacent to the Community Hall. The level open space areas consist of mown grass.

The embankment above the Bondi STP adjoining Hugh Bamford Reserve has been determined as unstable with slumping issues going back to 2012. Interim stabilisation measures were installed in 2013 but it is necessary for a long term solution to be implemented to protect the adjoining sewer infrastructure. Sydney Water have previously prepared options for Council approval for the works and are currently re-reviewing options to determine the best way forward. The embankment will require revegetation after any stabilisation works are implemented.

The Williams Park golf course area contains zones of planted vegetation around the club house terraces, maintenance shed and Sewer Vent Stack. These include a mix of native and exotic shrub species. Some of the shrub planting around the club house has been formally hedged. Other areas are overgrown including to the front of the old club house building.

The boundary along Military Road has been planted with a mix of native and exotic shrub and tree species. The quality and condition of planting varies and there is weed encroachment including golf course grasses.

#### 4.1.5. Built Form

The Community Hall in Hugh Bamford is a single-storey brick building located in the north west corner of the reserve below Wentworth Street. The building includes a timber floored hall with capacity for 100 people, change rooms with toilets, shower, kitchen facilities, and storage room for trestle tables and chairs. The building was designed and built in the 1950s by Waverley Council. The building is set into the surrounding topography with a stone retaining wall to the north and eastern facades.

Plans for the Bondi Golf Club house building were first made in 1935 with the shell of the original club building still standing today in the south western corner of the course. The adjoining Golf and Diggers Club building was built in the 1960s. The Club is a two-storey brick and concrete structure with a service area and some parking located beneath the building. The building is leased by Council to the golf club and there are multiple users which utilise the facilities and fitness rooms. The Club building is excavated into the natural topography on the eastern and northern edges. The building is in a state of disrepair and is at the end of its safe and useful life.

A single storey, green corrugated iron maintenance shed for the golf course is located to the east of the Sewer Vent Stack. The shed is surrounded by a landscaped shrub garden.

The heritage listed sewer vent stack originally from the 1880s and then rebuilt in the early 1900s is visible across the site and from adjoining areas. The structure is surrounded by cyclone fencing with a barbed wire top course. Just south of the stack is associated infrastructure including a painted brick generator shed, ventilation chimneys and series of concrete hatches to access the underground treatment plant. The concrete surface of the hatches has been painted green.

#### 4.1.6. Urban Furnishing/Materials and Finishes

Hugh Bamford Reserve has a range of park furnishings including seating, rubbish bins, bollards, and vehicle access gates to serve recreational use and access.

The primary paving material throughout the reserve is concrete. Retaining walls are generally constructed from natural sandstone blocks. Fencing and balustrade types vary through the reserve including: arris rail fencing; arris rail fencing with chain mesh infill; steel post and chain mesh fence; and galvanised steel balustrades.



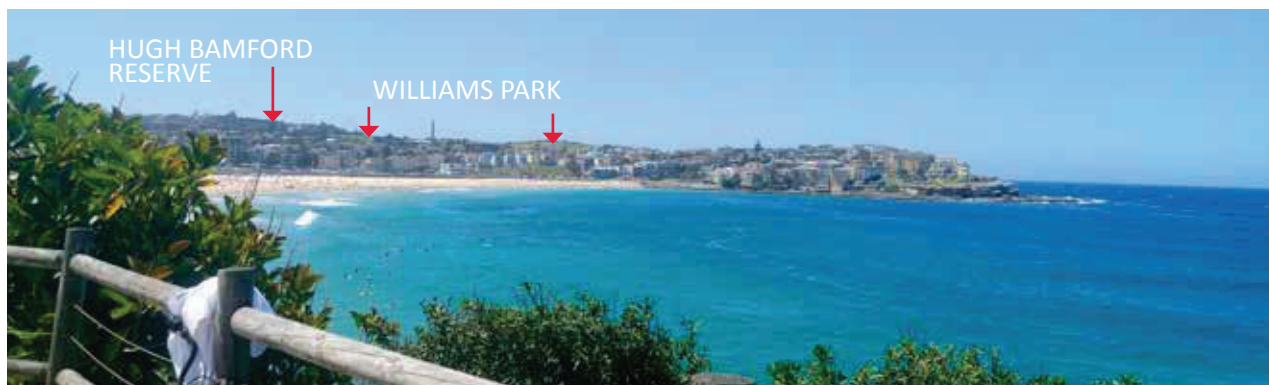


Image: View from Notts Avenue, to the south of Icebergs (1)



Image: View from path above Clovelly Bowling & Recreation Club (4)



Figure 4.3 Design and Setting - Views to Study Area



Image: View from Marks Park, Tamarama (2)



Image: View from Waverley Cemetery (3)



The perimeter chain mesh fencing to the remnant vegetation and the cliff edge is in poor condition. Council have plans in place to replace this section of fence.

There are minimal park furnishings in Williams Park reflecting its informal role for general public use and ongoing management by the Golf Club lessees. There are varying types of retaining walls across the Golf Course site including sandstone walls of different styles and quality, dry-stone basalt walling and concrete walls. The limited pathways vary in material including asphalt, concrete and stone flag paving.

The original stone flag paving around the old club house is in poor condition with missing stones and an uneven surface. There are sections of chain mesh fencing along the western boundary of the golf course and to the east of the club house which act as ball stop safety fences. These fences are in generally poor condition.

### 4.1.7. Lighting

There is sports lighting to the playing field in Hugh Bamford Reserve. This includes one lighting mast with a second set of lights positioned on the Emergency Communications Tower, this infrastructure only lights a part of the field limiting the useful area of the field at night. There is no other external lighting provided in the reserve carpark, around the community hall or to the access road.

The steps (the 'rock-cut stairway') down to Military Road are not lit and only receive limited light spill from street lights due to the step orientation and overhanging tree canopy. Council plans for the carpark upgrade do not currently include lighting.

Signage indicates that the Hugh Bamford Carpark is shut at 9:30pm. However when the field is booked for training the road access remains open with field lights programed by Council staff.

The golf course in Williams Park is not lit. There is limited external lighting in the vicinity of the club house building.

### 4.1.8. Safety

The *Intercept Survey 2019* suggested that most people felt safe in the parks. Although not promoted as publicly accessible, there is daily use of the Golf Course area in Williams Park for walking, and some community members and golfers believe that this is an acceptable co-existence. Walkers and golfers can access freely the steep cliff edges and despite the inherent danger.

### 4.1.9. Community Values

Community values of the reserves were canvassed in the consultation program for the Plan of Management. This is detailed in the *Williams Park and Hugh Bamford Reserve Community Engagement Report* prepared by Micromex in May 2019. The key consultation activities were outlined in section 2.4 of the plan.

Those engagement activities along with liaison with Council officers and elected Councillors enabled an understanding of the key community values of the parks. These are listed below:

#### Natural

The parks have a strongly natural character integrating dramatic natural features with parkland landscape.

#### Casual

The parks are largely undeveloped and have a low key casual character.

#### Refuge and respite

The parks provide a peaceful retreat from the intensity of Bondi Beach.

#### Local

The parks have a local character and exemplify the qualities that locals value about "old school" Bondi. In addition the facilities including Hugh Bamford Reserve and the multi-purpose spaces to the Club are very popular.

### 4.1.10. Major Issues - design and setting

- i. The natural qualities and low key local character of the parks are highly valued by the community. Any park improvements should have regard for these unique characteristics.
- ii. The parks provide key viewing points to the natural coastline and across the harbour and Bondi. Any park improvements or new facilities have regard for views.
- iii. There is limited lighting to access paths for night sports use of Hugh Bamford Reserve.
- iv. The lighting of the playing field currently limits the useful area of the field at night.
- v. The Golf and Diggers Club building is dated, requires major maintenance works, and needs to be significantly or most likely replaced.
- vi. There is no public access to toilet amenities in Hugh Bamford Reserve unless the hall is booked.
- vii. There is a lack of shade in the parks
- viii. Weedy infested areas, poorly maintained vegetation detract from the landscape setting and natural character.





Image: natural qualities are highly valued by the community



Image: Golf Club building is dated and requires major remediation



Image: Limited shade is available in the parks



Image: Weed encroachment is a major influence on landscape character



## 4.2. Getting to and around the Park

This section looks at the various modes of movement to and from the park; entry and exit points; and wayfinding and circulation in and around the park. Refer to Figure 4.2 for the location of entries and other access issues.

### 4.2.1. Getting to the Park

The pedestrian access points to Hugh Bamford Reserve include:

- the low key stairway access from Military Road;
- the access road ramp from Military Road; and
- from the Wentworth Street interface in the north.

Williams Park access points include:

- the informal entry from the verge near the Sewerage Treatment boundary (which links to an informal track across the golf course);
- the asphalt service access road; and
- several entry points either side of the Golf and Diggers Club building at the south end of the park.

Entrances range from formal signposted accessways to informal tracks and can include steps, step-free access, kerb ramps, sloping concrete paths, informal dirt and grass tracks, and shared vehicle accessways. Existing entrances with steps are not deemed compliant with current National Building Code and Australian Standards (lack of tactile warning markers, step nosings and handrail dimension compliance).

There are some car-share pods in the North Bondi area, as an alternative to travelling by bus, private vehicle, or walking. A carshare space is located adjacent Williams Park, opposite the junction with Blair Street. The Randwick Waverley Community Transport (RWCT) service also provides transport services for the frail, aged, people with disabilities and the transport disadvantaged. Presently RWCT owns and operates seven vehicles and provides around 55,000 trips per year.

#### Walking

The Coastal Walk continues south through North Bondi by deviating away from the coastline along Military Road. The route continues adjacent to Williams Park and Hugh Bamford Reserve, connecting to the north end of the Bondi Beach promenade, and linking to the south via the Campbell Parade footpath as identified on Council's *Walking in Waverley & Woollahra* map and information brochure.

#### Public Transport

Waverley is serviced by a comprehensive and well used public transport system with regular trains to Bondi Junction and numerous bus routes connecting the locality to the City, Bondi Junction, Dover Heights, and Bronte. Bondi Junction is on the Eastern Suburbs and Illawarra train line operated by CityRail. Frequent suburban train services operate to and from Bondi Junction Bus and Rail Interchange.

Sydney Buses currently run a number of regular bus services from Bondi Junction to North Bondi with three routes passing adjacent to the study area along Military Road.

Routes 379, 323 and 380 provide access to the Williams Park / golf course with Routes 323 and 380 continuing on Military Road past Hugh Bamford Reserve. Another three services, Routes 333, 379 and 323, commence and terminate at the bus stand on Campbell Parade to the south of Williams Park/ golf course. Bus stops for services heading toward Bondi Beach are not served by a single connecting footpath on the Williams Park verge and there is no provision of pedestrian ramps for crossing the road.

#### Cars and Parking

The Hugh Bamford Reserve carpark provides 15 spaces. This carpark is closed each evening at 9:30pm or when booking users finish use of the field and Community Hall. Current council plans to upgrade the carpark allow for the provision of one additional bay for 16 spaces in total (including one marked accessible bay).

Parking is also possible along the access ramp to the carpark. There is a parking area beneath the Golf and Diggers club building in Williams Park providing 11 spaces. There is on street parking both sides of Military Road and adjoining local streets with varied time restrictions.

There are currently no taxi ranks servicing North Bondi.

#### Bike Routes

The *Waverley Bike Plan 2013* identifies the section of Military Road adjacent the study area as part of the Coastal Cycleway recreation route that runs along the coastline to connect Sydney Harbour to Botany Bay. This routes is designated as a mixed-traffic cycle path. This bike route also connects mixed-traffic cycle routes on Blair Street and Campbell Parade.

It is possible to access Hugh Bamford Reserve by bicycle via Military Road and the access road to the carpark and or via Wentworth Street on the north side of the park. Both entrances are gated and locked at sunset with no provision for cyclist access around the gate on the Military Road entry/exit.

Current Council proposals to upgrade the Hugh Bamford carpark indicate that the gate on the footpath from Wentworth Street would be replaced with removable bollards.

There is currently no provision for cycle parking in either Hugh Bamford Reserve or in Williams Park near the Golf and Diggers Club building.

### 4.2.2. Getting around the Reserve / Park

The *Intercept Survey* revealed that a high proportion of people did not have difficulty getting around the area. However commonly cited impediments include the steep gradient on the vehicular access up to Hugh Bamford ramp, no connecting footpaths to facilities, and minimal directional signage on Military Road to announce park entrances and location.

#### Walking

Within Hugh Bamford there is one formal pathway leading from Wentworth Street to the carpark up to the access road.





Figure 4.4 Getting to and Around the Park - Existing Conditions



The steps in the north west corner of the reserve from Military Road are connected to Wentworth Street by a separate concrete pathway. In addition there is a paved pathway around the east, north and west sides of the Community Hall, but no connecting paths to park entries and or the carpark. Access to the amphitheatre, viewing area and around the playing field is informal across grassed areas. Pedestrians can walk up the vehicular road, but this can be hazardous at times with service vehicles manoeuvring into the Bondi STP, and vehicles accessing the Hugh Bamford carpark.

Within Williams Park there are formal path routes either side of the club building from Military Road. Access across the golf course is informal with some routes more evident through wearing of the grass. There is a small section of concrete pathway on the north side of the raised tee at hole number 5.

Formal path materials around the club building vary from asphalt, concrete, to sandstone flagging.

### Universal Access

Universal Access in the built environment takes into account the needs of people of all ages and abilities so that each visitor has equitable access.<sup>11</sup> As part of the development of the Plan of Management an on site review of existing access arrangements was undertaken. This review revealed that most of the entries and access points into the parks do not comply with standards such as the *National Construction Code 2016* and *Australian Standards 1428 Design for Access and Mobility (2009)*. Furthermore, the condition of existing paths and stairs is often poor with cracked and uneven surfaces.

Some of the facilities provided within Hugh Bamford Reserve are not accessible from a formalised path and do not cater for those with mobility impairments. These facilities include the community hall, seats and viewing areas.

Public access to the golf course is not permitted without authority. However apart from signage there are no physical barriers preventing informal access and the course is regularly traversed by local walkers. There are no formal paths within the golf course, with the exception of a section of concrete path at the base of the raised tee (number 5). Stairway access into Williams Park does not comply with standards and there are no connecting formal paths to points of interest or facilities. Access to all areas of the Club house and surrounds do not cater for people with mobility impairments. Steps and paths are in varying materials and condition and do not meet current standards.

### Vehicle Access in the Park

The primary service vehicle access to Williams Park is located off Military Road at the junction of Blair Street. This access also provides for large vehicle access to the rear of the Bondi STP for maintenance operations.

Service vehicle access to Hugh Bamford Reserve is located within the carpark at the top of the access road from Military Road. A secondary vehicle access point is located on Wentworth Street.

The following vehicles typically access Hugh Bamford Reserve:

- garbage trucks, to empty garbage bins from the bin collection area;
- parks maintenance vehicles, to deliver supplies such as mulch and remove green waste, sportsfield grass maintenance;
- service vehicles, to maintain existing building assets such as the community hall;
- emergency vehicles; and
- helicopter, in the case of medical emergency.

### Signage and Wayfinding

Both Williams Park and Hugh Bamford Reserve have painted timber park name signs located within the verges adjacent the open spaces.

Hugh Bamford Reserve has small park information signs positioned on posts at either end of the concrete footpath on the west side of the reserve which include an aerial plan and information on the off leash dog area and dog prohibited areas. In addition, there are several stand-alone compliance signs detailing dog compliance and no camping. There is no park signage on Military Road to indicate access to Hugh Bamford or announce the presence of the reserve.

Signage in Williams Park is limited to compliance signage with to regards authorised access into the park. There is also currently a range of advertising signage and banners displayed by the Golf Club and its sub-lessees in various locations along the Military Road boundary.

There is a plaque commemorating the re-engraving of the Aboriginal rock engravings by Waverley Council adjacent to the engravings. On the sewer vent stack a plaque commemorates the erection of the stack by the Metropolitan Board of Water Supply and Sewerage. Other signage within the golf course relates to the operation and use of the golf course, for example tee numbers.

### Cliff Edge Access

The cliff edge in Williams Park is unfenced. While there is no formal pathway along the edge, visitors are often seen walking and dog walking in the area. The cliff edge varies from mown grass on fill, rock slabs, rocky outcrops and some remnant vegetation with varying degrees of erosion to the edges.

Public access to the cliff edge adjacent Hugh Bamford Reserve playing field is limited. The edge is fenced off and there is a buffer zone of vegetation. There has been ad-hoc access into the bushland vegetated area to the north of the half playing field, by people and dogs as well as for illegal camping.

The 2010 Coastal Risks Hazards Vulnerability Study identified the cliff edge as a risk to people and recommended that signs warning of cliff face instability were installed at a minimum and preferably fencing installed.<sup>12</sup>

<sup>11</sup> The Australian Institute of Architects, 2008, Universal Access Policy

<sup>12</sup> Worley Parsons EcoNomics, December 2011, Waverley Coastal Risks and Hazards Vulnerability Study



## Major Issues - getting around the park

- i. There is no marked provision for an accessible parking space in Hugh Bamford Reserve.
- ii. There is no existing provision for compliant access to the Community Hall or into the hall (however this is incorporated in current Council works plans)
- iii. Pathways do not connect to facilities.
- iv. Existing stairs and handrails are not compliant with current standards.
- v. Access to facilities including toilets in Hugh Bamford Reserve is only permitted if the hall is booked - there is no general public access.
- vi. Pedestrian access into to the parks is limited. There is no provision for pedestrians on the access road ramp to Hugh Bamford Reserve.
- vii. There is limited way finding signage and or references to the coastal walking route on existing park signage.
- viii. There is limited interpretative signage for either the natural and cultural heritage items or views within either the park or reserve.
- ix. Access to the cliff edge within the golf course is un-restricted with a lack of warning signage.



Image: Existing stairs are not compliant

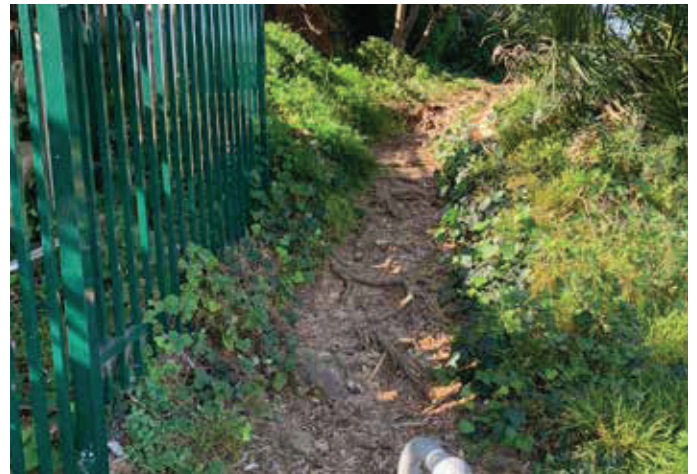


Image: Some access points into park are simple 'goat tracks'



Image: There is limited wayfinding signage



Image: Access to the cliff edge is un-restricted



## 4.3. Playing and Relaxing

Hugh Bamford Reserve is a well used parkland and supports a wide range of active and passive recreational activities including sports training, archery, exercising, walking, jogging, viewing, dog walking and relaxing. The predominant use of Williams Park is for golf although there is informal use by walkers, dog walkers and by visitors to view the aboriginal carvings and panoramic views. Refer to Figure 4.3 for the location of current recreational facilities and park uses.

### 4.3.1. Recreation Facilities

#### Hugh Bamford Reserve Hall

- situated in the north west corner of the reserve
- timber floored hall (20m x 9m) with capacity for 100 people, change rooms with toilets, shower, kitchen facilities, and a storage room for trestle tables and chairs
- accessed via steps from Military Road or via the driveway and carpark.
- no direct path link from either access and there is a step to enter into the building which is not compliant with the Disability Discrimination Act (DDA).
- can be booked Monday to Friday 8am to 9pm, Saturday and Sunday 8am to 5pm.
- suitable for multisport activities, low impact exercise classes and children's birthday parties.

#### Hugh Bamford Reserve:

- half size playing field with flood lighting for night training
- amphitheatre and viewing space

#### Williams Park :

- Club building leased to Bondi Golf and Diggers Club Ltd
- golf course leased to Bondi Golf and Diggers Club Ltd

The Golf Club and Course lease states the purpose of the lease is for: *The playing of golf on the golf course and the social and recreational gatherings of Club members, guests and visitors in the Clubhouse and for no other purpose. (Council - Lease)*

### 4.3.2. Recreation Activities

The *intercept surveys* and *have a say day* indicated the following in relation to existing park use:

#### Walking

Walking is one of the most popular activities in the parks. This mainly comprises informal walking over grass through Hugh Bamford Reserve or through the Golf Course in Williams Park.

#### Dog Walking

Dog walking is a very popular activity. Hugh Bamford Reserve has a designated off-leash area to the south east of the Community Hall.

#### Exercising

Hugh Bamford Reserve is a popular destination for exercise and fitness. Visitors typically exercise in the morning. Waverley Council sets guidelines for commercial fitness operators and manages commercial training permits. Councils policy sets the limit for groups in Hugh Bamford Reserve at 18.

#### Organised Recreation

Hugh Bamford's level grassed area is often used as an informal kick-about area in addition to a training space for organised ball sports, rugby and archery. The field must be booked for formal sports and recreation use. The field is booked for approximately 20 hours per week in winter and only 4 to 7 hours a week in summer. The Community Hall is booked for a variety of activities including dance groups, and health and fitness classes all catering for a range of age groups.

#### Golf Course use

The Bondi Golf Course is an established and well known and loved presence in North Bondi. Its low key character and level of activity is valued by local residents as contributing to an attractive ambience and character.

However statistics indicate that the North Bondi Golf Course is under used in relative terms. Figures onwards from 2014 indicate that there have been between 10,000 - 12,000 starts during the last five years per annum. Generally public nine hole courses are expected to average 30,000 starts on the basis of the report commissioned by Council by Fair Play in 2016 which noted the following benchmarks:

- 20,000 starts per annum (poorly performing)
- 35,000 starts per annum (very well performing)

Waverley Council is under pressure for open space areas for both organised recreation and informal recreation as reinforced by Councils *Recreational Strategy 2019* in progress at time of writing of this plan. Williams Park is one of the larger open spaces managed by Council, and Council is obligated to consider how it can best meet the needs of the local and district community. This plan must consider how Williams Park can best meet the needs of Council and the community working within the constraints of the site's natural and cultural values.

In addition to ensuring that the open space offers a sustainable range of recreational benefits, there are a number of environmental objectives that should be pursued within Williams Park. The eastern edge of Williams Park is a zone of environmental sensitivity encompassing the cliff edge of varied stability, Aboriginal and European heritage sites, and pockets of coastal heathland. It would be desirable to consolidate this zone to make it more viable and resilient.

Finally as with all urban golf links, there are potential safety issues not just with public walkers through the course, but to cars and properties along the Military Road edge. A significant amount per annum has been paid out in damages since 2010 by the club for balls leaving the course area. The *Well Played report 2016* says the arrangement of the course should be reviewed with potential for it to be played clock-wise rather than anti clockwise in addition to other potential refinements that could aid safety.





Figure 4.5 Playing and relaxing - existing conditions



### **Bushcare**

A volunteer Bushcare group has operated in Hugh Bamford since in 1999 and continue to meet monthly. Council also employs professional bushcare workers to undertake works.

### **Events**

Based on the Council's approved Fees and Charges, the approval for the use of Hugh Bamford for 'one-off temporary events' is based on the impact and time of the proposed activity as detailed under the *Waverley Council Events Policy 2015*.

Williams Park is currently operated under lease therefore the use of it's facilities for private events are under the terms and conditions of the current lease.

Hugh Bamford Community Hall can be booked for children's birthday parties in 4 hour time slots on weekends.

### **4.3.3. Major Issues - playing and relaxing**

- i. Limited shade trees to support passive recreational use.
- ii. Conflict of dogs off-leash with other users.
- iii. Dogs accessing vegetated embankment area below the viewing area and the bushland in the north east corner of Hugh Bamford Reserve.
- iv. People and dogs accessing remnant bushland areas causing disturbance and damage to these areas.
- v. No linking footpath to Community Hall which makes it difficult to access in wet weather.
- vi. No access compliant entry to building.
- vii. Lack of natural light and ventilation to Community Hall building.
- viii. No drinking water availability.
- ix. Community benefit and equity of Golf course use of Williams park with relatively low number of playing starts per annum.
- x. Sub leasing of multi purpose spaces to Golf Club is currently management by Golf Club with limited Council input and control.





Image: Unauthorised access to remnant bushland areas



Image: worn grass areas and dogs accessing vegetated embankment below viewing area



Image: no accessible entry to community building



## 4.4. Enhancing the Environment

This section analyses the key natural conditions and assets of the site including micro-climate, geology and soils, topography, hydrology, flora and fauna, and sustainability. It is noted for context that the natural environment and setting (including views, open space, peace, greenery / nature / wildlife) are the most highly ranked of community values identified through the consultation for the Plan of Management undertaken during 2019. Refer to Figure 4.4 for reference.

### 4.4.1. Micro Climate

Sydney's climate is generally temperate, with four reasonably discernible seasons. It is mainly sunny throughout the year with cool, mild winters and hot, humid summers. Sydney's mean annual rainfall is 1,212mm. Average temperatures range from between 14.13 - 20.3 degrees celsius in winter, to 23 - 29 degrees celsius in summer.<sup>13</sup> Williams Park and Hugh Bamford Reserve adjoin elevated sandstone cliffs exposed to all weather conditions in particular to the south and west. The coastal environment presents extreme conditions including salt spray, strong winds, and heavy wind driven rainfall. The northern perimeter of the Hugh Bamford Reserve playing field is afforded some protection to easterly winds by the fringing bushland, but winter southerly or westerly conditions can be uncomfortable in both parks.

### 4.4.2. Topography

The landform of both parks have undergone major modification since European settlement. This is as a result of various activities from quarrying stone, military use, and excavation for sewerage infrastructure. Filling works were carried out within Williams Park over the sewerage infrastructure and adjoining rocky and thin soils to enable grass establishment for the golf course from the 1930s. Filling works were also required to create the level half field area at Hugh Bamford Reserve. This included the covering of the remnants of the Ben Buckler Gun Battery which is conserved under the fill material. The cliff edge ranges up to RL 52 AHD in Williams Park and RL 65 AHD in Hugh Bamford Reserve. The sandstone cliff edge is approximately 830m in total length.

Hugh Bamford Reserve is characterised by an elevated position above Military Road. The playing field and steeply vegetated slopes fall to the south and west. There is a level difference of approximately 15m from the road access on Military Road to the top of the reserve. Williams Park is characterised by an undulating landform shaped for the golf fairways and greens. The course generally slopes from north to south with a difference in elevation of approximately 18m. The park edges to the west and south are relatively steep and are either grassed or vegetated. The far south western edge of the site contains a series of stone retaining walls around the elevated club house precinct.

There are other smaller walls within the course used to retain fill and create level golf tees and greens.

### 4.4.3. Geology and Soils

The cliff faces comprise Hawkesbury Sandstone bedrock of Triassic age (between 251 million and 199 million years old). Uplift and deformation of the Sydney Basin has led to the pattern of jointing and faulting in the rock faces, along with the different erosion rates of the igneous dykes that cut through the rock strata. The wave cut platforms observed along the bases of many of the cliff faces are likely to have developed during inter-glacial sea level highs.<sup>14</sup>

A Coastal Risk and Hazards Vulnerability Study undertaken in 2011 identified that the cliff face below Hugh Bamford Reserve was characterised by an undercut feature over the base of the cliff. Intermittent overhangs were recorded over the remainder of the cliff face and in particular at the base of the vegetated upper portion of the cliff top area. Overhangs are features that will require ongoing monitoring for the long term stability in this highly erosive environment.

The cliff face below Williams Park contains a number of different geological features. These include :

- a continuous not quite horizontal shale band (max height about 2m), which is more erodable than adjoining materials and as a result has formed overhang features within the sandstone at or above the shale band.
- a not quite vertical cliff face of stepped profile with numerous blocks of sandstone (typically boulder size) scattered along the wave cut platform.
- a not quite vertical gully feature representing an igneous dyke which is more eroded than surrounding material.
- a not quite vertical sided gully feature near the crest of the gully within the golf course which reveals sandy fill material.

The presence of these features and the ongoing differential weathering (by wave and wind action) contribute to the potential for geotechnical hazards such as cliff line collapses.<sup>15</sup> Evidence of the basalt vein which once extended through the site but was mined extensively in the past, is still visible from the wave cut platform at the base of the cliffs in the central portion of the cliff face to Williams Park.

The southern half of Williams Park is also located in an area of acid sulphate soils potential (Class 5) as defined by the Acid Sulfate Soils Risk Mapping by NSW Office of Environment and Heritage.

Beyond the natural geological factors of the site, the presence of underground tunnels and operational spaces under the golf course and half field areas as indicated on Figure 4.4 need to be considered in any plans for the site. The structural and waterproofing requirements identified by Sydney Water engineers suggest that there is limited scope for change or construction over these areas.

<sup>14</sup> Worley Parsons EcoNomics, December 2011, Waverley Coastal Risks and Hazards Vulnerability Study

<sup>15</sup> ibid

<sup>13</sup> <http://www.weatherzone.com.au/climate/station.jsp?lt=site&lc=66062>, viewed 21/01/17





Figure 4.6 Enhancing the Environment - existing conditions



#### 4.4.4. Hydrology and Services

Williams Park and Hugh Bamford are not directly impacted by tides. The Coastal cliff edge and rock shelf below is impacted by wave action, tides and ultimately by any changes in sea level.

Sea level rise is a gradual process and will have medium-to long-term impacts. National and international projections of sea level rise along the New South Wales coast estimate a rise of up to 40cm by 2050 and 90cm by 2100, relative to 1990 mean sea levels. There is no scientific evidence to suggest that sea levels will stop rising beyond 2100 or that the current trends will be reversed. It is difficult to assess the potential impact of predicted more intense storm events as a result of climate change and sea level rise on cliff face stability it is considered reasonable to assume that more intense storm events and elevated sea levels will result in elevated erosion rates over a greater height of cliff face. This may affect buildings, infrastructure, recreational facilities and amenity.<sup>16</sup>

The sites are identified as at risk of geotechnical hazard in the geotechnical hazard map detailed in Council's *Coastal Risk Management Policy 2012*, and Part B4 of the *Waverley Development Control Plan 2012*. Accordingly a geotechnical risk assessment will need to be done as part of any future development applications for park buildings or other major works.

There is limited stormwater infrastructure in both parks. Hugh Bamford Reserve has stormwater infrastructure within the carpark and access road. Sydney Water is reviewing the drainage to the embankment along the southern side of the half field grassed area as part of its retaining wall review.

There is evidence of a proposed drainage or sewer line on the southern boundary of the golf course according to sketch plan from 1949, '*Proposed improvements to Drainage of Williams Park. Sewer Infrastructure*' although this has not been verified.

#### 4.4.5. Sustainability

Council and external consultants have been investigating the feasibility of using non-potable water to meet the irrigation demands of Bondi Golf course and Hugh Bamford Reserve. To date, those investigations have concluded that there is no cost effective alternative water supply option for North Bondi Golf Course or Hugh Bamford Reserve. Options investigated included:

- Sewer mining - via Sydney Water
- Stormwater Harvesting
- Groundwater Harvesting

Groundwater harvesting based on the research to date was the only option was seen as potentially viable. However preliminary investigations in 2004, 2009 and 2017 all concluded there is a high degree of uncertainty that a sustainable yield could be harvested to meet irrigation demands.

In order to confirm if a sustainable yield could be harvested, a test bore would be required which would cost approximately fifty thousand dollars to construct. In 2017, Council received advice from geotechnical consultants that the construction of a test bore in the locality was not recommended given the geology of the area and the coastal cliff location.

A further option that should be closely explored is the potential for roofwater harvesting of the redeveloped or new buildings on site. This has potential to contribute to the irrigation water supply for the parks but it appears unlikely that it could fully meet these requirements. It is expected that careful use of a proportion of mains water would be needed to supplement any harvested water solution.

In addition to rainwater harvesting any new buildings should seek to be best practise in terms of energy efficiency with potential for solar collection one of many strategies that should be integrated to design and feasibility.

#### Fauna and Flora

Flora and Fauna are important values for the parks. The following outlines the key aspects for each of the park areas:

##### Remnant Vegetation

Remnant native vegetation at Hugh Bamford Reserve occurs in two (2) distinct areas, as Sea-cliff Scrub and Heath between the sea-cliffs and the residential properties on Wentworth Street, and as two patches of Moist Heath on the south-west facing cliff-line between the field areas and Military Road.

The small parcel of bushland on the north eastern boundary of Hugh Bamford Reserve contains remnant Sydney coastal heath vegetation. Remnant vegetation is managed under Council's *Biodiversity Action Plan 2014-2020*. This area contributes the largest area of SEPP 19 Bushland in Urban Areas vegetation in the LGA.<sup>17</sup>

Vegetation condition across all remnant areas ranges from 'Very Poor' to 'Good' (SBRC, 2010) although a large portion of the remnant is in good condition as a result of bush regeneration activities regularly undertaken by professional contractors and a local bushcare group.

Nine (9) of the thirty four (34) indigenous plant species recorded within the remnants<sup>18</sup> (SBRC, 2010) are considered rare in the Council area. Those include *Banksia marginata*, *Banksia serrata*, *Billardiera scandens*, *Callistemon citrinus*, *Callistemon linearis*, *Lambertia formosa*, *Parsonia straminea*, *Pimelea linifolia* and *Platysace lanceolata*.

Waverley Council has adopted and is implementing the Biodiversity Action Plan - Remnant Sites (BAP) to protect remnant vegetation and re-establish native species in areas dominated by exotic weeds. Works are carried out by the Bushcare groups, and professional bushcare workers employed by Waverley Council.

<sup>16</sup> Worley Parsons EcoNomics, December 2011, Waverley Coastal Risks and Hazards Vulnerability Study

<sup>17</sup> Total Earth Care, 2014, Reserve Biodiversity Action Plan - Remnant Sites 2014-2020

<sup>18</sup> Sydney Bush Regeneration Company, 2010, Waverley Flora Study Report



Connectivity planting is recommended in the BAP to support the remnant vegetation in numerous locations.<sup>19</sup>

The cliff edge along Williams Park supports a significant corridor of linked Sydney coastal heath vegetation. Although lacking in species diversity an opportunity exists to protect and restore this vegetation community. Remnant vegetation in Williams Park is not currently covered under Council's Biodiversity Action Plan (BAP) 2014-2020 but will be accounted for in future revisions of this plan.

#### Habitat

The diverse bushland occurring at Hugh Bamford Reserve supports a range of high quality habitats for both native flora and fauna species. Dense native (and exotic) undergrowth interspersed with exposed sandstone and low-growing groundcovers provides foraging, shelter and basking habitats for native skinks and small birds. Open and closed shrubby and taller vegetation provides perching and nesting opportunities for small to medium sized native birds, and other nectar producing plant species present as a food resource, attract insects - an important food source for small birds.

Permanently moist cliff-soak areas within and surrounding the moist heath vegetation supports habitat, of low-moderate quality for native frogs. The majority of the soils within the Hugh Bamford Reserve remnant are considered to be original and provide unique habitat on cliff-tops and upper cliff-faces for native flora species considered rare elsewhere across the LGA.<sup>20</sup>

Additionally, the cliff edge along Hugh Bamford Reserve and Williams Park forms part of the biodiversity corridor identified and protected in Councils Local Environmental Plan 2012 and DCP 2012. The corridor aids wildlife movement, interbreeding and recolonisation through the provision of habitat and buffer vegetation. The 2011 Biodiversity Study of the Waverley LGA identified those potential habitat corridors which link the best habitat within the LGA and have the greatest potential for corridor improvement.

The coastal areas of the LGA vegetation communities (including Williams Park and Hugh Bamford Reserve) are unique within the LGA and record the highest abundances of small bird species while native reptile diversity was high. There is opportunity to strategically replant these areas without comprising their value as open space.<sup>21</sup>

Improvements to these areas would go toward meeting Council's target of forty per cent of remnant vegetation in good condition by 2030 as setout in the *Waverley Environmental Action Plan 2018-2030*.

#### 4.4.6. Major Issues - enhancing the environment

- i. Remnant vegetation no longer being discernible from replanted areas
- ii. Extensive edge zones between maintained grass and natural bushland that require management
- iii. Weed control is difficult to effectively and safely manage on cliff edges
- iv. Areas in poor condition require resources to control weeds
- v. Priority weed infestations requiring treatments by professional contractors until infestation is sufficiently controlled.
- vi. From time to time foxes and other pest animals require management.
- vii. From time to time stormwater quality needs to be managed.
- viii. Continued and further support required for volunteer Bushcare groups and resourcing for professional contractors.



Image: Embankment planting in poor condition requires weed control



Image: Extensive edge zones between maintained grass and natural bushland

19 Total Earth Care, 2014, Biodiversity Action Plan - Remnant Sites 2014-2020

20 ibid

21 Australian Museum Business Services, 2011, Biodiversity Study of the Waverley Local Government Area.



## 4.5. Community, Culture and Heritage

The cultural heritage qualities of Williams Park and Hugh Bamford Reserve were amongst the most highly ranked of community values identified through the consultation for the parks undertaken during 2019.

As part of the Plan of Management process, a heritage study was prepared by GML Heritage. The following summary has been derived from the *Williams Park and Hugh Bamford Reserve Heritage Review Study 2019*.

### 4.5.1. Statements of Heritage Significance

The park's possess a range of cultural heritage values which must be conserved and managed but which can add value to community and recreational experiences the parks can offer. As part of the plan of management process new Heritage Inventory Sheets have been prepared by GML for the Ben Buckler Gun Battery and for the Sewer Vent Stack.

A Statement of Significance for Williams Park and Hugh Bamford Reserve was provided in the *Williams Park and Hugh Bamford Reserve Heritage Review Study 2019* by GML Heritage:

*"Williams Park and Hugh Bamford Reserve are recreational and scenic public coastal clifftop landscapes of natural and cultural value, which include items of state and local heritage significance.*

*The former Murriverie Quarry was utilised by both the Darug Aboriginals and settlers, and has natural heritage value as it was formed by a significant geological event in the Triassic creating the topography. The geological monument of the former Murriverie Quarry is an aesthetically distinct and rare natural feature. The area of natural vegetation in Hugh Bamford Reserve is a rare example of original coastal vegetation in the Waverley LGA.*

*The extant rock engravings represent past customs and associations with the place which have historical and aesthetic values, as well as continuing significance to the Darug people today. Evidence of additional engravings, use of the quarry, cultural material, or Aboriginal remains, are important to the Darug's community and to the history of Waverley.*

*The Sewer Vent, as part of the greater Bondi Ocean Outfall Sewer (BOOS) infrastructure, was the first completed major sewerage line to cater for both the city and suburbs of inner Sydney. Its construction was a key factor in the establishment of the Metropolitan Board of Water Supply and Sewerage. The Sewer Vent, along with the BOOS system, are rare surviving examples of functional nineteenth-century public infrastructure.*

*Williams Park and Hugh Bamford Reserve were named after individuals who were strong advocates of public open space and recreation in the local area. The Inter-War style club house facilities designed and built by the Municipality of Waverley represents a commitment to public open space and recreation by the council in the 1930s. The Bondi Golf Links demonstrates key characteristics of a Links course.*

*The Ben Buckler gun emplacement and the Ben Buckler battery site is the best surviving example of the three outer-coastal batteries built at the turn of the twentieth century and has potential to provide significant insights into late-Victorian defence technologies.*

*The rock-cut stairway and other archaeological features within the study area have potential to yield information not otherwise obtainable from historic resources regarding use and occupation.*

*Individually and combined, Williams Park and Hugh Bamford Reserve are distinctive open coastal landscapes on the dramatic ocean cliff escarpment of North Bondi. They provide visually appealing sweeping views of the Pacific Ocean, to Bondi Beach and across Rose Bay to Sydney Harbour".*

### 4.5.2. Aboriginal Heritage

For over 1000 generations Aboriginal people have lived in the area that now forms the Eastern Suburbs. They lived in Sydney before and during the depths of the last ice age (25,000–15,000 years ago). They witnessed the formation of the coastal dune systems and the rapid rise in sea levels. The density of Aboriginal occupation of this area is supported by ethnohistoric sources that provide a picture of coastal Aboriginal life.

Rock engravings at Hugh Bamford Park, Bondi Golf Club, Ben Buckler, Mackenzie's Point and the South Bondi Cave attest to Aboriginal cultural life that sought to document not only the natural world and their interaction with it, but a rich mythology that was brought to life in song, ceremony and oral tradition. The carvings south in Williams Park, next to the sewage treatment plant, show various fish species. The largest group shows an eight-metre-long figure of a shark attacking a male figure that resembles an iguana/lizard figure—perhaps the first record of a shark attack at Bondi. More controversial are the carvings at the northeast of the site, considered to be non-Aboriginal in origin. In 1912, Lawrence Hargrave, aviator and historian, claimed the carving of a ship resembled the Santa Maria which Columbus sailed to America in 1492. It is believed that the carving is actually the product of quarrymen working at the nearby Murriverie Quarry.<sup>22</sup>

The Bondi Basalt is likely to have been harvested and crafted into objects such as axe and hatchet heads by Aboriginal peoples and traded over great distances with groups that did not have access to such materials.

With the arrival of the First Fleet came the introduction of diseases and growing pressure on land use as Aboriginal people were progressively prevented from accessing their traditional sources of food and raw materials. However, almost a century after the First Fleet arrived, Aboriginal people continued to live and work in Sydney. They continued to gather oysters and fish with traditional spears, adapting new materials such as umbrella wires to act as the prongs. Nine small Aboriginal settlements also appeared between Rushcutters Bay and Vaucluse, where personal and economic relationships were established with European landowners.

<sup>22</sup> GML Heritage, 2019, Williams Park and Hugh Bamford Reserve Heritage Review Study





Figure 4.7 Community, Culture and Heritage - existing conditions



Members of Eastern Suburbs families like the Wentworth, Cooper and Hill families encouraged Aboriginal people to camp at their residences, engaging local Aboriginal men as servants or boatmen.

Some Europeans learnt and understood Aboriginal languages. Reciprocal obligations between European and Aboriginal people in this area led to coexistence on estates at Rose Bay and Vaucluse and along New South Head Road for decades after the 1850s.

A network of sites along the eastern coastline, including campsites, fishing spots and hunting grounds as well as ceremonial sites and tribunal grounds, remained mostly accessible as did travel between Bondi and Rose Bay up until the 1870s. Other oral history accounts locate Aboriginal families still camping at North Bondi in the 1920s before the wider upgrade of the area. Aboriginal people were known to camp at Ben Buckler and enjoy 'the ocean waves, with their wives and children'. Bondi resident, Obed West, recalled as late as 1925 that 'young Aboriginal men in football jumpers [were] spearing fish and lobsters around the Bondi Baths area.' These accounts demonstrate the centuries-old continuity of Aboriginal cultural and economic connections to this landscape.

## Summary Timeline



Raymond de Cusack, a 'student of Aboriginal carvings' and the man commissioned by the Waverley Council to re-groove the engravings in Williams Park in 1964, stated that 'the area was the main ceremonial ground where the Biddigal tribe of Aborigines held their sacred rituals and danced their corroborees until about the early 1800s'.

Francis O'Brien was the first European land owner after Crown subdivision of the area containing the former Murriverie Quarry. His son Thomas O'Brien discovered Aboriginal skeletal remains and an open campsite in Williams Park, and discussed that the basalt vein at the Murriverie Quarry was the only possible source for several stone tools he found in the local area.

The origin of an engraving of the sailing ship and a 'grotesque figure of a small human' (now lost) located in Williams Park has been attributed to both Aboriginal and European artists. However, the historical record is now impossible to confirm.

Both Williams Park and Hugh Bamford Reserve contain tangible evidence of past use and occupation by Aboriginal people. The engravings also have visual and aesthetic appeal. The Aboriginal engravings are significant evidence of local marine species and terrestrial resources used and valued by the Darug.



The view from Hugh Bamford Reserve over the gully to Bellevue Hill and North Bondi, leading to the Rose Bay tribunal area and through to Sydney Harbour, is visually striking and believed to have been important for Darug Aboriginals, providing visual connections between Aboriginal places.<sup>23</sup>

### 4.5.3. European Heritage

The broader suburb adjoining the study area was Crown land until subdivided in 1854. Lots were subsequently bought by settler Francis O'Brien which encompassed Hugh Bamford Reserve and Williams Park. O'Briens grants were later acquired for military purposes before 1893. Francis O'Brien began quarrying the basalt and sandstone from Murrivierie Quarry in the 1850s. To facilitate the mining of the basalt, he built a tramway from Old South Head Road to cart away the stone, however, it is unknown whether the tram tracks extended into Williams Park. O'Brien reportedly quarried the entire basalt vein from the dyke and his son lamented that the significant beauty of the area had been impacted by his undertaking.

#### Sewage Works

The Bondi Ocean Outfall Sewer is a large, underground gravitational sewer constructed by the NSW Public Works Department between 1880 and 1889 to service the population and businesses of the City of Sydney and surrounding suburbs. The line of the gravitational sewer extends eastwards from the city to the northern (Ben Buckler) headland of Bondi Beach where it originally discharged below the cliffs (Williams Park). The original underground chamber and sewer vent were constructed at Ben Buckler headland in 1888. The chamber, measured approximately 9m by 7m by 9.5m, was carved out of sandstone 43m below ground level.

The chamber was connected to a vent running vertically up to ground level, above which a circular brick stack reached a further 17m in height above ground. As early as 1910 the original sewerage stack at Ben Buckler was experiencing structural difficulties. The discharge from artillery from the adjacent coastal fortress was a likely culprit. The original stack was also considered too low to effectively dissipate odours. In 1910 the original stack was demolished and replaced with a 30m-high stack made with 42cm thick reinforced concrete walls. The hydrogen sulphide gas produced by the sewage continued to cause cracking and spalling in the concrete throughout the twentieth century which has necessitated numerous repair works. The above ground sewerage treatment plant located between Hugh Bamford Reserve and Williams Park was commissioned in 1953 and included the extension of existing underground chambers to develop a state-of-the-art subterranean sewage treatment plant (STP), and diverted all flows away from the original outlet. The Sewer vent no longer acted over the main sewer, but continues to assist with air circulation for the underground areas of the STP.

#### Coastline Defence

During the 1890s, the focus of Sydney's military defence shifted from the harbour to fortifications along Sydney's Eastern Suburbs in reaction to anticipated assaults from new iron-clad, steam powered warships. As a result, anti-bombardment guns were installed at a number of clifftop locations with the first of three 'disappearing guns' delivered to Ben Buckler. The gun was manned at the outbreak of the First World War in 1914 and again in 1918 in response to two German raiders on the coast. However the facility subsequently became disused. Elements of the Ben Buckler Gun Battery extended from Rodney Park to the north of Hugh Bamford Reserve and to Williams Park in the south. (Refer Figure 4.8 below)

23 GML Heritage, 2019, Williams Park and Hugh Bamford Reserve Heritage Review Study



Figure 4.8 Potential heritage items within Hugh Bamford Reserve (GML 2019 - Figure 5.2)



These included a Fire Command Post, a 'married quarters' and several undocumented structures visible on aerial photography from 1943.

A letter dated 16 March 1928 from the Department of Defence in Canberra to Mr W. M Marks Esq. M.P indicates that Council had requested that the military owned land of Williams Park and Hugh Bamford Reserve be subdivided for the use by council for a public park, residential developments or a combination of both. The initial request in 1928 was rejected, but a later dated letter from 1928 indicates that permission to subdivide in the area was granted. By 1935 the southern portion of the battery had become Williams Park and contained the Bondi Golf Links.

The gun was officially de-commissioned in 1945 and the military vacated the site in the early 1950s. By 1954 several public open space schemes were being discussed by Waverley Council for the remaining portion of the battery in Hugh Bamford Reserve. Works to cover the battery with fill to create a level playing field, passive recreation area and gymnasium were completed by the late 1950s and early 1960s. Earthworks undertaken by the Water Board in 1984 to construct the Bondi Submarine Outfall Declined Access Tunnel (BSODAT) accidentally uncovered part of the gun emplacement. The top of the central portion of the structure, the outer walls and some internal rooms of the structure were exposed by machine excavator and labourers. The site was reburied and the playing field reinstated once the Water Board works were completed.<sup>24</sup>

#### 4.5.4. Community and Cultural History

##### Public Lands and their Protection

From the mid-nineteenth century, Sydneysiders were drawn to the Waverley seaside for picnics, recreation and entertainment. During the 1930s, beach culture boomed against the backdrop of the Depression. Families could find affordable and leisurely entertainment along the beach promenades. Bondi was especially popular and able to draw up to 50,000 people to the beach on summer days. Public consciousness of protecting the coastline and it's environment began as early as 1880 with the NSW Anti-Pollution of Air and Water League. They were dismayed that the Bondi Ocean Outfall Sewer installed in 1890 would only channel Sydney's raw sewage back onto the beaches. Their fears were confirmed as human waste from 5,000 acres of Sydney was sent into the ocean at North Bondi's cliffs. Surfers and swimmers made the link between their own health and that of the beach. However it was not until the 1960s that greater global awareness of the environment began to shape government policy. A treatment plant was completed in 1966 but was viewed as inadequate by environmental standards. Increasing social commentary during the 1970s and 1980s, the prominence of sewage at Sydney beaches, and the overwhelming smell at beaches like Bondi sparked community activism. Action groups such as STOP (Stop the Ocean Pollution) and POOO (People Opposed to Ocean Outfalls)

lobbied government to produce alternative ways to manage the waste problem.

Bondi became the very public face of this campaign as businesses rallied together to articulate the negative economic impacts on their livelihood. In 1989, 200,000 people gathered for a concert at Bondi to protest the beach pollution, a groundswell that could no longer be ignored. The same year, the water monitor Beach Watch was instigated which conducted twice-weekly water quality sampling and daily pollution assessments. Later Beach Watch was incorporated into the Environmental Protection Authority.

Today this part of coastline remains an integral part of cultural and recreational life. Sydneysiders and many from further abroad 'continue to think of time spent at the beach as healthy recreation – good for mind, body and soul.'<sup>25</sup> Public accessibility to the coast and the pleasures afforded to the community has led to a push over centuries to maintain this environment for future generations to enjoy.

The petitioning by Waverley Council for the subdivision of part of the Ben Buckler Gun Battery as an area of public recreation began as early as 1928. Plans to convert the area into the Bondi Golf Links did not eventuate until 1935. The Links style, having originated during the fifteenth century refers to coastal area that includes sand dunes and few trees. A links style course uses the terrain, including windswept dunes, to create golf holes with minimal intervention. In Scotland, links style courses emerged on coastal farmland where the infertile sandy soil was not suitable for grazing or agriculture. The Bondi course consists of nine holes and boasts spectacular scenery and a challenging layout. The original club house is still extant today and plans for a cloak room and starters box exist. It is unknown if it was ever constructed but based on the plans it would be located under the current Golf and Diggers Club which was built in the 1960s.

Hugh Bamford was the president of the Bondi Public School Parents and Children's Committee (P&C committee) from 1942 until his sudden death in 1958. He was a tireless advocate for local facilities and amenities for furthering the education of the children at the school. The petition for the naming of the Hugh Bamford Reserve began before his death and is representative of his standing in the community. The current playing field and community hall in Hugh Bamford Reserve was designed in the early 1950s, but not constructed until the early 1960s. The community hall, designed as a gymnasium with change rooms and toilets for the playing field by the Municipality of Waverley engineers remains an important community facility.

Hugh Bamford Reserve and Williams Park are used by locals and visitors alike. People visiting the park enjoy the off leash dog walking areas, half field, walking and the scenic views out to the ocean and across to Bondi Beach and harbour. The Bondi Golf Club continues to be accessible to both local residents and tourists as a sporting facility and open landscape and continues to have a local member base.<sup>26</sup>

24 GMI Heritage, 2019, Williams Park and Hugh Bamford Reserve Heritage Review Study

25 ibid

26 GMI Heritage, 2019, Williams Park and Hugh Bamford Reserve Heritage Review Study



## Major Issues - Community, Culture and Heritage

- i. Varied community awareness of historical and cultural significance of the site, including Aboriginal cultural significance.
- ii. Limited public access to sites within Williams Park due to hazards associated with use as a golf course.
- iii. Potential loss of rock engravings and geological monuments due to weathering, erosion and degradation
- iv. Existing park facilities do not meet community needs.
- v. Not all heritage items identified by GML Heritage in 2019 study are identified as items of local significance in Council's Local Environmental Plan and some items listed in the LEP are duplicated and or difficult to locate.
- vi. Public access to areas of remnant natural vegetation is negatively impacting the regeneration process.

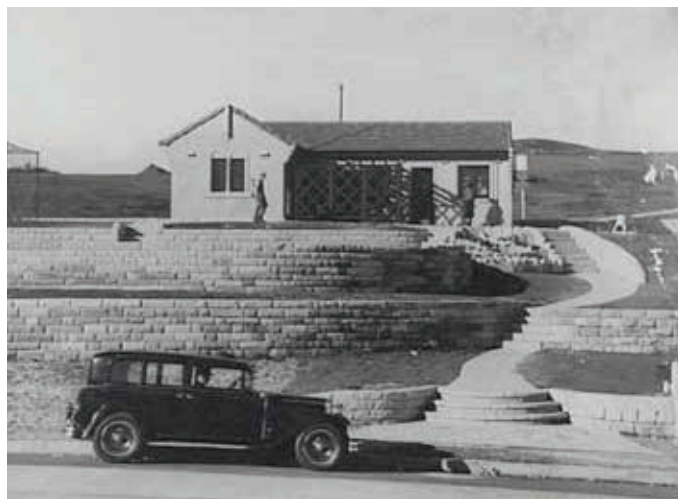


Image: Bondi Golf Links Club House from Military Road, c 1930.



Image: Partially uncovered Ben Buckler gun emplacement in Hugh Bamford Reserve, October 1984.



Image: Detail of Murriverie Quarry before the use of the site by Bondi Golf Links showing examples of prismatic sandstone, columnar sandstone and basalt. (Source: Waverley Library photo No. 1692)



## 4.6. Management and Maintenance

Hugh Bamford Reserve including the associated Community Hall and stormwater infrastructure is maintained and managed by Waverley Council. Williams Park is currently leased to the Bondi Golf and Diggers Club and Council is not (under the terms of that lease) involved in any maintenance of the Golf Course area. Council has maintained an ongoing role in management issues related to the coastal edge and to heritage items such as the Aboriginal rock engravings. Council has however recently needed to become involved in the maintenance of the Golf Club building as assessments identified serious issues with the condition of masonry and structural elements. Council has funded a series of stabilising works that will enable the building to continue to be used for the next 5 years. However in the longer term the most practical and cost effective solution will be to replace the building.

Details of the on-site facilities and their use is documented in the preceding chapters. This section of the report outlines the services that Council provides in managing and maintaining the site to ensure the place is well kept. Refer to Figure 4.7 for reference.

In maintaining and managing the parks the following considerations apply:

### Activities and Events:

- licenced fitness trainers are permitted to use Hugh Bamford Reserve in accordance with Council's Commercial Fitness Training Policy.
- Hugh Bamford Reserve can also be used for 'one-off temporary events' – the approval for events is assessed on the potential impact and time of the proposed activities, detailed under Council's Use and Hire of Public Open Spaces.
- Use of both parks for commercial photography is subject to application and approval and must be undertaken in accordance with Councils policies.

### Waste Services:

- Bins are collected by garbage trucks daily, both garbage and recycling trucks enter the park.
- Waste is collected from the Community Hall when cleaned by Council staff on a weekly basis.
- Two general waste bins are located either side of the carpark.
- Waste is collected from the bin collection area beneath the golf club building adjacent Military Road.

### Park Maintenance:

- Council oversee all the maintenance requirements of Hugh Bamford Reserve.
- Council currently utilise equipment stored at the shed in Williams Park to assist with maintaining the park. Council is generally responsible for maintaining assets such as turf, gardens, paving, roads, fences and handrails.
- Council is also responsible for cleaning the facilities and amenities throughout Hugh Bamford Reserve.

- Williams Park / golf course is under lease and the golf course maintenance is undertaken by the Bondi Golf and Diggers Club.

### Building Maintenance:

- Council maintain and repair the Hugh Bamford Reserve Community Hall including the amenities within the building.
- The Golf Club Building is the responsibility of the Bondi Golf and Diggers Club under the terms of their lease
- Due to the age and condition of the building Council are assisting in 2019 with some critical remedial works.

### Parking:

- Parking to High Bamford Reserve is managed by Council, refer to Getting to and Around the Park for details.
- Parking to the Golf and Diggers Club is managed by the Club

### Environmental Services:

- Council is responsible for identifying and implementing energy, water savings and renewable opportunities within Hugh Bamford Reserve. This includes identifying ways to reduce waste to landfill; encouraging visitors to use sustainable transport options; educating the community on the environmental significance of the area; and preparing for the future impacts of climate change.
- Waverley Council has adopted and is implementing the *Biodiversity Action Plan - Remnant Sites 2014-2020* to manage and protect the remnant vegetation and bush regeneration with a combination of works by professional bushcare contractors and an active volunteer bushcare group.
- Williams Park remnant vegetation is not currently covered under Council's Biodiversity Action Plan (BAP) 2014-2022 but will be accounted for in future revisions to this plan.
- **Safety and Regulations:** Council Park Rangers patrol Hugh Bamford Reserve, enforcing regulations to promote safety and equitable access for visitors. Activities that adversely affect other patrons' pleasure of the park are regulated. On occasion rangers and other Council staff need to manage antisocial behaviour.
- Controlled activities include dog walking, consumption of alcohol, commercial training, ball games, bicycle riding, skateboard riding, use of portable barbecues and littering. Dogs are allowed off-leash in the grassed area around the Hugh Bamford Community Hall.
- Dogs are prohibited from the playing field area. Dog regulation signage could be improved to assist in owner education and enforcement.

The following regulations are enforced in the park:

- No camping or staying overnight
- No organised ball games
- No commercial activities
- No skateboards or rollerblades
- No kites or kite activities
- No portable barbecues or open fires
- Dogs are prohibited on the playing field.





Figure 4.9 Management and Maintenance - existing conditions



#### **Leases, Licences and Hire:**

- Various licences exist within the park to deliver services and products including those for mobile vendors and fitness trainers.

#### **Williams Park / Golf Course:**

- the Golf Course including the club building is under its own lease arrangements with Council that expired in late 2018
- Golf use is operated and managed by the Golf Club.

#### **Sydney Water Sewer Infrastructure:**

- Sydney Water holds a number of easements within both Williams Park and Hugh Bamford Reserve.
- Figures 4.6, 4.7 and 4.9 illustrate the extent of underground tunnels/chambers constructed as part of the Bondi STP which lie underneath the northern section of Williams Park and under Hugh Bamford Reserve.
- Removal of material above tunnels/chambers has potential for impacts on stability of underground structures. Any changes to above ground conditions would require assessment of the Geotechnical and Geological risks in liaison with Sydney Water.
- Occasional access is required by a large vehicles to the rear of the Sydney Water Treatment Plant via the vehicle access into Williams Park (and the Bondi Golf Course) adjacent the Blair Street junction.

#### **Service and maintenance access**

- Service vehicles access the reserve from Military Road or Wentworth Street. The access is gated and locked at 9:30pm.
- Vehicles that require access include the garbage truck, Parks staff with utilities.
- Access to the playing field is gated and generally left locked unless maintenance tasks are being undertaken to the playing field.
- Occasional access is required by a large vehicles to the rear of the Sydney Water Treatment Plant via the vehicle access into Williams Park adjacent the Blair Street junction.
- Emergency vehicle access is available to Hugh Bamford Reserve during daylight via the carpark access road
- Emergency vehicle access is available to Williams Park at the maintenance access road opposite Blair Street

Consultation as part of the plan of management in 2019 identified that the community recognises the major challenge of weed management in the parks and would like to see better outcomes in this and other aspects of landscape maintenance.

### **4.6.1. Major Issues**

- i. Poor condition of Golf Club building
- ii. Funding of building replacement
- iii. Identifying preferred management approach for replacement club building
- iv. Developing strategy for maintenance of edge zone between maintained grass and natural bushland
- v. Accommodation for Parks maintenance staff is not adequate - in particular if Council is to assume greater involvement with Williams Park maintenance
- vi. Visual / spatial impact of existing maintenance shed near Sewer Vent Stack is detrimental to park character
- vii. Irrigation of golf course is not adequate to reduce compaction of grass
- viii. There is a wide spectrum of views about dog access and use of the parks, from too lenient to too strict.





Image: The existing club is nearing the end of its useful and practical lifespan



Image: The existing maintenance shed blocks and detracts from views at this key cliff top location

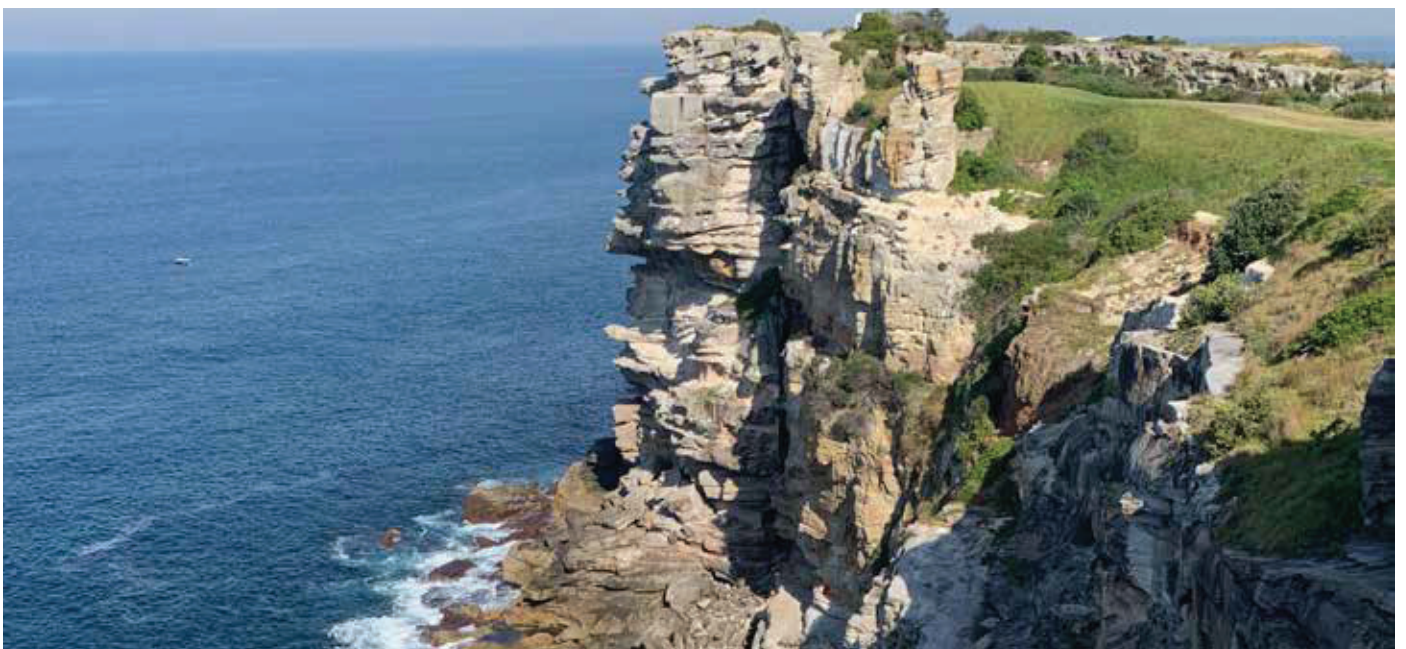


Image: Council currently maintains an involvement in maintenance issues in Williams Park related to the cliff edge







# Vision and Directions

5



## 5. Vision and Directions

### 5.1. Vision Statement

A vision for Williams Park and Hugh Bamford Reserve was drafted based on community feedback on what people liked and wanted to see in the future. The vision is essential as it sets the tone for all future works and practices within the two open spaces. The following statement captures the aspects of what people love about Williams Park and Hugh Bamford Reserve and want retained in the future:

Williams Park and Hugh Bamford Reserve are much valued and loved open spaces for the local community of Bondi.

Nestled above the intense day and night activity of Bondi Beach they provide a **retreat** from that world that is both calming and invigorating with it's unique mix of natural and cultural qualities.

At their core the parks are first and foremost valued as **natural places**. The drama and majesty of the plunging sandstone cliffs are juxtaposed with the rolling grasslands shaped by earlier generations. The experience of this natural landscape and the contrast it provides to the dense urban fabric of the adjoining neighbourhoods is fundamental and essential.

The spectacular panoramic views from the parks reflect this diversity ranging from the rugged natural outlooks of the coastline and ocean (in which Whale sightings are not uncommon) to the iconic views west to Sydney Harbour and the Harbour Bridge, and south across Bondi Beach.

It is recognised that a diverse overlay of past **cultural heritage** influences has had a strong hand in shaping the place, ranging from the rock art and embedded storylines of Sydney's **first peoples**, to the defences of Sydney Harbour and Sydney's largest ocean sewer outfall.

The parks and the Bondi Golf Club facility also embody a strong **local character**, and are seen as important places for locals to immerse in and experience **local community** away from the frenetic high paced environment of Bondi Beach.

The simple "old school" nature of many park features is seen as reflecting and supporting this character and an important quality to be conserved.

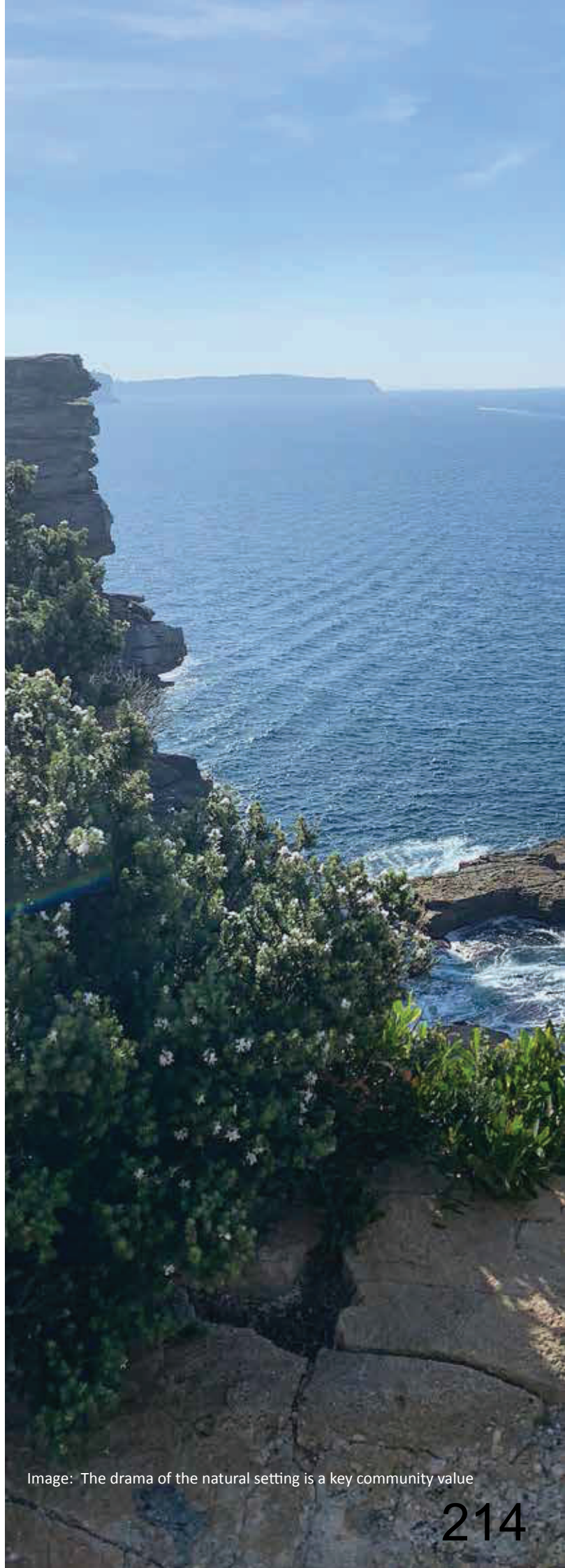


Image: The drama of the natural setting is a key community value



## 5.2. Directions

The following value statements will guide the future development and management of Williams Park and Hugh Bamford Reserve in line with the vision opposite. The values have been tested and are responsive to the site analysis, consultation feedback and best-practice principles outlined throughout this report. For ease of reference and consistency the values are focused under the same themed headings as previous chapters.

### 5.2.1. Design and Setting

- A1. Maintain the pre eminence of the open green space and natural setting of the parklands.
- A2. Maintain the casual and “low key” character of the parklands and facilities.
- A3. Enable memorable experiences for all users by celebrating the site’s unique character and scenic qualities by providing opportunities to safely enjoy views and outlooks.
- A4. Ensure any built form architectural and landscape design reflects and compliments the natural setting and character along with being best practice and design excellence.
- A5. Ensure materials and finishes fabric is of a high quality, are robust, designed to befit the setting, and considers the relationship to natural cliffs and vegetation.
- A6. Improve the continuity and coverage of natural vegetation on the site.
- A7. Provide a sense of arrival to the site at the pedestrian access points to the parklands.
- A8. Improve the parks visual relationship with the Sydney Water facility and reduce the visual impact of the facility on park and neighbourhood character.

### 5.2.2. Getting to and around the Park

- B1. Provide easily identified, distinct arrival points into the park.
- B2. Provide compliant all weather access from the Hugh Bamford Reserve carpark to the Community Hall.
- B3. Provide an informal walking route across grass that links to key viewing points and other park features.
- B4. Provide continuous footpath access to western edge of parks (within the Military Road verge).
- B5. Implement a wayfinding strategy for the park. Consider an audience of a range of abilities, literacy levels and languages. Encompass the physical environment, signage, customer service, information, brochures, guides and website.
- B6. Consider over time an adequate proportion and distribution of universally accessible facilities connected by accessible paths of travel where most compatible with landscape character.
- B7. Use vegetation to increase setback from cliff edge situations.
- B8. Investigate potential for a cliff top walkway between Hugh Bamford Reserve and Williams Park in liaison with Sydney Water.

### 5.2.3. Playing and Relaxing

- C1. Maintain and enhance sports training and related sports uses within Hugh Bamford Reserve and community rooms within the Club Building to Williams Park.
- C2. Provide adaptable and flexible spaces to accommodate a variety of interest groups.
- C3. Enable increased and safe informal recreational use of Williams Park for such pursuits as walking, sitting and viewing.
- C4. Provide high-quality amenities and facilities that support recreational users.
- C5. Prioritise activities that are intrinsic to the place, its natural and cultural values and that complement the physical site conditions.

### 5.2.4. Enhancing the Environment

- D1. Enhance and conserve the natural heritage of the site such as vegetation, land form of the cliff line and hydrology.
- D2. Manage park use and access to areas of environmental sensitivity.
- D3. Monitor and adapt to the impacts of increased frequency and/or severity of extreme weather events including climate change on the natural and built fabric of the parks.
- D4. Promote environmentally sustainable practices in the management and maintenance of the place.
- D5. Consider whole of life-cycle cost in the selection of materials and construction techniques.
- D6. Educate the community about the value of the site’s unique environment.

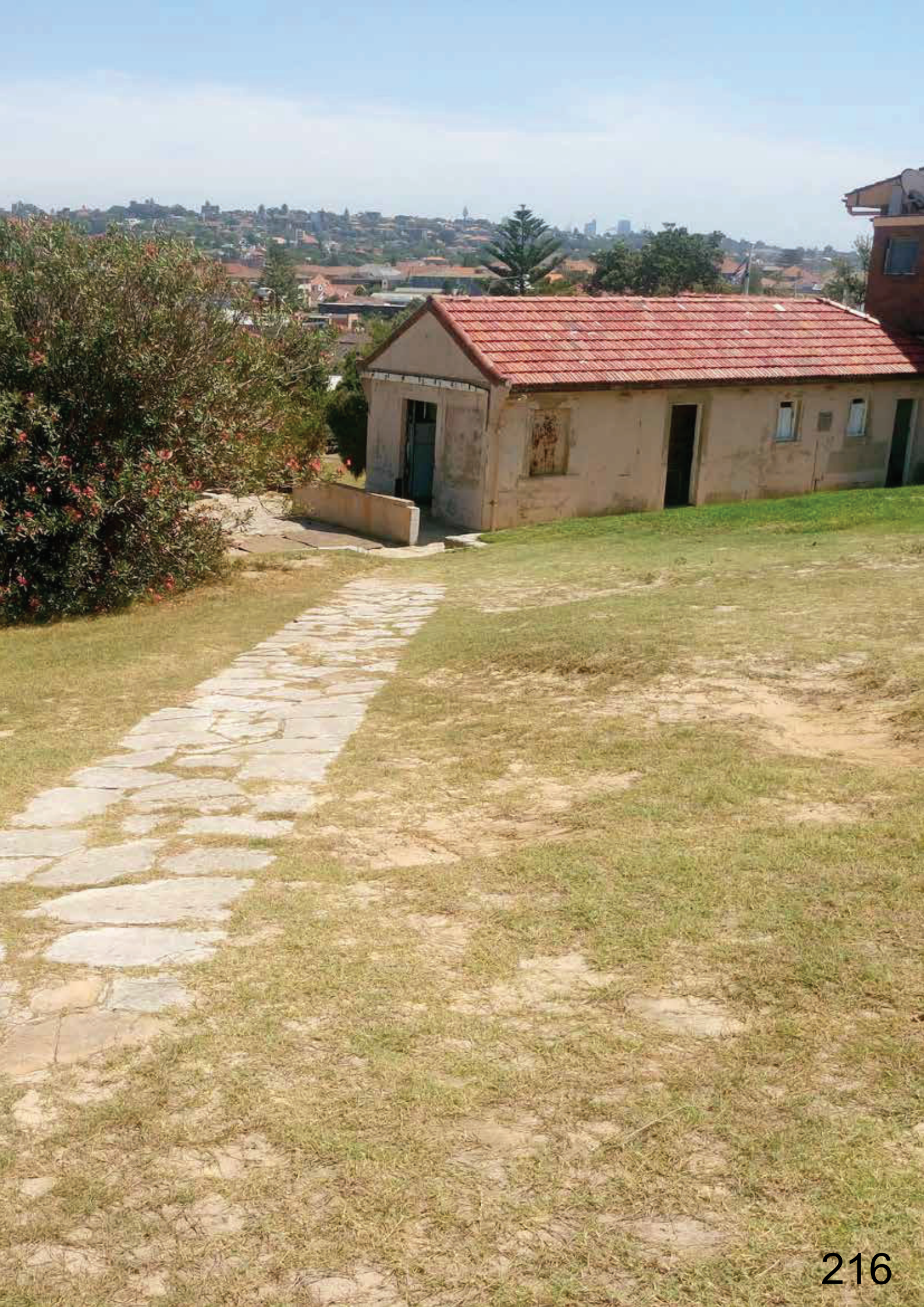
### 5.2.5. Community, Culture and Heritage

- E1. Conserve and maintain the built and cultural heritage fabric of the park.
- E2. Interpret and tell the story of the place, including Aboriginal and Historical themes and storylines.
- E3. Strengthen and express the community values of the site by maintaining and enhancing its local role and character including its role for community groups and activities.
- E4. Ensure the cultural landscape is expressed in the design and management of the site and appropriately integrated with the natural environment.

## Management and Maintenance

- F1. Maximise the safety of the park environments for users at all times.
- F2. Recognise the challenges of safety in the coastal cliff edge environment and apply established precedents for managing access that do not compromise the natural experience.
- F3. Facilitate increased community use of Williams Park and its facilities and provide the park and facilities with sustainable ongoing management.
- F4. Ensure facilities are well-maintained and appropriately serviced.
- F5. Review and reinforce compliance and regulations that enable a range of users to enjoy the park safely.
- F6. Manage vehicle access in the park.







# The Master Plan and Action Plan

6



## 6. The Master Plan and Action Plan

The Master Plan illustrates how the vision and directions may be realised over the next 10 years. Where specific proposals may turn out to be impractical due to changing circumstances, reference will be made to the vision and values in formulating amendments. The Master Plan has been broken down into a series of maps that address each theme. The Master Plan and Action Plan is the working part of a plan of management. It details the key actions and implementation priorities needed to achieve the vision of the Plan of Management for Williams Park and Hugh Bamford Reserve. The following tables describe the objectives of the Action Plan, how they will be achieved, who will be responsible, the timeframe, the availability of funding, the desired outcomes and the monitoring and reporting required. Each table detailing the Action Plan is broken down into the following headings:

**Directions (ie A1, A2, A3 etc):** In order to achieve the vision for Williams Park and Hugh Bamford Reserve, a series of values were developed as identified in Section 5. The values provide the main reference point for each set of actions and combine to achieve the vision.

**Who:** There are many Council divisions involved in carrying out the actions of this Plan. The Executive Managers of these areas are responsible for ensuring the actions are undertaken. These include:

- Creating Waverley
- Clean and Attractive Waverley
- Project Waverley
- Shaping Waverley
- Sustainable Waverley
- Safe Waverley
- Enriching Waverley
- Caring Waverley

Other organisations responsible for the implementation of the Plan of Management include:

- Bondi Golf and Diggers Club

**Time:** The actions are prioritised and will be achieved in the:

- Short term (S) 0–1 year
- Medium (M) 1–5 years
- Long term (L) 5–10 years
- Ongoing (O)

**Funding implications (\$):**

- Existing funding (E) is mainly associated with recurrent park maintenance costs, planning and development. Works identified need to be prioritised annually and take into account the maintenance and upgrades required in all of the parks in the Waverley Local Government Area.
- Other works are to be included in the Long-Term Financial Plan (LTFP). These LTFP projects will need to be prioritised by Council.
- To-be-determined funding (TBD) involves an initial investigation and preparation of a business case to Council. Further details of funding opportunities are outlined in Chapter 7.
- Opportunities to obtain grant funding (G) are also noted.

### 6.1. Design and Setting

The community values of Williams Park and Hugh Bamford Reserve are defined by the space's natural setting and landscape character. To conserve and enhance the place future design works will need to carefully consider both the functions and uses to be addressed, and respond to the natural and cultural landscape characteristics.

There are a range of opportunities to conserve and at the same time enhance these values while improving the usability of the parks for the community. The plan aims to draw from the existing character influences and optimise the experiences provided by both natural and cultural views and vistas from a range of locations. Refer to Figure 6.1 for key recommendations. The plan seeks to expand the usability of the open spaces in particular to Williams Park. However this must be facilitated in a manner that conserves the nature and quality of experience that the natural landscape provides. The positioning and type of facilities is to be carefully considered and the conservation of a landscape character where the natural landscape is dominant is to guide planning and design and related decision making.

To guide future development building controls have been drafted in the following section. Future building works must comply with these controls and guidelines.

#### 6.1.1. Buildings in the Park – Building Controls

This plan allows for building upgrades and includes guidelines for the design of building work.

##### 6.1.1.1. General Requirements

Development consent must not be granted to development within Williams Park and Hugh Bamford Reserve unless the consent authority considers that the development conforms to the current *State Environment Planning Policy (SEPP)*, *Waverley Local Environment Plan (LEP)*, exhibits design excellence, and reflects the character goals set out in this plan. In determining whether the development exhibits design excellence, the consent authority must consider the following matters:

- Development Applications must conform to the SEPP. With particular emphasis on:
  - SEPP (Coastal Management) 2018, *Part 2 Development Controls for Coastal Management Areas*
- Development Applications must conform to the Waverley LEP. With particular emphasis on:
  - *Part 5, Clause 5.5 Development within the Coastal Zone, and*
  - *Part 5, Clause 5.10 Heritage Conservation.*
- Development Applications should be referred to the Design Excellence Panel.
- Whether the form and external appearance of the development will improve the quality and amenity of the public domain.





Figure 6.1 Design and setting: The Masterplan



- v. Whether the development has a detrimental impact on view corridors.
- vi. How the development addresses the following matters:
  - The suitability of the land for development.
  - Existing and proposed uses, and mixing uses.
  - Heritage issues and site constraints.
  - The relationship of the development with other development (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form.
  - Bulk, massing and modulation of buildings.
  - Environmental impacts such as sustainable design, overshadowing, wind and reflectivity.
  - The achievement of the principles of ecologically sustainable development, refer to actions under Enhancing the Environment for guidance.
  - Pedestrian, cycle, vehicular and service access, circulation and requirements.
  - The impact on, and any proposed improvements to the park.
  - Principles of View Sharing.<sup>27</sup>

#### 6.1.1.2. The Williams Park Club building

The Club building to Williams Park has historically been aligned with the Bondi Golf Club and has housed the Golf Club operation, a bistro and bar to the upper level and a series of community spaces leased for community sports and other activities. To the east of the main building is a 1935 sandstone shed structure that housed the original club. This has a local heritage listing in the Waverley LEP.

The buildings as of mid 2019 are in poor condition and Council undertook to spend \$500,000.00 to stabilise the structures to make them safe for ongoing use. The Engineering report that underpinned the stabilisation works notes that the works would enable use of the facility for up to 5 years, beyond which more major refurbishment would be required. The report indicated that a knock down and re-build was the most practical option functionally and financially for Council.

As such this plan recommends that a Council owned community club facility is redeveloped on the club building site that can cater for existing and expanded community use and benefits. In addition to the General Requirements, the following controls must be adhered to. Future re-development of the community club building must ensure the retention of existing community roles to cater for existing and future demand for services. Future development must also support the recreational activities in the park by providing toilets and staff amenities with space for a Council parks office.

In summary, future development must include:

- i. Building uses
  - Community bistro and bar
  - Leased space for golf club operations
  - Community activity spaces for leasing / rental by service providers to sports recreation activities
  - Council parks office to support parks operations staff and their activities
  - Publicly accessible toilets to serve Williams Park

- Multipurpose half court space adjoining upper level within Williams Park for ball games and event use
- ii. Setbacks
  - Setbacks and building envelope to be identified by separate Council study.
- iii. Basement Parking
  - Provide basement parking to serve tenants of the building
  - provide access to the Council Parks office facility
- iv. Massing, Design and Visual impact.
  - Building heights (with the exception of existing structures, proposed balustrade or, proposed lifts, or proposed plant) to be determined by future Council study.
  - Building plant and machine rooms must be screened.
  - Consider key view corridors from the park to Bondi Beach
- v. Access and vehicles.
  - Maintain unrestricted and direct pedestrian access along Military Road footpath.
  - Provide direct pedestrian access from the Williams Park walking routes either end of the new development.
  - Not allow vehicle maneuvering or parking to cross pedestrian building entrances and pedestrian paths of travel.
- i. Environment and Heritage
  - Building upgrade must consider the impact on the cliff and coastal environment in accordance with the relevant State and Local Government policies on heritage and environment.
  - Building must conserve or interpret as determined by future Council studies the heritage value of the Golf Club shed and path / stair access east of the building to Military Road.<sup>28</sup>

#### 6.1.1.3. Hugh Bamford Community Hall

This plan recommends investigation of the following improvements to the community hall building:

- i. Provide publicly accessible toilets
- ii. Introduce windows on some facades for natural light
- iii. Investigate potential deck area adjoining building to extend functionality of internal space

#### 6.1.1.4. Alternative Designs

Notwithstanding any of the building development controls, alternative designs will be considered where it is demonstrated that the building development controls above do not result in the best planning and design outcome. Alternative designs can be prepared subject to compliance with the criteria listed below and consistency with the *Vision and Directions* in Section 6, and the *General Requirements* in *Design and Setting* of the Williams Park and Hugh Bamford Reserve Plan of Management.

- i. Alternative designs should demonstrate there are no additional adverse impacts, when compared to the building development controls, relating to heritage, views, visual bulk, access, overshadowing, and the public domain.
- ii. Alternative designs should demonstrate rationale and quantifiable evidence for deviating from the building development controls.

<sup>27</sup> NSW Caselaw, Tenacity Consulting vs Warringah Council [2004] NSWLEC 140, Viewed 27 April 2018, <https://www.caselaw.nsw.gov.au/decision/549f893b3004262463ad0cc6>

<sup>28</sup> GML Heritage, Heritage Assessment of Williams Park and Hugh Bamford Reserve 2019



## 6.1.2. Action Plan

Category	Action	Time	Who	\$
<b>A1. Maintain the pre eminence of the natural setting of the parklands</b>				
A1.1	Ensure building design address future needs, is visually unobtrusive, does not detract from the natural landscape character of the park, is in keeping with the Landscape Conservation Area status of Williams Park.	O	Shaping Waverley, Creating Waverley	LTFP
A1.2	Ensure landscape design: <ul style="list-style-type: none"> <li>i. Maintains the natural topography;</li> <li>ii. Maintains and reveals views through the parks and to the beach and cliff line;</li> <li>iii. Maintains areas of exposed natural rock where practical;</li> <li>iv. Maintains the natural character of Williams Park;</li> <li>v. Maintains the natural character of views at the cliff edge;</li> <li>vi. Uses informal planting design in the parks; and</li> <li>vii. Maintains the landscape conservation area status of Williams Park</li> </ul>	O	Creating Waverley	LTFP
A1.3	Maintain and reveal views through the site.	O	Creating Waverley, Clean and Attractive, Sustainable Waverley	LTFP / E
<b>A2. Maintain the landscape character of the parklands and facilities</b>				
A2.1	Consider the design and materials fabric of any proposed works in the context of the desired retention or the landscape character to the parks.	O	Shaping Waverley, Creating Waverley	LTFP
A2.2	Consider Hugh Bamford Reserve for the potential future provision of a universally accessible all weather path loop that can provide a walking loop around the park and access to the proposed viewing points.	L	Shaping Waverley, Creating Waverley	LTFP
<b>A3. Enable memorable experiences for all users by celebrating the site's unique character and scenic qualities and providing opportunities to safely enjoy views and outlooks</b>				
A3.1	Investigate design and implement small viewing platform at north east corner of Hugh Bamford Reserve to view natural coast and ocean from top of cliff.	L	Creating Waverley	LTFP
A3.2	Investigate design and implement new park entry off Wentworth Street to view panoramic views across Bondi Beach and bay and south along coast.	M	Creating Waverley	LTFP
A3.3	Design and implement upgrade of existing semicircular viewing area over Bondi Beach and bay including paved apron and view / heritage interpretation. Interpret significance of views to harbour from various points for Aboriginal people.	S	Creating Waverley	LTFP
A3.4	Investigate design and implement seating and viewing platform set back from rock platform near existing maintenance shed and heritage sewer stack. Design to encourage viewing from setback location due to greater elevation.	L	Creating Waverley	LTFP
A3.5	Investigate design and implement minor upgrade of golf tees as sitting and viewing areas in liaison with Golf Club - to enable enhanced use on "golf free days" or at "golf free times".	M	Shaping Waverley, Creating Waverley	LTFP
<b>A4. Ensure any built form architectural and landscape design reflects and compliments the natural setting and casual character along with being best practice and design excellence</b>				
A4.1	Ensure future building works are complimentary to their surroundings. Works to ensure compliance of new building works to the building controls outlined in the Master Plan.	O	Shaping Waverley, Creating Waverley, Project Waverley,	TBD



Category	Action	Time	Who	\$
A4.2	Develop a detailed Landscape Master Plan for the site. Works must ensure: <ul style="list-style-type: none"> <li>i. Design meets objectives outlined in the Plan of Management;</li> <li>ii. Access routes integrate with new / existing park features; and</li> <li>iii. Proposals integrate with coordinated approach to interpretation.</li> </ul>	S	Creating Waverley	E
A4.3	Investigate, design and implement upgrades to the Hugh Bamford Community Hall to address a range of issues as outlined in 6.1.1.3: <ul style="list-style-type: none"> <li>i. Provide publicly accessible toilets;</li> <li>ii. Introduce windows on some facades for natural light; and</li> <li>iii. Investigate potential deck area adjoining building to extend functionality of internal space</li> </ul>	M	Creating Waverley, Facilities	LTFP
A4.4	Develop a planting schedule and materials palette based on Council's Public Domain Technical Manual that preserves the integrity of the site and considers significant view corridors.	S	Creating Waverley, Sustainable Waverley, Clean and Attractive Waverley	E
A4.5	Develop a lighting plan for the park that considers: <ul style="list-style-type: none"> <li>i. Pole top lighting to major pathways in area of Williams Park Community Club building and Hugh Bamford Reserve Community Hall;</li> <li>ii. Lighting the entire area of training field at Hugh Bamford Reserve;</li> <li>iii. Lighting to the access routes to Hugh Bamford Reserve; and</li> <li>iv. Lighting to buildings.</li> </ul>	S	Creating Waverley	LTFP
<b>A5. Ensure materials and finishes fabric is of a high quality, is robust, designed to befit the setting, and considers the relationship to natural cliffs and vegetation.</b>				
A5.1	Ensure future planting design is consistent with the character areas / vegetation types identified in A.4.	O	Creating Waverley, Clean and Attractive, Sustainable Waverley	LTFP
A5.2	Ensure the selection of materials is appropriate to its setting as per A2.1.	O	Creating Waverley	E
<b>A6. Improve the continuity and coverage of natural vegetation on the site</b>				
A6.1	Plan and implement consolidation of vegetation corridors as per actions identified in D.	S	Creating Waverley	LTFP
<b>A7. Provide a sense of arrival to the site at the numerous pedestrian access points to the parklands</b>				
A7.1	Upgrade existing access points as per B having regard for character objectives identified at A2.	S	Creating Waverley	LTFP
<b>A8. Improve the parks visual relationship with the Sydney Water facility and reduce the visual impact of the facility on park and neighbourhood character</b>				
A8.1	Supplement buffer vegetation as per D.	S	Creating Waverley	LTFP
A8.2	Liaise with Sydney Water for potential to enhance the visual treatment of the facility frontage to Military Road. This could include modifications to the gate and buildings facade beyond to provide an enhanced visual frontage.	M	Creating Waverley	LTFP Syd Water





Image: Bondi Golf Links Club House from Williams Park



## 6.2. Getting to and around the Park

Williams Park and Hugh Bamford Reserve provide a challenging environment for decision making regarding access and accessibility. In addition to generally being undulating to steep topography, key community values around the natural setting and an undeveloped character dictate that any access needs to be sensitively planned and implemented. This plan generally recommends that in the short to medium term no hard surfaced paths or tracks are provided through Hugh Bamford Reserve and Williams Park. This is with the exception of the accessible path link to the Community Hall from the carpark at Hugh Bamford Reserve, and at the threshold of entries into the parks where a hard surfaced apron is necessary.

The plan recommends that in the longer term a hard surfaced path loop might be considered to the perimeter of Hugh Bamford Reserve which could provide universal access to the proposed coastal viewing points, and take advantage of the carpark and manageable gradients. Within Williams Park generally hard surfaced paths are to be avoided in order to conserve the natural landscape character of the coastal cliff edge. Access to the proposed redeveloped Community Club facility from Military Road on the site of the existing Golf Club building should be upgraded, taking into account the local heritage values of the existing sandstone steps and walling to the east of the club site. Generally all entry points to the park should be upgraded to be more visible and welcoming and provide a safe and functional access into the park. A paved threshold and relevant signage should be provided at each of these locations.

To the eastern side of Military Road it is proposed to consolidate the existing fragmented verge footpath to provide a continuous pedestrian linkage along the park frontage. This will provide safe access from kerbside parking to park the entry points and to existing bus stops. In several locations the slope of the existing bank and existing trees will preclude working within the existing verge to provide a pedestrian path. In these locations it is proposed to widen the verge by removal of some kerbside parking (estimated as 7-8 spaces overall) to facilitate the pedestrian path. This work should also consider the safety and functionality of pedestrian access crossing Military Road from east-west streets including Murrieverie Road, O'Donnell Street, Blair Street and Walls Parade. Where possible the works can integrate safe crossing facilities at these locations. The Military Road works should be considered in early conceptual design in integration with other proposed traffic initiatives to Military Road, to ensure that a considered and coordinated solution is provided.

To the access road to the Hugh Bamford Reserve carpark it is proposed that a pedestrian walking zone is defined through line marking to provide a safer walking route for those who use this steep access.

Refer to Figure 6.2 for a summary of these key recommendations.

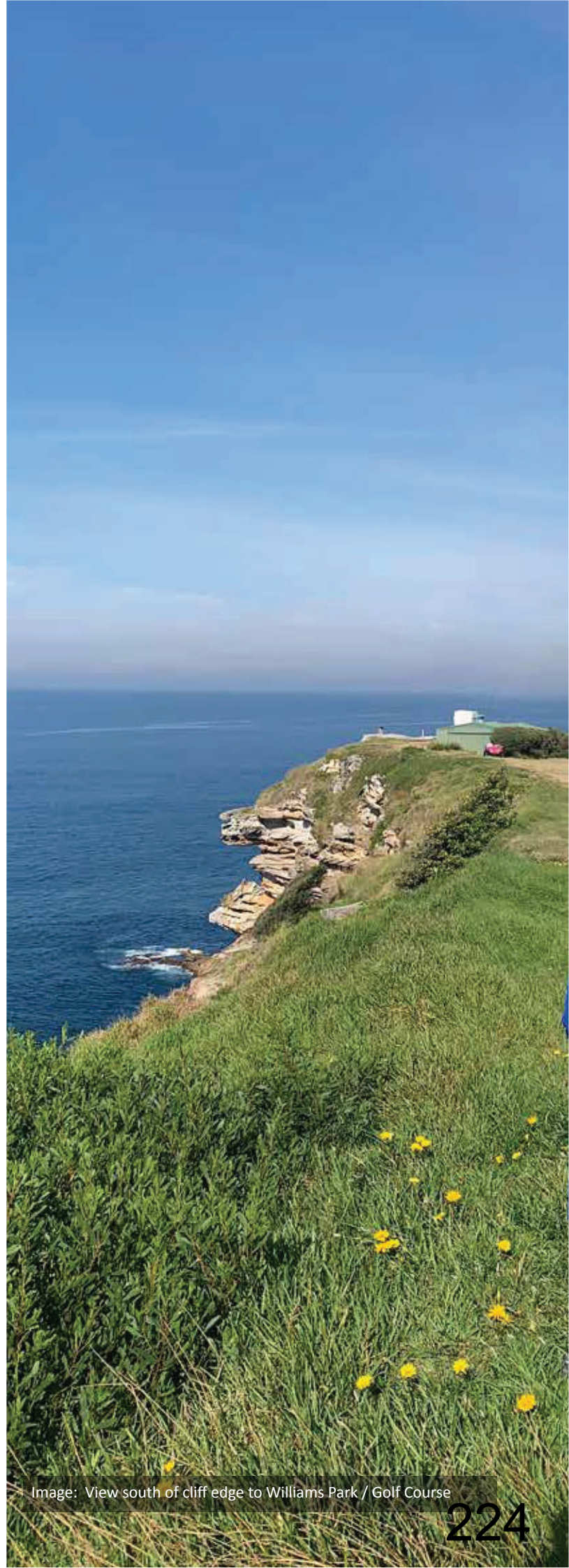


Image: View south of cliff edge to Williams Park / Golf Course





Figure 6.2 Getting around the parks: The Masterplan



### 6.2.1. Action Plan

Category	Action	Time	Who	\$
<b>B1. Provide easily identified, distinct arrival points into the park</b>				
B1.1	<b>Military Road at Murrieverie St</b> <ul style="list-style-type: none"> <li>i. Upgrade existing entry with improved handrails.</li> <li>ii. Make good walking steps.</li> <li>iii. Provide signage.</li> </ul>	S	Creating Waverley	E
B1.2	<b>Military Road at access road to Hugh Bamford Reserve carpark</b> <ul style="list-style-type: none"> <li>i. Provide pedestrian transition from footpath to designated shared zone to access road.</li> <li>ii. Paint mark shared zone as preferred zone for pedestrian movement.</li> <li>iii. Provide signage.</li> </ul>	S	Creating Waverley	LTFP
B1.3	<b>Military Road at south boundary of Sydney water facility near O'Donnell Street</b> <ul style="list-style-type: none"> <li>i. Provide hard surfaced threshold at entry and up slope to rear of golf tee to prevent erosion at entry.</li> <li>ii. Provide signage.</li> </ul>	M	Creating Waverley	LTFP
B1.4	<b>Military Road at Blair Street maintenance road</b> <ul style="list-style-type: none"> <li>i. Provide hard surfaced walkable access past boom gate.</li> <li>ii. Provide signage.</li> </ul>	M	Creating Waverley	LTFP
B1.5	<b>Military Road at Walls Parade</b> <ul style="list-style-type: none"> <li>i. Provide hard surfaced access path from Military Road footpath as part of Club building redevelopment.</li> <li>ii. Provide signage.</li> </ul>	L	Creating Waverley	LTFP
B1.6	<b>Military Road at sandstone steps east of club</b> <ul style="list-style-type: none"> <li>i. Provide hard surfaced access path from Military Road footpath as part of Club building redevelopment.</li> <li>ii. Provide signage.</li> <li>iii. Review potential for interim works to make this entry safer and easier to use</li> </ul>	L	Creating Waverley	LTFP
B1.7	<b>New Entry at Wentworth Street</b> <ul style="list-style-type: none"> <li>i. Investigate potential for provide new pedestrian entry to park directly to carpark level.</li> <li>ii. Carry out community consultation.</li> <li>iii. Integrate viewing area with steps as per 6.1.1.3.</li> <li>iv. Provide signage.</li> </ul>	L	Creating Waverley	LTFP
<b>B2. Provide compliant all weather access from the Hugh Bamford Reserve carpark to the Community Hall</b>				
B2.1	<ul style="list-style-type: none"> <li>i. Implement compliant universal access and all weather path access from carpark to doors of Community Hall as per current Council works plan.</li> </ul>	S	Creating Waverley	E
<b>B3. Provide an informal walking route across grass that links to key viewing points and other park features</b>				
B3.1	<b>Investigation and planning</b> <ul style="list-style-type: none"> <li>i. Review precedents of grassed walking routes to identify likely management challenges and develop approach.</li> <li>ii. Review and confirm the walking route and map as basis for implementation and promotion</li> <li>iii. Coordinate opening and implementation with "Golf Free" day implementation to Williams Park as per 6.3</li> </ul>	S	Creating Waverley	LTFP
B3.2	<ul style="list-style-type: none"> <li>i. Implement localised regrading of golf course embankments at key locations to improve ease of walking access: <ul style="list-style-type: none"> <li>-adjacent Sydney Water boundary near Military Road (entry 3)</li> <li>-to residential boundary in the south east corner of Williams Park</li> </ul> </li> </ul>	M	Creating Waverley	LTFP



Category	Action	Time	Who	\$
B3.3	<b>Signage and marker strategy</b> <ul style="list-style-type: none"> <li>i. Develop integrated approach to wayfinding and walking route markers with heritage interpretation as per B3.5 - build in potential to retrofit heritage interpretation component to marker posts.</li> <li>ii. Develop materials and design approach and prototype</li> </ul>	S	Creating Waverley	LTFP
B3.4	<b>Hugh Bamford Reserve</b> <ul style="list-style-type: none"> <li>i. Implement supporting actions where possible - related to other park features on the walking loop (such as viewing point, fence upgrades)</li> <li>ii. Implement walking route marker posts</li> </ul>	M	Creating Waverley	LTFP
B3.5	<b>Williams Park</b> <ul style="list-style-type: none"> <li>i. Coordinate with investigation and planning of Golf Free days / Golf free times</li> <li>i. Implement supporting actions where possible - related to other park features on the walking loop (such as viewing point, infill planting)</li> <li>ii. Implement walking route marker posts</li> </ul>	M	Creating Waverley	LTFP
<b>B4. Provide continuous footpath access to western edge of parks (within the Military Road verge).</b>				
B4.1	<b>Investigation and design coordination</b> <ul style="list-style-type: none"> <li>i. Identify and coordinate with related projects to Military Road. Pursue effective compromise between traffic bus and pedestrian objectives</li> <li>ii. Undertake community consultation</li> </ul>	S	Creating Waverley	LTFP
B4.2	<b>Design</b> <ul style="list-style-type: none"> <li>i. Develop design for implementation of integrated project taking into account: <ul style="list-style-type: none"> <li>-continuous pedestrian path adjoining kerb</li> <li>-integration with park entries</li> <li>-integration with safe crossing points to Military Road</li> <li>-integration with other Military Road traffic works</li> </ul> </li> </ul>	S	Creating Waverley	LTFP
B4.3	<b>Implementation</b> <ul style="list-style-type: none"> <li>i. Implement works on site</li> </ul>	M	Creating Waverley	LTFP



Image: Steep verge areas on Military Road will require localised earthworks and low walling to enable pedestrian path construction. To specific areas removal of parking is required to continue path



Category	Action	Time	Who	\$
<b>B5. Implement a wayfinding strategy for the parks.</b>				
B5.1	<b>Wayfinding System</b> Implement a wayfinding strategy for Williams Park and High Bamford Reserve with consideration of the following: <ol style="list-style-type: none"> <li>Support legibility and cohesion to and throughout the park by using consistent sign systems, colour/contrast, street furniture, trees, landmarks and other landscape features;</li> <li>Improve signage locations so they are placed at major decision-making points and all primary and secondary points into the park;</li> <li>Ensure that the physical placement, installation and illumination of signs enhances legibility when viewed from a distance;</li> <li>Create an informed and complete user experience by ensuring the coverage of signage throughout the entire park area;</li> <li>Use consistent signage text, graphic style, pictograms and locations. Increase font and map size and contrast, use a plain background for printed information;</li> <li>Improve communication of directional and warning messages for all park users, including people who are blind or have a vision impairment. Consider using Braille and tactile elements/ information at major access points;</li> <li>Incorporate interactive wayfinding technology into signage and information;</li> <li>Ensure sign mapping identifies and provides information on accessible paths and step-free paths;</li> <li>Provide information at an optimal height so that it is clearly visible by a person while either seated or standing;</li> <li>Provide adequate colour contrast between the sign and the symbol and the surface surrounding the sign – eg. wall or background; and</li> <li>On Green Links signage, provide information on accessible pathway networks and links.</li> </ol>	S	Creating Waverley	TBD
B5.2	<b>Promotion and awareness</b> <ol style="list-style-type: none"> <li>Provide off-site information on access and mobility to and within the parks. Develop an Access Guide that includes information on transport options, accessible parking and transport, drop-off area, access pathways and the like.</li> <li>Provide detailed information on Council's website on accessible compliant public transport links and how to arrive at the parks.</li> </ol>	O	Creating Waverley	TBD
<b>B6. Consider over time an adequate proportion and distribution of universally accessible facilities connected by accessible paths of travel where most compatible with landscape character</b>				
B6.1	<b>Hugh Bamford Reserve</b> <ol style="list-style-type: none"> <li>Monitor potential for a partial connection or full access loop to Hugh Bamford Reserve providing all weather compliant access.</li> <li>Connect to park features such as lookouts, nature play and the like implemented to date and which may be implemented in the future.</li> </ol>	L	Creating Waverley	TBD
B6.2	<b>Williams Park</b> <ol style="list-style-type: none"> <li>Provide at grade access from Military Road frontage into redeveloped Club Building.</li> <li>Provide lift access from basement parking into redeveloped Club Building.</li> </ol>	L	Creating Waverley	TBD



Category	Action	Time	Who	\$
B7. Use vegetation to increase setback from edge situations.				
B7.1	<ul style="list-style-type: none"> <li>i. Review locations where safety or environmental conditions make it desirable to set back / control pedestrian movement.</li> <li>ii. Plan and implement wider vegetation buffer at identified embankment / cliff edges.</li> </ul>	O	Creating Waverley	TBD
B8. Investigate potential for a cliff edge link between Hugh Bamford Reserve and Williams Park in liaison with Sydney Water				
B8.1	<b>Investigation and liaison</b> <ul style="list-style-type: none"> <li>i. Liaise with Sydney water for the potential provision of a cliff boardwalk access across the seaward side of the Sydney Water facility to create an iconic park experience and optimum viewing point to cliffs and ocean.</li> <li>ii. Explore funding opportunities.</li> <li>iii. Investigate geotechnical and structural constraints and opportunities.</li> <li>iv. Benchmark other similar coast walk scenarios and examine security and safety strategies.</li> </ul>	L	Creating Waverley	TBD
B8.2	<b>Design</b> <ul style="list-style-type: none"> <li>i. Undertake engineering design in liaison with Sydney water.</li> <li>ii. Develop design integrating walking platform and sitting / viewing opportunities.</li> </ul>	L	Creating Waverley	TBD
B7.3	<b>Implementation</b> <ul style="list-style-type: none"> <li>i. Secure funding.</li> <li>ii. Implement.</li> <li>iii. Manage in liaison with Sydney Water.</li> </ul>	L	Creating Waverley	TBD



Image: View north towards Sydney Water facility and proposed location of cliff walk  
Also in foreground zone of potential widening of vegetation buffer adjoining embankment edge / cliff edge



### 6.3. Playing and Relaxing

The plan of management seeks to ensure that Hugh Bamford Reserve and Williams Park maximise recreation and leisure benefits for the Waverley community. This has to be achieved in the context of the conservation of the key natural and heritage values of the parks.

At the time of writing in 2019 Waverley Council was in the process of developing an Open Space and Recreation Strategy for the LGA. Interim outcomes from this work confirmed that the Council area is significantly under resourced for sports fields in relation to local demand for sports activities. Council is focussed on supporting active recreation in the community and as one of the larger open spaces in the Council area Williams Park should come under consideration for its potential to help address broader recreational needs. This could be further justified by the relatively low usage levels of the Bondi Golf Course in relation to other public nine hole courses in Sydney, and the need to consider uses that could increase the community use and benefit of the open space.

To inform such a discussion the plan of management process has included the investigation of Williams Park for potential sports field development. This identified that the undulating landform and available space make the provision of a sports field even at minimum senior competition size problematic. In particular the context of landscape and visual management requirements for the site under the Landscape Conservation Area listing in the Waverley LEP, means that the scale of earthworks and potential civil structures would likely create unsustainable impacts.

In addition the need to provide for off street parking to support a sports field facility adds to the potential impacts both to the landscape setting and to local traffic and amenity.

As such the plan recommends that while the existing sports usage of the half field at Hugh Bamford Reserve is maintained and enhanced with better access to toilets and drinking fountains, a playing field at Williams Park is not supported.

To address the anomaly of the limited use of Williams Park beyond golf, it is proposed that a shared use regime is planned and implemented. In this proposed approach Golf remains as a core use of Williams Park but on specific days and at specific times Williams Park is proposed to be “Golf Free”. The aim is to encourage broader walking and passive recreational use of the park which does occur currently but is constrained due to the safety issues with walking access over an active Golf Course.

Refer to Figure 6.3 for key recommendations.



Image: walking over grass - one of the key proposed recreational pursuits for Williams park and Hugh Bamford Reserve





Figure 6.3 Playing and relaxing: The Masterplan



### 6.3.1. Action Plan

Category	Action	Time	Who	\$
<b>C1. Maintain and enhance sports training and related sports uses within Hugh Bamford Reserve and community rooms within Club Building to Williams Park</b>				
C1.1	<b>Hugh Bamford Reserve recreational use</b> <ol style="list-style-type: none"> <li>Continue sports club and community group use of Hugh Bamford Reserve for sports and related uses.</li> <li>Maintain day to day use of level grassed area at Hugh Bamford as a community village green.</li> <li>Continue community group use of Hugh Bamford Reserve Community hall for community activities.</li> </ol>	O	Creating Waverley, Clean and Attractive Waverley	E
C1.2	<b>Dog access</b> <ol style="list-style-type: none"> <li>Maintain current off leash dog controls to Hugh Bamford Reserve.</li> <li>Monitor potential for time managed off leash dog access to village green area of Hugh Bamford Reserve (for example off leash dog access allowable up till 6.30am and after 7.00pm in summer).</li> <li>Golf free public access to Golf Course area to be on leash only.</li> </ol>	O	Creating Waverley, Safe Waverley	E
C1.3	<b>Williams Park</b> Maintain and enhance the capacity of a Williams Park club facility to provide for a variety of community group usage.	O	Creating Waverley	E
<b>C2. Provide adaptable and flexible spaces to accommodate a variety of interest groups.</b>				
C2.1	<b>Hugh Bamford Reserve</b> Provide adequate facilities to support day to day recreational use but avoid enhancements or facilities which can limit the long term flexibility of use.	O	Creating Waverley, Project Waverley	TBD
C2.2	<b>Williams Park</b> Investigate enhancements which facilitate passive recreational access and use of the park without unduly impacting golf usage.	O	Creating Waverley	TBD
<b>C3. Enable enhanced informal recreational use of Williams Park for such pursuits as walking, sitting and viewing</b>				
C3.1	Liaise with Golf Club to plan and manage Golf Free days and time slots.	S	Creating Waverley BGDC	TBD
C3.2	Review golf course layout in collaboration with Golf Club and identify and implement opportunities to reconfigure layout and playing format to enhance safety to Military Road and on course.	S	Creating Waverley BGDC	TBD
C3.3	Trial and refine Golf Free days and time slots.	S	Creating Waverley	TBD
C3.4	Enhance passive recreational amenity through seating and other elements to Williams Park.	S	Creating Waverley	TBD
<b>C4. Provide high-quality amenities and facilities that support recreational users</b>				
C4.1	<ol style="list-style-type: none"> <li>Monitor the provision of facilities across the parks to cater effectively for / and support community use.</li> <li>Ensure facilities provision and use is compatible with the conservation of natural qualities and low key character within the parks.</li> </ol>	O	Creating Waverley	TBD
<b>C5. Prioritise activities that are intrinsic to the place, its cultural values and which complement the physical location</b>				
C3.1	Do not permit overtly commercial use of the park or any high-impact events that are inappropriate to the location. Do not permit high-impact events as classified in <i>Waverley Councils Events Policy 2015</i> .	O	Enriching Waverley	E



Category	Action	Time	Who	\$
C3.2	Support occasional community events and not-for-profit organisations hosting charity events, in accordance with the <i>Waverley Council Outdoor Events Management and Delivery Guidelines, Waverley Council Events Policy, and Waverley Council Venue Hire Grants Program</i> .	O	Enriching Waverley	E
C3.3	Plan and implement nature based play environments to the fringes of Hugh Bamford Reserve.	M	Creating Waverley	LTFP
C3.4	Plan and implement half court facility integrated with redevelopment of Williams Park Club building. Develop as shared use hard stand space suitable to be used for community events with potential community arts component.	L	Creating Waverley	LTFP



Image: View south from golf tee in area of tee for hole 5. Views from the course are highly valued as part of passive recreational experiences



## 6.4. Enhancing the Environment

In planning for the future, the key intrinsic value of Williams Park and Hugh Bamford Reserve is the unique natural environment.

Consequently, environmental values are at the forefront of any future works in the park and integrate with many proposals identified under other themes and their respective action plans.

To date, Council has completed strategic plans and are underway implementing actions that aim to conserve remnant vegetation and to support and improve the existing bushland of the parks.

This Plan of Management does not provide actions that relate directly to the management of bushland or remnant vegetation, but aims to support these works by aligning the master plan and action plan with the works scheduled, particularly in the Biodiversity Action Plans and Ecological Restoration Action Plans. Council will continue to coordinate, support and engage Professional Bush Regenerators and liaise with volunteer bushcare groups to undertake the actions identified in these environment and ecological specific plans.

There is more work to do, particularly in managing weeds within the parks, and in ensuring that recreational use effectively co-exists with the natural environment.

Consequently, the Master Plan and Action Plan focuses on these works. Refer to Figure 6.4 for major recommendations.

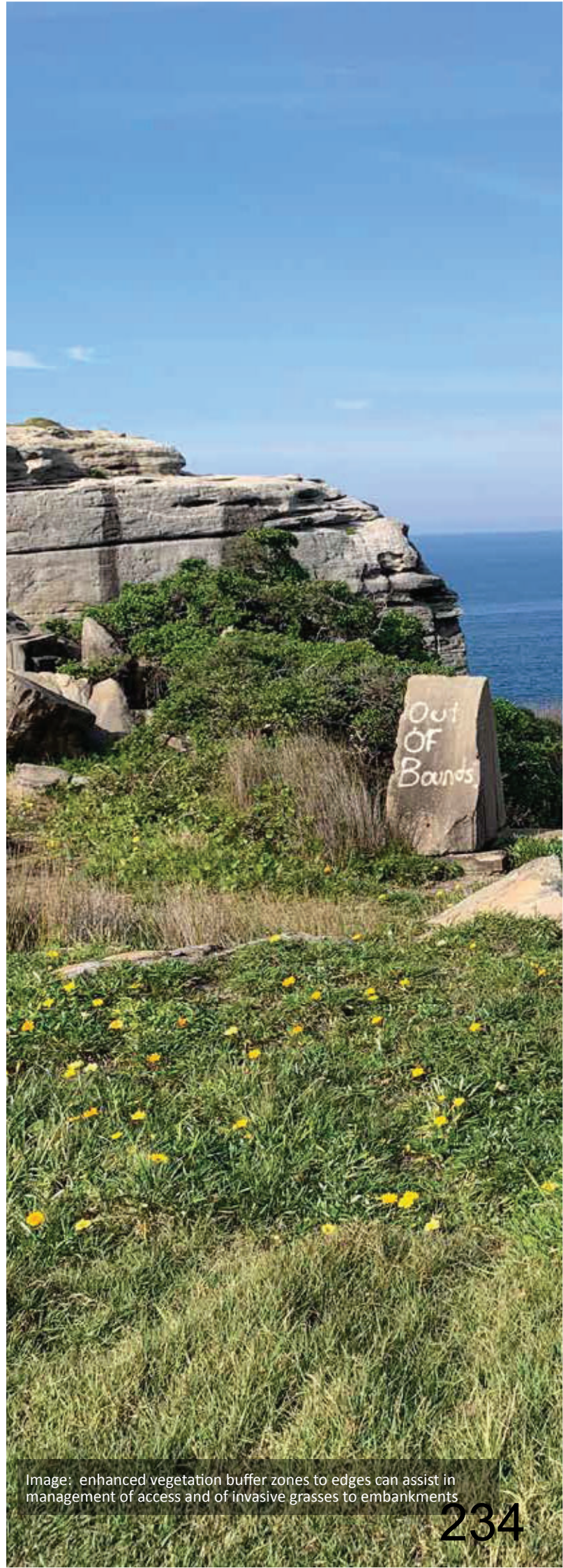


Image: enhanced vegetation buffer zones to edges can assist in management of access and of invasive grasses to embankments





Figure 6.4 Enhancing the environment: The Masterplan



### 6.4.1. Action Plan

Category	Action	Time	Who	S
<b>D1. Enhance the natural heritage of the site such as vegetation, land form and hydrology.</b>				
D1.1	Support actions identified in the Biodiversity Action Plan - Remnant Sites 2014-2020.	O	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	E
D1.2	Update the Council wide Biodiversity Action Plan 2014-2020 to include Williams Park.	O	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	E
D1.3	Support habitat by increasing connectivity and width of native vegetation zones and by progressively managing weed encroachment to the coastal edge.	O	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	LTFP
D1.4	Support habitat by increasing connectivity and width of native vegetation zones and by progressively managing weed encroachment to the Military Road edge of the site and to boundaries of the Sydney Water facility and residential edges.	O	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	LTFP
D1.5	Continue to support the Bushcare program and professional contractors to undertake regeneration to remnant vegetation in accordance with the Biodiversity Action Plan - Remnant Sites 2014-2020.	O	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	E
D1.6	In liaison with Golf Club investigate opportunities to introduce narrow drifts of native groundcover and shrub planting through the golf course between holes. Implement planting.	O	Sustainable Waverley, Creating Waverley, Golf Club, Clean and Attractive Waverley	LTFP
D1.7	Coordinate replacement of fencing to locations in Hugh Bamford Reserve and Williams Park with actions D1.4 and D2.1 and provide planted zone to the front of fencelines where possible to reduce visibility.	S	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	LTFP
D1.8	Retain the rolling natural landform and character of the site in particular to Williams Park, minimising any regrading, or walling construction that has potential to change the character of the site and views to it.	O	Creating Waverley	TBC
<b>D2. Manage park use and access to areas of environmental sensitivity</b>				
D2.1	Provide vegetation buffers to edge of steep embankments and cliffs to assist with access management and enhance habitat values.	S	Sustainable Waverley, Creating Waverley	LTFP
D2.2	Improve management of junction of maintained grass to native vegetation areas to control exotic grass infestation of natural vegetation zones as part of bush regeneration works.	S	Sustainable Waverley, Creating Waverley	LTFP
<b>D3. Monitor and adapt to the effects of climate change.</b>				
D3.1	Reduce demand for potable water for management of recreational grassed areas within the parks.	O	Sustainable Waverley, Creating Waverley, Project Waverley	TBD
D3.2	Design buildings and landscape works to consider environmental sustainability and adaptation to future climatic conditions.	O	Sustainable Waverley, Creating Waverley	TBD
<b>D4. Promote environmentally sustainable practices in the management and maintenance of the place.</b>				
D3.1	Assess the condition of the existing irrigation system to the Golf Course and repair/replace as required.	O	Clean and Attractive Waverley	TBD



D3.2	Investigate extending the irrigation system to Hugh Bamford Reserve and integrating stormwater harvesting.	S	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	TBD
Category	Action	Time	Who	S
D3.3	Develop a sustainable waste management plan for the parks.	S	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	LTFP
D3.4	Reduce and minimise water use and waste-water generation, works to consider: <ul style="list-style-type: none"> <li>i. Continue to harvest water from the stormwater system and monitor rates and use to ensure adequate supply for park irrigation and building use;</li> <li>ii. Ensure staff awareness of the importance of resource conservation;</li> <li>iii. Visitor education on the importance of water conservation through appropriate signage; and</li> <li>iv. Installation of water-saving devices on taps and use of water-saving appliances.</li> </ul>	S	Sustainable Waverley, Creating Waverley, Project Waverley, Clean and Attractive Waverley	TBD
D3.5	Conserve energy and resources throughout the park and buildings, works should: <ul style="list-style-type: none"> <li>i. Generate renewable energy; and</li> <li>ii. Use energy-efficient fixtures and appliances.</li> </ul>	O	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley	TBD
<b>D4. Consider whole of life-cycle cost in the selection of materials and construction techniques.</b>				
D4.1	Explore options for the improvement and implementation of environmental sustainability through such measures as site design, layout and building design: <ul style="list-style-type: none"> <li>i. Consider the use of local materials in the construction of buildings and infrastructure;</li> <li>ii. Design buildings with the local climatic conditions in mind, with consideration of local heating and cooling requirements; and</li> <li>iii. Minimise impact on the environment through appropriate footprint design and techniques.</li> </ul>	O	Sustainable Waverley, Project Waverley, Creating Waverley	TBD
<b>D5. Educate the community about the value of the sites unique environment.</b>				
D5.1	Support programs that provide environmental education on-site.	O	Sustainable Waverley	E
D5.2	Incorporate environmental information on promotional materials and signs.	O	Creating Waverley, Sustainable Waverley	TBD



## 6.5. Community, Culture and Heritage

Williams Park and Hugh Bamford Reserve present a unique suite of cultural heritage qualities which need to be effectively conserved and managed. At the same time there is also great potential to add to the recreational experience of the parks and the local area, through the expression and celebration of those heritage qualities.

The Plan of Management aims to reveal the site's heritage values by integrating interpretative mediums to draw attention to, and explain the origins and heritage value of, the heritage items within the parks.

Each of the heritage features in the parks has potential to be interpreted as part of a coordinated approach that places that element in the broader natural contexts of the natural environment, Aboriginal Cultural Heritage and European Cultural Heritage. It is recommended that the heritage approach to the parks is multi-layered explaining the integration between the natural, Aboriginal and European narratives.

Potential to plan and implement interpretive "events" that provide an ephemeral but impactful awareness of heritage values with the community should also be explored as part of the heritage interpretation approach.

Additionally, the plan recommends to continue supporting existing and future community uses and groups that benefit from the site and its facilities.

Heritage conservation, management and interpretation must be undertaken in consideration of the *Heritage Study Review for Williams Park and Hugh Bamford Reserve 2019* by GML heritage which is appended to this Plan of Management

Refer to Figure 6.5 for key recommendations.



Image: In 1910 the original Bondi sewer stack (1888) was demolished and replaced with a 30m-high stack made with 42cm thick reinforced concrete walls. It remains a major landmark to the district





Figure 6.5 Community culture and heritage: The Masterplan



### 6.5.1. Action Plan

Category	Action	Time	Who	\$
E1. Conserve and maintain the heritage fabric of the park.				
E1.1	<b>Approach</b> <ol style="list-style-type: none"> <li>The heritage significance of Williams Park and Hugh Bamford Reserve will be conserved and managed for future generations.</li> <li>The full range of identified and potential heritage values will be considered including natural and cultural.</li> <li>The parks will be managed as a continuous and integrated cultural landscape.</li> <li>Any works on the ground will be guided by heritage inputs</li> <li>Any physical works proposed shall be assessed so as not to give rise to a material impact. A heritage Impact Statement is required for any works proposed in the park.</li> </ol>	O	Sustainable Waverley	TBD
E1.2	<b>Conserve heritage significance</b> <ol style="list-style-type: none"> <li>Undertake a cautious approach - change as little as possible.</li> <li>Avoid constructions that would adversely affect the heritage significance of Williams Park and Hugh Bamford Reserve.</li> <li>Regularly inspect heritage items to assess condition and identify any actions required.</li> <li>Use most recent technologies to record engravings and monitor condition periodically.</li> <li>Prepare conservation strategies for individual heritage items where significant change is proposed.</li> <li>The natural cultural and social values of the parks should be weighted equally.</li> <li>manage to enhance presentation and public appreciation of heritage values.</li> </ol>	O	Waverley Life	TBD
E1.3	<b>Engage with community</b> <ol style="list-style-type: none"> <li>The coexistence of Aboriginal and historical values needs to be considered and given equal weight during planning.</li> <li>The significant associations between the place and people who value the place need to be respected, retained and not obscured.</li> </ol>	O	Waverley Life	TBD
E1.4	<b>Encourage research and enquiry</b> <ol style="list-style-type: none"> <li>Facilitate and encourage engagement and involvement of people for whom the parks have significant association and meanings.</li> <li>Understand the research potential of various heritage elements within the parks.</li> </ol>	O	Waverley Life	TBD
E1.5	<b>Keep good records</b> <ol style="list-style-type: none"> <li>Where changes or works are undertaken ensure decisions are recorded and made available.</li> </ol>	O	Waverley Life	TBD
E1.6	<b>A continuous cultural landscape</b> <ol style="list-style-type: none"> <li>As per E1.1 manage as a continuous cultural landscape - explore potential physical connections between the parks.</li> <li>The visual relationships between the parks including views and landscape should be protected and enhanced.</li> </ol>	O	Waverley Life	TBD
E1.7	<b>Heritage listings</b> <ol style="list-style-type: none"> <li>Update Waverley LEP Heritage Map and schedule 5 with current information to remove duplicate sites and adjust location of known items.</li> <li>Visual relationships between the parks including views and landscape should be protected and enhanced.</li> </ol>	O	Waverley Life	TBD



Category	Action	Time	Who	\$
E1.8	<b>Ben Buckler Gun emplacement 1893</b> <ol style="list-style-type: none"> <li>Commission a CMP for the complete Ben Buckler gun battery site not just the gun emplacement.</li> <li>Investigate potential impacts of uncovering of remnant emplacement infrastructure as a potential long term interpretation strategy.</li> <li>Interpret Ben Buckler gun battery site in general area of covered remnant.</li> </ol>	M	Creating Waverley	TBD
E1.9	<b>Rock cut stairway</b> <ol style="list-style-type: none"> <li>Ensure weed management and condition management of built elements.</li> <li>Provide interpretation to explain history.</li> </ol>	S	Creating Waverley	TBD
E1.10	<b>Vegetation remnant to north east corner of Hugh Bamford Reserve</b> <ol style="list-style-type: none"> <li>Close area to public access including upgraded fencing.</li> <li>Provide signage and surveillance and policing of no access.</li> </ol>	S	Creating Waverley	TBD
E1.11	<b>Aboriginal engravings Williams Park</b> <ol style="list-style-type: none"> <li>Use latest technology to scan and record Aboriginal engravings.</li> <li>Liaise with NPWS and Aboriginal stakeholders to review best measures to improve drainage around rock outcrop.</li> </ol>	S	Creating Waverley	TBD
E1.12	<b>European engravings Williams Park</b> <ol style="list-style-type: none"> <li>Use latest technology to scan and record European engravings.</li> </ol>	S	Creating Waverley	TBD
E1.13	<b>Vent Sewer stack</b> <ol style="list-style-type: none"> <li>Provide interpretation as part of coordinated approach.</li> <li>Remove maintenance shed with creating of Parks Office at redeveloped Club building.</li> </ol>	M	Creating Waverley	TBD
E1.14	<b>Murrieverie Quarry and geological feature</b> <ol style="list-style-type: none"> <li>Undertake structural assessment of the geological monument for its protection, preservation and interpretation.</li> <li>Provide interpretation of geological significance and Aboriginal and European use as part of coordinated approach.</li> </ol>	S	Creating Waverley	TBD
<b>E2. Interpret and tell the story of the place including Aboriginal themes and 'storylines'.</b>				
E2.1	Develop an integrated approach to signage on the site that integrates wayfinding with interpretation.	M	Creating Waverley	TBD
E2.2	Continue consultation with the La Perouse Local Aboriginal Land Council (LALC) on matters such as conservation and interpretation.	O	Creating Waverley, Project Waverley	E
E2.3	Provide information on the Indigenous heritage of the area and incorporate these stories within the existing Waverley heritage trails network.	M	Creating Waverley, Shaping Waverley	TBD
E2.4	Integrate natural and cultural heritage themes including European heritage of STP and Gun battery and the naming of the two parks.	M	Creating Waverley, Shaping Waverley	TBD
<b>E3. Strengthen and express the cultural values through supporting community groups and activities.</b>				
E3.1	Continue Council's bush care program to support Bushcare groups, providing materials and volunteer support and training.	O	Sustainable Waverley	E
E3.2	Collaborate with Bondi Golf Club to plan and implement Golf Free Days and in the ongoing management and maintenance of Williams Park related to broader public use.	O	Waverley Life	E
E3.3	Continue to support the sports clubs and community activity groups which use the park and club / hall facilities.	O	Waverley Life	E
<b>E4. Ensure the cultural landscape is expressed in the design and management of the site.</b>				
E4.1	Ensure the visual setting of the park and beach are conserved by considering main views when assessing and/or designing new development or rebuilding existing infrastructure in the park.	O	Creating Waverley	TBD



## 6.6. Management and Maintenance

As outlined in section 3.4, under the Crown Reserves Management Act 2016, Council managers must assign to all Crown land under their management one or more categories of community land referred to in section 36 of the Local Government Act. It is important that the category aligns closely with the original reserve purpose. The reserve purpose for Williams Park and Hugh Bamford Reserve is 'for public recreation'. The recommended categorisations for the parks as identified on Figure 6.6 have regard for this reserve purpose in addition to the specific natural and cultural characteristics and values of the site. Categorisations have taken into account the *Local Government Regulation 2005 - Guidelines for categorisation* as outlined in section 3.2.6.

Maintenance responsibilities across Williams Park and Hugh Bamford Reserve currently lie across a number of stakeholders. The Golf Course area of Williams Park is currently maintained by the Bondi Golf Club as a requirement of its lease agreement. Similarly it is responsible for maintenance of the club building. However due to the financial challenges of the club, Council has had to step in to fund a range of stabilisation works in the club building in 2019 to make it suitable for ongoing habitation.

Council maintains Hugh Bamford Reserve in accordance with its sport field maintenance regime and has ongoing commitments related to vegetation management and the cliff edge zone in Williams Park. Across both parks one of the key maintenance and management challenges is the maintenance of the junction of maintained grass with natural vegetation, and the encroachment exotic grasses and weeds into natural areas.

With the implementation of Golf Free days that will increase general community access to and use of Williams Park and the proposed redevelopment of the Williams Park club building recommended by this plan of management, it is necessary the existing maintenance and management responsibilities within Williams Park be reviewed.

This plan recommends that Council in collaboration with the Golf Club assume an agreed role in ongoing maintenance of the Golf Course area of Williams Park in particular in relation to the operation and follow up to Golf Free days / times. Further the plan recommends that the existing Golf Club building complex be redeveloped by Council as a Council asset that can serve a range of community uses as outlined in 6.1.1.2.

Refer to Figure 6.7 for key recommendations.



Image: maintenance of the margin between maintained grassed park areas and natural vegetation is a key maintenance priority





Figure 6.6 Community land categorisation: The Masterplan





Figure 6.7 Management and maintenance The Masterplan



### 6.6.1. Action Plan

Category	Action	Time	Who	\$
F1. Ensure that the park and beach environments are safe for users at all times.				
F1.1	<p><b>Shared use of golf course</b></p> <p>Maintain and promote awareness of the co-operative use of the Golf Course area of Williams Park for Golf and walking day to day.</p> <p>Provide signage at park entries advising of golf course use and hazards along with golf free times.</p> <p>Plan and implement Golf Free days / time slots as per actions C3.1-3.3.</p>	S	Creating Waverley, Clean and Attractive Waverley	TBD
F1.2	Review golf course layout in collaboration with Golf Club and identify and implement opportunities to reconfigure layout and playing format to enhance safety to Military Road and on course as per C3.2.	S	Creating Waverley,	TBD
F1.3	Investigate, plan and implement measures to improve safety of park users including increased vegetation buffers, provision of defined lookout points at key locations and provision of viewing / seating that encourage use as per F2.1-2.3 below.	S	Creating Waverley, Clean and Attractive Waverley	TBD
F1.4	Ensure safety is considered in all design projects with the parks and buildings and continue to work with relevant stakeholders (local Police and Safety Committee) to address identified safety concerns.	O	Creating Waverley, Safe Waverley	E
F1.5	Provide information on park regulations and access.	O	Safe Waverley	E
F1.6	Improve passive surveillance at north east corner of Hugh Bamford Reserve with provision of coastal outlook platform to encourage safe use in this area.	L	Creating Waverley	LTFP
F2. Recognise the challenges of safety in the coastal cliff edge environment and apply established precedents for managing access				
F2.1	Investigate, plan and implement increased native vegetation buffer to already vegetated embankments that prevents / discourages access closer to cliff edge.	S	Creating Waverley, Clean and Attractive Waverley	LTFP
F2.2	Provide discrete structured lookout at north east corner of Hugh Bamford Reserve that enables safe viewing of dramatic sandstone cliffs.	L	Creating Waverley,	LTFP
F2.3	To open sandstone cliff outcrop just south of sewer vent provide sensitively design elevated deck / platform set back from cliff edge that enables viewing overlook from higher perspective , interpretation and sitting edge and provide an alternative to getting close to the cliff edge. Support with appropriate level of warning signage.	L	Creating Waverley,	LTFP
F2.4	Provide warning signage along the coastal edge that guides users as to the safe route to walk and advises of hazards	S	Creating Waverley,	E
F3. Facilitate increased community use of Williams park and its facilities and provide the park and its facilities with sustainable ongoing management				
F3.1	Plan and implement Golf Free days / time slots as per actions C3.1-3.3.	S	Creating Waverley	TBD
F3.2	Redevelop the Golf Club building as a Council owned Community Club facility. Refer to section 6.1.1.2 of this plan.	L	Creating Waverley	TBD



Category	Action	Time	Who	\$
<b>F2. Ensure facilities are well-maintained and appropriately serviced.</b>				
F2.1	As part of collaboration with Golf Club regarding Golf Free days - develop agreement for Council assistance / support with maintenance through Golf Course area.	S	Clean and Attractive Waverley, Project Waverley	TBD
F2.2	Investigate and implement improved maintenance of exotic grass edge to natural bushland and implement to surrounds of Williams Park and Hugh Bamford Reserve	S	Clean and Attractive Waverley, Project Waverley	TBD
F2.3	Investigate stormwater harvesting to new building works and other sources.	M	Clean and Attractive Waverley	LTFP
F2.4	Relocate on site parks storage to new facility within proposed redevelopment of Golf Club building precinct. Demolish existing shed near Sewer Stack.	M	Creating Waverley, Clean and Attractive Waverley	LTFP
F2.5	Monitor waste management within the parks and in particular the potential for enhanced rubbish management in Williams Park.	O	Sustainable Waverley, Creating Waverley, Clean and Attractive Waverley.	LTFP
F2.6	Document maintenance regime to buildings and implement.	O	Clean and Attractive Waverley.	E
F2.7	Undertake a regular planned maintenance program for the parks.	O	Clean and Attractive Waverley.	E
F2.8	Ensure a continual upgrade of grassed areas, entries, signage vegetation and other park assets in line with Strategic Asset Management Plan (SAMP).	O	Clean and Attractive Waverley.	E
F2.9	Undertake reactive maintenance of the park such as graffiti removal.	O	Clean and Attractive Waverley.	E
<b>F3. Review and reinforce compliance and regulations that enable a range of users to enjoy the park and beach safely.</b>				
F3.1	Continue to monitor the use of the dog off-leash areas. Undertake any necessary campaigns to educate dog-walkers about regulations and dog-owner responsibilities. Enforce regulations as required.	O	Safe Waverley	E
F3.2	Integrate compliance signage with a signage and wayfinding strategy and update signs accordingly. Ensure the relevant information to allow for practicable enforcement of regulations, such as timed dog off leash.	M	Creating Waverley	TBD
F3.3	Review, monitor, and actively enforce the commercial fitness groups' and personal trainers' lease agreements and agreed use of the park. To manage and reduce wear and tear on the lawn and park infrastructure, and ensure groups are in compliance with the agreement terms.	O	Enriching Waverley	E
<b>F4. Manage vehicle access in the park</b>				
F4.1	Maintain current vehicular and emergency access to Hugh Bamford Reserve via access road.	S	Creating Waverley	TBD
F4.2	Review emergency access requirements for Williams Park in context of Golf Free days (emergency access potentially via maintenance access at Blair Street intersection.	S	Creating Waverley	TBD





Image: Formalising a walking entry into Williams Park opposite Blair Street can manage erosion and reduce weed encroachment







# Implementation and Funding

7



## 7. Implementation and Funding

### 7.1. Funding Sources

Funding for implementing the Plan of Management will either be allocated for future upgrade works (capital works) or maintenance and management of the parks. Funding for the management and maintenance is currently provided through Council's annual budget allocation.

To fund the proposed upgrade works Waverley Council plans to set aside Capital Works funds in future years that will cover a number of the proposals in the shorter-term plan.

Council's budget for the Plan of Management is not expected to accommodate all proposals in the short- or long-term plan. Additional funding options that may be investigated include:

- State and Federal grants
- Voluntary Planning Agreements
- Section 94 planning contributions
- Partnerships with community groups or businesses.

The amount of funding through these streams is difficult to anticipate as it is dependent on development and grant programs. Regardless of the type of current or future enterprises Council must also ensure that legitimate costs of upgrading the park are recouped wherever possible.

### 7.2. Performance Indicators

To effectively implement the Action Plan performance indicators are required to demonstrate that the desired outcomes from the plan have been achieved.

It is desirable that the values and actions of this plan can be measured by some means. For this purpose, the following means are considered practical survey methods of monitoring the progress and performance of the Action Plan:

- i. Surveys: Carry out surveys and questionnaires periodically (approximately every five years), accompanied by a survey of user numbers in various parts of the area; qualitative and quantitative in nature. This survey/questionnaire should establish any changes in park usage, visitor experience and perceptions, etc. Additionally, online surveys could be undertaken to request feedback on the implementation of particular programs and management strategies.
- ii. Register of correspondence: review of letters, emails and community requests received each year (positive and negative) on various subjects related to the park, pavilion and beach. This register can be used to indicate general trends and changes in issues and opportunities and the management of the space.
- iii. Photographic survey: taken at key and consistent locations every five years to establish degrees of change (either positive or negative). This could be compared with aerial photographs reviewed every five years.

### 7.3. Review and Monitoring

If the Plan of Management is to remain relevant in the future it is essential that its implementation is reviewed on a regular basis to ensure any relevant changes are incorporated.

Changes that may need to be addressed include new legislation, changes in community values, project priorities, funding resources and new opportunities for future upgrades.

Given that community expectation and requirements change over time, this plan also needs to have some flexibility to adapt to any changes of circumstance.

It is recommended that the plan be reviewed in the following sequences and time spans:

- i. Annually; review progress of action plan.
- ii. Every two years: review management and administration structures and update priorities.
- iii. Every five years: undertake a major review of all values based on revised analysis and issues and amended planning legislation. Review outcomes against survey information, photographic record and register of correspondence.
- iv. Every ten years: review the Plan of Management.