



**COUNCIL MEETING**

**ATTACHMENTS UNDER SEPARATE COVER**

**7.00 PM, TUESDAY 17 AUGUST 2021**

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/7.1/21.08      Delivery Program 2018-22 - Six-monthly Progress Report**

1	Six-monthly Progress Report - 1 January 2021-30 June 2021.....	2
---	--	---

### **CM/7.2/21.08      Draft Financial Statements 2020-21**

1	Draft Annual Financial Statements 2020-2021 .....	101
---	---	-----

### **CM/7.9/21.08      Biodiversity Action Plan - Remnant Sites 2021-2030**

1	Draft Biodiversity Action Plan: Remnant Sites 2021-2030.....	206
---	--	-----

### **CM/7.11/21.08      Planning Proposal - Waverley War Memorial Hospital - Campus Site**

1	Public exhibition submissions .....	390
2	Agency submissions .....	473
3	Building heights - Sections, elevations and perspectives.....	485



# SIX MONTHLY PROGRESS REPORT (1 January 2021–30 June 2021)



# INTRODUCTION

Welcome to Council's Six-Monthly Progress Report.

The Progress Report sets out progress on the delivery of the activities contained in the Council's Operational Plan 2020–21 and Delivery Program 2018–2022. These documents are based on the Waverley Community Strategic Plan 2018–2029 and are part of the Integrated Planning and Reporting Framework required under the Local Government Act 1993.

The report sets out many of the highlights of the last six months of the financial year and shows that Council made significant progress in implementing its Operational Plan objectives. Highlights include work on the Bondi Pavilion Restoration and Conservation Project. Demolition works are 90% complete and restoration works have gathered pace. This project has advanced well and is on track for completion on time and budget.

Council has also significantly advanced work on the Bondi Junction Cycleway and Streetscape Upgrade, with works completed in Oxford Street, Denison Street and Spring Street.

Council's leadership in sustainability initiative was recognised by external agencies. Adaptations to Residential Building Design, the second report from Council's Future Proofing Residential Development to Climate Change Project, found heating and cooling of buildings can be improved for Waverley residents

through existing methods such as building materials, window glazing and improved shading.

The report responds to the alarming findings from Council's initial project report which showed that as the number of warm days increase, cooling needs for houses and apartments may surge by over 300% by 2070. The Project won the Planning Disruptor Award at Greater Sydney Planning Awards.

COVID-19 has continued to impact the Council significantly. Measures have been taken to keep staff and the community safe (e.g. personal protective equipment, COVID-safe rostering), public health order compliance has been a major focus and some events and activities have had to be cancelled or held in online formats. Community support programs for businesses and vulnerable communities have been provided.

Further achievements and project milestones are reported in the pages that follow. Alongside the projects highlighted, Council has continued to deliver its range of services to the community – from waste and recycling services to roads, footpaths and stormwater through to Library services and parks and facilities. These projects support in making Waverley a great place to live.

3

# OPERATIONAL PLAN ACHIEVEMENTS

Six Monthly Progress Report 1 January 2021 - 30 June 2021



4



## ARTS AND CULTURE

We provide a wealth of cultural programs for our community and visitors, conscious that our local area holds a unique place in the public imagination – an iconic part of Australian culture. We continue to recognise the importance of culture and the arts to social cohesion, lifelong learning, innovation and making our public spaces more visually appealing. The Art and Culture theme in the Waverley Community Strategic Plan 2018–2029 strives for a Waverley community enriched by opportunities to celebrate and participate in art and culture.



Six Monthly Progress Report 1 January 2021 - 30 June 2021

# KEY HIGHLIGHTS

## 5 WAVERLEY YOUTH ART PRIZE

In June 2021, the 36th Waverley Youth Art Prize winners were announced. This year the theme explored We are family- ancestors, bloodlines and belonging.

The following winners reflected on connectivity and community in their artworks:

Prize Category	Winner	Name of Work
Senior First Place	Claudia Shagrin	<i>Here with me</i>
Senior Second Place	Tim Senior-Skinner	<i>Family Secrets</i>
Senior Third Place	Logan McAuliffe	<i>A Hidden Message</i>
Senior Highly Commended	Chloe Colman	<i>Nan's House</i>
Intermediate First Place	Joao Coelho - Cornelius	<i>The Family Tree</i>
Intermediate Second Place	Isabella McIntosh	<i>Love &amp; Inspiration</i>
Intermediate Third Place	Aliya Yang	<i>From the Sun</i>
Intermediate Highly Commended	Olivia Du	<i>Self portrait</i>
Junior First Place	Zac Lusthaus	<i>Families at the airport</i>
Junior Second Place	Nikita Mocsari	<i>My Great Grandfather Claudius</i>
Junior Third Place	Oliver Isaac	<i>The Duck Family</i>
Junior Highly Commended	Tiffany X	<i>My Brother</i>
Best Interpretation of the Theme	Molly North	<i>So Much More</i>
Best Sculpture	Aeriel Berger	<i>A Family Lunch</i>
Best Video	Coco and Jet Batu-Sampson	<i>We have so much to learn from our FAMILY</i>
Mayors Prize	Talia Lapedus	<i>Timeless</i>
Mayors Prize	Pearl Collins	<i>The Warmth and Character of the Collins Clan</i>



(Above): Senior first place: *Here with me*, Claudia Shagrin.



(Above): Intermediate first place: *The Family Tree*, Joao Coelho - Cornelius.



6



(Above): Junior first place: *Families at the airport*, Zac Lusthaus.



(Above): Best Interpretation of the Theme: *So Much More*, Molly North.

This year's winners received a range of art packs full of creative materials to help with their future masterpieces, while the Senior Category winner received a weeks' attendance at Sydney's National Art School.

## WAVERLEY ARTS AND CULTURE PLAN

The Waverley Arts and Culture Plan 2021–2026 was finalised and endorsed by Council at its meeting in April 2021. The Plan developed through extensive consultation with the community and artists will provide a roadmap to bringing vibrant, creative and inclusive activities to life. The vision for activation, participation and innovation for arts and culture in Waverley, the plan guides Council's long-term planning for cultural infrastructure, events, programs and partnerships. Council has established the Waverley Arts and Culture Advisory Committee. This committee has now met once and will continue to provide expert advice to Council officers on the progression of goals, actions and measures outlined in the plan.

## EVENTS AND PROJECTS

A range of projects were delivered including:

- Flickerfest Short Film Festival, hosted in the famous spiegel tent in North Bondi Park.



Flickerfest

- Bronte House open weekend.
- Global Table, a multicultural event celebrating food, culture and entertainment from all over the world in Oxford Street Mall.



Global Table performance.

- Pound Paws community event raising the awareness for adopting pet rescue animals. This event is supported by Council's community grants program.
- Run for the Oceans South Bondi Park, COMMAS Fashion week show at Tamarama beach, Seaside Scavenge at Bronte Beach.

## FESTIVAL OF PLACE SUMMER GRANT

7

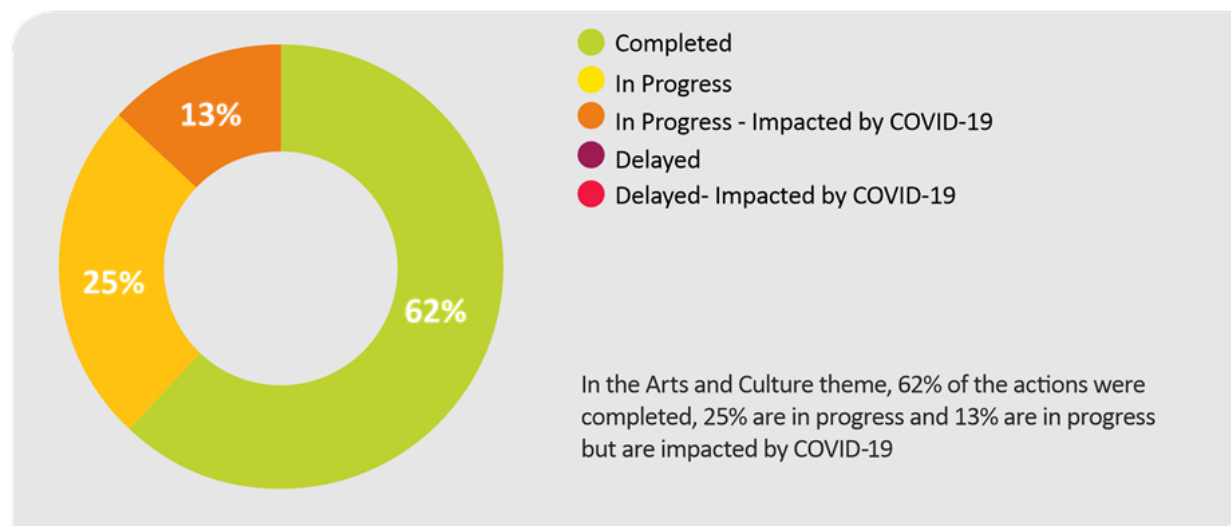
Council acquired NSW Government's Festival of Place Summer Grant. The grant amount was used to fund Harmony Day 2020 concert in Oxford Street Mall. An estimated 800 people attended the event. The event resulted in a 10% increase in visitors to the area.

## CREATIVE AND EDUCATIONAL PROGRAMS

Waverley Library delivered 143 creative programs in 2020–21 including 61 online and 82 face to face programs. These programs include Sketchflash, collage making, multicultural cooking classes, knitting, colouring in and children's craft. Children's storytimes were recorded and uploaded to facebook.

A total of 290 educational programs were delivered in 2020–21 including 96 online and 194 face to face sessions. All programs were made available online including author talks and discussion groups. Topics covered range from indigenous culture to music to health awareness. Children's storytimes were recorded and uploaded to facebook. Technology programs include Minecraft clubs, ipad and facebook beginner sessions, Ancestry.com. Subscriptions to online services increased during COVID-19.

## ARTS AND CULTURE







## COMMUNITY SERVICES AND WELL-BEING

We have a strong focus on not leaving anyone behind and fostering a sense of belonging and pride. We aim to be at the forefront of reforms and a progressive leader in addressing complex social issues, working with the community to ensure their well-being. The Community Services and Well-Being theme in the Waverley Community Strategic Plan 2018–2029 focuses to build a vibrant, caring, resilient and inclusive community.



Six Monthly Progress Report 1 January 2021 - 30 June 2021

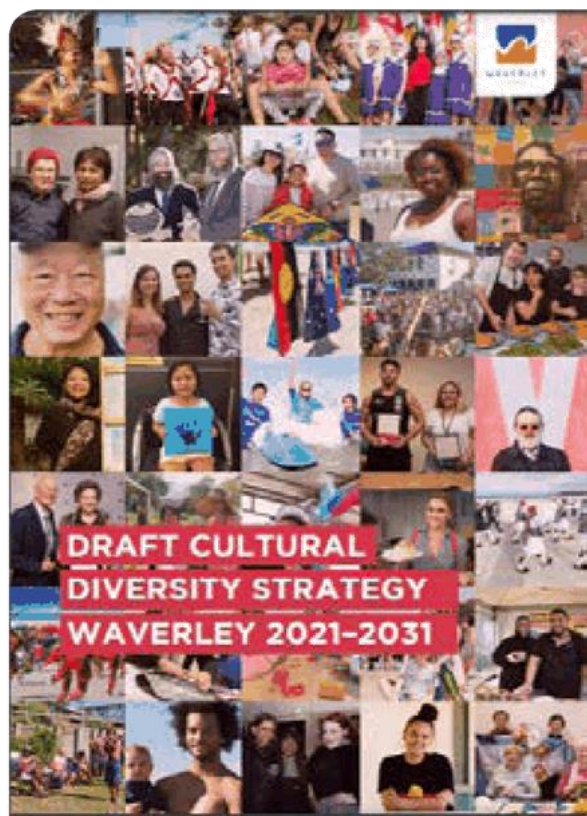


# KEY HIGHLIGHTS

9

## DRAFT CULTURAL DIVERSITY STRATEGY

The draft Cultural Diversity Strategy was placed on public exhibition. The Cultural Diversity Strategy sets out a vision and roadmap for Council, partners and the community, to work together to build and maintain a welcoming and cohesive Waverley for people from culturally diverse backgrounds, acknowledging that this will benefit everyone in our community. It recognises that recent global trends and movements have local implications, including rising polarization and intolerance, increasing focus on the importance of planning for cities and communities that are socially just and resilient. .



Draft Cultural Diversity Strategy 2021-2031.

## ELSA DIXON ABORIGINAL EMPLOYMENT PROGRAM

Three new trainees commenced in February/March 2021 through the Elsa Dixon Aboriginal Employment Program in Administration and Horticulture. There

are currently six Aboriginal trainees and apprentices working with Council. The RAP Advisory Committee has been established. Research and planning is underway for co-naming spaces in the Bondi Pavilion conservation project.

## WELLBEING AND RESILIENCE PROGRAMS

Parent seminars 'Talking with Teens about challenging Teenage Issues' was held in February 2021 in partnership with WAYS with 48 participants.



Consent Talk

Bilingual communication and language development targeted families with children aged 0 - 5 years.

The Journey to Parenthood for new and expectant parents online sessions were held in March 2021 in partnership with SESLHD, 17 people participated.

Dr. Melissa Kang presented at the Respectful Relationships and Consent session for parents and teens organised in partnership with Woollahra Council, 38 people attended.

## HOUSING REVIEW PROJECT

The Housing Review Project was completed in May 2021. The consultant's report included research, analysis, comparisons and recommendations for improving Council's current model and suggestions for growing provision. The re-constituted Housing Advisory Committee membership was endorsed by Council in June 2021 to focus discussion and provide feedback on future directions.

10

## VERGE GARDEN GUIDELINES

The Verge Garden Guidelines was endorsed by the Executive Leadership Team. The updated Policy will be presented to Council in July 2021. A public gardening project control group was established to support the approval of more complex public gardening applications.



Community Garden

## COMMUNITY SERVICES

With the Mill Hill/Boot Factory refurbishment underway, Seniors Centre program was relocated to Waverley Library. Council continued to comply with public health orders and COVID-19 related information were distributed. Waverley Community Living Program mid-term National Disability Insurance Scheme audit and service status are in progress.

Council's Early Education Centres and Waverley's Family Day Care program continued to deliver essential services during the pandemic and with the easing of restrictions. Mill Hill Early Education Centre received 'exceeding' in the assessment and rating process in May 2021. Service improvements progressed with earlier opening hours set to start in July 2021.

## SMALL GRANTS

Delivery of round two of Small Grants 2020–21 was completed in April 2021, with \$46,531 distributed to support implementation of small community and cultural initiatives.

## PARTNERSHIP AND OUTREACH INITIATIVES

The Eastern Sydney Youth Services Network met in February 2021 online to finalise its annual plan, 16 people attended. Two face to face sessions

with a focus on identifying and supporting young carers, understanding changes to access to youth support and casework services in area since the funding reform, information and support for the 2021 Census, homelessness remuneration and updates on NSW Police sexual assault reporting options and education support for disengaged young people were attended by 27 and 37 participants respectively.

Planning for the 2021 Transition to High School for Vulnerable Students forum commenced in March 2021.

Council is continuing collaboration with East Side Housing Action Committee to respond to people experiencing homelessness in public places. Regional annual street count was facilitated with eastern Councils in February 2021. Co-ordination of aged and disability interagency network is continuing. Council contributed to a regional working group to address elder abuse and digital inclusion working group. Council staff participated in South Eastern Sydney Local Health District forums regarding information initiatives related to COVID-19 and vaccination roll out.

## BONDI BEACH SAFETY

Plans are underway to construct a new purpose-built first aid and incident management facility at Bondi Beach.

The Bondi lifeguard tower will be refurbished as part of works to boost safety and emergency response capabilities.

The first aid and incident management facility will be located under the promenade to the north of the lifeguard tower, with construction expected to take six months to complete once planning applications are approved.



## WAVERLEY LOCAL HEROES 2021

11

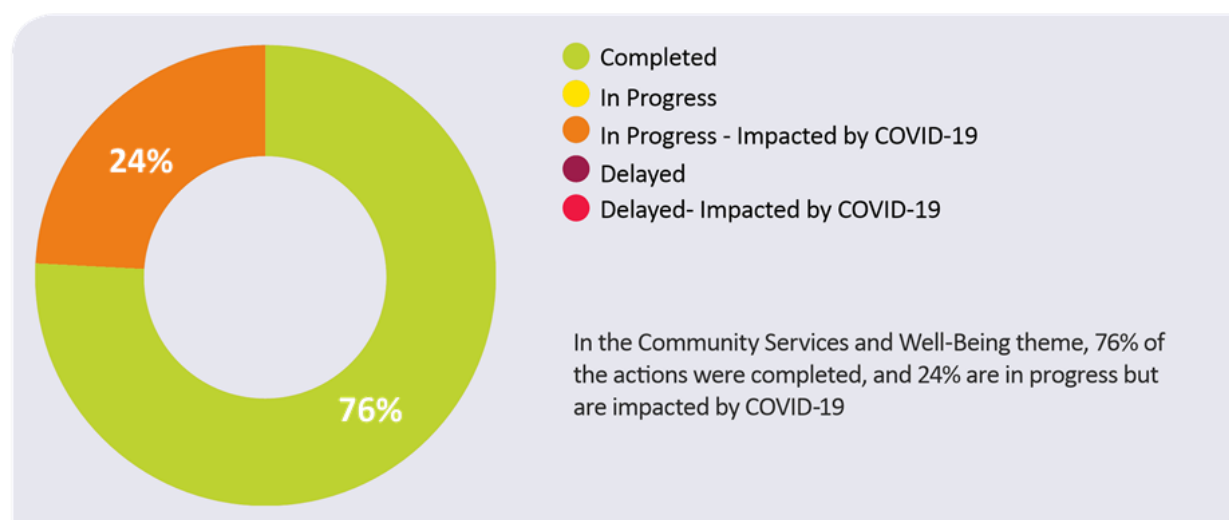
In May 2021, Council hosted the Local Hero Awards at the North Bondi Surf Life Saving Club. The ceremony was held to recognise and celebrate the incredible work Waverley's volunteers do for our community.



### Category

Strengthening Community	
Winner	Louise Mulroney
Certificate of Commendation	Sondra Beram
Community Life	
Winner	Lynette Smith
Community Volunteer	
Winner	Belinda Head
Certificate of Commendation	Robin Queenan
Young Local Hero Award	
Certificate of Commendation	Alice Lee and David Lee
Working Together	
Winner	WIRES Eastern Branch
Certificate of Commendation	Eastside Community Group Wilderness Society
Second Nature Champion	
Winner	Kit Shepherd
Certificate of Commendation	Maddie Ross

## COMMUNITY SERVICES AND WELL-BEING





## RECREATION AND OPEN SPACES

We have about 10 hectares of open space used by 74,000 residents; 27,000 workers; and over 3,000,000 tourists annually. This equates to approximately 1.43 hectares per 1000 residents, where the standard is 2.32 hectares per 100 residents. As such, providing recreation and open public spaces is incredibly important.

The Recreation and Open Spaces theme in the Waverley Community Strategic Plan 2018–2029 aspires us to be a Council that is a leader and innovator in open spaces and recreational facilities that support a healthy, happy and connected community.





# KEY HIGHLIGHTS

13



Beach Volleyball Courts.

## BEACH VOLLEYBALL COURTS

In June 2021, Council resolved to continue to support beach volleyball at Tamarama and Bondi Beaches including increasing the number of courts available at Bondi from three courts to four. From March to May 2021 Council engaged the community to understand any issues with how beach volleyball is operating at Bondi and Tamarama Beaches and to raise awareness of the current rules of play, including the number and alignment of courts and whether they are sufficient or need to change.

The consultation report found that 93.9% of people support beach volleyball at Tamarama (which has four courts) and 94.7% support beach volleyball at Bondi. Respondents further felt that the sport of volleyball, in a non-competitive structure, has a legitimate place on the beach.



Clarke Reserve Playground

## CLARKE RESERVE PLAYGROUND UPGRADE

In May 2021, Council completed the upgrade of Clarke Reserve Playground.

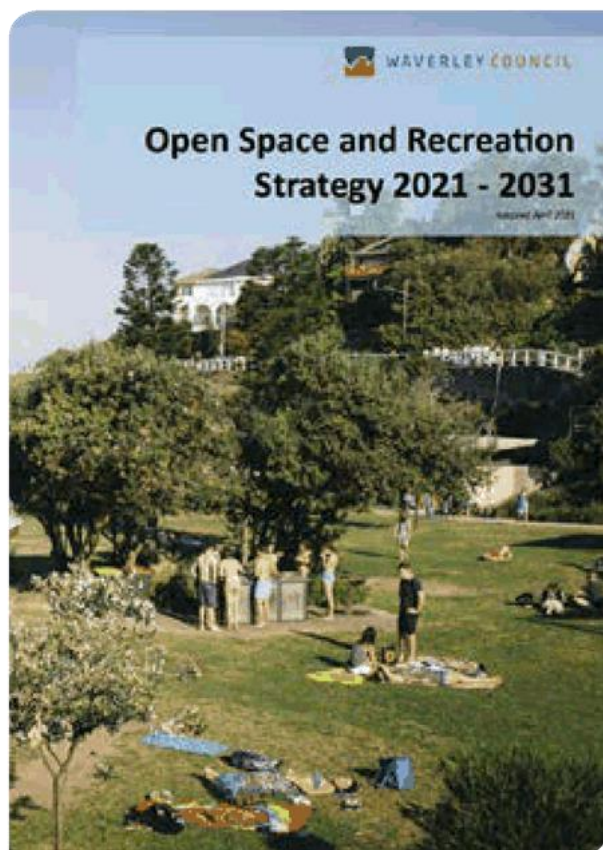
Features of the upgrade included:

- A new accessible path connecting the playground to the footpath
- New playground equipment including a spinner
- More trees and other planting
- Barrier fencing to deter dogs from entering the playground

Six Monthly Progress Report 1 January 2021 - 30 June 2021

## OPEN SPACES AND RECREATION STRATEGY

In April 2021, Council endorsed its new Open Space and Recreation Strategy 2021–2031 for 80 parks and reserves and associated facilities such as sporting grounds, playgrounds and walking tracks. The Open Space and Recreation Strategy will guide Council in providing and maintaining the sport, recreation and open space facilities that meet the needs of the community now and into the future. The feedback received from the community informed the finalisation of this strategy.



Open Space and Recreation Strategy 2021-2031

## VARNA PARK UPGRADE



Varna Park

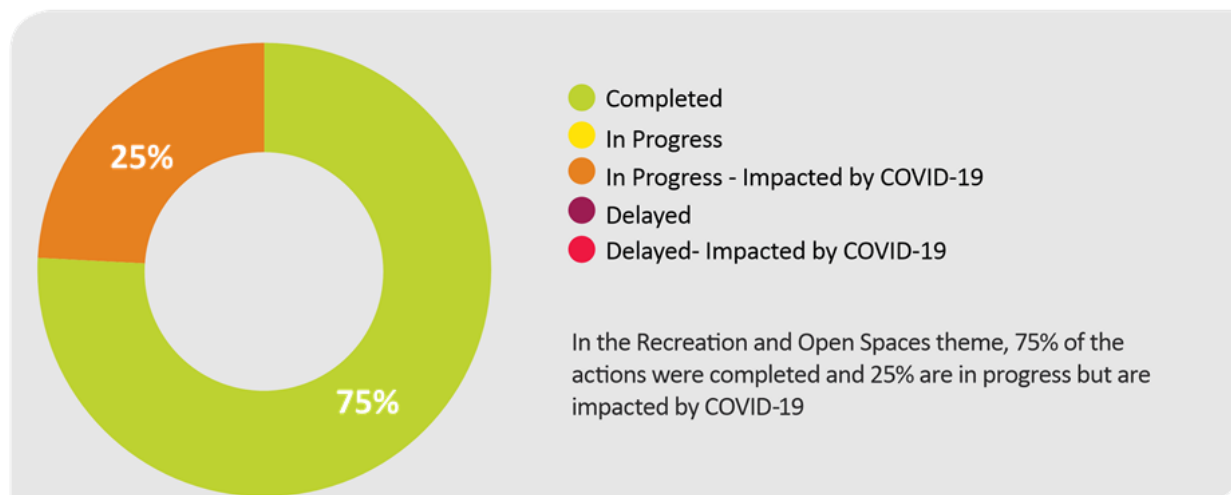
Upgrades at Varna Park included:

- Demolition of existing playground and the installation of new playground equipment, rubber softfall and natural and imaginative play spaces
- New park furniture
- New fitness station and bins
- Turf improvement works.

## WAYFINDING SIGNAGES

New wayfinding signage was installed at Notts Avenue to service the coastal walk. Additional signage is currently being installed at Bronte Cutting to support access through Bronte Park and Calga Reserve.

## RECREATION AND OPEN SPACES



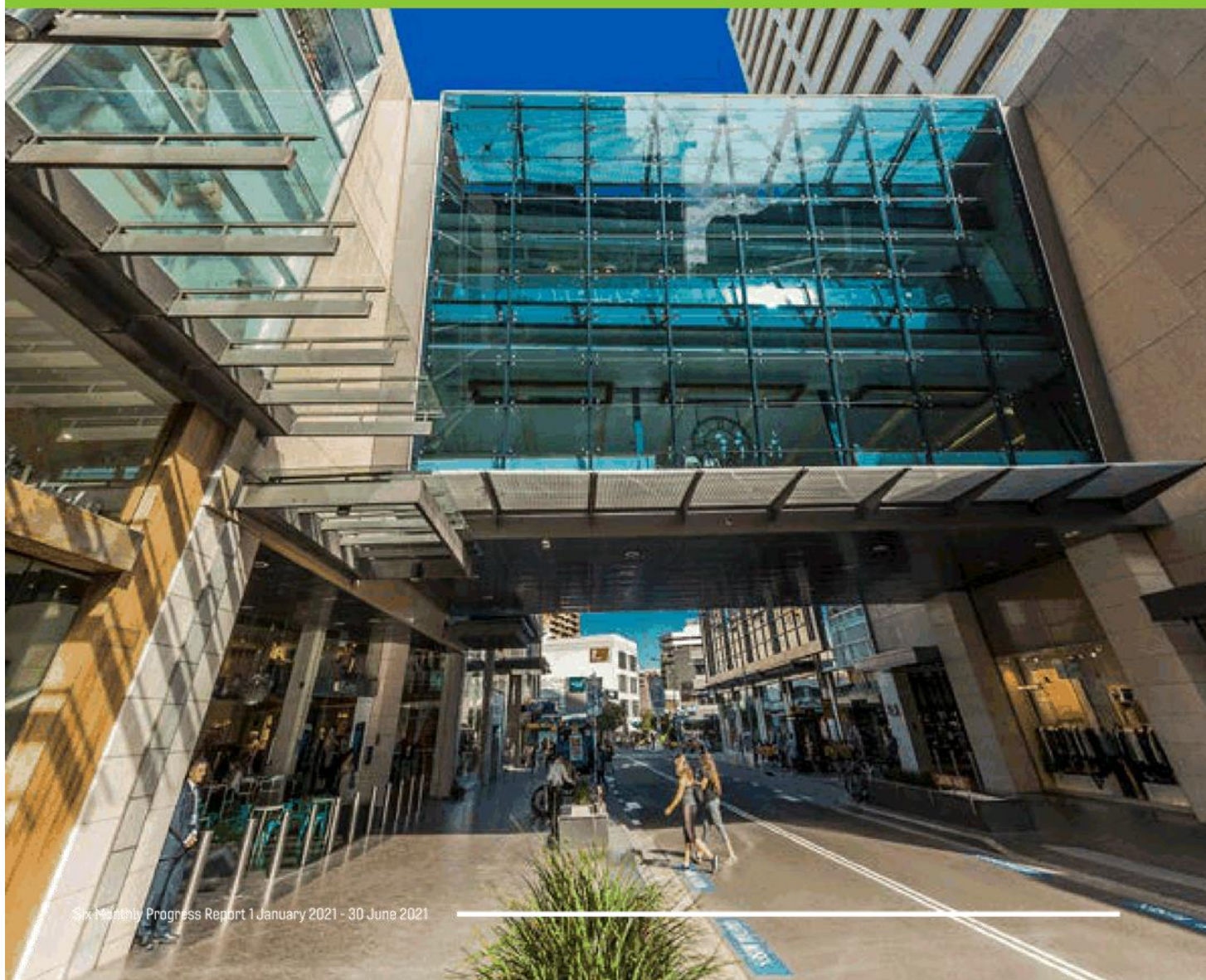


16



## LOCAL ECONOMY

We are committed to creating a prosperous and sustainable local economy, particularly as the State Government has identified Bondi Junction as a commercial centre linked to the Sydney global economy. We also want to protect and enhance our neighbourhood villages while encouraging and supporting the creative and visitor economy. The Local Economy theme in the Waverley Community Strategic Plan 2018–2029, strives to promote a diverse and prosperous local economy.



Six Monthly Progress Report 1 January 2021 - 30 June 2021

# KEY HIGHLIGHTS

17

## BUSINESS AND CHILDCARE RELIEF PACKAGE



In June 2021, Council launched another round of business and community support measures to help local businesses during the current lockdown period. The measures agreed include direct financial support through fee waivers along with childcare fee relief through the postponement of scheduled fee increases.

The business financial relief covers suspension of footpath seating fees as businesses are unable to provide customer seating on footpaths under the current restrictions. Fees for sporting groups and venue hirers have been waived for the duration of the stay-at-home orders while commercial waste fees and charges have been reduced due to reduced service level requirements.

Non-financial measures to ease business burden include:

- Relaxed enforcement of conditions of consent for restaurants to enable trade as takeaway-only services;
- The continuation of Council's capital works program to support employment in the construction sector
- Procurement from local suppliers if consistent with statutory procurement regulations and prescribed delegations.

## BONDI JUNCTION MINIMUM NON-RESIDENTIAL FLOORSPACE

The Bondi Junction Strategic Centre – Protecting and Promoting Non-Residential Floor Planning Proposal, which implemented a control to ensure no net loss of employment floorspace via Clause 6.12 Development on certain land in Bondi Junction, and prohibited serviced apartments in the B3 Commercial Core zone, was adopted by Council in December 2020 and was Gazetted on 19 February 2021.

## BONDI INNOVATION FORUM



The inaugural Bondi Innovation Forum was held as an interactive online event held at Bondi Icebergs on 27 May 2021. Fifteen leading industry experts and accomplished entrepreneurs shared insights on their journey and how to attract and nurture innovation in a variety of business environments.

The themes of the Forum creativity, innovation and entrepreneurship responds to Waverley's vision for Bondi and surrounds moving into the future. The event supported Waverley's business community in their journey and positioned Bondi and the Eastern Suburbs as a world class innovation precinct where we aim to retain and attract innovators, nurture their creativity and support them to flourish. The online forum attracted 150 attendees.



## FUNDING FOR SMALL BUSINESS WORKSHOP

A virtual grants workshop Get that Grant; Preparing, Finishing and Winning your next Grant was held in conjunction with the Bondi and Districts Chamber of Commerce on 30 June 2021 for local businesses, stakeholders, and staff with 73 people in attendance. Council developed the Waverley Grants Hub for business, community and staff. The hub allows for staff and stakeholders to filter and find grants based on search criteria. The service allows for alerts to be created when suitable grants become available.

## COMMERCIAL CENTRE OCCUPANCY

Council conducts an audit twice yearly to measure occupancy trends and the industry mix at each commercial centre. This is currently measured at ground level. The audits identify emerging strengths and issues in Waverley's commercial areas for better understanding and planning to meet the needs of business owners, residents and visitors.

The audit measures all areas in Waverley zoned for commercial purposes as defined under the Environmental Planning Instrument that is currently: Waverley Local Environmental Plan 2012 (aligns with commercial zoning and DCP village centre definitions – i.e. commercial centre). The designated study areas are:

- Bondi Junction
- Bondi Beach
- Bondi Road
- Charing Cross
- Macpherson St (Bronte)
- Bronte Beach
- Rose Bay.

# SUMMARY OF COMMERCIAL CENTRES

19

## OCCUPANCY RATES

The following information is a summary of information for all of Waverley as of February 2021:

Commercial Centre	Occupancy % August 2019	Occupancy % February 2020	Occupancy % August 2020	Occupancy % February 2021
Charing Cross	89.6	88.0	89.2	86.4 ↓
Macpherson Street	94.3	91.3	92	88.1 ↓
Bondi Road	94.1	94.7	94.6	93.1 ↓
Bronte Beach	100	100	100	100
Rose Bay	94.1	95.2	94.1	92.6 ↓
Bondi Junction	89.2	90.0	88.8	86.3 ↓
Bondi Beach	93.1	92.2	90.2	91.7 ↑
<b>Waverley (average)</b>	<b>93.8</b>	<b>93.0</b>	<b>92.7</b>	<b>91.2 ↓</b>

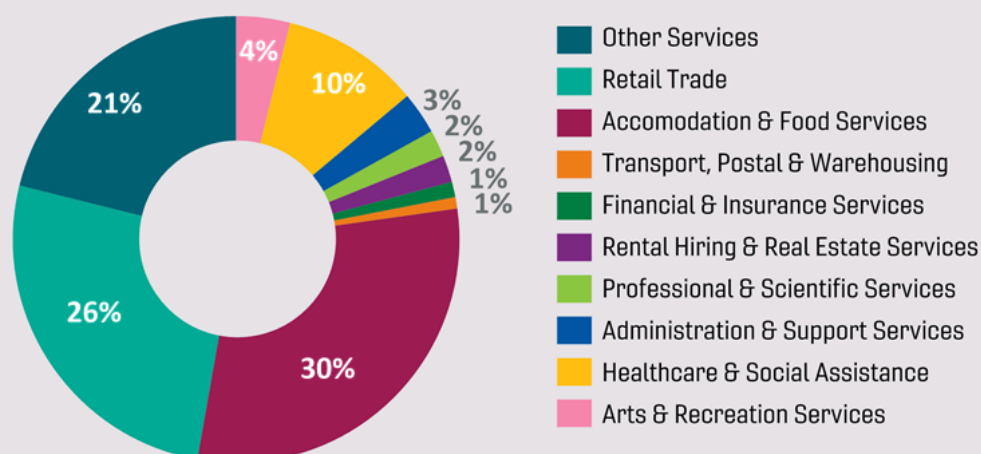
## INDUSTRY MIX

### Top three industries:

1. Accommodation & Food Services (30%)
2. Retail Trade (26%)
3. Other Services (21%)

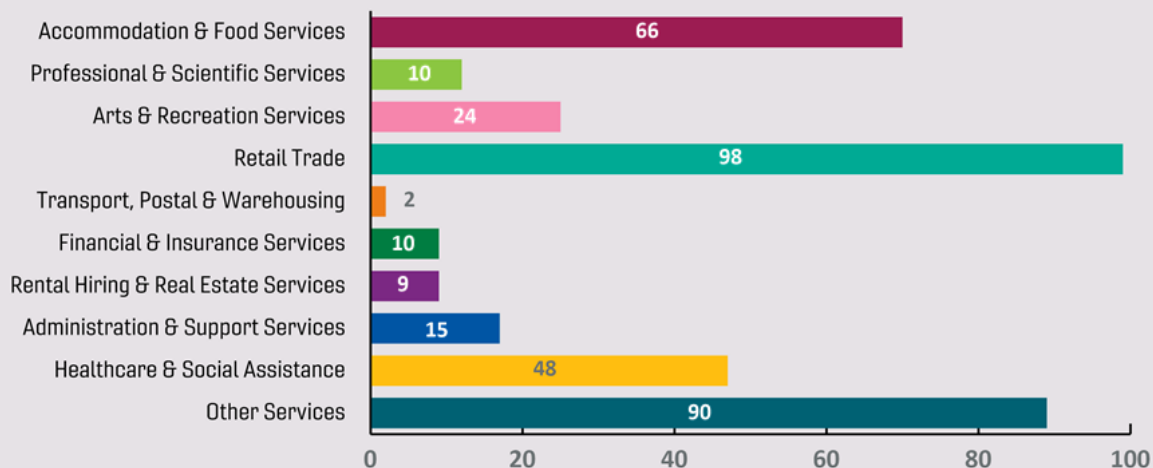
# SUMMARY OF COMMERCIAL CENTRES

20 Continued



## TENANCY MIX

### Bondi Junction

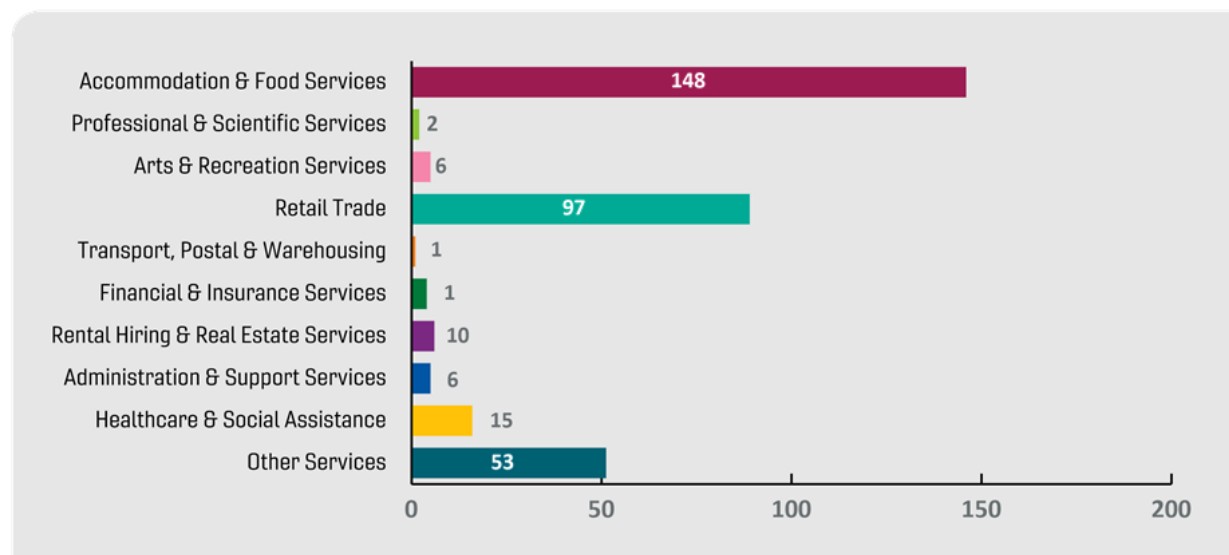


# SUMMARY OF COMMERCIAL CENTRES

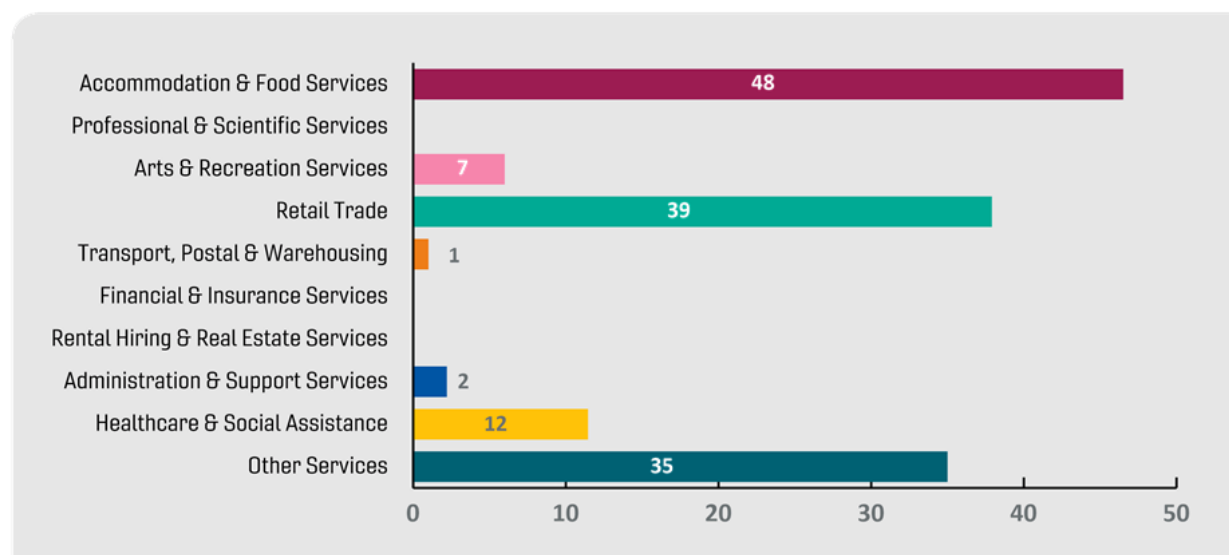
21 Continued

## TENANCY MIX

### Bondi Beach



### Bondi Road

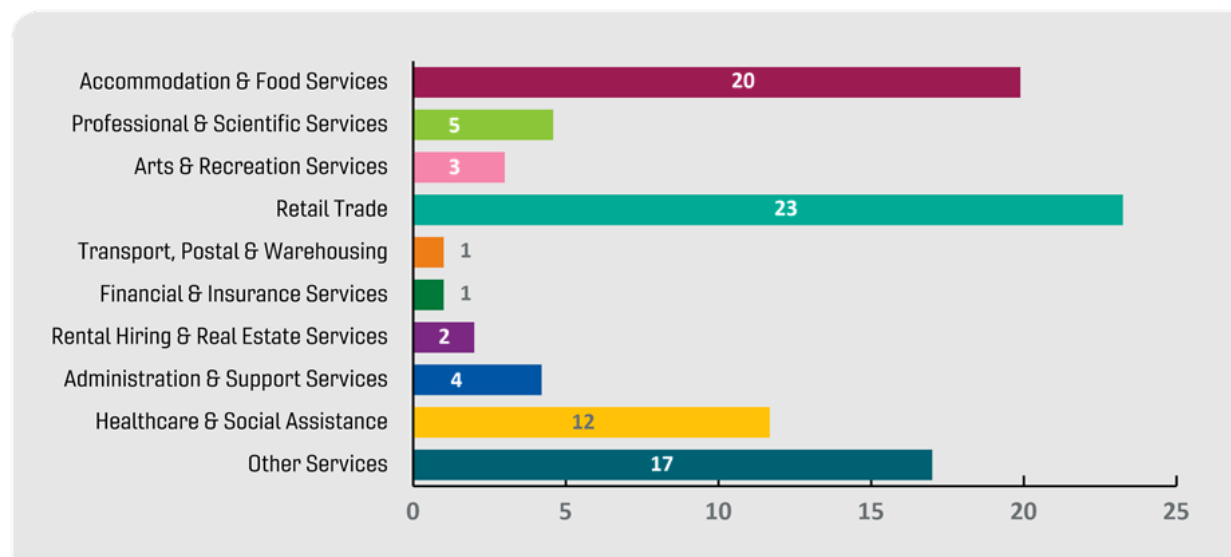


# SUMMARY OF COMMERCIAL CENTRES

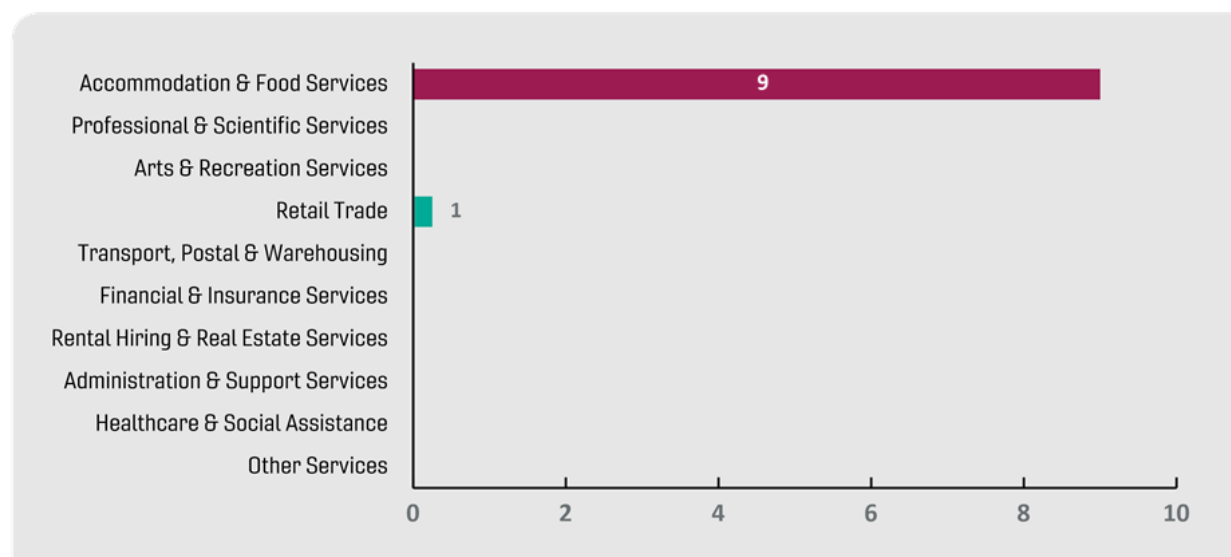
22 Continued

## TENANCY MIX

### Charing Cross



### Bronte Beach

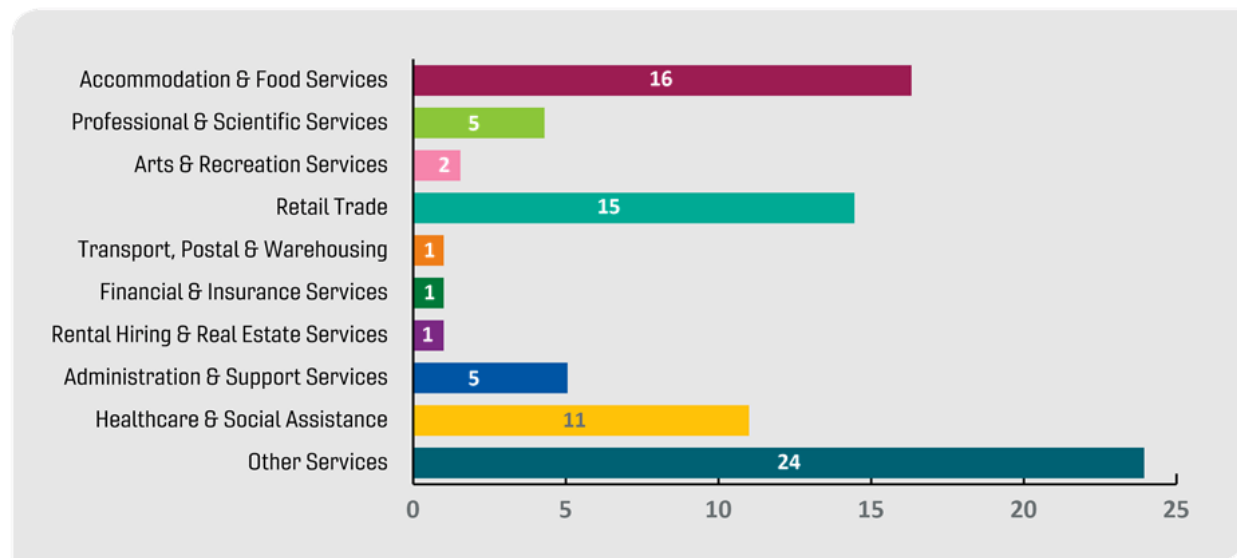


# SUMMARY OF COMMERCIAL CENTRES

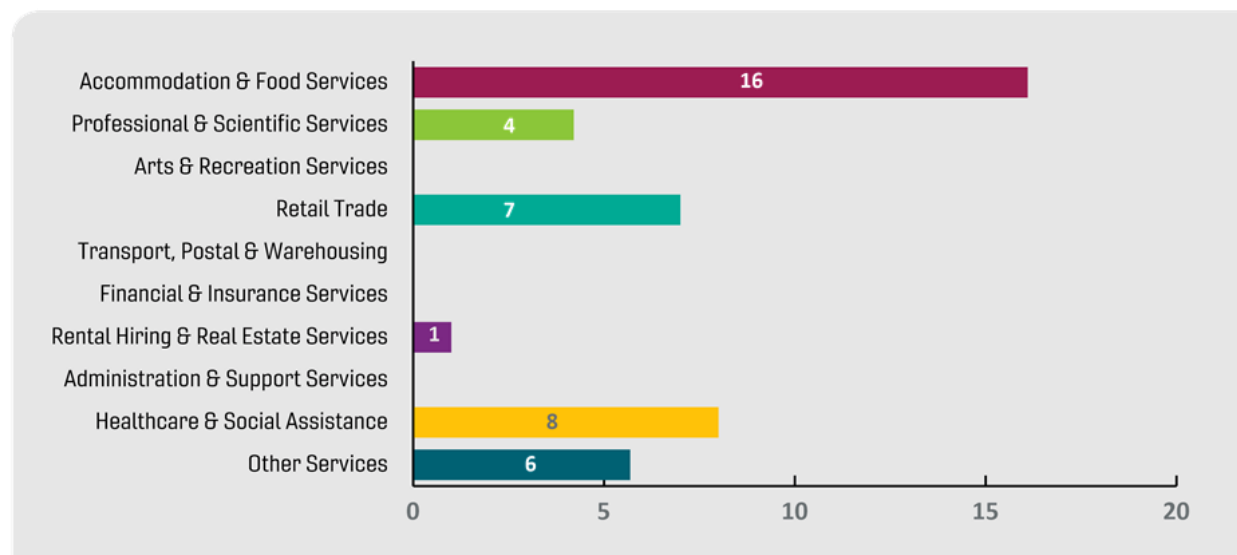
23 Continued

## TENANCY MIX

### Rose Bay

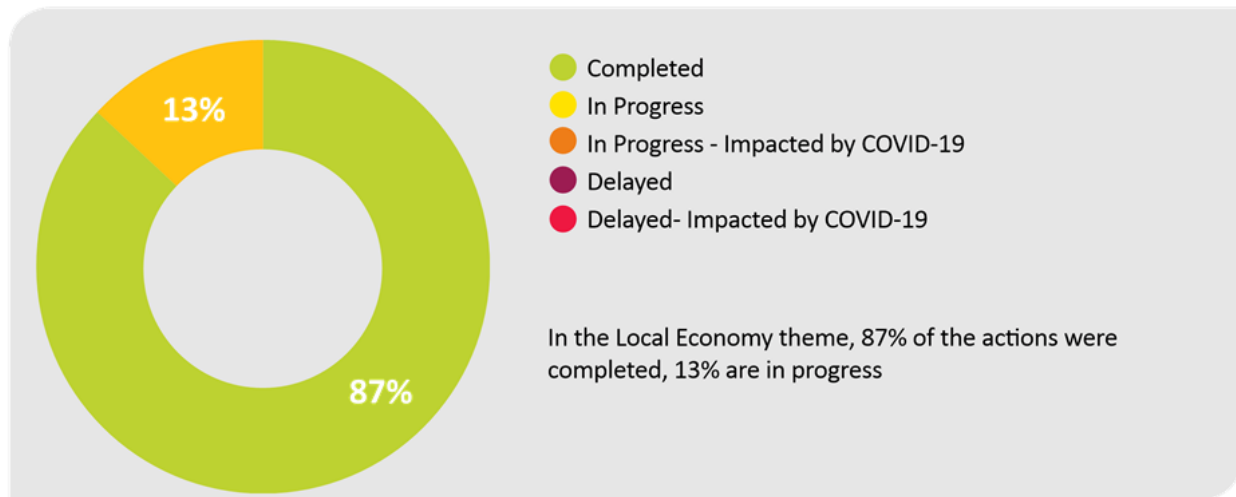


### Macpherson Street





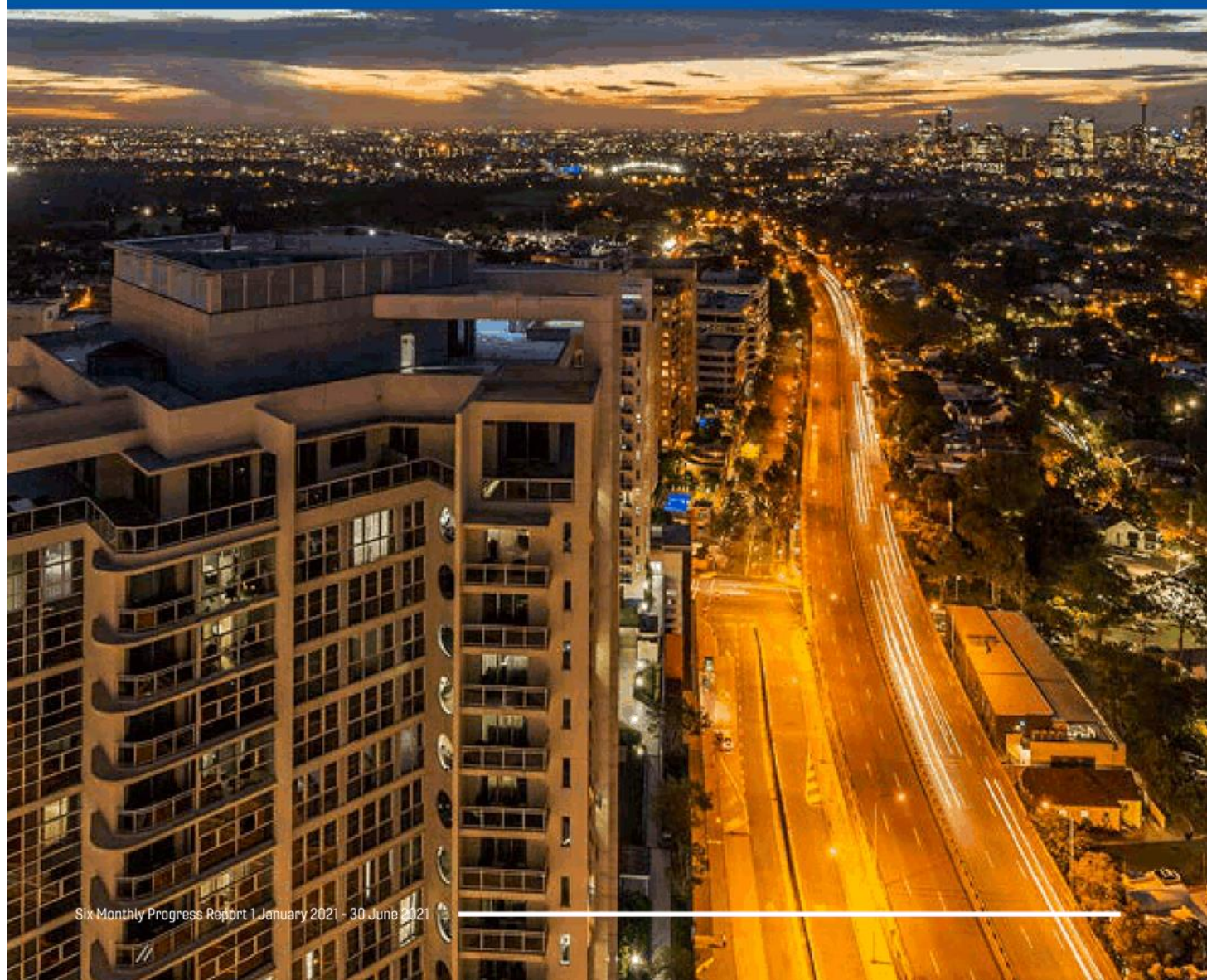
24

**LOCAL ECONOMY**



# PLANNING, DEVELOPMENT AND HERITAGE

We facilitate architectural design excellence in building liveable homes, functional public spaces and walkable streets in Waverley. With the highest population density in Australia, community-led, place-based planning and design is critical to Waverley. Council aspires to be a frontrunner and advocate for balanced development in Waverley. The Planning, Development and Heritage theme in the Waverley Community Strategic Plan 2018–2029 strives for diverse, liveable and sustainable places.



Six Monthly Progress Report 1 January 2021 - 30 June 2021



# KEY HIGHLIGHTS

26

## AFFORDABLE HOUSING FOR NSW FAMILIES

Council contributed to a five-year campaign giving councils in metropolitan NSW the power to levy developers to pay for losses in affordable housing. It paves the way for councils in Greater Sydney, Newcastle and Wollongong to increase the number of affordable rental units for thousands of families on very low to moderate incomes.

Council successfully lobbied for the date to be scrapped from Part 3 of the NSW Affordable Rental Housing State Environmental Planning Policy (ARHSEPP), and from 1 February 2021, councils only need to prove whether a property was considered affordable housing in the five years preceding lodgement of a development application.

## SUBMISSIONS MADE ON SIGNIFICANT ISSUES AND PAPERS

**A submission was made to the Design & Places Reforms Package in April 2021.** The Design and Place SEPP Explanation of Intended Effect (EIE) provides a solid foundation in which the draft Design and Place SEPP can be prepared. The submission provided feedback on a range of issues including development scales, the creation of a principles-based framework, revised and new design guides (Apartment Design Guide, Urban Design Guide, Design Review Guide), and sustainability and resilience. A draft SEPP is likely to be exhibited towards the end of 2021 for further comments.

**A submission was made to the Building Business Back Better Complying Development Reforms in May 2021.** The proposed reform package identified an opportunity for the Codes SEPP to be updated to better reflect current building requirements, allowing industry to easily adapt to new technologies, market trends and business models.

The overall objectives of the proposed amendments were supported in the submission. Specifically, the notion to undertake planning system reforms to drive the economic recovery of NSW, support the future of work, and encourage innovation and productivity.

However, a key concern was the proposed encroachment of complying development into buildings that are either heritage items or in a heritage conservation area. The submission outlined strong opposition to this and recommended strengthening of heritage protections under the SEPP Exempt and Complying Development Code.

**A submission was made to the Employment Zone Reforms Framework in June 2021.** The Reforms seek to deliver a simplified planning framework for development in current Business and Industrial zoned land. The proposed reform seeks to replace the 12 business (B1–B8) and industrial (IN1–IN4) zones with five core employment zones.

The key impacts that the proposed changes would have in the Waverley area are the consolidation of the B1 Neighbourhood Centre and B2 Local Centre Zones.

Waverley's submission outlined that this is not supported, as this would undermine the recent strategic work that was undertaken by the Council in the preparation of the Our Liveable Places Centres Strategy in 2019-20.

## OUR LIVEABLE PLACES STRATEGY

Our Liveable Places Centres Strategy provides a shared community vision for the future of our centres, which may result in changes to development controls, and capital works projects to deliver some of the transport, public domain and sustainability upgrades suggested in this strategy.



Our Liveable Places Strategy 2020-2036



Bronte Beach

The Strategy aims to celebrate the heritage and character of our village centres throughout the LGA, protect and enhance their character, improve transport connections and opportunities for active transport in particular, to increase the amount of public space for gathering, and to ensure our centres are safe, lively and attractive places to be. The Strategy proposes:

- To work with Transport for NSW (TfNSW) and neighbouring councils to deliver key transport infrastructure projects to improve accessibility to Bondi Beach via Bondi Road and Curlewis Street
- To work with TfNSW to improve bus service and capacity along Old South Head Road and Bronte Road
- Prioritise public domain improvements in Bondi Beach, Bondi Road, Curlewis Street, Charing Cross, and Rose Bay North and South centres
- Provide sustainability upgrades and public domain upgrades across all centres.

Council adopted Our Liveable Places Centres Strategy at its meeting on 3 December 2020. On 16 April 2021, the Waverley LSPS Implementation Planning Proposal was submitted to the Department of Planning, Infrastructure and Environment (DPIE) for Gateway assessment.

This Planning Proposal seeks to implement the key plan-based recommendations in the Our Liveable Places Centres Strategy such as implementing a B2 Local Centre zone to better protect the character of the medium-scaled centres, to expand some centres to more appropriately reflect the existing uses, and to implement active street frontages across all centres.

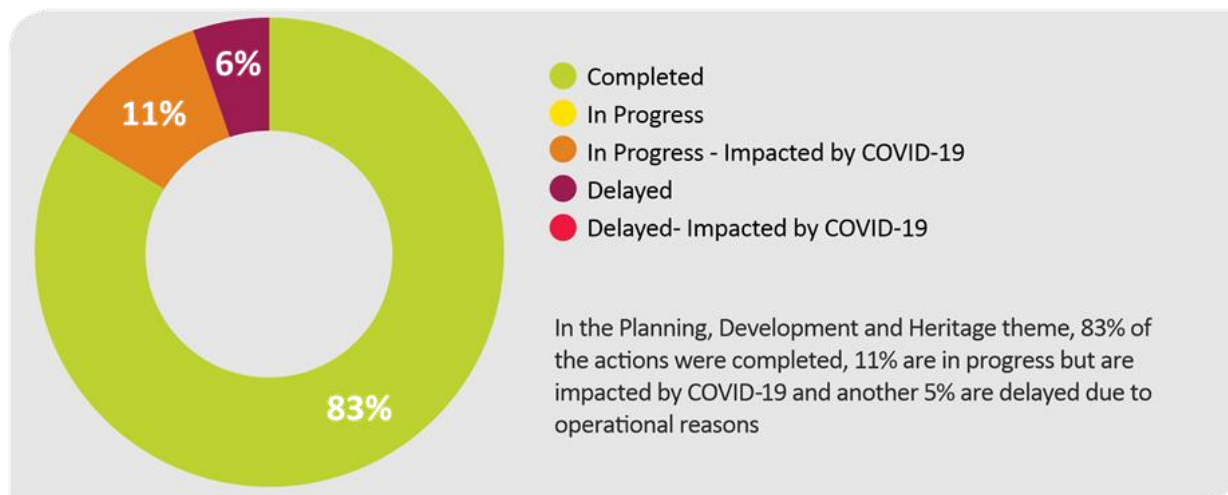
## DRAFT LOCAL CHARACTER STATEMENTS

Council prepared the draft Local Character Statements that describe the look and feel of an area, in accordance with the Department of Planning, Industry and Environment's Local Character Guidelines. These Statements were exhibited, however there remains uncertainty about the implementation mechanism under the LEP or DCP. The Statements will be finalised in 2022.

## COMPLAINTS RELATED TO ILLEGAL USE OF BUILDINGS

During the reporting period, 295 complaints were investigated and completed. The remainder have been prioritised according to risk and safety.

## PLANNING, DEVELOPMENT & HERITAGE







## TRANSPORT, PEDESTRIANS AND PARKING

Improving all modes of transport makes Waverley more accessible, safe, connected and sustainable. We are committed to enabling people to get around more easily on foot, by bicycle and public transport to reduce traffic congestion and parking pressures. The Transport, Pedestrians and Parking theme in the Waverley Community Strategic Plan 2018–2029 strives to make Waverley a place where people can move around easily and safely and our streetscapes are welcoming and inclusive.



Waverley Monthly Progress Report 1 January 2021 – 30 June 2021



# KEY HIGHLIGHTS

30



Bondi Junction Cycleway

## BONDI JUNCTION CYCLEWAY AND STREETScape UPGRADE

Work is underway to implement the Bondi Junction cycleway project. A priority route will be implemented as part of the Sydney cycleway infrastructure. The cycleway will link Bondi Road to York Road via Bronte Road, Spring Street and Denison Street, connecting the cycleway to the city via the existing cycling infrastructure.

The Bondi Junction Cycleway and Streetscape Upgrade works were completed in Oxford Street (from St James Road to Denison Street), Denison Street (from Oxford Street to Spring Street) and Spring Street (from Denison Street to Bronte Road). The cycleway was opened along these streets in mid-June. The next stage of the project on Bronte Road (from Ebley Street to Oxford Street) has commenced construction and is scheduled to be completed November 2021.

## CHANGES TO SPEED LIMIT IN WAVERLEY

To achieve vision zero, with zero fatalities and minimal serious injuries, Council is working with Transport for NSW to reduce speed limits from 50km/h to 40km/h across the Waverley Local Government Area. In various community consultations, Waverley residents raised concerns around pedestrian safety and the overwhelming need for cars to travel slower in their neighbourhoods. The project will be completed in stages.

Stage 1 stretches from Bondi Road and Syd Einfeld Drive to the southern boundary of the LGA. The project will include:

- Installing 21 Council endorsed traffic calming treatments (throughout stage 1)
- Removing old, excessive signage
- Transport for NSW will install new 40km signage.

## STREET DESIGN MANUAL

Street Design Manual was rolled out and integrated into relevant streetscape upgrades including for works at Glenayr Avenue, Roscoe Street and Curlewis Street.

## CHARING CROSS STREETScape UPGRADE

To improve amenity and safety Council will upgrade the streetscape in Charing Cross. The project's scope includes:

- Upgrades to pathways and roads
- Undergrounding of powerlines
- New street furniture, including seating
- Improved sustainability through rain gardens
- Increased planting and greening
- Heritage interpretation pieces

Charing Cross Streetscape Upgrade community consultation report on the concept design was presented



Charing Cross streetscape

to the Council at its meeting in June 2021. Detailed design will finalise treatments to assist in pedestrian access and travel.

### SENSORS AT BEACH LOCATIONS

New sensors were installed at beach locations with occupation data being sent to the State Government's Park N Pay app for wayfinding.

### CAR PARK ACCESS INFRASTRUCTURE UPGRADE

Council operates three off-street car parks in Bondi Junction – at Eastgate, Hollywood Avenue and the Ron Lander Centre at Waverley Library. Council has endorsed the installation of a hybrid car park access system for its three car parks. The system will contain integrated automatic number plate recognition and ticket system technology. The project also includes the installation of a new computer network. The tender process is complete and project completion is scheduled for November 2021.

The new access infrastructure upgrade will provide the latest in car park access technology which will significantly improve the customer experience and ensure the efficient and effective operation of Council car parks going forward.

### SCOOTER AND MOTORBIKE PARKING IN WAVERLEY

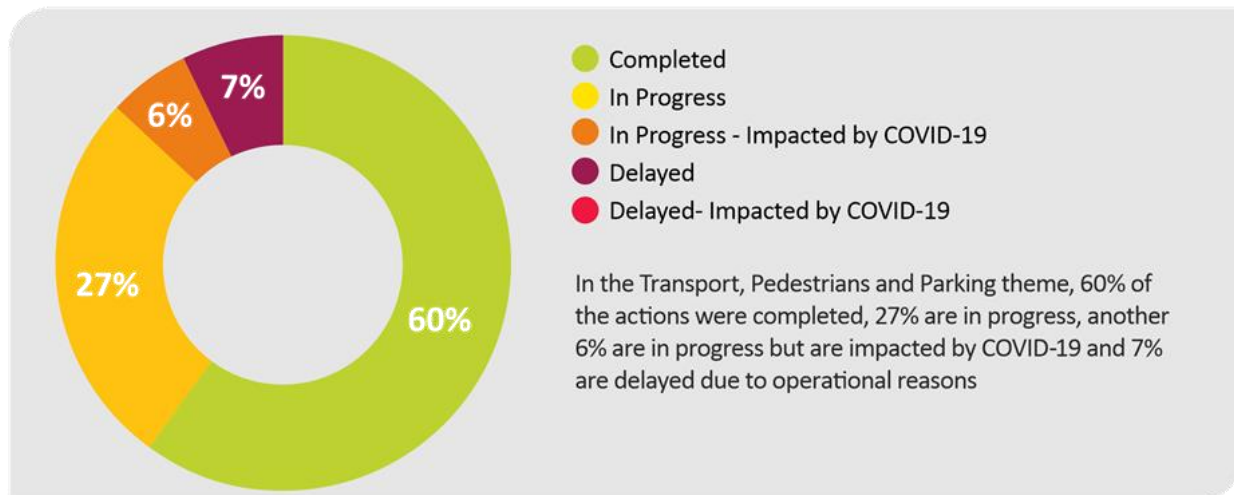
Council is currently in the process of developing a strategy to maximize scooter and motorbike ownership in Waverley. Council recognises that scooters and motorcycles are a popular form of travel in our area and is looking at ways to better support riders.

A motorbike/scooter parking strategy and action plan will be prepared. The strategy will review current motorbike/scooter parking networks and identify opportunities to continue to support motorbikes/scooters as an alternate form of travel.

Council will also investigate the introduction of free parking within metered areas and explore new areas for parking including options for but not limited to:

- Ways of promoting household motorbike parking permits to increase take-up and include unit owners/renters.
- Reduced costs for parking for motorbikes.
- Reduced costs for fines for motor bike infringements.



**TRANSPORT, PEDESTRIANS AND PARKING**



## BUILDINGS AND INFRASTRUCTURE

From beautiful parks and safer streets, to our public facilities, we are working to improve the local area. To ensure we are meeting community expectations, we are focusing on improving roads, footpaths, parks and playgrounds, and being better prepared for climatic changes and potential flooding. The Buildings and Infrastructure theme in the Waverley Community Strategic Plan 2018–2029, aims to make Waverley an industry leader in sustainable asset management.



# KEY HIGHLIGHTS

34



Bondi Pavilion

## BONDI PAVILION RESTORATION AND CONSERVATION PROJECT

Restoration and conservation works are progressing at Bondi Pavilion to ensure the building's continued conservation and functional upgrades are completed to service the needs of the community.

Demolition works are 90% complete and restoration works have gathered pace. Some key construction milestones have been achieved recently in the main atrium, courtyard, bathrooms, flexible cultural space and ground floor areas. Another project highlight is the continuing progress being made in delivering environmental and sustainability initiatives under the 5-Star Green Star Rating system. Overall, the project is progressing well, and is on track for completion on time.

## TAMARAMA SURF LIFE SAVING CLUB

In May 2021, Council in partnership with Tamarama Surf Life Saving Club (SLSC) commenced the restoration and upgrade of the iconic surf club building.



Artist's impression of Tamarama SLSC

The clubhouse restoration and upgrade will provide significantly improved amenities to cater to the needs of modern surf lifesaving as well as public education and engagement with the community. The new clubhouse will remain within the existing footprint of this local landmark.



Artist's impression of Tamarama SLSC

The restoration and upgrade is expected to take 12 months to complete. It will provide:

- Improved facilities for female members



35

- Improved vantage points for beach surveillance during patrols
- Additional storage space for rescue equipment
- Improved areas for education and training activities such as First Aid courses
- Offer broader use by community groups and members of the public
- Addresses acoustic bleed to neighbouring properties
- Improved environmental sustainability

The project is jointly funded by Council, Tamarama Surf Life Saving Club, Surf Life Saving NSW state funding and Community Infrastructure federal funding.



Artist's impression of Tamarama SLSC

## NOTTS AVENUE STREETScape AND SAFETY UPGRADE

Council recently completed streetscape and safety upgrade at Notts Avenue, Bondi Beach, at the northern entrance to the renowned Bondi to Bronte Coastal Walk.

The upgrade includes a new cantilevered northern lookout, shade structure, mature palm trees, new paving and a 10km/h shared traffic zone. The final design for the upgrade was informed by two rounds of community consultation, with majority (98.3%) of people who provided feedback in favour of Council's plans for the upgrade. The streetscape and safety upgrade also includes new paving, upgraded balustrades, energy efficient lighting, 20 car parking spots and soft landscaping.

## FOOTPATH IMPROVEMENTS AT BRONTE

The intersection of Bronte Road and Pacific Street was identified as a hazardous crossing for pedestrians and in need of traffic calming treatments. Council developed four solutions to create a safer pedestrian experience and will construct the solution chosen by the community as the option best suited.

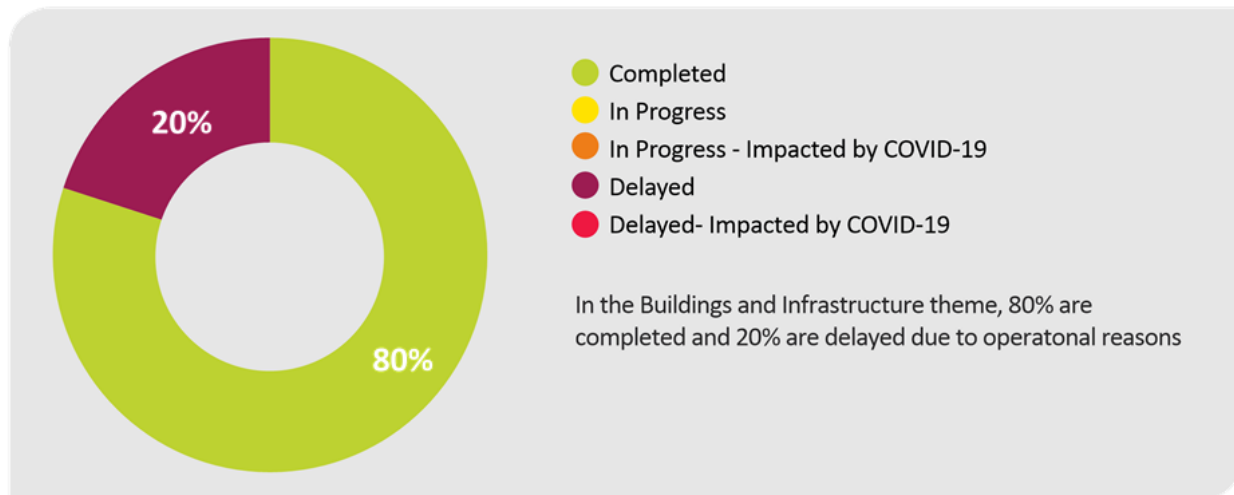
Council invited community to provide feedback on our footpath improvements works at the intersection of Bronte Road and Pacific Street, Bronte from March to April 2021.

The option community voted for will build a new concrete footpath and kerb buildouts to allow for a safer crossing across both Pacific Street and Bronte Road. This option will create a direct link for pedestrians onto the stairs and down towards Bronte Beach. This option has no net loss or gain of legal parking spots.



Footpath Upgrade Option

## BUILDINGS AND INFRASTRUCTURE







# SUSTAINABLE ENVIRONMENT

Our community has strong environmental values, and healthy, active lifestyles, and we are committed to reflect this in Council strategies. We aspire to be at the forefront of sustainability to create resilient communities, sustainable buildings, healthy coasts and bushland, and conserving energy and water resources. The Sustainable Environment theme in the Waverley Community Strategic Plan 2018–2029, strive to be a resilient and environmentally sustainable environment.



Six Monthly Progress Report 1 January 2021 - 30 June 2021

# KEY HIGHLIGHTS

38

## FUTURE PROOFING RESIDENTIAL DEVELOPMENT TO CLIMATE CHANGE

Adaptations to Residential Building Design, the second report from Council's Future Proofing Residential Development to Climate Change Project, found heating and cooling of buildings can be improved for Waverley residents through existing methods such as building materials, window glazing and improved shading.

The report responds to the alarming findings from Council's initial project report which showed that as the number of warm days increase, cooling needs for houses and apartments may surge by over 300% by 2070. The Project won the Planning Disruptor Award at Greater Sydney Planning Awards.

Council is also reassessing its 2050 carbon emission targets and is expected to declare that it aims to achieve net zero carbon emissions by 2030.

The Future Proofing Development to Climate Change Project has been assisted by the NSW Government and supported by Local Government NSW, and Randwick and Woollahra Councils.

The project comprises a two-step process:

1. Model the effects of BASIX performance with NSW climate projections to determine effects of climate change on water demand, energy and emissions in BASIX compliant buildings
2. Implement actions to reduce risks and potential costs to occupants, or capture opportunities for optimising outcomes in regards to emission reductions, energy performance and water

## MEMORIAL TREE PLANTING

In June 2021, Waverley and Randwick City Councils planted a tree in Centennial Parklands in honour of the late urban conservationist and unionist Mr Jack Munday AO in celebration of his pivotal role in defending Sydney's built environment and heritage.

Both Councils resolved to install a memorial for Mr Munday following his passing on 10 May 2020 last year in recognition of his support for the preservation of heritage and green spaces in Sydney including Bondi Pavilion, the Sydney College of the Arts, Tamarama Gully and Centennial and Callan parks.



Mr Jack Munday AO

A Moreton Bay fig was planted in a prominent location near Anzac Parade



39

## GARDENS IN THE SKY PROJECT

Council received a \$320,000 Greening our City Innovation grant to research, implement and develop cost-effective methods for greening under-utilised urban spaces through project SkyParks. Greening our City is funded by NSW Government in association with Local Government NSW.

SkyParks will harness the space available on built structures to grow plants and make Waverley a greener place to live, work and visit. Car parks, terraces and other urban spaces will be transformed into thriving gardens in a Council project to increase green cover across the local area. SkyParks will see gardens planted on key sites in the eastern suburbs such as Westfield Bondi Junction and The Entertainment Quarter, Moore Park to better understand and measure cooling benefits, energy savings, improved air and water quality as well as broader community benefits.

## SOLAR MY STRATA PILOT

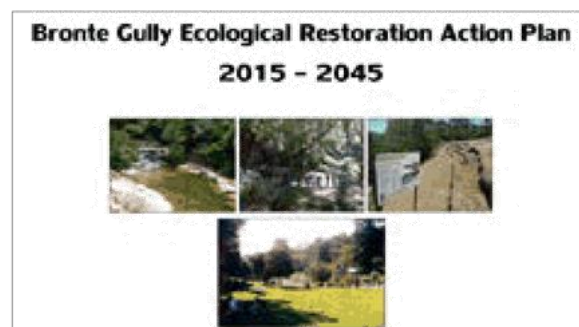


Council launched the complimentary Solar my Strata pilot program in 2020–21 to help smaller apartment blocks (those with under 40 apartments) address barriers to implementing rooftop solar solutions. Of the eight buildings selected to participate, two buildings committed to install solar power systems for individual use within a short nine-month timeframe: a four-unit block in Bondi and a six-unit block in Bronte. Another two buildings are likely to proceed with solar in the next financial year.



Solar My Strata Project

## BRONTE GULLY ECOLOGICAL RESTORATION ACTION PLAN 2015–2045 (ERAP)



Bronte Gully Ecological Restoration Action Plan 2015-2045

The ongoing ecological restoration of Bronte Gully is increasing biodiversity and habitat availability for native fauna and aims to attract more species into the area. This 30-year project is increasing the coverage of healthy native vegetation to the Gully and is providing high quality passive recreation and educational opportunities for the local community and those visiting the area.

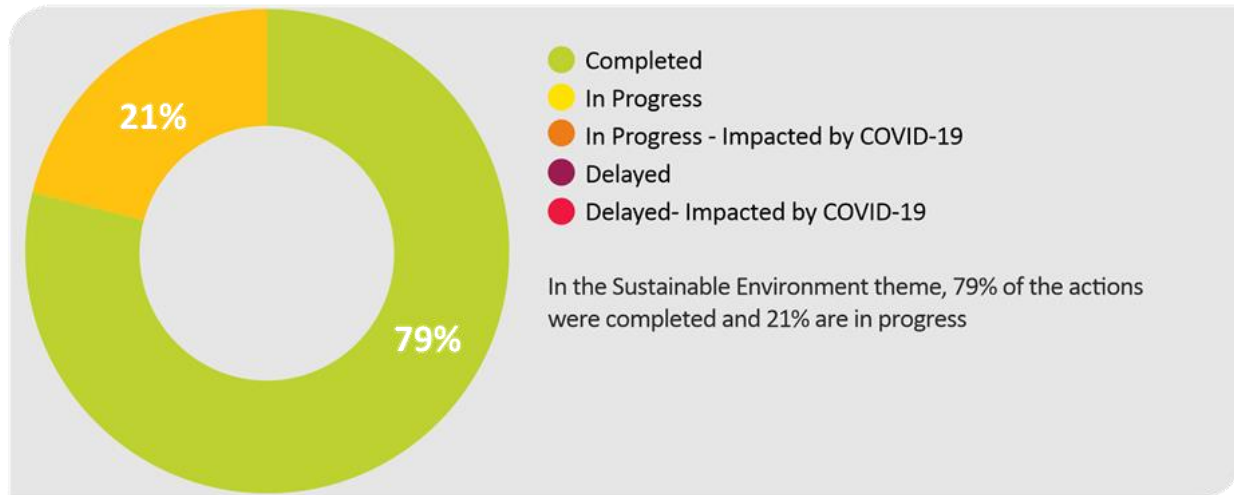
In 2021, erosion controls were installed in Zone 9b and the eastern half of Zone 8b. These zones will be planted in 2022. In 2021 exotic and weedy coral trees and vines were removed from Zone 5, in preparation for erosion control works in 2022 and planting in 2023.

## WATERFIX STRATA – COLLABORATION WITH SYDNEY WATER



Through the tri-council Regional Environment Program, Council with neighbouring Councils have partnered with Sydney Water to enable local apartment buildings make easier water cost savings via the Waterfix Strata program. The online platform and targeted promotions started in May 2021. Council has received more than 50 registrations from eastern suburbs apartment buildings in its first five weeks.

40

**SUSTAINABLE ENVIRONMENT**





## SUSTAINABLE WASTE

Reducing and managing waste is a priority for us. From households, businesses and in public spaces, we recognise that any waste sent to landfill (as well as the way it gets to landfill) has long-term environmental impacts. We aim to be at the forefront of waste management to reduce these risks for our community.

Everyone has a role in achieving these goals, whether they are a government department, business or resident in Waverley. The Sustainable Waste Management theme in the Waverley Community Strategic Plan 2018–2029 aims to progress Waverley to be a zero waste community.





# KEY HIGHLIGHTS

42



Microplastics sampling at Bondi Beach.

## COUNCIL JOINS FIGHT AGAINST MICROPLASTICS

Council is helping staff and the community map dangerous litter and marine debris at our beaches and waterways. Council recently invited local environmental volunteers to a training day run by Ausmap on how to sample and analyse microplastic pollution.

Ausmap is an award winning project led by The Total Environment Centre and Macquarie University to investigate microplastic pollution in Australian aquatic environments and is lead by leading marine debris and litter researcher, Dr Scott Wilson.

Microplastics are extremely small pieces of plastic debris, generally defined as 5mm or smaller in diameter, resulting from the breakdown of industrial waste and common consumer products such as plastic bottle tops, cigarette butts and textile fibres.

Council's microplastics training day help Council officers and our community environmental champions follow Ausmap's standard assessment method to capture data on microplastic pollution and to share these results on a searchable and interactive map that allows our community to see where microplastics are found around Australia.

Boomerang Bags, The Wilderness Society, Plastic Free Bronte, and Seaside Scavenge were among the groups that attended the training day funded by Council through a NSW Environment Protection Authority, Waste Less Recycle More initiative, funded by the waste levy.

Council's annual litter audits show that the litter at Bondi Beach has reduced to 10 items per 48 square metres down from 27 items per 48 square metres in 2007.



43



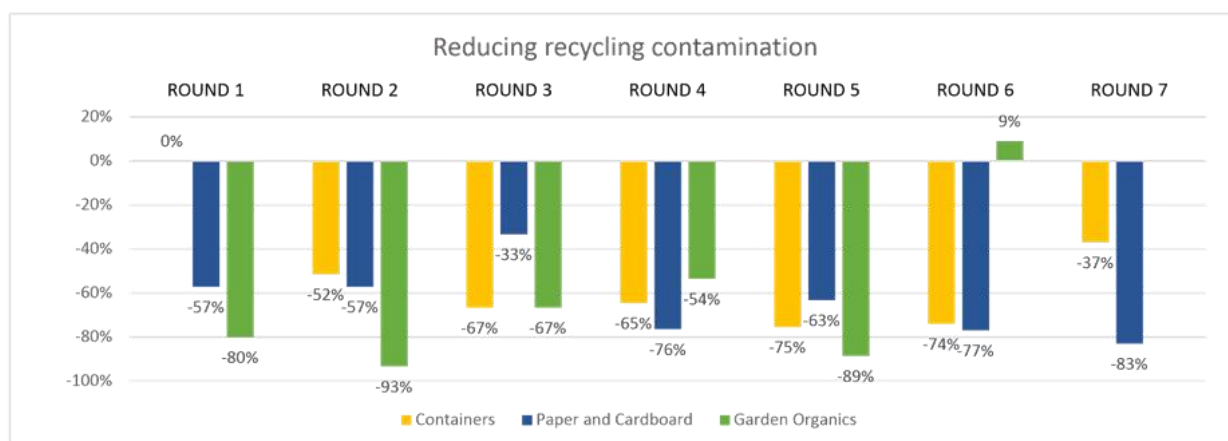
Volunteers at the microplastics training day at Bondi Beach.

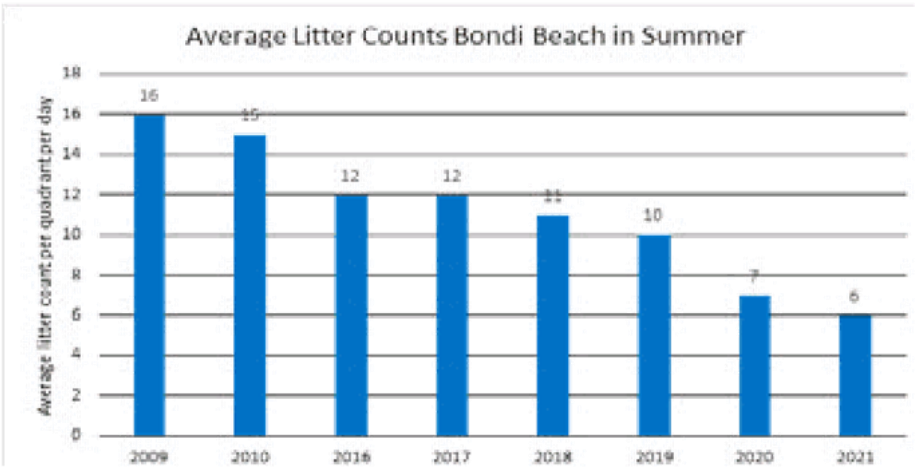
## RECYCLING IMPROVEMENT PROGRAM

The Recycling Improvement Program targeting apartment buildings with waste infrastructure, education and support has more than halved contamination rates, leading to better recycling outcomes. In 2020–21 the program resulted in 74% reduction in contamination in the container recycling bin (yellow lid bin) and 70% reduction in the paper and cardboard recycling bin (blue lid bin). The Sustainable Apartments newsletter was created to provide targeted messaging around sustainability initiatives, including waste, recycling, and circular economy messages, to apartment building stakeholders. The first newsletter was sent to more than 400 people in March 2021.

## LITTER REDUCTION PROGRAMS

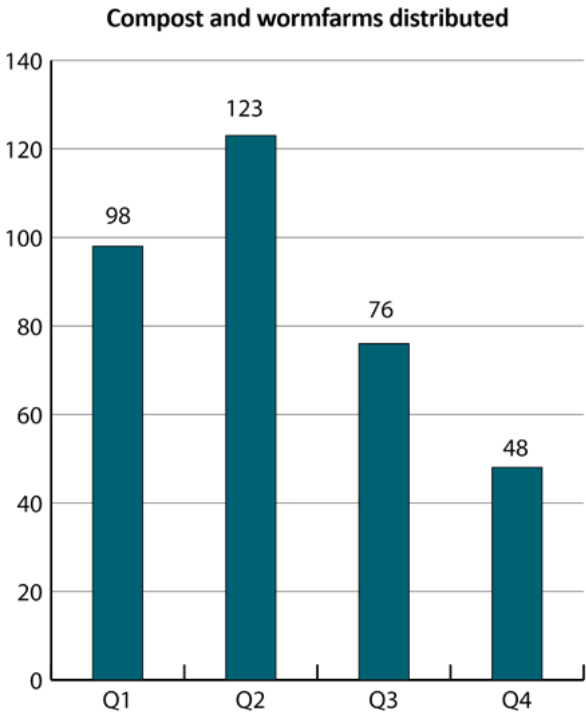
Annual litter audits were conducted at Bondi, Bronte and Tamarama Beaches. There has been a trend of litter reduction over the past 12-years at Bondi Beach. The average litter count on the beach per 48 square metres reduced to six in 2021 from 16 in 2009. The most littered beach was Bondi, followed by Bronte and then Tamarama. Beach walls had the highest accumulation of litter, the centre second and the foreshore was the least littered area of all beaches.





COMPOST BINS AND WORMFARMS

In 2020–21, 345 compost bins and wormfarms were distributed to Waverley residents.



## SUSTAINABLE WASTE

45







## CORPORATE LEADERSHIP AND ENGAGEMENT

The Corporate Leadership and Engagement theme in the Waverley Community Strategic Plan 2018–2029 aspires to be an ethical Council that delivers efficient service to our community, from a basis of strong financial sustainability and accountability. Councillors represent and make decisions on behalf of all residents and ratepayers of Waverley, informed by thorough community engagement, strategic focus, and based on data and analysis.



Six Monthly Progress Report 1 January 2021 – 30 June 2021

# KEY HIGHLIGHTS

47

## CUSTOMER SERVICE IMPROVEMENTS

From January 2021 planning applications were required to be lodged electronically through the NSW Planning Portal, with customers no longer having to visit the Customer Service Centre to submit hard copies of plans. The reduction in visitors to the centre has seen a corresponding increase in emails with Customer Service staff actioning 44,935 emails in 2020–21, an increase of approximately 300% since 2017–18. This includes more than 14,000 emails for parking permit renewals and applications and more than 6,000 emails from residents wanting planning information, including fee quotes and file searches. Other emails include requests for service, such as Your Call collections, with 41,600 service requests logged by both phone and email in 2020-21.



## WORK HEALTH AND SAFETY

Council is committed to driving our safety-first culture and contributing positively to the health and wellbeing of each other, and our community. In support of this commitment, Council introduced an alcohol and drug screening program which commenced in April 2021.

The introduction of a screening program ensures Council meet our work, health and safety obligations by providing everyone with a safe workplace and community. Council will continue to support employees who may experience alcohol or drug related challenges in their lives.

Based on staff request, Council re-structured the WHS consultation arrangements which includes our WHS Committee and health and safety representatives and

a newly formed wellbeing committee, the Waverley Wellbeing Warriors.

## NEW STAFF INTRANET

Work has been progressing on the development of a new staff intranet. The project is aimed at creating a platform for enhanced internal communication, enabling cross organisational collaboration and supporting increased staff engagement. The new intranet will be a key enabling system for staff across the organisation to have easy access to information that supports their work, whether office based or in the field.



## WAVERLEY LEADERSHIP DEVELOPMENT PROGRAM

In the last six months, 60 employees across the organisation commenced performance conversations for People Leaders Program as part of the Leadership Development Program. This Program is in response to our 2019 Employee Engagement Survey which stated employees want to have more meaningful conversations in relation to their performance, and opportunities to learn and grow.

## GOVERNANCE FRAMEWORK

Work commenced on the development of a Governance Framework. The Framework is based on the Audit Office NSW Governance Lighthouse model, is due for completion in 2021–22.

## RISK INITIATIVES

In 2020–21, Council developed a draft Business Continuity Policy and a draft Business Continuity Framework. These draft documents have informed the development of an overarching draft Business Continuity Plan (BCP). Council has developed an overarching BCP that includes the functions undertaken at the Waverley Civic Centre (Head Office). The BCP is to be expanded in the forthcoming year through the development of individual plans for all sites outside of the Civic Centre. In response to the COVID-19 pandemic, a Crisis Management Team was established in early 2020 to lead Council's response with an associated Pandemic Plan prepared and implemented. This work was also used to inform aspects of the BCP.

## PRECINCT ENGAGEMENT

With the impact of COVID-19, individual Precinct meetings and the Combined Precincts' meetings transitioned to an online platform. Precincts continued to be engaged on strategic issues, major projects and strategy development via Zoom. Some projects that Precincts were engaged on include the draft Development Control Plan/Local Environmental Plan, Waverley's Heritage Assessment Study and Waverley's draft Engagement Policy and Strategy. Feedback received during this period on the effectiveness of engagement through Zoom meetings including the flexibility it provides to allow wider participation, was very positive.

In 2021, the Precinct satisfaction survey reflected 73% overall satisfaction (of the total respondents of 22, 16 respondents were satisfied). Strategies developed to address areas for continued improvement are planned for implementation in 2021–22.

## FRAUD AND CORRUPTION CONTROL FRAMEWORK



Waverley Council Chambers.

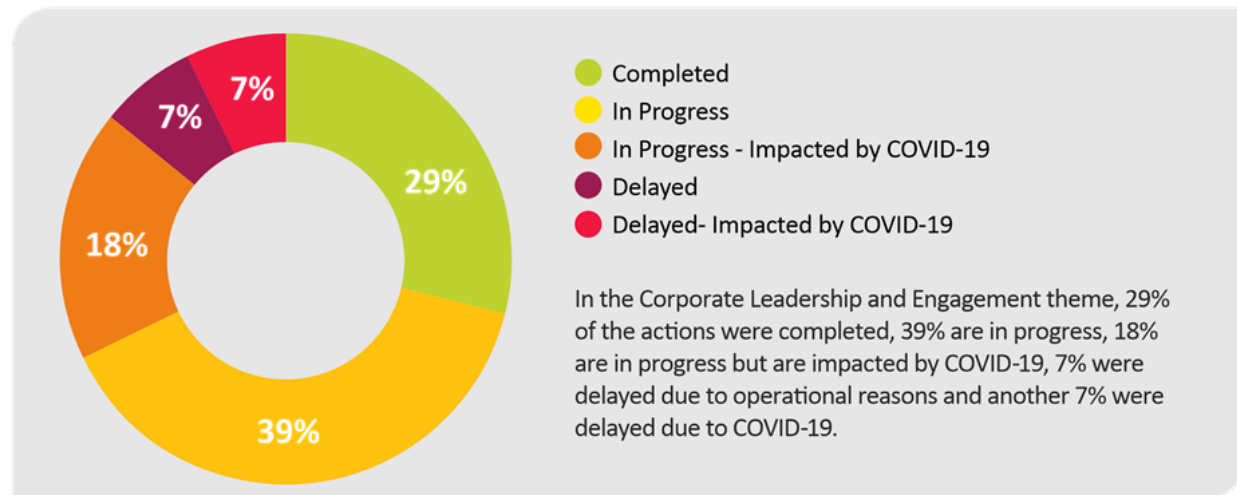
A draft Fraud and Corruption Control Framework (including Policy/Strategy and Plan) was developed in 2020–21 financial year. Council's Internal Auditors have reviewed the documents and undertook an independent Fraud and Corruption Control Assessment of Council. This assessment has resulted in the Internal Auditors making a series of recommendations that was endorsed by Management for implementation through to June 2023.

## PROCUREMENT POLICY

The revised and updated Procurement Policy was completed and approved by the Executive Leadership Team. Communications plan is being drafted to facilitate the roll-out of the Policy. Draft Procurement Procedure is now in the process of being amended and updated to ensure consistency with the Policy.



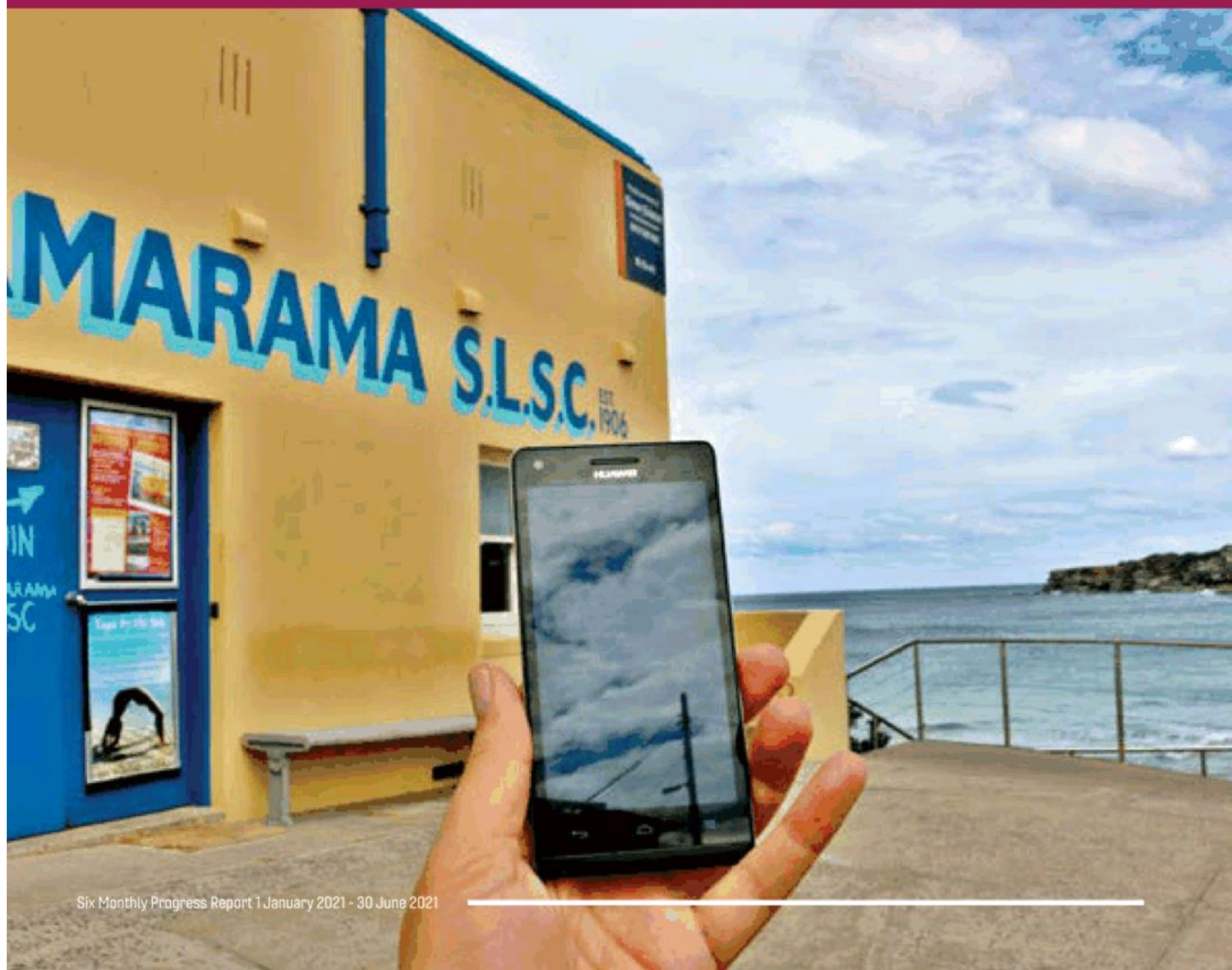
## CORPORATE LEADERSHIP AND ENGAGEMENT





## KNOWLEDGE AND INNOVATION

We want to be a Council that enables knowledge sharing and innovation to create a digitally connected community while ensuring accessibility for all. Our community embraces new ideas and we want this reflected in Council services. Importantly, we acknowledge place-making principles that guide the evolution of digital modernisation and knowledge in our local area. This also extends to re purposing of heritage buildings as locations for 21st century innovation and practice. The Knowledge and Innovation theme in the Waverley Community Strategic Plan 2018–2029, strives to position Waverley as a knowledge-driven, innovative and digitally connected community.



Six Monthly Progress Report 1 January 2021 - 30 June 2021



# KEY HIGHLIGHTS

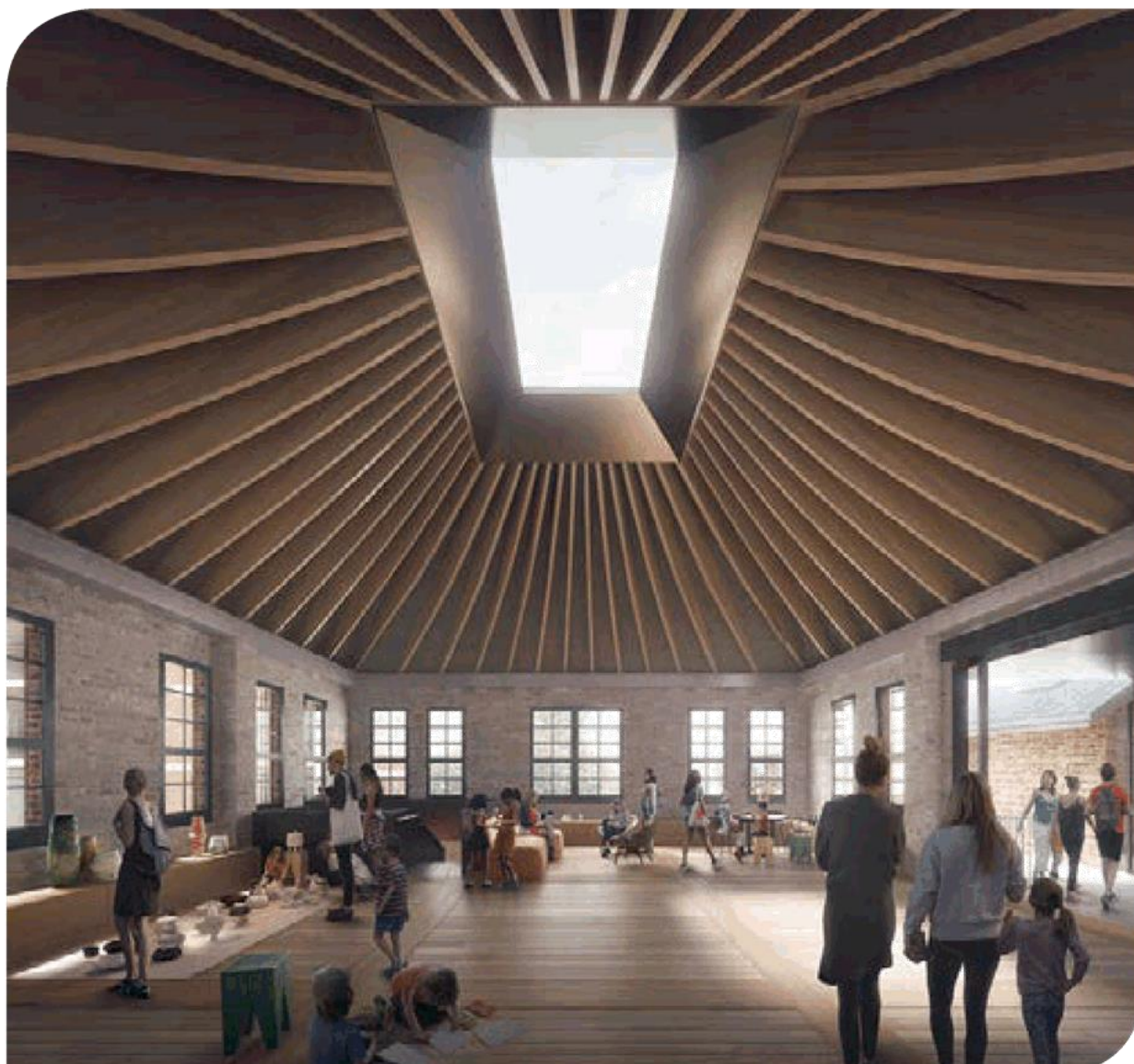
51

## BOOT FACTORY RESTORATION

The Council is transforming the three-storey Boot Factory building at the rear of Norman Lee Place, 27-33 Spring Street into a civic innovation hub. In April 2021, heritage restoration and upgrade of the Boot Factory building in Bondi Junction commenced.



Boot Factory



An artist's impression of the Civic Innovation Hub.



52

The innovation hub will support collaboration, sharing of ideas and partnerships between industry, universities, aligned businesses, innovators, government and the community.

To enhance the restoration of the Boot Factory building, Council is renovating the adjacent Mill Hill Community Centre, and will connect the two buildings, providing the opportunity to share facilities including the lift and accessible amenities.

Key features of Council's restoration and upgrade include:

- Flexible community spaces on the ground floor and top floor of the Boot Factory and the Mill Hill Community Centre
- Upgraded Community and Seniors Centre
- A new café at the Spring Street entry to the precinct with street and courtyard presence
- Upgrades to Norman Lee Place



Artist's impression of the Norman Lee Place upgrade.

The restoration is expected to be completed in March next year.

Community consultation to inform the uses of the civic innovation hub included interviews and roundtables with knowledge and innovations experts from across the country, and focus groups and workshops with local residents including the Mill Hill Precinct and a Youth Summit. The consultation showed that there was much support and enthusiasm for the Boot Factory to be renovated and reinvigorated as an important local community facility.

Council has made arrangements for clients who attend the Mill Hill Community Centre to meet in alternative venues. The Mill Hill Centre will reopen when the restoration and upgrade project is completed.

## WASTE MANAGEMENT SYSTEM

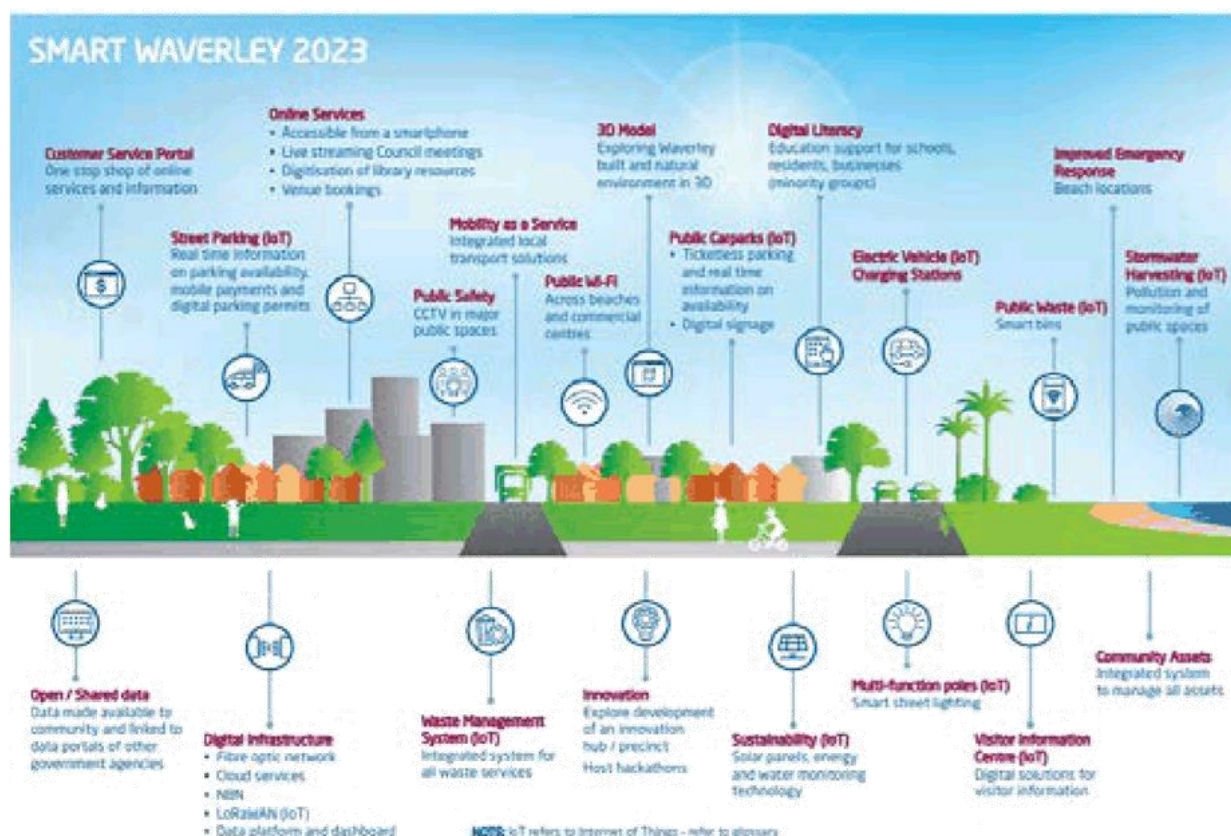
The Sustainable Waste Strategy sets actions to design and implement data management and reporting infrastructure for waste and recycling on collection vehicles. The Waste Management Operating System is expected to be delivered in 2021–22 in line with Council's ICT strategy. The system will deliver streamlined asset and data management, improved operations management, route management and real-time service and reporting capabilities. This innovative, integrated system will significantly improve the efficiency of Council's waste management services and develop further customer service improvement opportunities for Council's services.

## PARTNERING WITH STATE GOVERNMENT

In the last 12 months, Council partnered with Transport for NSW (TfNSW) and local transport operators by entering into data sharing agreements to provide Council's extensive spatial data to identify solutions to existing urban challenges. Council's data is shared via TfNSW Open Data Portal and has been used for two innovation challenges to address kerbside management for ride sharing services and parking.

## SMART CITIES STRATEGY 2023

53



Implementation of Smart Cities Strategy is in progress.

A Smart Cities Advisory Group was established to oversee delivery of the Smart Waverley Strategy. The advisory group is a collaboration between internal staff to:

1. Research and share case studies, industry standards and trends
2. Monitor and report on implementation of the Smart Waverley Program and projects
3. Provide advice and support on strategic and technical issues raised by the project managers or directors
4. Oversee the framework in which data is being managed across the organisation.

There has been progress in embedding Smart Cities knowledge and concepts across the organisation. They include:

- Creation of the Smart Waverley Program with an online interactive dashboard.
- Creation of Smart Cities Advisory Group (SCAG) to administer the program in partnership with subject matter experts across Council, enabling teams to be at the forefront of innovative technological solutions as part of service delivery.

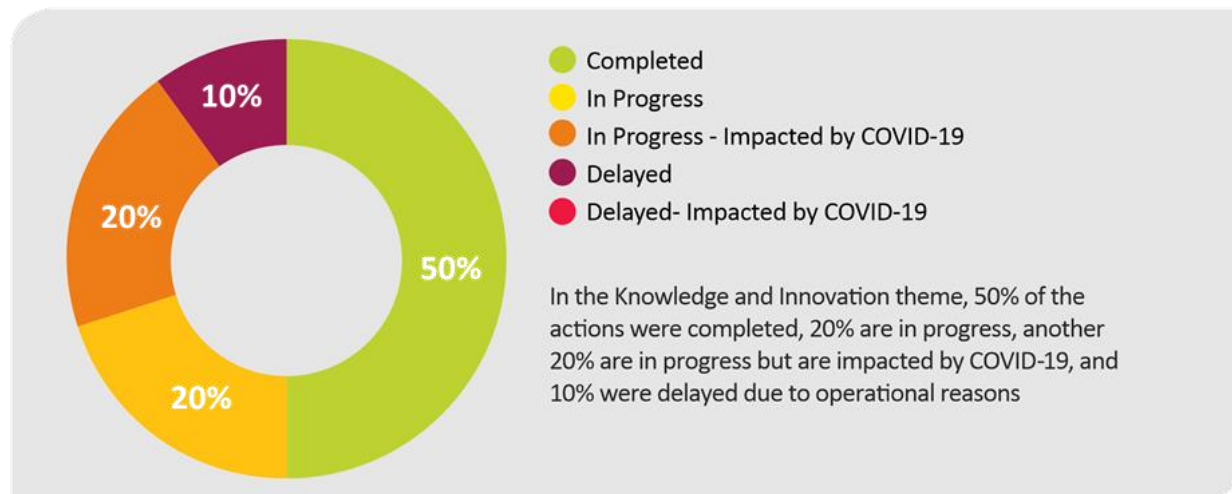
- A series of internal lunch'n'learn sessions facilitated to demystify technical topics such as LoRaWAN, 5G, cloud computing, data security, data privacy, Internet of Things (IoT), blockchain, artificial intelligence, big data, interoperability and specific technology solutions.
- Marketing completed projects by publishing case studies to inform community and promote Council innovation.
- Conducting presentations on numerous topics at different conferences such as Smart Cities week, Innovation Forums and Cities Leadership Institute.
- Publishing relevant articles in the Planning Institute of Australia (PIA) journal, Public Sector Network and GIS magazines.

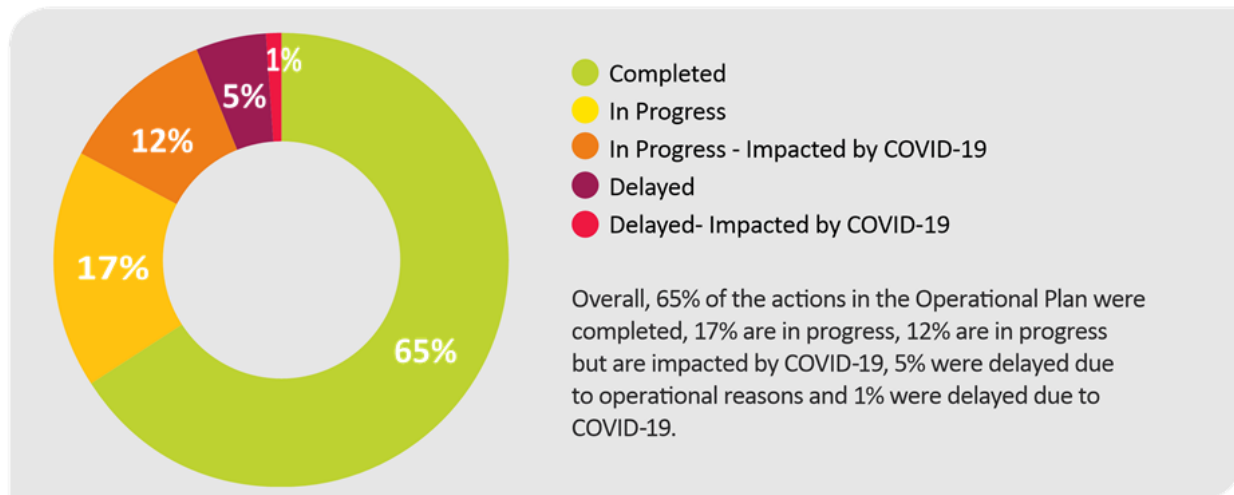
## LOCAL HISTORY COLLECTION

Actions in Collection Development Guidelines are being implemented. Local History Digitisation Strategy was developed using State Library Local Priority Funding



## KNOWLEDGE AND INNOVATION



**OVERALL PERFORMANCE**



56

56

# DETAILED VERSION OF PROGRESS AGAINST OPERATIONAL PLAN

Six Monthly Progress Report 1 January 2021 - 30 June 2021





## ARTS AND CULTURE

We provide a wealth of cultural programs for our community and visitors, conscious that our local area holds a unique place in the public imagination – an iconic part of Australian culture. We continue to recognise the importance of culture and the arts to social cohesion, lifelong learning, innovation and making our public spaces more visually appealing. The Art and Culture theme in the Waverley Community Strategic Plan 2018–2029 strives for a Waverley community enriched by opportunities to celebrate and participate in art and culture



Six Monthly Progress Report 1 January 2021 - 30 June 2021

### Goal 1.1: Facilitate opportunities that recognise Waverley's unique place in the Australian contemporary cultural landscape

58

Strategies	Deliverables	Activity	Status	Progress Comments
1.1.1 Develop and implement a Cultural Plan for Waverley that delivers a diverse range of integrated cultural activities	Implement a rich and diverse program of cultural activities across a range of creative and performing art forms	Implement actions prioritised for completion in 2020–21 Waverley Cultural Plan*	●	Council adopted the Waverley Arts and Culture Plan 2021–2026 at its meeting on 20 April 2021. A review of actions in the plan for implementation is in progress
	Build partnerships with key stakeholders and explore funding opportunities that support and enhance the cultural offering in Waverley	Partner with Commonwealth and State agencies to explore funding opportunities to contribute to the delivery of the Cultural Plan	●	Council acquired NSW Government's Festival of Place Summer Grant. The grant amount was used to fund Harmony Day 2020 concert in Oxford Street Mall. An estimated 800 people attended the event. The event resulted in a 10% increase in visitors to the area
1.1.2 Deliver a dynamic library service that enriches lives by providing a means of social and cultural interaction	Deliver a diverse program of library activities that foster creativity	Review Library programming and implement a revised calendar of Library activities in response to community needs	●	A total of 143 creative programs were delivered in 2020–21 including 61 online and 82 face to face programs
	Deliver a broad range of learning programs that educate and inspire	Implement a range of learning opportunities including a suite of technology focused activities	●	A total of 290 educational programs were delivered in 2020–21 including 96 online and 194 face to face sessions
1.1.3 Provide a diverse program of recreational and entertainment events that balance community and visitor expectations	Provide a broad program of Council-delivered civic and community events	Organise and deliver citizenship and other civic ceremonies *	●	Four Citizenship Ceremonies were conducted in the reporting period, with a total of 270 conferees. Approximately 400 people, including community and RSL representatives, MPs, Councillors and staff attended the Anzac Day Ceremony at Waverley Park. In May 2021 approximately 300 people, including Russian community representatives, RSL representatives, MPs, Councillors and staff, and local community leaders attended the Victory Day ceremony at Waverley Park. Approximately 200 people including Greek community leaders, local community representatives, MPs, Councillors and staff attended the Battle of Crete unveiling ceremony and reception

● Completed ● In Progress ● In Progress - Impacted by COVID-19 ● Delayed ● Delayed - Impacted by COVID-19



59

Strategies	Deliverables	Activity	Status	Progress Comments
	Co-ordinate the delivery of externally managed flagship events	Adapt and deliver an annual program of community events and festivals in alternative locations while the Bondi Pavilion is unavailable during the restoration project*	●	With the closure of Bondi Pavilion and impacts of the COVID-19 pandemic, few regular events such as Latin American Festival and Bondi Festival 2021 were cancelled. Flickerfest was successfully delivered in January 2021 in a purpose-built temporary venue constructed in Bondi Park. Harmony Day Concert was organised in April 2021 and Global Table in May 2021 in Oxford Street Mall.

### Goal 1.2: Preserve and interpret the unique cultural heritage of Waverley

Strategies	Deliverables	Activity	Status	Progress Comments
1.2.1 Maintain the unique cultural value and heritage significance of key landmarks	Ensure future uses of Bondi Pavilion reflect its place as a significant cultural space	Develop plans and identify options for the Bondi Story Room	●	Concept design was completed and presented to Councillors and community in the second quarter. Community consultation for content was completed. Project has progressed to the next phase-scheme design
1.2.2 Plan and deliver a range of cultural heritage activities that inspire creativity, build participation and create learning opportunities	Deliver and partner with cultural heritage groups and other organisations to deliver culturally relevant activities	Explore and implement cultural heritage activities in alignment with the Cultural Plan	●	Content development for Bondi Story Room is in progress with a strong emphasis on Waverley's cultural heritage. Council made a submission for the Australian Heritage Grant. Council is working with the Pauline Menczer Statue Campaign to explore options to honour a great personality of recent Bondi surf culture. Ongoing cultural heritage work was applied to the development of signage, wayfinding and room naming in the new Bondi Pavilion building. Officers are liaising with Gujaga Foundation who are advising on Indigenous protocols, content and design

● Completed ● In Progress ● In Progress - Impacted by COVID-19 ● Delayed ● Delayed - Impacted by COVID-19



60



Six Monthly Progress Report 1 January 2021 - 30 June 2021





## COMMUNITY SERVICES AND WELL-BEING

We have a strong focus on not leaving anyone behind and fostering a sense of belonging and pride. We aim to be at the forefront of reforms and a progressive leader in addressing complex social issues, working with the community to ensure their well-being. The Community Services and Well-Being theme in the Waverley Community Strategic Plan 2018–2029 focuses to build a vibrant, caring, resilient and inclusive community







Six Monthly Progress Report 1 January 2021 - 30 June 2021



**Goal 2.1: Create a resilient, caring and cohesive community**

62




Strategies	Deliverables	Activity	Status	Progress Comments
2.1.1 Provide a range of needs-based, flexible and accessible services, buildings and facilities	Develop and implement an integrated social sustainability framework in partnership with other agencies	Implement Waverley's Social Sustainability Strategy 2020–25		Strategy consultation was completed and a draft document has been prepared. This document will inform the next iteration of the Waverley Community Strategic Plan. A Waverley Youth Survey was launched to understand issues, priorities and engagement preferences for youth
		Implement social research findings to innovate and enhance service delivery at the Mill Hill Community Centre and associated community services in response to emerging community needs		Feedback on emerging needs informed Roadmap to Resilience strategies in support of pandemic recovery actions. Community health and wellbeing actions and service planning supported the transition of services
	Improve the delivery and viability of integrated early childhood and family support services, Community and Seniors Centre and NDIS registered disability service	Deliver flexible and responsive high quality community services including: Early Education Centres, Community and Seniors Centres, Family Day Care program, Waverley Community Living Program (Service for people with intellectual disability)		With the Mill Hill/Boot Factory refurbishment underway, Seniors Centre program was relocated to Waverley Library. Council continued to comply with public health orders and COVID-19 related information were distributed. Waverley Community Living Program mid-term National Disability Insurance Scheme audit is in progress. Service status review is in progress. Council's Early Education Centres and Waverley's Family Day Care program continued to deliver essential services during the pandemic and with the easing of restrictions. Mill Hill Early Education Centre received 'exceeding' in the assessment and rating process in May 2021. Service improvements progressed with earlier opening hours set to start in July 2021
2.1.1 Provide a range of needs-based, flexible and accessible services, buildings and facilities	Deliver a transparent, targeted and outcome focused grants program in response to changing community needs and expectations	Provide support to grantees to facilitate improved service planning and outcomes reporting		Delivery of round two of Small Grants 2020–21 was completed in April 2021, with \$46,531 distributed to support implementation of small community and cultural initiatives

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19



## Continued – Goal 2.1: Create a resilient, caring and cohesive community

63

Strategies	Deliverables	Activity	Status	Progress Comments
	Improve the capacity of services to better respond to people with complex needs (e.g. young people, mental health, homelessness)	Coordinate partnership and outreach activities to address community needs and opportunities		A Transition to Primary School session was held online in April 2021 in collaboration with Woollahra Council and local schools, 98 participants attended. The Eastern Sydney Youth Services Network met online in February 2021 to finalise its annual plan, 16 people attended. Two face to face sessions with a focus on identifying and supporting young carers, understanding changes to the number of and access to youth support and casework services in area since the funding reform, information and support for the 2021 Census homelessness remuneration and updates on NSW Police sexual assault reporting options and education support for disengaged young people were attended by 27 and 37 participants respectively. Planning for the 2021 Transition to High School for Vulnerable Students forum commenced in March 2021
2.1.2 Provide and manage social and affordable rental housing, community venues and facilities	Manage Council's affordable and social housing programs and partner with other agencies to improve provision	Leverage and progress improvements to existing housing portfolios (including 2A Edmund Street) to provide additional affordable housing supply in Waverley		The Housing Review project was completed in May 2021. The consultant's report included research, analysis, comparisons and recommendations for improving Council's current model and suggestions for growing provision. The re-constituted Housing Advisory Committee membership was endorsed by Council in June 2021 to focus discussion and provide feedback on future directions
	Deliver accessible community facilities and venues that cater for the diverse needs of the community	Promote Council's community venues and facilities and investigate opportunities to increase utilisation		Utilisation rates for regular hire has returned to pre COVID-19 levels. Function bookings continue to be impacted by COVID-19 restrictions

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19

**Goal 2.2: Nurture a safe, healthy and well-connected community that has the capacity to embrace challenges and the resilience to adapt to change**

64

Strategies	Deliverables	Activity	Status	Progress Comments
2.2.1 Facilitate social inclusion and neighbourhood programs to strengthen community connections	Implement and facilitate resident-led projects and encourage creative community interactions	Implement improvements to pathways and approval process to facilitate resident-led neighbourhood projects	●	The Verge Garden Guidelines was endorsed by the Executive Leadership Team. The updated Policy will be presented to Council in July 2021. A Public Gardening Project Control Group was established to support the approval of more complex public gardening applications
	Enhance organisational support for volunteering opportunities and recognise and celebrate volunteers	Review volunteer operations and provide opportunities to strengthen Waverley's volunteer community and build internal support around volunteering	●	Volunteers were acknowledged during National Volunteer Week through an event, certificates, and an acknowledgment letter. There is increased engagement with current and interested volunteers, and connection between local services and interested volunteers through monthly communication and increased promotion. The draft Volunteer Policy is prepared
	Provide programs that inform, educate and support Waverley's community	Deliver workshops, information sessions and seminars to inform and support people's wellbeing and resilience	●	Parent seminars 'Talking with Teens about challenging Teenage Issues' was held in February 2021 in partnership with WAYS, 48 participants attended. Bilingual Communication and Language Development targeted families with children 0- 5 years. The Journey to Parenthood for New and Expectant Parents online sessions were held in March 2021 in partnership with SESLHD, 17 people attended. Dr. Melissa Kang presented at the Respectful Relationships and Consent session for parents and teens organised in partnership with Woollahra Council, 38 people attended
		Develop Council's new community education program on surf awareness and beach safety	●	Content finalised and promotion of new education program will commence in summer
	Connect with older people and assist residents to remain healthy and active in their homes and communities with good access to information, services and support	Establish an outreach hub at the Mill Hill Community Centre to enhance access to community services	●	Establishing an outreach hub was impacted by COVID-19 and relocation of programs during refurbishment of the Mill Hill/Boot Factory

● Completed ● In Progress ● In Progress - Impacted by COVID-19 ● Delayed ● Delayed - Impacted by COVID-19

Six Monthly Progress Report 1 January 2021 - 30 June 2021



**Continued – Goal 2.2: Nurture a safe, healthy and well-connected community that has the capacity to embrace challenges and the resilience to adapt to change**

65	Strategies	Deliverables	Activity	Status	Progress Comments
	2.2.2 Manage and regulate public places to achieve safe and healthy lifestyles	Prepare and implement proactive health and safety strategies to improve community health and address anti-social behaviour	Review the capacity and capability of lifeguard services to ensure high quality service delivery	●	Service hours and staffing were reviewed at Council's three beaches
			Undertake daily patrols to improve safety at Bondi, Bronte and seasonally at Tamarama beaches	●	Daily patrols were undertaken as required. There has been more focus on addressing dog off-leash concerns
			Partner with NSW Police to patrol and target anti-social behaviour and noise related issues within hot-spots	●	Patrols were undertaken with Police during weekends throughout summer with a focus on public holidays
			Undertake inspections to regulate food handling, sewerage, excessive noise and other issues	●	Inspections and investigations are ongoing as required, 146 food business inspections were undertaken during the reporting period
			Undertake daily patrols to ensure compliance within dog on-leash areas within hot-spots	●	Patrols are ongoing with focus on Bronte Gully, Rodney and Raleigh Reserves. In general, there has been an increased amount of penalties issued for dog off-leash offences

● Completed 
 ● In Progress 
 ● In Progress - Impacted by COVID-19 
 ● Delayed 
 ● Delayed - Impacted by COVID-19

**Goal 2.3: Strengthen people's inclusion in community life, promote diversity and celebrate Aboriginal culture past, present and future**

66

Strategies	Deliverables	Activity	Status	Progress Comments
2.3.1 Improve access, participation and inclusion for everyone	Implement Disability Inclusion Action Plan (DIAP), Reconciliation Action Plan (RAP) and other key plans and policies	Implement priority actions in Reconciliation Action Plan and Disability Inclusion Action Plan	●	Three new trainees commenced in February/March 2021 through the Elsa Dixon Aboriginal Employment Program in Administration and Horticulture. There are currently six Aboriginal trainees and apprentices working with Council. The RAP Advisory Committee has been established. Research and planning is underway for co-naming spaces in the Bondi Pavilion Conservation Project
	Strengthen Waverley Council's capacity for collaboration and effective partnerships to deliver community and social well-being projects	Deliver joint projects with community groups and government agencies to harness resources for community benefit such as Transition to School forums, Intergenerational project and Child Safe Policy	●	Council is continuing collaboration with East Side Housing Action Committee to respond to people experiencing homelessness in public places. Regional annual Street Count was facilitated with eastern Councils in February 2021. Co-ordination of aged and disability interagency network is continuing. Council staff contributed to a regional working group to address elder abuse, digital inclusion working group and participated on SESLHD forums regarding information initiatives related to COVID-19 and vaccination roll out
2.3.1 Improve access, participation and inclusion for everyone	Deliver and facilitate inclusive, informal and family-friendly local programs that promote harmony and respect	Undertake 'Welcoming Cities' self assessment to inform work on social cohesion and resilience	●	The draft Cultural Diversity Strategy is placed on public exhibition and includes the Welcoming Cities self assessment. The strategy broadly informs work on social resilience and cohesion
		Provide events and activities such as Neighbour Day, Harmony Day and National Reconciliation Week for residents and visitors to celebrate Waverley's diverse community	●	During National Reconciliation Week, Raymond Ingre (Chair of the Gujaga Foundation) presented to Council staff on the history of La Perouse. A Harmony Week concert was held in Bondi Junction Mall in April 2021. Waverley Family Day Care (FDC) was acknowledged and the profile of one of the FDC educators was highlighted in 'Connections', a FDC NSW newsletter in the summer edition. The programs were recognised for demonstrating how incorporating Aboriginal and Torres Strait Islander perspectives in a respectful way within a FDC setting can be simple and meaningful, in a way that stays with the children for years to come. Global Table, a multicultural event celebrating food, culture and entertainment from all over the world was organised in May 2021 at the Oxford Street Mall.

● Completed 
 ● In Progress 
 ● In Progress - Impacted by COVID-19 
 ● Delayed 
 ● Delayed - Impacted by COVID-19

Six Monthly Progress Report 1 January 2021 - 30 June 2021





## RECREATION AND OPEN SPACES

We have about 10 hectares of open space used by 74,000 residents; 27,000 workers; and over 3,000,000 tourists annually. This equates to approximately 1.43 hectares per 1000 residents, where the standard is 2.32 hectares per 100 residents. As such, providing recreation and open public spaces is incredibly important. The Recreation and Open Spaces theme in the Waverley Community Strategic Plan 2018–2029 aspires us to be a Council that is a leader and innovator in open spaces and recreational facilities that support a healthy, happy and connected community






Six Monthly Progress Report 1 January 2021 - 30 June 2021

### Goal 3.1. Improve health and quality of life through a range of recreational opportunities and quality open spaces

68

Strategies	Deliverables	Activity	Status	Progress Comments
3.1.1 Retain, protect, and improve the quality, capacity and accessibility of parks, open spaces, sporting and recreational facilities	Prepare and implement an Open Space Strategy that caters to and balances the needs of all users	Undertake Playground and Park upgrades at multiple locations including Barracluff Park, Varna Park and Marlborough Reserve		Marlborough Reserve and Varna Park upgrades were completed. Barracluff Park works has commenced. Work has been delayed due to materials shipping from overseas and other latent conditions

### Goal 3.2. Expand the diverse network of parks and open spaces, sporting and recreational facilities

Strategies	Deliverables	Activity	Status	Progress Comments
3.2.1 Improve access to private and public recreation facilities and open spaces	Partner with key stakeholders to maximise the use and access to private and public open spaces, recreation and sports fields	Manage access to public open spaces to promote optimal use		A range of projects were delivered including: <ul style="list-style-type: none"> <li>• Flickerfest Short Film Festival, hosted in the famous spiegel tent in North Bondi Park</li> <li>• Bronte House open weekend</li> <li>• Global Table, a multicultural event celebrating food, culture and entertainment from all over the world in Oxford Street Mall</li> <li>• Battle of Crete and the Greek Campaign commemorative plaque unveiling in Waverley Park</li> <li>• Film, photography, low to medium events and commercial activation permits returning to pre-COVID levels</li> <li>• Pound Paws community event raising the awareness for adopting pet rescue animals. This event is supported by Council's community grants program</li> <li>• Run for the Oceans South Bondi Park, COMMAS Fashion week show at Tamarama beach, Seaside Scavenge at Bronte Beach</li> </ul>
		Promote Council's sportsfields and facilities and investigate opportunities to achieve optimal use		Utilisation of the multi purpose courts at Waverley Park has improved as a result of regular ongoing tennis court bookings
	Integrate innovation and emerging technologies in planning and design of open spaces and recreational facilities	Incorporate design elements including emerging materials that provide cost, lifecycle, environmental and social benefits		New wayfinding signage was installed at Notts Avenue to service the coastal walk. Additional signage is currently being installed at Bronte Cutting to support access through Bronte Park and Calga Reserve

 Completed 
  In Progress 
  In Progress - Impacted by COVID-19 
  Delayed 
  Delayed - Impacted by COVID-19

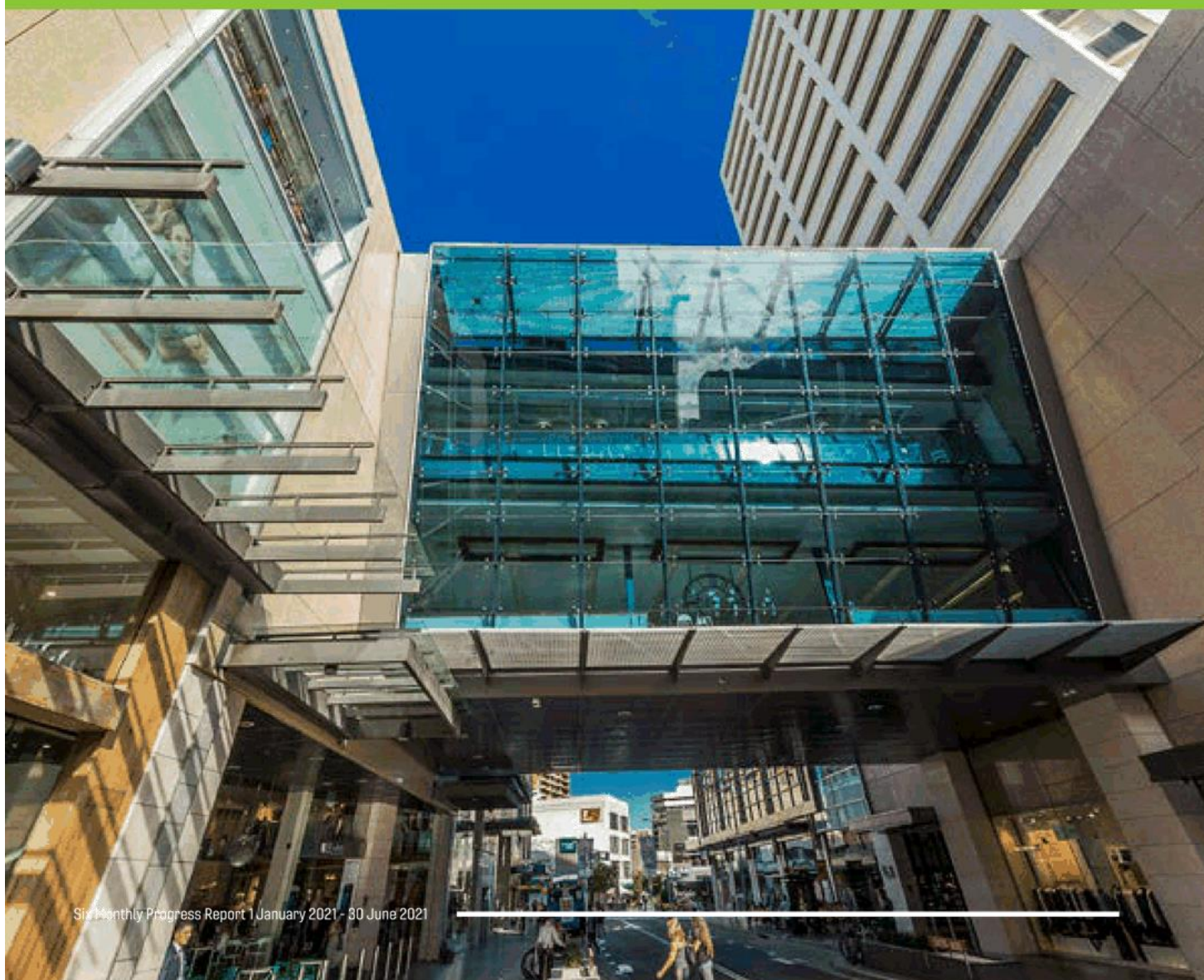
Six Monthly Progress Report 1 January 2021 - 30 June 2021





## LOCAL ECONOMY

We are committed to creating a prosperous and sustainable local economy, particularly as the State Government has identified Bondi Junction as a commercial centre linked to the Sydney global economy. We also want to protect and enhance our neighbourhood villages while encouraging and supporting the creative and visitor economy. The Local Economy theme in the Waverley Community Strategic Plan 2018–2029, strives to promote a diverse and prosperous local economy



Six Monthly Progress Report 1 January 2021 - 30 June 2021

**Goal 4.1: Promote Waverley as a significant sustainable economy and innovation precinct**

70

Strategies	Deliverables	Activity	Status	Progress Comments
4.1.1 Facilitate networking and collaboration between Waverley's independent professionals and aspiring start-ups	Implement innovative and alternative mechanisms to encourage collaboration and networking	Organise Waverley Business Forum interactive events on a range of themes including on innovation that support local business	●	The Bondi Innovation Forum was held as an interactive event at Bondi Icebergs on 27 May 2021. Leading industry experts and accomplished entrepreneurs shared insights on their journey and how to attract and nurture innovation in a variety of business environments
4.1.2 Develop approaches to increase employment opportunities among the highly skilled and educated workforce, including young graduates	Undertake initiatives to facilitate employment opportunities	Partner with private operators, universities and state agencies to release Waverley Council held data (open data) to stimulate employment opportunities for highly skilled businesses	●	The Strategic Planning and Development Committee endorsed the Job Creation and Innovation Strategy at its meeting on 6 June 2021

**Goal 4.2: Ensure Bondi Junction and Waverley's villages continue to have a diverse range of businesses, local jobs and services**

Strategies	Deliverables	Activity	Status	Progress Comments
4.2.1 Enhance the commercial core of Bondi Junction to increase employment	Investigate and implement strategies to facilitate commercial office floorspace in Bondi Junction and other centres	Implement recommendations of Planning Proposal for Bondi Junction B4 Zone from the Department of Planning and Environment	●	The Department of Planning, Industry and Environment gazetted The Bondi Junction Minimum Non-Residential Floorspace Planning Proposal in the third quarter

● Completed    ● In Progress    ● In Progress - Impacted by COVID-19    ● Delayed    ● Delayed - Impacted by COVID-19



**Goal 4.2: Ensure Bondi Junction and Waverley's villages continue to have a diverse range of businesses, local jobs and services**

71

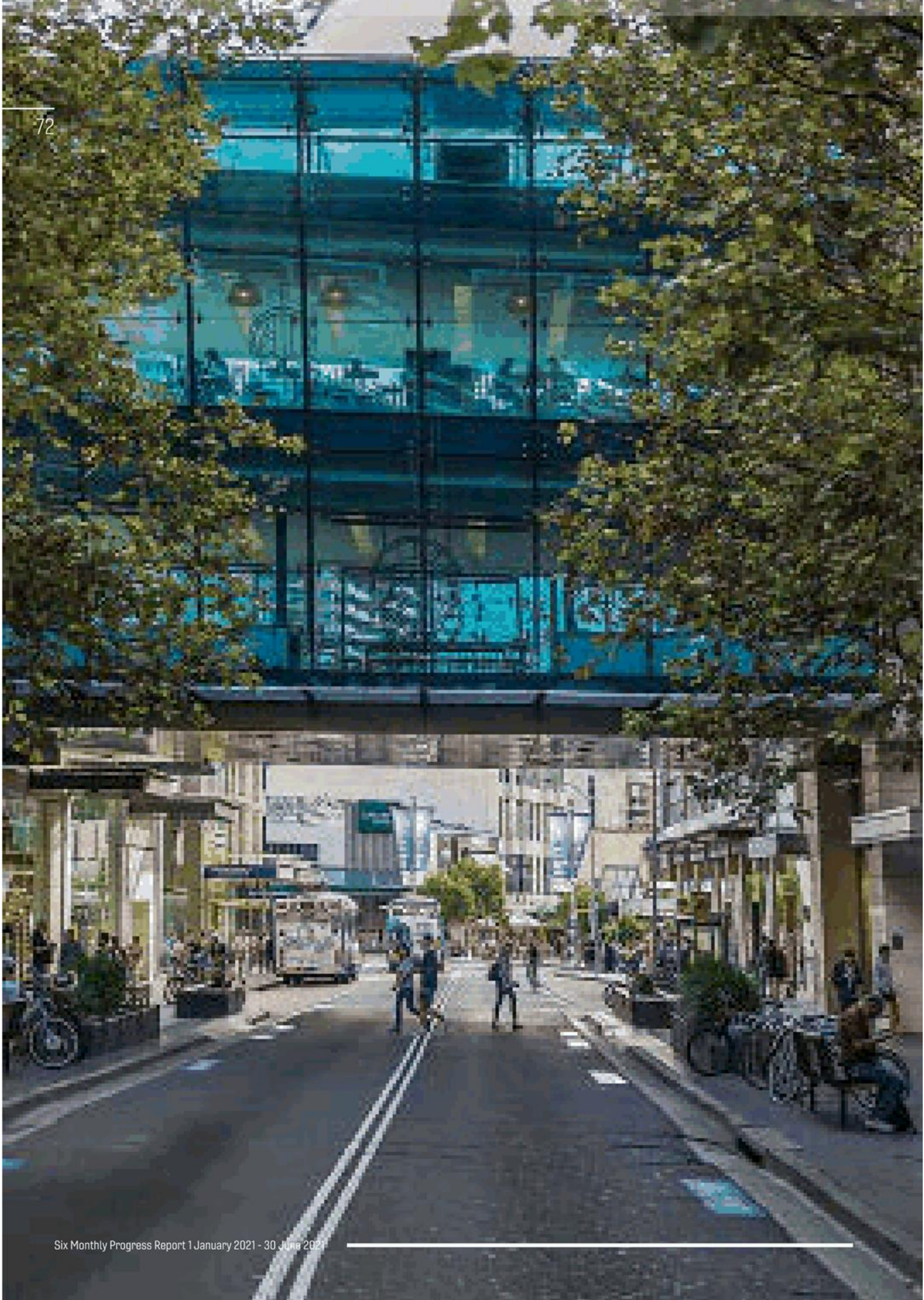
Strategies	Deliverables	Activity	Status	Progress Comments
4.2.2 Support the efforts of a range of stakeholders to increase the diversity of the local economy	Partner with JobsNSW and other agencies to support start-ups and small and medium enterprises	Organise a workshop to support start-ups, small and medium enterprises applying for Government loans such as accelerating growth loans	●	Get that Grant! Preparing, Finishing and Winning your next Grant workshop was organised on 30 June 2021
	Implement an Easy To Do Business with Council policy	Streamline processes to support businesses tackle time and complexity in dealing with Council	●	Business Resource Centre, an online resource hub for all things business was completed and made available online in May 2021

**Goal 4.3: Encourage tourism to support to the local economy and contribute to local amenity**

Strategies	Deliverables	Activity	Status	Progress Comments
4.3.1 Ensure tourism contributes to natural and cultural attractions and local amenity	Lobby State government to amend legislation to better manage short-term holiday lettings	Continue to monitor and lobby state government regulatory developments on short-term lettings	●	Council continued to monitor and lobby state government on an ongoing basis on issues related to short-term lettings
4.3.2 Support and enhance the tourist economy	Promote and educate visitors on local history, landscape, businesses and cultural assets	Promote self guided heritage walks and Bondi to Manly walk	●	Charing Cross to Bronte Walk self guided heritage walks were implemented in the last reporting cycle
	Prepare and implement Waverley Sustainable Visitation Strategy	Establish a Tourism Working Group with representation from the Waverley community to facilitate the implementation of planned activities	●	Council adopted the proposal to establish a Tourism Working Group at its meeting in May 2021

● Completed 
 ● In Progress 
 ● In Progress - Impacted by COVID-19 
 ● Delayed 
 ● Delayed - Impacted by COVID-19





Six Monthly Progress Report 1 January 2021 - 30 June 2021

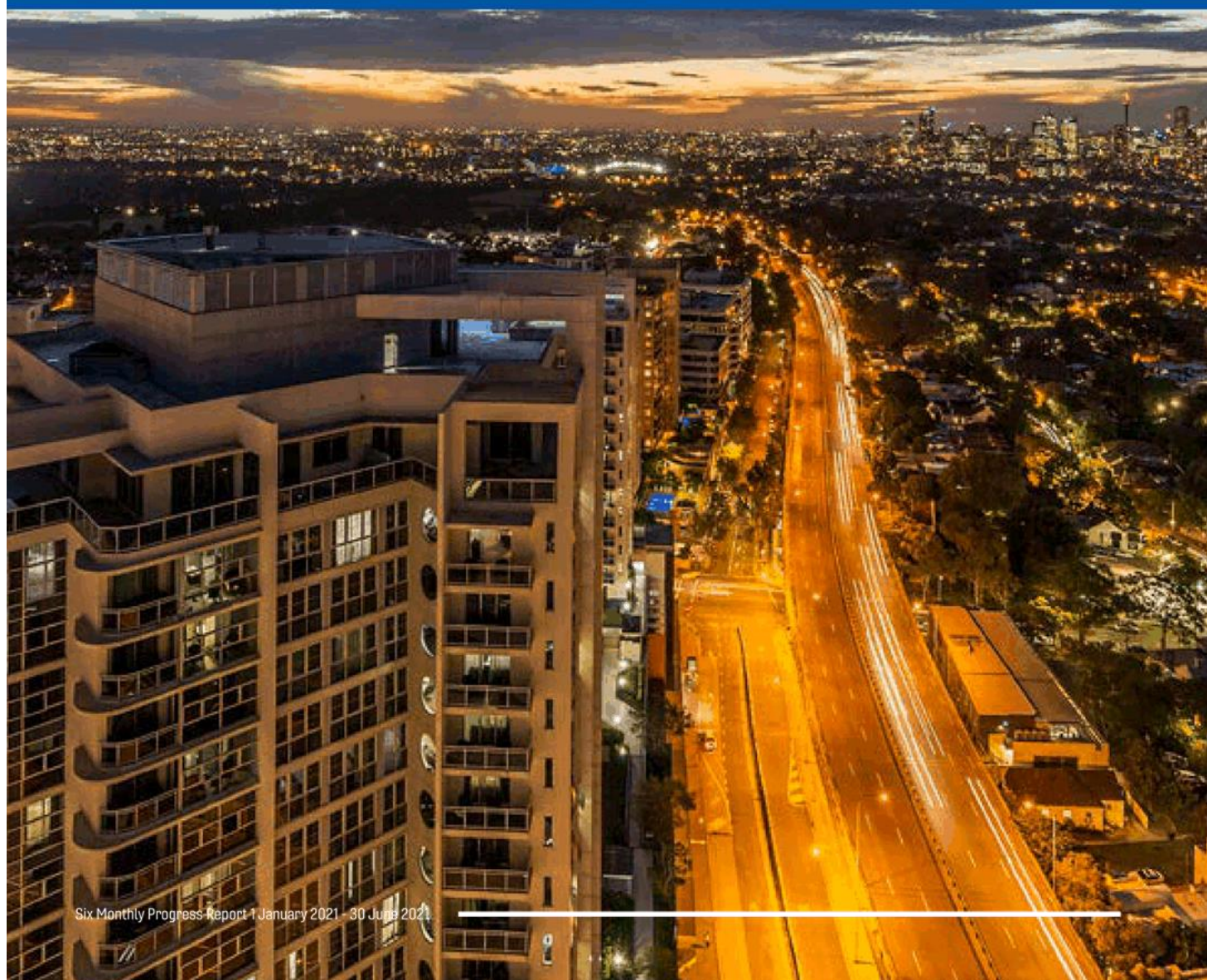


73



# PLANNING, DEVELOPMENT AND HERITAGE

We facilitate architectural design excellence in building liveable homes, functional public spaces and walkable streets in Waverley. With the highest population density in Australia, community-led, place-based planning and design is critical to Waverley. Council aspires to be a frontrunner and advocate for balanced development in Waverley. The Planning, Development and Heritage theme in the Waverley Community Strategic Plan 2018–2029 strives for diverse, liveable and sustainable places



Six Monthly Progress Report 1 January 2021 – 30 June 2021



**Goal 5.1: Facilitate and deliver well-designed, accessible and sustainable buildings and places that improve the liveability of existing neighbourhoods**

74





Strategies	Deliverables	Activity	Status	Progress Comments
5.1.1 Facilitate and enable a diverse range of housing options and other land uses	Develop and implement planning policies to increase affordable housing options	Implement the Waverley Local Housing Strategy	●	A Planning Proposal was considered by the Local Planning Panel in April 2021. A follow up report was prepared and the adopted proposal was submitted to the Department of Planning, Industry and Environment for Gateway
	Align local planning policy regularly with metropolitan planning directions and ensure a diversity of uses are provided	Prepare a new comprehensive Local Environment Plan(LEP) and Development Control Plan(DCP)	●	Local Strategy Planning Statement implementation LEP was adopted by Council at its meeting in May 2021 and submitted to the Department of Planning, Industry and Environment for Gateway
5.1.2 Ensure new development maintains or improves the liveability and amenity of existing neighbourhoods	Ensure planning policy and agreements provide improvements to the surrounding facilities and areas	Undertake review of the Planning Agreement Policy and its implementation	●	The Waverley Voluntary Planning Agreement Policy Review was adopted by Council in the second quarter
5.1.3 Ensure new development provides a high standard of design quality and does not impact on the amenity of neighbours or the wider community	Provide timely determinations of applications for developments	Implement assessment procedures that deliver high quality outcomes and efficient determination	●	Council is continuing to adopt the mandate to use planning portal since 1 January 2021 and exploring and implementing measures to streamline DA lodgement, assessment and determination processes
	Ensure new development meets the aims and objectives of the LEP and DCP	Assess all applications against relevant and provisions of the LEP and DCP and other relevant legislation	●	All applications received in the third and fourth quarter were assessed against relevant legislative requirements
5.1.4 Ensure development is undertaken in accordance with required approvals and new and existing buildings provide a high standard of fire safety and amenity	Ensure the development meets the requirements of the development consent and relevant legislation where Council is appointed as the certifier	Assess applications for a construction certificate against the development consent and legislation and ensure compliance during required inspections	●	Applications were assessed for construction certificates against the development consent and legislation. The required mandatory inspections were carried out to ensure compliance
	Provide efficient and professional certification	Implement assessment and inspection procedures that deliver high quality outcomes and efficient determinations	●	Assessment and inspection procedures were implemented in accordance with statutory provisions in the third and fourth quarter
		Undertake swimming pool inspections in compliance with Swimming Pool Act and Regulation	●	No tourist or visitor premises were due for inspection in the reporting period

● Completed ● In Progress ● In Progress - Impacted by COVID-19 ● Delayed ● Delayed - Impacted by COVID-19





**Continued – Goal 5.1: Facilitate and deliver well-designed, accessible and sustainable buildings and places that improve the liveability of existing neighbourhoods**

75

Strategies	Deliverables	Activity	Status	Progress Comments
5.1.4 Ensure development is undertaken in accordance with required approvals and new and existing buildings provide a high standard of fire safety and amenity	Ensure new buildings meet current fire safety standards and existing buildings are upgraded	Undertake fire safety assessment of new developments where Council is the certifier		100% of all fire safety assessments where Council is the certifier was completed
		Undertake fire safety inspections and take appropriate action/s where potential fire safety issues are identified		100% of all fire safety assessments where potential fire safety issues were identified was completed
	Undertake initiatives to address issues relating to illegal use or building works in a timely manner	Investigate complaints and take appropriate enforcement action relating to illegal use/building works in a timely manner		During the reporting period, 295 complaints were investigated and completed. The remainder have been prioritised according to risk and safety
5.1.5 Encourage energy and water efficiency, best practice waste management and zero carbon buildings for all developments	Update planning policies, consider incentives and lobby for improved regulations	Research and prepare a Planning Proposal to improve energy and water efficiency for all developments and investigate zero carbon targets for all developments		Findings of the research to improve energy and water efficiency will be incorporated into comprehensive LEP and DCP

**Goal 5.2: Value and embrace Waverley's heritage items and places**

Strategies	Deliverables	Activity	Status	Progress Comments
5.2.1 Protect, respect and conserve items and places of heritage significance within Waverley	Prepare and implement Conservation Management Plans (CMPs) and Conservation Strategies	Review existing use and design of Cemetery Residence and Maintenance building and identify options (with estimated costs) for potential refurbishment in line with heritage and compliance requirements		Project has been reprioritised to 2022–23 with other infrastructure works brought forward to support implementation of the Cemetery Services Strategic Business Plan
	Implement events to promote local heritage	Partner with community and relevant heritage bodies to implement programs such as Heritage Awards that promote local heritage		The Heritage Awards are carried over to 2021–22




 Completed 
  In Progress 
  In Progress - Impacted by COVID-19 
  Delayed 
  Delayed - Impacted by COVID-19


**Goal 5.2: Value and embrace Waverley's heritage items and places**

76

Strategies	Deliverables	Activity	Status	Progress Comments
5.2.1 Protect, respect and conserve items and places of heritage significance within Waverley	Prepare and implement Waverley Heritage Study	Implement Waverley Heritage Assessment 2020 recommendations		The Strategic Planning and Development Committee adopted the Waverley Heritage Study at its meeting in June 2021

**Goal 5.3: Encourage new developments to achieve design excellence**

Strategies	Deliverables	Activity	Status	Progress Comments
5.3.1 Ensure development and construction in the public and private domain achieves excellence in design	Ensure new developments and building upgrades achieve high quality design outcomes	Engage the Design Excellence Panel (DEP) to help achieve improved building design		All applications that are required to be referred to the Design Excellence Advisory Panel for comment were referred. Comments from the panel were used to ensure development achieved design excellence
	Expand the concept of Complete Streets to all of Waverley local government area and prepare and implement the Street Design Manual	Prepare and roll out the Street Design Manual and integrate into relevant streetscape upgrades		Street Design Manual integration for all 2020–21 projects were completed. Recent construction works on Wallangra Road, Dover Road, Gowrie Street and Military Road were completed in line with Street Design Manual objectives. The designs of Curlewis Street, Glenayr Avenue, Roscoe Street and York Road are incorporating Street Design Manual objectives
5.3.2 Encourage creativity and innovation in the planning, design and delivery of new buildings, streetscape and public places upgrades	Adapt and implement 3D modelling to increase user understanding and appreciation of place	Expand 3D model for community use		The 3D Model upgrade was delayed due to resourcing constraints

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19





## TRANSPORT, PEDESTRIANS AND PARKING

Improving all modes of transport makes Waverley more accessible, safe, connected and sustainable. We are committed to enabling people to get around more easily on foot, by bicycle and public transport to reduce traffic congestion and parking pressures. The Transport, Pedestrians and Parking theme in the Waverley Community Strategic Plan 2018–2029 strives to make Waverley a place where people can move around easily and safely and our streetscapes are welcoming and inclusive











Waverley Monthly Progress Report 1 January 2021 – 30 June 2021



**Goal 6.1. Provide a wide range of transport options so people can easily move within and beyond Waverley**

78


Strategies	Deliverables	Activity	Status	Progress Comments
6.1.1 Enable people to walk and cycle easily around the local area	Prepare and implement a Walking Audit and Walking Strategy	Undertake pedestrian audits at Newland Street and Charing Cross Streetscape		Charing Cross Streetscape Upgrade community consultation report was presented to Council at its meeting in June 2021. Detailed design will finalise treatments to assist in pedestrian access and travel
	Implement Waverley Bike Plan 2013 and prepare a Cycling Strategy for separated cycling infrastructure	Deliver Paul Street Bike Network and Bondi Junction Cycleway and Streetscape projects		Paul Street shared path and bike network upgrade works were completed. The Bondi Junction Cycleway and Streetscape Upgrade works are now completed on Oxford Street (St James Road to Denison Street), partial cycleway opened in June 2021. The next stage of the project on Bronte Road has commenced construction
	Continue to implement a partnership program with schools and businesses to promote and encourage active transport	Partner with schools to deliver safer school travel initiatives		This activity is impacted by COVID-19
6.1.2 Improve accessibility to public transport and ride sharing	Partner with State government to undertake major improvements to Bondi Junction Interchange, and bus services on Bondi Road Corridor	Partner with Transport for NSW and future private providers to improve bus service on Bondi Road		Advocacy with State Transport Authority is continuing. Improvements were implemented to the interchange for wayfinding to 333 route. Bus prioritisation adjustments were implemented in Bondi Road
		Partner with Transport for NSW to implement access improvements to Bondi Junction Interchange		The Office of the Local Government approved the Public Private Partnership and is awaiting finalisation of the project agreement
	Encourage more ride sharing, shared vehicles and electric vehicles through our policies, planning and facilities management	Provide public place electric vehicle charging stations in the Waverley LGA		EV Charger was installed in February 2021. Due to construction work in Spring Street, the charger was temporarily closed with an alternate location currently being organised
		Implement Mobility as a Service project with key industry and government stakeholders		Report to finalise the project expected in July 2021
		Review and update Car Share Policy and install car share pods		Car Share Policy was updated and new car share spaces were approved.

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19





**Continued – Goal 6.1. Provide a wide range of transport options so people can easily move within and beyond Waverley**


79

Strategies	Deliverables	Activity	Status	Progress Comments
6.1.3 Reduce the need to own and travel by private motor vehicle	Implement an integrated approach to parking, land use and travel demand through our planning instruments and parking policies	Incorporate strategic transport priorities into planning instruments		This activity is ongoing. Strategic transport priorities will be integrated into the comprehensive LEP and DCP 2021 review

**Goal 6.2. Build and maintain streetscapes that have a welcoming sense of place**

Strategies	Deliverables	Activity	Status	Progress Comments
6.2.1 Improve accessibility and convenience with new and upgraded roads and footpaths that balance the needs of pedestrians, bicycles and other users	Adopt the Transport Hierarchy into all road and footpath works undertaken by Council, for both capital and maintenance works	Incorporate transport hierarchy principles into civil designs of asset renewal projects		All project designs have transport hierarchy principles incorporated with a 100% compliance. Examples include Bondi Junction Cycleway, Notts Avenue, Bronte Cutting, Pacific Street footpath, Chris Bang Crescent
6.2.2 Deliver improved access to popular destinations such as Bondi Junction, Bondi Beach and local villages	Implement Complete Streets and other improvements to Bondi Junction and implement Campbell Parade Streetscape Upgrade	Manage delivery of Bondi Junction Cycleway: Remaining length of Spring Street, Bronte Road commence along Oxford Street between Grosvenor Street and Bondi Road		The Bondi Junction Cycleway and Streetscape Upgrade works are now completed on Oxford Street (St James Road to Denison Street), partial cycleway opened in June 2021. The next stage of the project on Bronte Road has commenced construction




**Goal 6.3. Create safe streets and footpaths with fair access to parking**

Strategies	Deliverables	Activity	Status	Progress Comments
6.3.1 Build and maintain streets and footpaths that are safe for everybody	Reduce road speeds in Waverley local government area to 40kmh throughout and 10kmh in select locations	Partner with Roads and Maritime Services (RMS) and NSW Centre for Road Safety to reduce road speeds		Council and Transport for NSW endorsed 40km/hr zone implementation. Detailed designs were completed and procurement process is in progress

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19

## Continued – Goal 6.3. Create safe streets and footpaths with fair access to parking

80

Strategies	Deliverables	Activity	Status	Progress Comments
6.3.2 Prioritise residential access to car parking	Review arrangements for parking to address changing community needs including parking permit and electronic permit systems	Implement online parking permit system and review effectiveness and usability		On hold pending implementation of the ICT Strategy and new core system.
6.3.3 Ensure that on-street and off-street parking is fairly and effectively managed	Research and implement cost-effective technology, policy and process improvements and prepare Smart Parking Management Strategy	Undertake feasibility assessment and implement smart parking options in Council's car parks and research and replace on-street parking meters		New sensors were installed at beach locations with occupation data being sent to the State Government's Park N Pay app for wayfinding. Car Park Access Infrastructure Upgrade Project tender evaluation was completed and presented to Council at its meeting in June 2021.
	Ensure residential and commercial parking areas are patrolled as per Service Level Agreement	Patrol residential and commercial parking areas and address areas of concern via enforcement action		All commercial and residential areas were patrolled daily, proactively and following customer feedback

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19








## BUILDINGS AND INFRASTRUCTURE

From beautiful parks and safer streets, to our public facilities, we are working to improve the local area. To ensure we are meeting community expectations, we are focusing on improving roads, footpaths, parks and playgrounds, and being better prepared for climatic changes and potential flooding. The Buildings and Infrastructure theme in the Waverley Community Strategic Plan 2018–2029, aims to make Waverley an industry leader in sustainable asset management





**Goal 7.1. Undertake long-term maintenance and renewal of Council assets that meet community expectations and statutory obligations**

82

Strategies	Deliverables	Activity	Status	Progress Comments
7.1.1 Implement a sustainable asset management policy and strategy	Implement adopted Asset Management Plans (AMPs) for all infrastructure types	Deliver proactive maintenance activities to ensure all Council's civil infrastructure assets meet standards		Regular maintenance of registered assets is ongoing. Trades and civil asset audit identified assets for inclusion in the current maintenance program. Full condition report and scheduled maintenance program is in progress
		Manage design and delivery of asset renewal projects identified in AMPs and included in Capital Works Program (CWP)		Works are progressing well as scheduled in the 2020–21 Capital Works program. A minor carry over of projects is anticipated
	Implement continual Improvement Plan for all asset categories	Deliver annual SAMP building renewal program as part of the Capital Works Program		Capital Renewal Program for Council buildings has progressed and is nearing completion. A small number of projects will be carried over and completed early 2021–22

**Goal 7.2. Construct and upgrade new buildings and infrastructure that meet current and future community needs**

Strategies	Deliverables	Activity	Status	Progress Comments
7.2.1 Work with the community to deliver long-term building and infrastructure plans	Deliver a community infrastructure Capital Works Program	Prepare and implement annual Community Infrastructure Program		Council's SAMP5 program was implemented in line with budget
	Develop and implement a Strategic Property Investment framework to effectively manage Council's property portfolio	Implement priority actions as identified in Council's Property Strategy 2020–2024 including review and update of Community Tenancy Policy		A report presenting findings of the review and recommendations in relation to new leases is to be presented to the October Council meeting to allow further time to consult with tenants

 Completed 
  In Progress 
  In Progress - Impacted by COVID-19 
  Delayed 
  Delayed - Impacted by COVID-19





## SUSTAINABLE ENVIRONMENT

Our community has strong environmental values, healthy and active lifestyles, and we are committed to reflect this in Council strategies. We aspire to be at the forefront of sustainability to create resilient communities, sustainable buildings, healthy coasts and bushland, and conserving energy and water resources. The Sustainable Environment theme in the Waverley Community Strategic Plan 2018–2029, strive to be a resilient and environmentally sustainable environment



Six Monthly Progress Report 1 January 2021 - 30 June 2021  
Six Monthly Progress Report

**Goal 8.1. Reduce greenhouse gas emissions and prepare for the impacts of climate change**

84

Strategies	Deliverables	Activity	Status	Progress Comments
8.1.1 Improve energy efficiency of Council and community buildings and infrastructure	Upgrade lighting, heating, cooling and operations to improve energy efficiency	Upgrade Library heating ventilation and cooling system through data enabled control system	●	New Building Management System was installed with enhanced HVAC operation and monitoring capabilities
		Partner with Ausgrid to upgrade and improve street lighting performance	●	AusGrid LED upgrades were completed
	Improve environmental performance of new and existing buildings	Deliver program to reduce energy use of apartment buildings through efficiency, solar and batteries	●	Building Futures program worked with nine strata buildings in 2020–21. Installed projects include upgrades to common area lighting and one building is trialing a liquid pool cover. Solar my Strata has worked with eight strata buildings to investigate rooftop solar solutions with two buildings proceeding to installation.
8.1.2 Increase uptake of renewable energy	Deliver programs to increase the amount of solar and battery installed on community and Council properties and buildings, schools and residential properties	Facilitate installation of solar at Eastern Suburbs schools, residential and community buildings	●	Clovelly Public School (63KW) and Bondi Beach Public School (70KW) have installed new solar systems
	Increase proportion of renewables in Council electricity through our electricity procurement and facilitate community uptake of renewable energy use	Partner with SSROC and neighbouring Councils to continue procurement of renewable energy	●	Council is currently purchasing 30% of its electricity from a Moree solar farm
8.1.3 Plan and respond to the impacts of climate change	Prepare and implement a Waverley Climate Change Adaptation Risk Assessment and Adaptation Plan	Prepare and implement Climate Change Adaptation Plan	●	Climate Change Risk Assessment is in progress

**Goal 8.2. Conserve water and improve water quality**

Strategies	Deliverables	Activity	Status	Progress Comments
8.2.2 Improve water efficiency of new and existing community and Council buildings and infrastructure	Utilise water saving devices and practices across parks, beaches and facilities	Maintain leak detection meters at Council's high water-using assets	●	Leak detection is ongoing and functioning

● Completed    ● In Progress    ● In Progress - Impacted by COVID-19    ● Delayed    ● Delayed - Impacted by COVID-19





**Goal 8.2. Conserve water and improve water quality**




85

Strategies	Deliverables	Activity	Status	Progress Comments
8.2.3 Reduce pollutants entering waterways	Manage existing sewer overflows and legacy issue of sewer outfalls at Diamond Bay and Vaucluse	Partner with Sydney Water to commence upgrade of Diamond Bay and Eastern Beaches sewer outfalls		Council is partnering with Sydney Water to implement the Vaucluse Diamond Bay Refresh project. The project is scheduled for delivery in 2022–23

**Goal 8.3. Protect and increase our local bushland, parks, trees and habitat**

Strategies	Deliverables	Activity	Status	Progress Comments
8.3.1 Improve the condition and increase the extent of remnant bushland sites	Implement the Biodiversity Action Plan- Remnant sites, and volunteer bushcare program	Undertake bush regeneration works across Council's remnant bushland sites		Biodiversity Action Plan- Remnant Sites was implemented at 11 sites with bush regeneration contractors engaged
	Support the delivery of the threatened species sunshine wattle (acacia terminalis) and Eastern Suburbs Banksia Scrub (ESBS) Recovery Plans	Undertake Recovery Plan actions at Loombah Cliffs, York Road and support Centennial Parklands at Queens Park		This is an ongoing project with numerous Acacia terminalis species maturing at Loombah cliffs and condition improvement of ESBS at York Road

**Goal 8.3. Protect and increase our local bushland, parks, trees and habitat**

Strategies	Deliverables	Activity	Status	Progress Comments
8.3.3 Increase the quantity of trees and plants in public spaces, parks and streets	Prepare and implement an Urban Tree and Canopy Strategy	Prepare an Urban Tree and Canopy Strategy to increase the number of trees across Waverley		Contractor engaged to conduct tree inventory and condition report to assist Tree Canopy Strategy development
		Implement a tree planting program to increase tree canopy cover		176 trees were planted during the reporting period, Hunter Ward 42, Bondi Ward 26, Waverley Ward 37 and Lawson Ward 71. Remaining tree plantings actioned were based on requests received via customer requests, removal/replacement requests, infill plantings, Waverley Reservoir and Bondi Beach Park plantings. The numbers exclude DA plantings and Tree Preservation Order
		Implement Tree Management Policy		The proposed Tree Management Policy framework was presented at the Council Workshop in May 2021. Preparation of the new Policy document is in progress and is scheduled for completion in November 2021
		Review Council's Tree Management Policy		The proposed Tree Management Policy framework was presented at the Council Workshop in May 2021. Preparation of the new Policy document is in progress and is scheduled for completion in November 2021

Six Monthly Progress Report 1 January 2021 - 30 June 2021



## SUSTAINABLE WASTE

Reducing and managing waste is a priority for us. From households, businesses and in public spaces, we recognise that any waste sent to landfill (as well as the way it gets to landfill) has long-term environmental impacts. We aim to be at the forefront of waste management to reduce these risks for our community.



Everyone has a role in achieving these goals, whether they are a government department, business or resident in Waverley. The Sustainable Waste Management theme in the Waverley Community Strategic Plan 2018–2029 aims to progress Waverley to be a zero waste community








**Goal 9.1. Reduce the amount of waste generated**

87

Strategies	Deliverables	Activity	Status	Progress Comments
9.1.1 Engage with residents, visitors and businesses to promote sustainable consumption and waste avoidance	Develop and deliver targeted engagement programs to facilitate re-use, repair and sustainable purchasing	Implement Sustainable Business Program and Waste Avoidance/Reuse Community Program		One workshop was held for reusable nappies, promoted The Bower reuse/repair workshops, participation in Plastic Free July, support for BYO cup week (community led), and support for Seaside Scavenge event
	Develop and deliver programs targeted at residents and businesses to reduce single-use plastics			Promoted Bin Trim (waste assessment audit and recommendations) was promoted to businesses. Two community grants were granted to community organisations

**Goal 9.2. Facilitate best practise in waste management to increase recycling and recovery**

Strategies	Deliverables	Activity	Status	Progress Comments
9.2.1 Deliver engagement programs and services to increase waste diversion from landfill	Identify and deliver targeted engagement programs to residents, schools and businesses to increase recycling and lower contamination rates	Deliver engagement programs focused on reducing contamination of recycling bins, improve recovery of recyclables from the general waste and reduce the incidence of problem waste		Recycling Improvement Program was delivered to 120 buildings (4442 apartments) to date. This financial year, the program was delivered to 44 buildings (2,111 apartments). Primary school waste education program was delivered to two schools; eight sessions (498 students) were held. Problem waste stations are operating at Library and Customer Service Centre, and two public schools
		Deliver Compost Revolution Program to increase uptake of organics recycling by residents		76 compost bins and wormfarms were distributed to Waverley residents in the third quarter and 48 were distributed in the fourth quarter
	Provide waste collection points and recovery programs for problem waste items	Provide additional recycling drop off locations or events for problem waste items		Problem waste events were organised and 11.6 tonnes of waste was diverted from landfill

 Completed 
  In Progress 
  In Progress - Impacted by COVID-19 
  Delayed 
  Delayed - Impacted by COVID-19

## Goal 9.2. Facilitate best practise in waste management to increase recycling and recovery

88

Strategies	Deliverables	Activity	Status	Progress Comments
9.2.2 Provide efficient collection of Waverley's waste and recycling to minimise waste to landfill	Provide an optimal, efficient and reliable kerbside recycling and waste collection service	Provide Recycling Improvement Program to apartments with more than 40 units	●	To date, the program was delivered to 120 buildings / 4442 apartments. In 2020–21, the program was delivered to 44 buildings / 2111 apartments
		Implement the Waste Management System to facilitate optimal kerbside collections	●	Preparation of Waste Management System related tender to optimise kerbside collection is in development and is aligned with Council's ICT Strategy implementation
	Provide a bulky waste collection service which is processed to recover as much waste as possible	Undertake a review of the bulky waste collection service and implement the Waste Management System to facilitate optimal bulky item collections	●	Initial review of the bulky waste collection service was completed. Final review is scheduled for completion in 2021–22. Project is progressing on schedule
9.2.3 Incorporate the most advanced waste management and treatment technologies to maximise diversion from landfill	Partner with regional stakeholders and State government to investigate and implement new waste technologies to maximise resource recovery	Assist in the development of alternative collection options for other problem waste streams, such as e-waste	●	Expression of Interest for waste management system was drafted
	Kerbside and public bin waste processed through advanced waste treatment or other technology to maximise diversion from landfill	Continue to work with waste processing contractors and the NSW Environment Protection Authority to improve landfill diversion rates and to apply principles of responsible, best practice waste management	●	<ul style="list-style-type: none"> <li>Council is continuing to work with its waste processing contractors and the NSW EPA to ensure optimal landfill diversion can be achieved under the current NSW regulations</li> <li>Waste diversion from landfill rates for general waste collected in Waverley are expected to improve significantly</li> <li>Council's contractor, Veolia Environmental Services (Australia) Pty Ltd is proceeding with a five-year pilot to use processed material recovered from Council's general waste for the rehabilitation of a tailings dam at a mine site</li> </ul>
		Process kerbside and public place waste in a waste treatment system that reduces landfill, in accordance with the established NSW Environment Protection Authority regulations for waste and recycling	●	Residential and public bin waste, collected by Council continues to be processed through a waste treatment system. Council is continuing to work with waste processing contractors and the NSW EPA to ensure landfill diversion is maximised under the current NSW regulations

● Completed ● In Progress ● In Progress - Impacted by COVID-19 ● Delayed ● Delayed - Impacted by COVID-19



**Goal 9.3. Keep our streets, beaches and parks clean and free of litter, rubbish and pollution**

89

Strategies	Deliverables	Activity	Status	Progress Comments
9.3.1 Undertake programs and services to reduce litter and create clean and attractive public spaces	Deliver education, engagement, and enforcement to reduce litter and dumping in Waverley	Actively patrol and undertake education and enforcement to reduce illegal dumping and litter	●	RID Squad and Waste Enforcement and Education Officers are continuously patrolling and responding to illegal dumping. Education programs were provided on litter prevention through business engagement
	Develop and support partnerships to reduce litter and dumping on streets, parks and beaches	Build strategic partnerships with strata managers, building managers, real estate agents, cleaners and community groups to improve management of unwanted bulky items and reduce illegal dumping and litter	●	Quarterly communication newsletters were prepared and emailed to building stakeholders. A Facebook page was developed for sustainable apartments. A targeted webpage was created and one event was hosted for building stakeholders on waste management
	Provide public place waste and recycling infrastructure and improve the cleanliness of streets, litter hotspots and beaches	Implement Waste Management Plan for Bronte and target litter hotspots through Litter Prevention Plan	●	Broad Litter Prevention Program was delivered. Undertook beach litter audits at Bondi, Bronte and Tamarama Beaches. Conducted two AUSMAP litter audits for microplastics at Bondi Beach
		Undertake beach, park and public place cleaning program according to schedule	●	Public place cleaning programs were completed as per schedule in the third and fourth quarters
		Manage waste and recycling infrastructure to improve operational effectiveness	●	This project is deferred. Cost benefit analysis to be carried out as part of a comprehensive review and strategy development for litter management infrastructure and assets. Project will commence in 2021–22

● Completed 
 ● In Progress 
 ● In Progress - Impacted by COVID-19 
 ● Delayed 
 ● Delayed - Impacted by COVID-19



# CORPORATE LEADERSHIP AND ENGAGEMENT

The Corporate Leadership and Engagement theme in the Waverley Community Strategic Plan 2018–2029 aspires to be an ethical Council that delivers efficient service to our community, from a basis of strong financial sustainability and accountability. Councillors represent and make decisions on behalf of all residents and ratepayers of Waverley, informed by thorough community engagement, strategic focus, and based on data and analysis








Six Monthly Progress Report 1 January 2021 – 30 June 2021



## Goal 10.1 - Engage the local community in shaping the future of Waverley







91

Strategies	Deliverables	Activity	Status	Progress Comments
10.1.1 Provide opportunities for the community to contribute to decision making	Develop and maintain a suite of integrated corporate plans that meet legislative requirements	Undertake Council's Integrated Planning and Reporting (IPR) activities in alignment with legislative requirements and provide community engagement opportunities for input		The Six Monthly Progress Report for the reporting period 1 July 2020- 31 December 2020 was presented to Council in February 2021. The draft Operational Plan was placed on public exhibition for a period of 28 days in April 2021 and adopted by Council in June 2021
	Implement Waverley Community Engagement Strategy	Implement Community Engagement Policy, Strategy and Guidelines across Council and ensure engagement meets the standards set by the strategy		Community Engagement Policy and Strategy, and Community Participation Plan was adopted by Council at its meeting on 25 May 2021, including a staff training process to ensure that all officers are fully briefed and understand the strategy. Training will be rolled out in the second quarter of 2021
		Provide training for relevant internal stakeholders on community engagement procedures		International Association of Public Participation (IAP2) training for 20 internal stakeholders was organised on 2 June 2021
		Engage Precinct committees on strategic issues		With the impact of COVID-19, individual Precinct meetings and the Combined Precincts' meetings transitioned to an online platform. Precincts continued to be engaged on strategic issues, major projects and strategy development via Zoom. Some projects that Precincts were engaged on include the draft Development Control Plan/Local Environmental Plan, Waverley's Heritage Assessment Study and Waverley's draft Engagement Policy and Strategy. Feedback received during this period on the effectiveness of engagement through Zoom meetings including the flexibility it provides to allow wider participation, was very positive
		Investigate opportunities for the Combined Precincts to identify platforms to discuss strategic issues affecting the LGA		COVID-19 has impacted the development of this initiative. This activity will be progressed in 2021-22

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19

**Goal 10.2. Build the community's confidence in the integrity and capability of Waverley Council**


92





Strategies	Deliverables	Activity	Status	Progress Comments
10.2.1 Establish a strong governance framework that is transparent, accountable and employs evidence-based decision making	Develop and implement an Enterprise Risk Management framework	Prepare and implement a Business Continuity Plan(BCP) and Individual Business Continuity Plan(BCP) sub plans		The Draft Business Continuity Plan (BCP) including sub plans for Council Chamber based activities was completed. Draft BCP's for the remainder of Council sites is planned for completion by December 2021
	Review and implement a governance framework	Review and update relevant governance policies, including Councillor Expenses and Facilities Policy, Precinct Policy and Handbook, Code of Meeting Practice, Code of Conduct, Statement of Business Ethics, Petitions and Delegations Policy		COVID-19 has impacted resourcing to progress policy development. The Code of Meeting Practice, Councillors Expenses and Facilities Policy and Code of Conduct will be reviewed within 12 months of the forthcoming NSW Local Government election, in accordance with the Local Government Act 1993. The Statement of Business Ethics, the Petitions Policy and Precinct Policy and Handbook are to be reviewed in 2021–22.
		Review all Council Committee Charters, delegations and establish and/or update online presence for committees		COVID-19 has impacted resourcing to progress the review of Council Committee Charters, delegations and establishment and/or updating of online presence for committees. This work will continue in 2021–22.
		Develop proactive information release program, roll out an organisation wide GIPA training program and update the agency information guide		An organisation wide GIPA training program was delivered. Preliminary work was undertaken on the development of the proactive information release program, and the updating of the agency information guide. This work will continue in 2021–22.
		Develop an integrated Complaints Management System		Complaints Handling Policy, Procedure and Guidelines have been finalised for approval and implementation
		Develop and implement a Corruption Resistance Plan and increase accountability		A draft Corruption Control Framework, including Policy, Strategy and Plan was reviewed by Council's Internal Auditors and is awaiting adoption by the Executive Leadership Team (ELT). In response to the internal audit on the status of Council's Fraud and Corruption control, a program was developed and incorporated into the draft plan.

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19



93

Strategies	Deliverables	Activity	Status	Progress Comments
10.2.1 Establish a strong governance framework that is transparent, accountable and employs evidence-based decision making		Implement Information and Records Management review recommendations		Review of ICT Operating model is in progress with Phase 1 (Information Management) complete. Information Management programme of work to be scoped and developed with a view to commence delivery in 2021-22

Strategies	Deliverables	Activity	Status	Progress Comments
10.2.1 Establish a strong governance framework that is transparent, accountable and employs evidence-based decision making	Review and implement a governance framework	Review and update financial policies, systems procedures and business processes to improve financial compliance and risk mitigation		All financial policies were up to date in the third and fourth quarters. All the financial reports including Local Government Financial Statistics Quarterly Return, Quarterly Budget Reviews and Investment Report were completed in alignment with legislative requirements
		Prepare and Implement a Procurement Framework including Procurement Policy, processes and procedures		The revised and updated Procurement Policy was completed and approved by the Executive Leadership Team. Communications plan is being prepared to facilitate the roll-out of the Policy. Amendment of draft Procurement Procedure is in progress to ensure consistency with the Policy
10.2.2 Deliver long-term financial and economic programs that improve financial sustainability	Meet legislative requirements for financial reporting	Prepare all financial reports required by legislation or requested by government departments and agencies		All the financial reports including Local Government Financial Statistics Quarterly Return, Quarterly Budget Reviews and Investment Report were completed in alignment with legislative requirements
	Prepare and implement strategies to improve financial performance	Investigate and implement cost efficiency options and income generation opportunities to improve financial performance		Service Review Framework is prepared. Leadership engagement on the framework is underway. Work commenced on revenue maximisation and cost reduction in key areas

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19

## Continued – Goal 10.2. Build the community's confidence in the integrity and capability of Waverley Council

94

Strategies	Deliverables	Activity	Status	Progress Comments
10.2.3 Strengthen capabilities and resources to deliver Waverley Community Strategic Plan 2018-2029 outcomes	Implement the Workforce Management plan	Implement the current Workforce Plan through prioritised actions in the People Plan in 2020-21	●	People Plan was developed and launched in August 2020. The Employee Experience Team was recruited as part of HR Transformation Project 2020–2024 to support the implementation of the People Plan. Inhouse capacity and capability to drive the development of the next iteration of the Workforce Management Plan was established. The document will be prepared in line with the next iteration of the Waverley Community Strategic Plan
	Implement a Leadership and Employee Development program	Design and develop the Leadership Development Program and identify cost efficient delivery options	●	In the last six months, 60 employees across the organisation commenced performance conversations for People Leaders Program as part of the Leadership Development Program. This Program is in response to our 2019 Employee Engagement Survey which stated employees want to have more meaningful conversations in relation to their performance, and opportunities to learn and grow. The Program focuses on encouraging quality performance conversations between leaders and their staff. With increased self-awareness leaders will strengthen their confidence and capability to have performance conversations more regularly. The program consists of the following key elements spaced over a three to four-month period. <ul style="list-style-type: none"> <li>• Face-to-face training modules</li> <li>• Intersession activities</li> <li>• Individual phone coaching</li> <li>• Face-to-face training modules</li> </ul>

## Goal 10.3. Build an organisation that places customers and the community at the heart of service delivery










Strategies	Deliverables	Activity	Status	Progress Comments
10.3.1 Engage and partner with the community to provide services that meet its needs and expectations	Pilot and deliver new customer service ideas focussing on community needs	Investigate and identify changing customer needs and implement viable options to meet customer needs	●	Brief prepared for consultants to be engaged to develop Customer Experience Strategy and Customer Channel Strategy
	Review and implement a Customer Experience Strategy			

● Completed  
 ● In Progress  
 ● In Progress - Impacted by COVID-19  
 ● Delayed  
 ● Delayed - Impacted by COVID-19



**Goal 10.3. Build an organisation that places customers and the community at the heart of service delivery**

95

10.3.2 Use technology to streamline and enhance customer interactions with Council	Increase in end-to-end service delivery offerings	Support the delivery of online customer-centric solutions such as online parking permits to the community		On hold pending implementation of the ICT Strategy and new core system.
10.3.3 Deliver efficient and effective services to increase value for money	Develop and undertake a Business Improvement and Service Review program	Deliver service improvements according to project plans for Information Technology strategies and other organisation improvement programs		Business and service improvement program under development in alignment with the Australian Business Excellence Framework
		Review results and recommendations of Local Government Customer Service Network Benchmarking Program		Review of service levels and comparison against Local Government Customer Service Network Benchmarking Program completed for inclusion in the development of the Customer Experience Strategy
		Prepare and implement Beach Management Plan		Service Review is ongoing with Lifeguard Services Operational Plan (Service Statement) to be finalised in 2021–22.
		Prepare and implement a Cemetery Business Plan		Cemetery Services Strategic Business Plan and Financial Model was approved by Council at its meeting in April 2021.Implementation of key activities will continue over multiple years
		Prepare and Implement an ICT Strategy		ICT Strategy has been developed. Business cases to identify and map system requirements are in progress as part of the strategy implementation process
		Enhance digital capability through automation and integration of systems		Scheduled to align with the ICT Strategy
		Implement cyber security mitigation strategies		Cyber Security Awareness and Training programme work has commenced. This consists of a review of Councils' Cyber Security Framework, development, and delivery of Cyber security awareness training and conducting targeted phishing exercises to measure effectiveness of the training.
	Undertake resource sharing and/or service delivery partnerships with other councils and community organisations	Partner with other Councils, industry experts and/or community organisations to facilitate best practice outcomes		Collaborative information sharing sessions held with a number of Councils as part of the network of Australian Business Excellence councils.

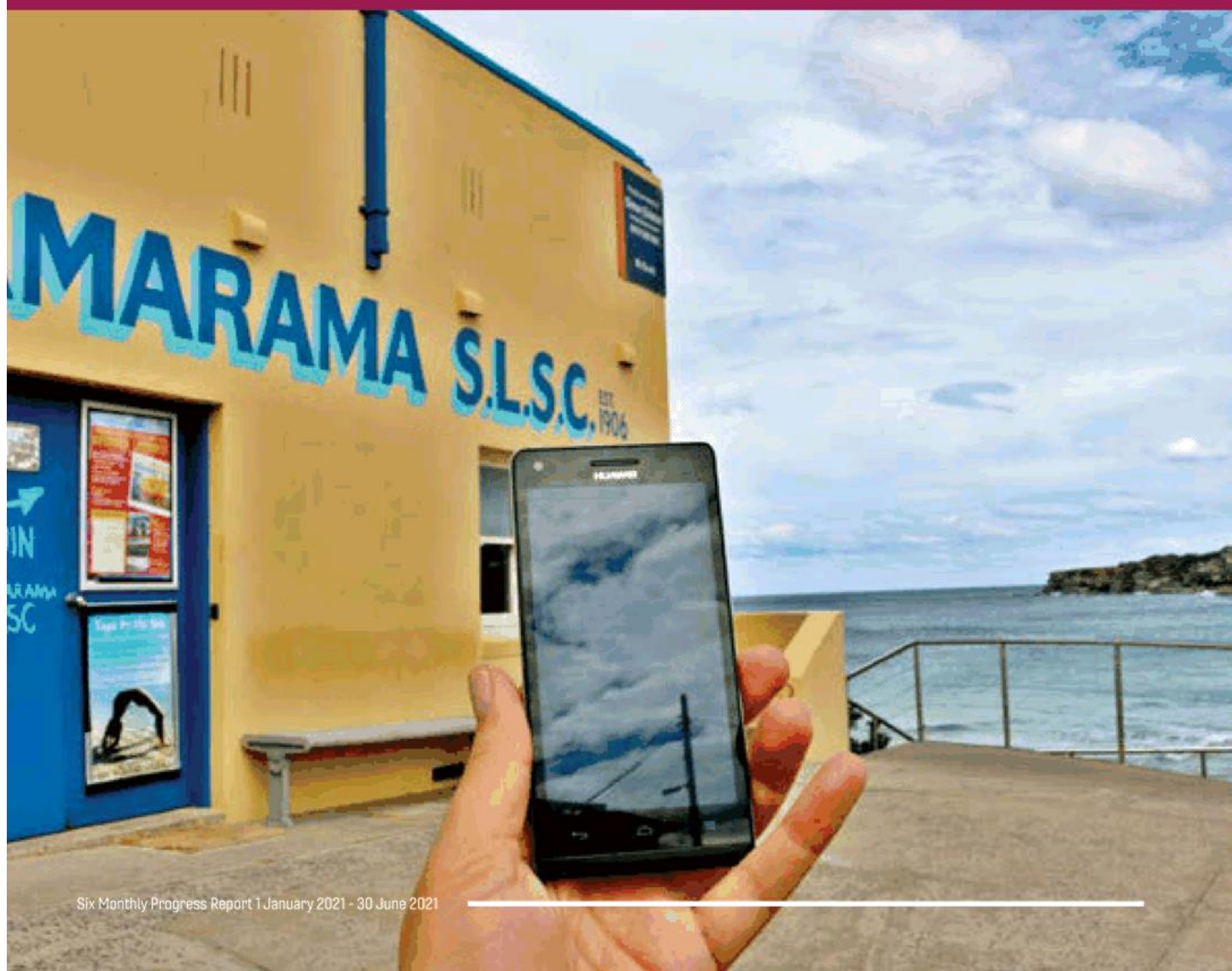
Completed
 In Progress
 In Progress - Impacted by COVID-19
 Delayed
 Delayed - Impacted by COVID-19

Six Monthly Progress Report 1 January 2021 - 30 June 2021



## KNOWLEDGE AND INNOVATION







We want to be a Council that enables knowledge sharing and innovation to create a digitally connected community while ensuring accessibility for all. Our community embraces new ideas and we want this reflected in Council services. Importantly, we acknowledge place-making principles that guide the evolution of digital modernisation and knowledge in our local area. This also extends to re purposing of heritage buildings as locations for 21st century innovation and practice. The Knowledge and Innovation theme in the Waverley Community Strategic Plan 2018–2029, strives to position Waverley as a knowledge-driven, innovative and digitally connected community





**Goal 11.1. Enable our community to embrace economic opportunities using knowledge-based and other emerging technologies**





97

Strategies	Deliverables	Activity	Status	Progress Comments
11.1.1 Use smart city technology to improve the quality of life, optimise resources and economic sustainability	Prepare and Implement the Smart City Strategy	Facilitate the delivery of Smart Waverley 2023 priority projects such as formation of Smart Cities Advisory Group and Governance Framework		Our Smart Cities Advisory Group continues to support the delivery of the Smart Waverley Strategy 2023. One notable project is the interactive Business Intelligence dashboard, which provides insights into on-street parking, car park occupancy, people movement, waste generation and spending patterns. Launch of the dashboard is scheduled for first quarter of 2021–22 and will be available to the public via Council website
11.1.2 Expand opportunities for the community to access and utilise digital technology	Expand free Wi-Fi network to neighbourhood centres	Prepare a Data Governance/ Management Policy		Scheduled to align with the ICT Strategy with a dedicated stream for data management
		Implement public Wi-Fi expansion feasibility study recommendations		Mill Hill Community Centre was identified as an expansion site in Wi-Fi expansion feasibility study. This will be included as a technical requirement for the Mill Hill/Boot Factory renovation project
	Initiate a small grant technology start-up scheme	Organise workshops, seminars and other events to facilitate technology grant opportunities for small businesses		Get that Grant! Preparing, Finishing and Winning your next Grant workshop was organised on 30 June 2021
	Explore feasibility of developing data-sharing partnerships	Undertake a feasibility study to identify options and benefits for sharing data and entering into partnerships		This activity is ongoing
11.1.3 Encourage knowledge intensive and innovative industries	Develop and implement a strategy to attract knowledge-intensive public sector and private sector employers	Undertake research on knowledge intensive industries and launch branding and promotional initiatives to promote Waverley's strengths and opportunities to attract knowledge intensive industries		Incorporated into Job Creation and Innovation Strategy

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19

**Goal 11.2. Provide multi-purpose community spaces where innovation and collaboration can occur**

98

Strategies	Deliverables	Activity	Status	Progress Comments
11.2.1 Create innovative spaces for business incubation and knowledge transfer	Plan and finalise the concept of the knowledge and innovation hub based around the Boot Factory	Investigate and identify options for the establishment of a makerspace/creative studio in the Library		Project scoping is underway
		Implement the restoration of the Boot Factory		Construction has commenced on site. Expecting construction completion by end of calendar year
	11.2.2 Deliver and facilitate access to emerging technologies and library collections	Develop and implement a new Library Strategic Plan to guide the provision of technology and learning opportunities to support community engagement		The impact of COVID-19 on staffing delayed the development of the new strategic plan. Community consultation is currently underway
	Deliver and facilitate access to emerging technologies and library collections	Continue to implement Library Collection Guidelines and facilitate online access to Local Studies material		Actions in Collection Development Guidelines are being implemented. Local History Digitisation Strategy was developed

 Completed
  In Progress
  In Progress - Impacted by COVID-19
  Delayed
  Delayed - Impacted by COVID-19





WAVERLEY  
COUNCIL

55 Spring St, Bondi Junction, NSW 2022  
PO Box 9 Bondi Junction NSW 1355

[info@waverley.nsw.gov.au](mailto:info@waverley.nsw.gov.au)  
[www.waverley.nsw.gov.au](http://www.waverley.nsw.gov.au)

Telephone enquiries  
General business **9083 8000**  
General fax **9387 1820**

TTY/voice calls for hearing/speech impaired **133 677**  
After hours emergencies **9083 8000**

*Cover photo by Deb Field*



# ANNUAL FINANCIAL STATEMENTS

For the financial year ending 30 June 2021

**Incorporating:** General Purpose Financial Statements,  
Special Purpose Financial Statements, Special Schedules



DRAFT

# Waverley Council

## GENERAL PURPOSE FINANCIAL STATEMENTS for the year ended 30 June 2021

*Connecting the city and the sea.*

*A welcoming and cohesive community that celebrates and enhances our spectacular coastline, vibrant places, and rich cultural heritage.*



## Waverley Council

### General Purpose Financial Statements

for the year ended 30 June 2021

Contents	Page
<b>Understanding Council's Financial Statements</b>	<b>5</b>
<b>Statement by Councillors and Management</b>	<b>6</b>
<b>Primary Financial Statements:</b>	
Income Statement	7
Statement of Comprehensive Income	8
Statement of Financial Position	9
Statement of Changes in Equity	10
Statement of Cash Flows	11
<b>Notes to the Financial Statements</b>	<b>12</b>
<b>Independent Auditor's Reports:</b>	
On the Financial Statements (Sect 417 [2])	82
On the Financial Statements (Sect 417 [3])	83

#### Overview

Waverley Council is constituted under the Local Government Act 1993 (NSW) and has its principal place of business at:

55 Spring Street  
Bondi Junction NSW 2022

Council's guiding principles are detailed in Chapter 3 of the LGA and includes:

- principles applying to the exercise of functions generally by council,
- principles to be applied when making decisions,
- principles of community participation,
- principles of sound financial management, and
- principles for strategic planning relating to the development of an integrated planning and reporting framework.

A description of the nature of Council's operations and its principal activities are provided in Note B1-2.

Through the use of the internet, we have ensured that our reporting is timely, complete and available at minimum cost. All press releases, financial statements and other information are publicly available on our website: [www.waverley.nsw.gov.au](http://www.waverley.nsw.gov.au).



## Waverley Council

### General Purpose Financial Statements

for the year ended 30 June 2021

#### Executive Summary

The 2020/21 financial year continued to be impacted by the COVID-19 virus, Waverley Council continued its capital works program with the investment of \$56.8M (prior year \$42.4M). The Council has continued to successfully operate during the year despite difficult circumstances.

Council has achieved a net operating result for the 2020/21 financial year of \$7.1M surplus (2019/20: \$43.4M deficit) and a net operating result before Capital Grants and Contributions of \$11.8m deficit (2019/20: \$64.5M deficit).

#### Sustainability

In 2020 Waverley Council achieved their longstanding target to reduce their greenhouse gas emissions by 30% based on 2003/04 levels. This has been achieved through increasing the use of renewable energy and energy efficiency. In FY2020/21 over 30% of Council's electricity was purchased from a Moree Solar Farm through a Power Purchase Agreement (PPA). In addition to this, an upgrade to the HVAC system at the Library, Council's largest electricity using site resulted in an overall energy reduction of around 40%. Council works closely with the community to make sustainability second nature. Large photovoltaic systems were installed at Bondi Beach Public School and North Bondi SLSC to assist in reducing community greenhouse gas emissions.

Council actively reduces our potable water use through the operation of 4 major recycled water systems and in 2020 upgraded to smart irrigation systems, achieving Council's target in 2020. Council also improves the biodiversity and habitat through ecological restoration programs at Tamarama and Bronte Gully as well as the long term management of our bushland remnants.

#### Financial Results

Net operating result for the year was a \$7.4M surplus versus prior year of (\$43.4M) deficit. The prior year was more dramatically affected by the fair value adjustment. Normalised operating result, adding back the fair valuation adjustment, gain or loss on disposal of assets and capital grants & contributions, showed a deficit in FY2020/21 of (\$4.2M) versus (\$10.6M) for the year prior, a \$6.4M improvement.

The COVID-19 pandemic cost the council \$4.5M in 20/21 in lost revenue, predominately through the reduction in parking fees/fines (\$3.5M), outdoor seating (\$0.5M) and increases in rent relief (\$0.1M), licence fee and trading right (\$0.2M) and commercial waste (\$0.2M).

The underlying result before Covid impact was a surplus of \$2.1M, a \$3.5M improvement on 2019/20. This resulted from a combination of cost reduction and revenue improvement.

	20/21	19/20
<b>Surplus/(Deficit)</b>	<b>7.4</b>	<b>(43.4)</b>
<b>Add Back</b>		
Capital Grants	(19.0)	(21.1)
Fair Value adjustment of properties	3.7	45.7
Fair Value of investments	(1.9)	0.4
Asset Disposal	5.6	7.8
<b>Underlying Operating Surplus/(Deficit)</b>	<b>(4.2)</b>	<b>(10.6)</b>
<b>Covid Impact</b>	<b>6.3</b>	<b>9.2</b>
<b>Operating Surplus/(Deficit) Pre Covid</b>	<b>2.1</b>	<b>(1.4)</b>

#### Income

Overall income has increased by \$3.5M, the following are the main components :

- rates and annual charges risen by \$1.7M (2.6%) the majority of which is reflective of the annual increase in rates.
- User charges increased by \$1.5M, this increase resulting from the increase in cemetery income of \$0.5M from the Exec. Road/truck zone permit income increased by \$0.5M, road restoration income \$0.5M.
- Other revenue \$2.8M increase, \$2.3M parking fines through rate increases, better enforcement/new metres and less covid relief in 20/21, \$0.8M income covering costs of Covid testing centres from St Vincent's Hospital.
- Other income down by (\$0.6M) resulting from the closure of Bondi Pavilion.

## Waverley Council

### General Purpose Financial Statements for the year ended 30 June 2021

---

- Interest income down by (\$2.0M) as the rate of return has drastically reduced.

#### Costs

Overall costs have reduced by \$2.8M, the majority of which is due to lower employment costs of \$2.0M and materials \$1.5M, offset by increased depreciation charge of (\$0.7M) as a result of large road work capital programme.

#### Employment Costs

As a result of the COVID-19 pandemic Council left a number of staff vacancies open, a strategy devised to mitigate revenue losses. The majority of cultural events were cancelled in 2020/21 and Bondi Pavilion was closed for renovation. Total savings resulting from these actions were \$1.4M.

Cost of leave were \$1.2M lower in 20/21 compared to 19/20 as a direct result on strategies targeted at reducing leave balances.

#### Materials

Materials decreased by \$1.5M as a result of cost savings \$0.4M, a strategy to remove temporary staff \$0.9M, event cancellation as a result of COVID-19 \$0.2M.

#### Cash, Cash Equivalents and Investments

Cash, Cash Equivalents and Investments totalled \$152.6M as at 30 June 2021, a decrease of \$20.0M from the 2019/20 balance. This is principally attributed to the capital investment to infrastructure assets and the impact of the COVID-19 pandemic.

DRAFT



## Waverley Council

### General Purpose Financial Statements

for the year ended 30 June 2021

### Understanding Council's Financial Statements

---

#### Introduction

Each year NSW local governments are required to present audited financial statements to their council and community.

#### What you will find in the Statements

The financial statements set out the financial performance, financial position and cash flows of Council for the financial year ended 30 June 2021.

The format of the financial statements is standard across all NSW Councils and complies with both the accounting and reporting requirements of Australian Accounting Standards and requirements as set down by the Office of Local Government.

#### About the Councillor/Management Statement

The financial statements must be certified by senior staff as 'presenting fairly' the Council's financial results for the year and are required to be adopted by Council – ensuring both responsibility for and ownership of the financial statements.

#### About the Primary Financial Statements

The financial statements incorporate five "primary" financial statements:

##### 1. The Income Statement

Summarises Council's financial performance for the year, listing all income and expenses. This statement also displays Council's original adopted budget to provide a comparison between what was projected and what actually occurred.

##### 2. The Statement of Comprehensive Income

Primarily records changes in the fair value of Council's Infrastructure, property, plant and equipment.

##### 3. The Statement of Financial Position

A 30 June snapshot of Council's financial position indicating its assets, liabilities and "net wealth".

##### 4. The Statement of Changes in Equity

The overall change for the year (in dollars) of Council's "net wealth".

##### 5. The Statement of Cash Flows

Indicates where Council's cash came from and where it was spent. This statement also displays Council's original adopted budget to provide a comparison between what was projected and what actually occurred.

#### About the Notes to the Financial Statements

The Notes to the Financial Statements provide greater detail and additional information on the five primary financial statements.

#### About the Auditor's Reports

Council's financial statements are required to be audited by the NSW Audit Office.

In NSW the auditor provides 2 audit reports:

1. an opinion on whether the financial statements present fairly the Council's financial performance and position, and
2. their observations on the conduct of the audit, including commentary on the Council's financial performance and financial position.

#### Who uses the Financial Statements?

The financial statements are publicly available documents and must be presented at a Council meeting between seven days and five weeks after the date of the audit report.

The public can make submissions to Council up to seven days subsequent to the public presentation of the financial statements.

Council is required to forward an audited set of financial statements to the Office of Local Government.

## Waverley Council

### General Purpose Financial Statements

for the year ended 30 June 2021

---

Statement by Councillors and Management made pursuant to Section 413(2)(c) of the *Local Government Act 1993* (NSW)

The attached general purpose financial statements have been prepared in accordance with:

- the *Local Government Act 1993* and the regulations made thereunder,
- the Australian Accounting Standards and other pronouncements of the Australian Accounting Standards Board
- the Local Government Code of Accounting Practice and Financial Reporting.

To the best of our knowledge and belief, these statements:

- present fairly the Council's operating result and financial position for the year
- accord with Council's accounting and other records.

We are not aware of any matter that would render these statements false or misleading in any way.

Signed in accordance with a resolution of Council made on 17 August 2021.

---

Paula Masselos  
Mayor  
17 August 2021

---

Elaine Keenan  
Deputy Mayor  
17 August 2021

---

Emily Scott  
General Manager  
17 August 2021

---

Darren Smith  
Responsible Accounting Officer  
17 August 2021



## Waverley Council

## Income Statement

for the year ended 30 June 2021

Original unaudited budget 2021	\$ '000	Notes	Actual 2021	Actual 2020
<b>Income from continuing operations</b>				
64,943	Rates and annual charges	B2-1	<b>65,151</b>	63,403
39,511	User charges and fees	B2-2	<b>33,786</b>	32,450
11,307	Other revenue	B2-3	<b>13,745</b>	10,952
5,215	Grants and contributions provided for operating purposes	B2-4,B2-4b	<b>9,664</b>	9,750
16,673	Grants and contributions provided for capital purposes	B2-4,B2-4b	<b>19,185</b>	21,084
2,348	Interest and investment income	B2-5	<b>3,714</b>	3,383
5,999	Other income	B2-6	<b>5,366</b>	6,616
145,996	<b>Total income from continuing operations</b>		<b>150,611</b>	147,638
<b>Expenses from continuing operations</b>				
68,297	Employee benefits and on-costs	B3-1	<b>68,129</b>	70,122
22,855	Materials and services	B3-2	<b>41,322</b>	43,639
78	Borrowing costs	B3-3	<b>82</b>	128
22,010	Depreciation, amortisation and impairment for non-financial assets	B3-4	<b>21,412</b>	20,678
21,402	Other expenses	B3-5	<b>6,705</b>	48,683
(977)	Net losses from the disposal of assets	B4-1	<b>5,552</b>	7,806
133,665	<b>Total expenses from continuing operations</b>		<b>143,202</b>	191,056
12,331	<b>Operating result from continuing operations</b>		<b>7,409</b>	(43,418)
12,331	<b>Net operating result for the year attributable to Council</b>		<b>7,409</b>	(43,418)
(4,342)	<b>Net operating result for the year before grants and contributions provided for capital purposes</b>		<b>(11,776)</b>	(64,502)

The above Income Statement should be read in conjunction with the accompanying notes.

## Waverley Council

## Statement of Comprehensive Income

for the year ended 30 June 2021

\$ '000	Notes	2021	2020
<b>Net operating result for the year – from Income Statement</b>		<b>7,409</b>	<b>(43,418)</b>
<b>Other comprehensive income:</b>			
Amounts which will not be reclassified subsequently to the operating result			
Gain (loss) on revaluation of infrastructure, property, plant and equipment	C1-5	14,033	(21,908)
<b>Total items which will not be reclassified subsequently to the operating result</b>		<b>14,033</b>	<b>(21,908)</b>
<b>Total other comprehensive income for the year</b>		<b>14,033</b>	<b>(21,908)</b>
<b>Total comprehensive income for the year attributable to Council</b>		<b>21,442</b>	<b>(65,326)</b>

The above Statement of Comprehensive Income should be read in conjunction with the accompanying notes.

DRAFT



## Waverley Council

## Statement of Financial Position

as at 30 June 2021

\$ '000	Notes	2021	2020
<b>ASSETS</b>			
<b>Current assets</b>			
Cash and cash equivalents	C1-1a	28,330	36,225
Investments	C1-2a	122,277	123,921
Receivables	C1-4	15,939	10,126
Other		170	60
<b>Total current assets</b>		<b>166,716</b>	<b>170,332</b>
<b>Non-current assets</b>			
Investments	C1-2a	2,000	12,500
Receivables	C1-4	2,308	1,210
Infrastructure, property, plant and equipment	C1-5	970,788	925,932
Investment property	C1-6	110,785	113,910
Right of use assets	C2-1a	777	1,206
<b>Total non-current assets</b>		<b>1,086,658</b>	<b>1,054,758</b>
<b>Total assets</b>		<b>1,253,374</b>	<b>1,225,090</b>
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Payables	C3-1	33,413	26,669
Income received in advance	C3-1	1,259	618
Contract liabilities	C3-2	970	997
Lease liabilities	C2-1b	429	405
Borrowings	C3-3	447	435
Employee benefit provisions	C3-4	16,541	16,417
<b>Total current liabilities</b>		<b>53,059</b>	<b>45,541</b>
<b>Non-current liabilities</b>			
Lease liabilities	C2-1b	407	852
Borrowings	C3-3	2,040	2,488
Employee benefit provisions	C3-4	1,342	1,125
<b>Total non-current liabilities</b>		<b>3,789</b>	<b>4,465</b>
<b>Total liabilities</b>		<b>56,848</b>	<b>50,006</b>
<b>Net assets</b>		<b>1,196,526</b>	<b>1,175,084</b>
<b>EQUITY</b>			
Accumulated surplus	C4-1	673,009	665,600
IPPE revaluation reserve	C4-1	523,517	509,484
<b>Council equity interest</b>		<b>1,196,526</b>	<b>1,175,084</b>
<b>Total equity</b>		<b>1,196,526</b>	<b>1,175,084</b>

The above Statement of Financial Position should be read in conjunction with the accompanying notes.

## Waverley Council

## Statement of Changes in Equity

for the year ended 30 June 2021

\$ '000	Notes	as at 30/06/21			as at 30/06/20		
		Accumulated surplus	IPPE revaluation reserve	Total equity	Accumulated surplus	IPPE revaluation reserve	Total equity
Opening balance at 1 July		665,600	509,484	1,175,084	711,018	531,392	1,242,410
Changes due to AASB 1058 and AASB 15 adoption		–	–	–	(2,000)	–	(2,000)
Net operating result for the year		7,409	–	7,409	(43,418)	–	(43,418)
<b>Restated net operating result for the period</b>		<b>7,409</b>	<b>–</b>	<b>7,409</b>	<b>(43,418)</b>	<b>–</b>	<b>(43,418)</b>
<b>Other comprehensive income</b>							
Gain (loss) on revaluation of infrastructure, property, plant and equipment	C1-5	–	14,033	14,033	–	(21,908)	(21,908)
<b>Other comprehensive income</b>		<b>–</b>	<b>14,033</b>	<b>14,033</b>	<b>–</b>	<b>(21,908)</b>	<b>(21,908)</b>
<b>Total comprehensive income</b>		<b>7,409</b>	<b>14,033</b>	<b>21,442</b>	<b>(43,418)</b>	<b>(21,908)</b>	<b>(65,326)</b>
<b>Closing balance at 30 June</b>		<b>673,009</b>	<b>523,517</b>	<b>1,196,526</b>	<b>665,600</b>	<b>509,484</b>	<b>1,175,084</b>

The above Statement of Changes in Equity should be read in conjunction with the accompanying notes.



## Waverley Council

## Statement of Cash Flows

for the year ended 30 June 2021

Original unaudited budget 2021	\$ '000	Notes	Actual 2021	Actual 2020
<b>Cash flows from operating activities</b>				
<i>Receipts:</i>				
46,722	Rates and annual charges		65,601	62,403
57,609	User charges and fees		32,512	32,428
2,449	Investment and interest revenue received		2,249	4,886
21,894	Grants and contributions		24,134	27,297
–	Bonds, deposits and retention amounts received		546	3,818
17,104	Other		27,377	26,062
<i>Payments:</i>				
(65,263)	Employee benefits and on-costs		(68,916)	(68,129)
(26,361)	Materials and services		(36,997)	(21,817)
(90)	Borrowing costs		(85)	(123)
–	Bonds, deposits and retention amounts refunded		(274)	(3,815)
(21,349)	Other		(10,749)	(30,231)
32,715	<b>Net cash flows from operating activities</b>	G1-1	<b>35,398</b>	<b>32,779</b>
<b>Cash flows from investing activities</b>				
<i>Receipts:</i>				
27,655	Sale of investment securities		126,250	141,200
977	Sale of infrastructure, property, plant and equipment		359	469
<i>Payments:</i>				
(698)	Purchase of investment securities		(112,252)	(112,705)
–	Purchase of investment property		(532)	(1,170)
(60,479)	Purchase of infrastructure, property, plant and equipment		(56,261)	(37,703)
(32,545)	<b>Net cash flows from investing activities</b>		<b>(42,436)</b>	<b>(9,909)</b>
<b>Cash flows from financing activities</b>				
<i>Payments:</i>				
(435)	Repayment of borrowings		(436)	(423)
–	Principal component of lease payments		(421)	(363)
(435)	<b>Net cash flows from financing activities</b>		<b>(857)</b>	<b>(786)</b>
(265)	<b>Net change in cash and cash equivalents</b>		<b>(7,895)</b>	<b>22,084</b>
15,545	Cash and cash equivalents at beginning of year		36,225	14,141
15,280	<b>Cash and cash equivalents at end of year</b>	C1-1	<b>28,330</b>	<b>36,225</b>
134,491	plus: Investments on hand at end of year	C1-2	124,277	136,421
149,771	<b>Total cash, cash equivalents and investments</b>		<b>152,607</b>	<b>172,646</b>

The above Statement of Cash Flows should be read in conjunction with the accompanying notes.

## Waverley Council

### Contents for the notes to the Financial Statements for the year ended 30 June 2021

<b>A About Council and these financial statements</b>	<b>14</b>
A1-1 Basis of preparation	14
<b>B Financial Performance</b>	<b>16</b>
<b>B1 Functions or activities</b>	<b>16</b>
B1-1 Functions or activities – income, expenses and assets	16
B1-2 Components of functions or activities	17
<b>B2 Sources of income</b>	<b>20</b>
B2-1 Rates and annual charges	20
B2-2 User charges and fees	21
B2-3 Other revenue	21
B2-4 Grants and contributions	23
B2-5 Interest and investment income	26
B2-6 Other income	27
<b>B3 Costs of providing services</b>	<b>28</b>
B3-1 Employee benefits and on-costs	28
B3-2 Materials and services	29
B3-3 Borrowing costs	29
B3-4 Depreciation, amortisation and impairment of non-financial assets	30
B3-5 Other expenses	31
<b>B4 Gains or losses</b>	<b>32</b>
B4-1 Gain or loss from the disposal, replacement and de-recognition of assets	32
<b>B5 Performance against budget</b>	<b>33</b>
B5-1 Material budget variations	33
<b>C Financial position</b>	<b>35</b>
<b>C1 Assets we manage</b>	<b>35</b>
C1-1 Cash and cash equivalents	35
C1-2 Investments	36
C1-3 Restricted cash, cash equivalents and investments	38
C1-4 Receivables	39
C1-5 Infrastructure, property, plant and equipment	41
C1-6 Investment properties	44
<b>C2 Leasing activities</b>	<b>45</b>
C2-1 Council as a lessee	45
C2-2 Council as a lessor	46
<b>C3 Liabilities of Council</b>	<b>48</b>
C3-1 Payables	48
C3-2 Contract Liabilities	49
C3-3 Borrowings	50
C3-4 Employee benefit provisions	51
C3-5 Provisions	53
<b>C4 Reserves</b>	<b>54</b>



## Waverley Council

### Contents for the notes to the Financial Statements for the year ended 30 June 2021

C4-1 Nature and purpose of reserves	54
<b>D Council structure</b>	<b>55</b>
<b>D1 Interests in other entities</b>	<b>55</b>
D1-1 Interests in joint arrangements	55
<b>E Risks and accounting uncertainties</b>	<b>56</b>
E1-1 Risks relating to financial instruments held	56
E2-1 Fair value measurement	60
E3-1 Contingencies	67
<b>F People and relationships</b>	<b>70</b>
<b>F1 Related party disclosures</b>	<b>70</b>
F1-1 Key management personnel (KMP)	70
F1-2 Councillor and Mayoral fees and associated expenses	71
<b>F2 Other relationships</b>	<b>72</b>
F2-1 Audit fees	72
<b>G Other matters</b>	<b>73</b>
G1-1 Statement of Cash Flows information	73
G2-1 Commitments	74
G3-1 Events occurring after the reporting date	75
<b>G4 Statement of developer contributions as at 30 June 2021</b>	<b>76</b>
G4 Summary of developer contributions	76
<b>G5 Statement of performance measures</b>	<b>77</b>
G5-1 Statement of performance measures – consolidated results	77
<b>H Additional Council disclosures (unaudited)</b>	<b>78</b>
H1-1 Statement of performance measures – consolidated results (graphs)	78
H1-2 Financial review	80
H1-3 Council information and contact details	81

## A About Council and these financial statements

### A1-1 Basis of preparation

These financial statements were authorised for issue by Council on dd MMMM yyyy. Council has the power to amend and reissue these financial statements in cases where critical information is received from public submissions or where the OLG directs Council to amend the financial statements.

The principal accounting policies adopted in the preparation of these consolidated financial statements are set out below.

These policies have been consistently applied to all the years presented, unless otherwise stated.

These general purpose financial statements have been prepared in accordance with Australian Accounting Standards and Australian Accounting Interpretations, the *Local Government Act 1993* (Act) and *Local Government (General) Regulation 2005* (Regulation), and the Local Government Code of Accounting Practice and Financial Reporting.

Council is a not for-profit entity.

The financial statements are presented in Australian dollars and are rounded to the nearest thousand dollars.

#### Historical cost convention

These financial statements have been prepared under the historical cost convention, as modified by the revaluation of certain infrastructure, property, plant and equipment and investment property.

#### Significant accounting estimates and judgements

The preparation of financial statements requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Council's accounting policies.

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that may have a financial impact on the Council and that are believed to be reasonable under the circumstances.

#### Critical accounting estimates and assumptions

Council makes estimates and assumptions concerning the future.

The resulting accounting estimates will, by definition, seldom equal the related actual results.

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year include:

- (i) estimated fair values of investment properties – refer Note C1-9
- (ii) estimated fair values of infrastructure, property, plant and equipment – refer Note C1-8
- (iii) employee benefit provisions – refer Note C3-4.

#### Significant judgements in applying the Council's accounting policies

- i. Impairment of receivables – refer Note C1-4.
- ii. Determination of whether performance obligations are sufficiently specific and whether the contract is within the scope of AASB 15 *Revenue from Contracts with Customers* and / or AASB 1058 *Income of Not-for-Profit Entities* – refer to Notes B2-2 – B2-4.
- iii. Determination of the lease term, discount rate (when not implicit in the lease) and whether an arrangement contains a lease – refer to Note C2-1.

### Monies and other assets received by Council

#### The Consolidated Fund

In accordance with the provisions of Section 409(1) of the Local Government Act 1993 (NSW), all money and property received by Council is held in the Council's Consolidated Fund unless it is required to be held in the Council's Trust Fund.

Cash and other assets of the following entities have been included as part of the Consolidated Fund:

- General purpose operations



## A1-1 Basis of preparation (continued)

### The Trust Fund

In accordance with the provisions of Section 411 of the *Local Government Act 1993 (NSW)* (as amended), a separate and distinct Trust Fund is maintained to account for all money and property received by the council in trust which must be applied only for the purposes of, or in accordance with, the trusts relating to those monies.

Trust monies and property subject to Council's control have been included in these reports.

The following Trust monies and properties are held by Council but not considered to be under the control of Council and therefore are excluded from these financial statements:

- Staff Charitable Funds

A separate statement of monies held in the Trust Fund is available for inspection at the council office by any person free of charge

### Goods and Services Tax (GST)

Revenues, expenses and assets are recognised net of the amount of associated GST, unless the GST incurred is not recoverable from the taxation authority. In this case it is recognised as part of the cost of acquisition of the asset or as part of the expense.

Receivables and payables are stated inclusive of the amount of GST receivable or payable. The net amount of GST recoverable from, or payable to, the taxation authority is included with other receivables or payables in the Statement of Financial Position.

Cash flows are presented on a gross basis. The GST components of cash flows arising from investing or financing activities that are recoverable from, or payable to, the taxation authority, are presented as operating cash flows.

### New accounting standards and interpretations issued not yet effective

#### New accounting standards and interpretations issued but not yet effective

Certain new accounting standards and interpretations (ie. pronouncements) have been published by the Australian Accounting Standards Board that are not mandatory for the 30 June 2021 reporting period.

Council has elected not to apply any of these pronouncements in these financial statements before their operative dates.

As at the date of authorisation of these financial statements Council does not consider that any of these new (and still to be applied) standards and interpretations are likely to have a material impact on the Council's future financial statements, financial position, financial performance or cash flows.

### New accounting standards adopted during the year

During the year Council adopted all accounting standards and interpretations (as issued by the Australian Accounting Standards Board) which were mandatorily effective from the first time at 30 June 2021.

Those newly adopted standards which had a material impact on Council's reported financial position, financial performance and/or associated financial statement disclosures are further discussed in Note G4-1.

## B Financial Performance

### B1 Functions or activities

#### B1-1 Functions or activities – income, expenses and assets

Income, expenses and assets have been directly attributed to the following functions or activities. Details of those functions or activities are provided in Note B1-2.  
Note: Asset Management Service expense in FY20/21 is significantly lower than FY19/20 was due to investment property fair valuation loss of \$45.7m.

\$ '000	Income		Expenses		Operating result		Grants and contributions		Carrying amount of assets	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
<b>Functions or activities</b>										
Asset Management Services	22,977	20,038	18,678	63,617	4,299	(43,579)	13,423	10,559	283,720	281,970
Beach Services, Maintenance & Safety	295	295	8,344	7,677	(8,049)	(7,382)	10	2	241	254
Cemetery Services	1,314	856	1,382	986	(68)	(130)	–	–	52,984	53,864
Child Care Services	8,225	8,392	10,414	10,379	(2,189)	(1,987)	4,069	4,263	6,401	6,173
Community Services	536	568	2,267	2,450	(1,731)	(1,882)	491	509	158,811	156,413
Corporate Support Services	56,163	53,761	10,325	10,370	45,838	43,391	2,217	2,324	81,584	72,645
Cultural Services	66	597	3,326	4,824	(3,260)	(4,227)	10	–	–	–
Customer Services & Communication	1,568	1,396	808	–	760	1,396	–	–	–	–
Development, Building & Health Services	11,873	15,983	19,842	23,278	(7,969)	(7,295)	6,950	10,538	24,475	21,625
Emergency Management Services	86	46	254	253	(168)	(207)	103	65	899	942
Environmental Services	803	805	2,910	3,024	(2,107)	(2,219)	802	805	272	400
Governance, Integrated Planning & Community Engagement	14	4	1,870	2,403	(1,856)	(2,399)	–	–	–	–
Library Services	299	272	5,023	5,380	(4,724)	(5,108)	245	237	37,944	38,798
Parking Services	22,606	19,965	11,621	11,916	10,985	8,049	321	320	14,630	12,197
Parks Services & Maintenance	121	97	11,906	10,216	(11,785)	(10,119)	6	11	156,229	152,939
Place Management	4	693	117	874	(113)	(181)	–	69	10	19
Recreation Services	15	1,007	365	265	(350)	742	–	1,003	278	247
Regulatory Services	318	166	2,111	2,107	(1,793)	(1,941)	8	–	54	82
Social & Affordable Housing	829	999	1,916	2,123	(1,087)	(1,124)	–	–	47,024	47,891
Traffic & Transport Services	194	145	138	65	56	80	194	129	46,288	46,072
Urban Open Space Maintenance & Accessibility	613	420	7,476	7,314	(6,863)	(6,894)	–	–	325,091	316,003
Waste Services	21,692	21,133	22,110	21,535	(418)	(402)	–	–	16,439	16,556
<b>Total functions and activities</b>	<b>150,611</b>	<b>147,638</b>	<b>143,203</b>	<b>191,056</b>	<b>7,408</b>	<b>(43,418)</b>	<b>28,849</b>	<b>30,834</b>	<b>1,253,374</b>	<b>1,225,090</b>



## B1-2 Components of functions or activities

Details relating to the Council's functions or activities as reported in B1-1 are as follows:

### Asset Management Services

This service includes planning for renewal of assets, financial management and project delivery of works on vital infrastructure. The Service contributes to every aspect of Council's operations, to our ability to deliver our services cost effectively and to the community's social, environmental and economic well being.

### Beach Services, Maintenance & Safety

This service includes beach safety, beach maintenance and cleaning and also supports voluntary surf lifesaving clubs.

### Cemetery Services

This service currently includes interment of ashes and remains at two sites, Waverley and South Head. Waverley Cemetery is a fully operational Cemetery with sales in excess of \$1million per annum.

### Child Care Services

Providing quality, affordable long day care and family day care for children aged 0-5 as well as parenting programs and counselling for families.

### Community Services

Council provides a range of community services within Waverley in addition to supporting a broad range of community organisations. Our services and support for other groups and agencies ensure that the community has access to relevant, accessible and affordable facilities, spaces, programs and activities.

### Corporate Support Services

This service includes a range of professional support services for financial planning and management, workforce planning, organisational development and performance management, business systems improvement, risk management and insurance, procurement, telecommunications and IT and special projects to support the Executive in customer service and organisational review.

### Cultural Services

Council provides and supports a range of activities that celebrate and strengthen an appreciation of our cultural heritage and diversity.

### Customer Services & Communication

This area is responsible for ensuring that customer service is provided in a professional, friendly and timely way, and that our community is informed about Council's plans, initiatives, services and activities. Provide additional information about the objectives of each function or activity.

### Development, Building & Health Services

This service involves preparing new Local Environmental Plans, Development Control Plans and Planning Strategies relating to future land use planning and heritage conservation.

It also assesses and determines development applications in accordance with the EP&A Act and provides Council with a digital mapping service.

### Emergency Management Services

Waverley and Woollahra have a joint relationship in funding and supporting the local SES unit and it is a requirement under the NSW State Emergency Act.

### Environmental Services

This is a growing service area covering all aspects of the aquatic, biological and air environments. Its subservices are specifically geared to meet the requirements of our Environmental Action Plan (EAP). EAP is a key element of Waverley's resourcing strategy for Waverley Community Strategic Plan.

### Governance, Integrated Planning & Community Engagement

continued on next page ...

Page 17 of 83

## B1-2 Components of functions or activities (continued)

This service is designed to ensure we can engage with our community in an open and responsive way, discussing and making decisions with them about their future on the basis of sound and balanced judgement and policies. It also ensures that we can be properly held to account for planning decisions and for the efficiency and effectiveness of the services we deliver.

### Library Services

The Library offers information, recreation and entertainment as well as opportunities for people to train, learn or simply interact with neighbours and friends. The Library is a major education and community capacity building resource.

### Parking Services

This service provides substantial community safety and amenity by ensuring that our very limited supply of public parking opportunities (limited relative to demand) is shared fairly by all. This service is more effectively delivered if its implemented in close conjunction with Environmental Services and Traffic and Transport Services.

### Parks Services & Maintenance

This service maintains and cares for Council's 99 parks. The park and reserves are divided into a number of categories including regional parks, coastal reserves, small parks, pocket parks, linkages and remnant vegetation.

### Place Management

Bondi Beach and Bondi Junction are important places for Waverley residents and for the wider Sydney community. They contain a world famous beach and one of Sydney's most vibrant retail precincts and play a significant role in delivering recreational and commercial experiences to the region. A Place Management approach has been adopted to allow Council to give special focus to these areas, as well as ensuring that our smaller retail villages continue thrive.

An ongoing challenge for the Place Managers is to find the right balance between the needs of visitors, residents and the business sector.

### Recreation Services

This includes all aspects of sport and active leisure, from broad LGA-wide planning, through to the detailed design and construction of specific facilities. A newly emerging area is sports facilities management, programming and maintenance.

### Regulatory Services

In the summer season there is an increased demand for this service due to the large influx of visitors. Core areas of focus are:

- Monitoring building sites to ensure adequate pollution control is in place
- Ensuring companion animals are effectively and responsibly managed and cared for in accordance with the Companion Animals Act and Regulation
- Providing education material and information to the public investigating reports of abandoned vehicles and removing them in accordance with Impounding Act
- The quantitative volume of noise, time, place and the frequency of the noise

### Social & Affordable Housing

This service includes creating and managing secure housing for local people on very low incomes in addition to providing medium term accommodation at subsidised rents to those on low-to-middle income levels.

### Traffic & Transport Services

This service helps ensure that traffic flows as smoothly, efficiently and safely in Waverley as is possible, given the very small amount of road space we have to share, relative to the very high demand of the residents and visitors who use it.

The service also functions to help provide as many alternatives as possible to private car use including planning and design of pedestrian and cycling routes, and negotiation with the community and other levels of government for improved traffic and parking distribution systems such as residential preferred parking schemes.

### Urban Open Space Maintenance & Accessibility

This service maintains the roads, footpaths, drains, trees and grass along the 123.46 km of local and regional roads within Waverley Council.

### Waste Services

continued on next page ...

Page 18 of 83



## B1-2 Components of functions or activities (continued)

---

This service provides waste and recycling collection services to 29,491 residential properties as well as a commercial collection to businesses within Waverley Council.

DRAFT

## B2 Sources of income

### B2-1 Rates and annual charges

\$ '000	2021	2020
<b>Ordinary rates</b>		
Residential	34,118	33,142
Business	12,311	12,087
Less: pensioner rebates (mandatory)	(282)	(285)
Less: pensioner rebates (Council policy)	(89)	(91)
<b>Rates levied to ratepayers</b>	<b>46,058</b>	<b>44,853</b>
Pensioner rate subsidies received	154	160
<b>Total ordinary rates</b>	<b>46,212</b>	<b>45,013</b>
<b>Annual charges</b>		
(pursuant to s.496, s.496A, s.496B, s.501 & s.611)		
Domestic waste management services	18,434	17,884
Stormwater Management Services	529	525
Section 611 charges	52	55
Less: pensioner rebates (mandatory)	(167)	(168)
<b>Annual charges levied</b>	<b>18,848</b>	<b>18,296</b>
Pensioner subsidies received:		
– Domestic waste management	91	94
<b>Total annual charges</b>	<b>18,939</b>	<b>18,390</b>
<b>Total rates and annual charges</b>	<b>65,151</b>	<b>63,403</b>

Council has used 2019 year valuations provided by the NSW Valuer General in calculating its rates.

#### Accounting policy

Rates and annual charges are recognised as revenue at the beginning of the rating period to which they relate. Prepaid rates are recognised as a financial liability until the beginning of the rating period.

Pensioner rebates relate to reductions in rates and certain annual charges for eligible pensioners' place of residence in the local government council area that are not subsidised by the NSW Government.

Pensioner rate subsidies are received from the NSW Government to provide a contribution towards the pensioner rebates and are recognised within the underlying revenue item based on their substance.



## B2-2 User charges and fees

\$ '000	Timing	2021	2020
<b>Specific user charges</b>			
(per s.502 - specific 'actual use' charges)			
Waste management services (non-domestic)	2	3,028	3,076
<b>Total specific user charges</b>		<b>3,028</b>	<b>3,076</b>
<b>Other user charges and fees</b>			
<b>(i) Fees and charges – statutory and regulatory functions (per s.608)</b>			
Planning and building regulation	2	3,029	2,494
Section 10.7 certificates (EP&A Act)	2	250	198
Section 603 certificates	2	162	124
Hoarding/crane permits	1	1,756	2,370
<b>Total fees and charges – statutory/regulatory</b>		<b>5,197</b>	<b>5,186</b>
<b>(ii) Fees and charges – other (incl. general user charges (per s.608))</b>			
Cemeteries	2	1,298	833
Child care	2	4,144	4,101
Leaseback fees – Council vehicles	2	184	146
Park rents	1	389	294
Restoration charges	2	800	500
Room/facility hires	1	392	655
Admission and service fees	1	81	297
Bus shelter fees	1	1,439	1,432
Car parking fees	2	4,491	4,323
Car parking meter income	2	8,388	8,108
Road opening permits	2	504	317
Temporary truck zone permit	1	1,913	1,640
Other	2	1,538	1,542
<b>Total fees and charges – other</b>		<b>25,561</b>	<b>24,188</b>
<b>Total user charges and fees</b>		<b>33,786</b>	<b>32,450</b>
<b>Timing of revenue recognition for user charges and fees</b>			
User charges and fees recognised over time (1)		6,021	6,688
User charges and fees recognised at a point in time (2)		27,765	25,762
<b>Total user charges and fees</b>		<b>33,786</b>	<b>32,450</b>

### Accounting policy

Revenue arising from user charges and fees is recognised when or as the performance obligation is completed and the customer receives the benefit of the goods / services being provided.

The performance obligation relates to the specific services which are provided to the customers and generally the payment terms are within 30 days of the provision of the service or in some cases such as caravan parks, the customer is required to pay on arrival or a deposit in advance. There is no material obligation for Council in relation to refunds or returns.

Where an upfront fee is charged such as joining fees for the leisure centre the fee is recognised on a straight-line basis over the expected life of the membership.

Licences granted by Council are all either short-term or low value and all revenue from licences is recognised at the time that the licence is granted rather than over the term of the licence.

## B2-3 Other revenue

\$ '000	Timing	2021	2020
Ex gratia rates	2	23	24
Fines	2	226	205
Fines – parking	2	10,777	8,468
Legal fees recovery – rates and charges (extra charges)	2	5	4

continued on next page ...

Page 21 of 83

**B2-3 Other revenue (continued)**

\$ '000	Timing	2021	2020
Legal fees recovery – other	2	637	612
Insurance claims recoveries	2	26	288
Recycling income (non-domestic)	2	91	103
Sale of abandoned vehicles	2	31	16
Sales – general	2	1	88
Other	2	1,928	1,144
<b>Total other revenue</b>		<b>13,745</b>	<b>10,952</b>

**Timing of revenue recognition for other revenue**

Other revenue recognised over time (1)	–	–
Other revenue recognised at a point in time (2)	13,745	10,952
<b>Total other revenue</b>	<b>13,745</b>	<b>10,952</b>

**Accounting policy for other revenue**

Where the revenue is earned the provision of specified goods / services under an enforceable contract, revenue is recognised when or as the the obligations are satisfied.

Statutory fees and fines are recognised as revenue when the service has been provided, the payment is received or when the penalty has been applied, whichever occurs first.

Other revenue is recorded when the payment is due, the value of the payment is notified, or the payment is received, whichever occurs first.

DRAFT



## B2-4 Grants and contributions

\$ '000	Timing	Operating 2021	Operating 2020	Capital 2021	Capital 2020
<b>General purpose grants and non-developer contributions (untied)</b>					
<b>General purpose (untied)</b>					
<b>Current year allocation</b>					
Financial assistance – general component	2	722	752	–	–
Financial assistance – local roads component	2	222	251	–	–
<b>Payment in advance - future year allocation</b>					
Financial assistance – general component	2	782	826	–	–
Financial assistance – local roads component	2	229	237	–	–
<b>Amount recognised as income during current year</b>		<b>1,955</b>	<b>2,066</b>	<b>–</b>	<b>–</b>
<b>Special purpose grants and non-developer contributions (tied)</b>					
<b>Cash contributions</b>					
<b>Previously specific grants:</b>					
<b>Pensioners' rates subsidies:</b>					
Child care	2	4,015	4,255	–	–
Community care	2	214	383	–	–
Employment and training programs	2	246	42	–	–
Environmental programs	2	571	378	–	–
Library	2	56	56	–	–
Library – per capita	2	189	182	–	–
Recreation and culture - stronger community grant	1	–	–	946	1,003
Street lighting	2	193	193	–	–
Transport (roads to recovery)	2	278	278	–	–
Transport (other roads and bridges funding)	1	67	113	10,555	9,651
Other specific grants	2	112	22	–	–
<b>Previously contributions:</b>					
Community services	2	625	624	–	–
Other councils – joint works/services	2	783	824	–	–
Recreation and culture	2	6	75	–	–
Roads and bridges	2	354	259	366	–
Other contributions	2	–	–	550	–
<b>Total special purpose grants and non-developer contributions – cash</b>		<b>7,709</b>	<b>7,684</b>	<b>12,417</b>	<b>10,654</b>
<b>Total special purpose grants and non-developer contributions (tied)</b>		<b>7,709</b>	<b>7,684</b>	<b>12,417</b>	<b>10,654</b>
<b>Total grants and non-developer contributions</b>		<b>9,664</b>	<b>9,750</b>	<b>12,417</b>	<b>10,654</b>
<b>Comprising:</b>					
– Commonwealth funding		2,439	6,231	491	500
– State funding		1,441	1,650	11,010	10,154
– Other funding		5,784	1,869	916	–
		<b>9,664</b>	<b>9,750</b>	<b>12,417</b>	<b>10,654</b>

continued on next page ...

Page 23 of 83

## B2-4 Grants and contributions (continued)

### Developer contributions

\$ '000	Notes	Timing	Operating 2021	Operating 2020	Capital 2021	Capital 2020
<b>Developer contributions:</b>						
<b>(s7.4 &amp; s7.11 - EP&amp;A Act, s64 of the LGA):</b>						
<b>Cash contributions</b>						
S 7.4 – contributions using planning agreements		2	–	–	3,019	7,751
S 7.12 – fixed development consent levies		2	–	–	3,749	2,679
<b>Total developer contributions – cash</b>			<b>–</b>	<b>–</b>	<b>6,768</b>	<b>10,430</b>
<b>Total developer contributions</b>			<b>–</b>	<b>–</b>	<b>6,768</b>	<b>10,430</b>
<b>Total contributions</b>			<b>–</b>	<b>–</b>	<b>6,768</b>	<b>10,430</b>
<b>Total grants and contributions</b>			<b>9,664</b>	<b>9,750</b>	<b>19,185</b>	<b>21,084</b>
<b>Timing of revenue recognition for grants and contributions</b>						
Grants and contributions recognised over time (1)			–	–	11,501	–
Grants and contributions recognised at a point in time (2)			9,664	9,750	7,684	21,084
<b>Total grants and contributions</b>			<b>9,664</b>	<b>9,750</b>	<b>19,185</b>	<b>21,084</b>

continued on next page ...

Page 24 of 83

## B2-4 Grants and contributions (continued)

### Unspent grants and contributions

Certain grants and contributions are obtained by Council on the condition they be spent in a specified manner or in a future period but which are not yet spent in accordance with those conditions are as follows:

\$ '000	Operating 2021	Operating 2020	Capital 2021	Capital 2020
<b>Unspent grants and contributions</b>				
Unspent funds at 1 July	477	1,816	–	2,000
<b>Add:</b> Funds recognised as revenue in the reporting year but not yet spent in accordance with the conditions	358	252	–	–
<b>Add:</b> Funds received and not recognised as revenue in the current year	–	–	1,916	–
<b>Less:</b> Funds recognised as revenue in previous years that have been spent during the reporting year	(334)	(1,591)	–	(997)
Less: Funds received in prior year but revenue recognised and funds spent in current year				
<b>Less:</b> Funds received in prior year but revenue recognised and funds spent in current year	–	–	(946)	(1,003)
<b>Unspent funds at 30 June</b>	<b>501</b>	<b>477</b>	<b>970</b>	<b>–</b>
<b>Contributions</b>				
Unspent funds at 1 July	–	–	22,373	18,995
<b>Add:</b> contributions recognised as revenue in the reporting year but not yet spent in accordance with the conditions	–	–	6,664	10,503
<b>Less:</b> contributions recognised as revenue in previous years that have been spent during the reporting year	–	–	(4,562)	(7,125)
<b>Unspent contributions at 30 June</b>	<b>–</b>	<b>–</b>	<b>24,475</b>	<b>22,373</b>

### Accounting policy

#### Accounting policy from 1 July 2019

##### Grant income under AASB 15

Where grant income arises from an agreement which is enforceable and contains sufficiently specific performance obligations then the revenue are recognised when control of each performance obligations is satisfied.

Payment terms vary depending on the terms of the grant, cash is received upfront for some grants and on the achievement of certain payment milestones for others.

Each performance obligation is considered to ensure that the revenue recognition reflects the transfer of control and within grant agreements there may be some performance obligations where control transfers at a point in time and others which have continuous transfer of control over the life of the contract.

Where control is transferred over time, generally the input methods being either costs or time incurred are deemed to be the most appropriate methods to reflect the transfer of benefit.

##### Grant income

Assets arising from grants in the scope of AASB 1058 is recognised at the assets fair value when the asset is received. Councils considers whether there are any related liability or equity items associated with the asset which are recognised in accordance with the relevant accounting standard.

Once the assets and liabilities have been recognised then income is recognised for any remaining asset value at the time that the asset is received



## B2-4 Grants and contributions (continued)

### Capital grants

Capital grants received to enable Council to acquire or construct an item of infrastructure, property, plant and equipment to identified specifications which will be under Council's control and which is enforceable are recognised as revenue as and when the obligation to construct or purchase is completed.

For construction projects, this is generally as the construction progresses in accordance with costs incurred since this is deemed to be the most appropriate measure of the completeness of the construction project as there is no profit margin.

For acquisitions of assets, the revenue is recognised when the asset is acquired and controlled by the Council.

### Contributions

Council has obligations to provide facilities from contribution revenues levied on developers under the provisions of sections 7.4, 7.11 and 7.12 of the *Environmental Planning and Assessment Act 1979*.

While Council generally incorporates these amounts as part of a Development Consents Order, such developer contributions are only recognised as income upon receipt by Council, due to the possibility that individual development consents may not be acted upon by the applicant and, accordingly, would not be payable to Council.

Developer contributions may only be expended for the purposes for which the contributions were required, but the Council may apply contributions according to the priorities established in work schedules.

## B2-5 Interest and investment income

\$ '000	2021	2020
<b>Interest on financial assets measured at amortised cost</b>		
– Overdue rates and annual charges (incl. special purpose rates)	80	133
– Cash and investments	1,780	3,622
<b>Fair value adjustments</b>		
– Movements in investments at fair value through profit and loss	1,854	(372)
Finance income on the net investment in the lease	–	–
<b>Total interest and investment income (losses)</b>	<b>3,714</b>	<b>3,383</b>
<b>Interest and investment income is attributable to:</b>		
<b>Unrestricted investments/financial assets:</b>		
Overdue rates and annual charges (general fund)	80	133
General Council cash and investments	3,412	3,013

**B2-5 Interest and investment income (continued)**

\$ '000	2021	2020
<b>Restricted investments/funds – external:</b>		
Development contributions		
– Section 7.11	–	75
Domestic waste management operations	206	139
<b>Restricted investments/funds – internal:</b>		
Internally restricted assets	16	23
<b>Total interest and investment income</b>	<b>3,714</b>	<b>3,383</b>

**Accounting policy**

Interest income is recognised using the effective interest rate at the date that interest is earned.

Dividends are recognised as income in profit or loss when the shareholder's right to receive payment is established unless the dividend clearly represents a recovery of part of the cost of the investment.

**B2-6 Other income**

\$ '000	Notes	2021	2020
<b>Rental income</b>			
<b>Investment properties</b>			
Lease income		2,831	2,631
<b>Other lease income</b>			
Other		2,535	3,985
<b>Total rental income</b>	C2-2	<b>5,366</b>	<b>6,616</b>
<b>Total other income</b>		<b>5,366</b>	<b>6,616</b>

## B3 Costs of providing services

### B3-1 Employee benefits and on-costs

\$ '000	2021	2020
Salaries and wages	54,186	56,532
Employee leave entitlements (ELE)	5,587	5,152
Superannuation	5,843	5,856
Workers' compensation insurance	3,100	3,326
Fringe benefit tax (FBT)	137	185
Other	230	157
<b>Total employee costs</b>	<b>69,083</b>	<b>71,208</b>
Less: capitalised costs	(954)	(1,086)
<b>Total employee costs expensed</b>	<b>68,129</b>	<b>70,122</b>
Number of 'full-time equivalent' employees (FTE) at year end	632	612

#### Accounting policy

Employee benefit expenses are recorded when the service has been provided by the employee.

#### Retirement benefit obligations

All employees of the Council are entitled to benefits on retirement, disability or death. Council contributes to various defined benefit plans and defined contribution plans on behalf of its employees.

#### Superannuation plans

Contributions to defined contribution plans are recognised as an expense as they become payable. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payments is available.

Council participates in a defined benefit plan under the Local Government Superannuation Scheme, however, sufficient information to account for the plan as a defined benefit is not available and therefore Council accounts for its obligations to defined benefit plans on the same basis as its obligations to defined contribution plans, i.e. as an expense when it becomes payable – refer to Note E3-1 for more information.



## B3-2 Materials and services

\$ '000	Notes	2021	2020
Raw materials and consumables		5,754	6,509
Contractor and consultancy costs		7,876	8,049
Contractor and consultancy costs (temporary staff)		796	2,404
Audit Fees	F2-1	87	83
Infringement notice contract costs (SEINS)		1,434	1,192
<b>Previously other expenses:</b>			
Councillor and Mayoral fees and associated expenses	F1-2	379	391
Advertising		309	437
Bank charges		687	770
Cleaning		2,073	1,749
Computer software charges		1,616	1,473
Electricity and heating		501	603
Insurance		1,452	1,282
Office expenses (including computer expenses)		273	253
Postage		188	172
Printing and stationery		512	523
Street lighting		793	827
Subscriptions and publications		366	384
Telephone and communications		152	141
Valuation fees		97	108
Travel expenses		201	209
Training costs (other than salaries and wages)		394	339
Other expenses		807	814
Abandonment of fines by office of state debt recovery		1,007	1,048
Car park levy		134	138
Family day care subsidy		1,029	894
Land tax – crown land		620	638
Waste disposal charges		7,299	7,332
Water rates and charges		222	287
Strata Levy		313	332
<b>Legal expenses:</b>			
– Legal expenses: planning and development		912	1,191
– Legal expenses: other		1,455	1,520
Variable lease expense relating to usage		1,143	1,033
<b>Operating leases expense (2019 only):</b>			
Other (fuel and gas)		441	514
<b>Total materials and services</b>		<b>41,322</b>	<b>43,639</b>

### Accounting policy

Expenses are recorded on an accruals basis as the Council receives the goods or services.

## B3-3 Borrowing costs

\$ '000	2021	2020
<b>(i) Interest bearing liability costs</b>		
Interest on leases	7	34
Interest on loans	75	94
<b>Total interest bearing liability costs</b>	<b>82</b>	<b>128</b>
<b>Total interest bearing liability costs expensed</b>	<b>82</b>	<b>128</b>
<b>Total borrowing costs expensed</b>	<b>82</b>	<b>128</b>

### Accounting policy

Borrowing costs incurred for the construction of any qualifying asset are capitalised during the period of time that is required to complete and prepare the asset for its intended use or sale. Other borrowing costs are expensed as incurred.

### B3-4 Depreciation, amortisation and impairment of non-financial assets

\$ '000	Notes	2021	2020
<b>Depreciation and amortisation</b>			
Plant and equipment		1,919	2,098
Office equipment		275	351
<b>Infrastructure:</b>	C1-5		
– Buildings – non-specialised		3,024	3,015
– Buildings – specialised		3,906	3,882
– Other structures		787	782
– Roads		5,702	4,827
– Footpaths		1,672	1,470
– Stormwater drainage		904	1,186
– Other open space/recreational assets		2,442	2,299
Right of use assets	C2-1	429	414
<b>Other assets:</b>			
– Library books		225	227
– Other		127	127
<b>Total depreciation and amortisation costs</b>		<b>21,412</b>	<b>20,678</b>
<b>Total depreciation, amortisation and impairment for non-financial assets</b>		<b>21,412</b>	<b>20,678</b>

#### Accounting policy

##### Depreciation and amortisation

Depreciation and amortisation are calculated using the straight line method to allocate their cost, net of their residual values, over their estimated useful lives. Useful lives are included in Note C1-5 for IPPE assets.

Depreciation is capitalised where in-house assets have contributed to new assets.

##### Impairment of non-financial assets

Council assets held at fair value that are not held primarily for their ability to generate net cash flow, and that are deemed to be specialised, are not tested for impairment since these assets are assessed on an annual basis to ensure that the carrying amount is not materially different from fair value and therefore an impairment loss would be captured during this assessment.

Intangible assets not yet available for use, are tested annually for impairment, or more frequently if events or changes in circumstances indicate that they might be impaired.

Other non-financial assets that do not meet the criteria above are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use.

For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash inflows that are largely independent of the cash inflows from other assets or groups of assets (cash-generating units).

Impairment losses for revalued assets are firstly offset against the amount in the revaluation surplus for the class of asset, with only the excess to be recognised in the Income Statement.

### B3-5 Other expenses

\$ '000	Notes	2021	2020
<b>Fair value decrement on investment properties</b>			
Fair value decrement on investment properties		3,657	45,734
<b>Total fair value decrement on investment properties</b>	C1-6	<b>3,657</b>	<b>45,734</b>
<b>Other</b>			
Contributions/levies to other levels of government		12	24
– Department of planning levy		446	330
– Emergency services levy (includes FRNSW, SES, and RFS levies)		143	114
– NSW fire brigade levy		1,762	1,611
Donations, contributions and assistance to other organisations (Section 356)		685	870
<b>Total other expenses</b>		<b>6,705</b>	<b>48,683</b>

#### Accounting policy

Other expenses are recorded on an accruals basis when Council has an obligation for the expenses.

Impairment expenses are recognised when identified.

DRAFT



## B4 Gains or losses

### B4-1 Gain or loss from the disposal, replacement and de-recognition of assets

\$ '000	Notes	2021	2020
<b>Gain (or loss) on disposal of plant and equipment</b>	C1-5		
Proceeds from disposal – plant and equipment		359	469
Less: carrying amount of plant and equipment assets sold/written off		(185)	(282)
<b>Gain (or loss) on disposal</b>		<b>174</b>	<b>187</b>
<b>Gain (or loss) on disposal of infrastructure</b>	C1-5		
Less: carrying amount of infrastructure assets sold/written off		(5,726)	(7,993)
<b>Gain (or loss) on disposal</b>		<b>(5,726)</b>	<b>(7,993)</b>
<b>Gain (or loss) on disposal of investments</b>	C1-2		
Proceeds from disposal/redemptions/maturities – investments		116,750	141,200
Less: carrying amount of investments sold/redeemed/matured		(116,750)	(141,200)
<b>Gain (or loss) on disposal</b>		<b>–</b>	<b>–</b>
<b>Gain (or loss) on disposal of term deposits</b>	C1-2		
Proceeds from disposal/redemptions/maturities – term deposits		–	–
Less: carrying amount of term deposits sold/redeemed/matured		–	–
<b>Gain (or loss) on disposal</b>		<b>–</b>	<b>–</b>
<b>Net gain (or loss) on disposal of assets</b>		<b>(5,552)</b>	<b>(7,806)</b>

#### Accounting policy

Gains and losses on disposals are determined by comparing proceeds with carrying amount. The gain or loss on sale of an asset is determined when control of the asset has irrevocably passed to the buyer and the asset is de-recognised.

## B5 Performance against budget

### B5-1 Material budget variations

Council's original budget was adopted by the Council on 30/06/2020 and is not required to be audited. The original projections on which the budget was based have been affected by a number of factors. These include state and federal government decisions, including new grant programs, changing economic activity, environmental factors, and by decisions made by Council.

While these General Purpose Financial Statements include the original budget adopted by Council, the Act requires Council to review its financial budget on a quarterly basis, so it is able to manage the variation between actuals and budget that invariably occur during the year.

**Material variations of more than 10%** between original budget and actual results or where the variance is considered material by nature are explained below.

**Variation Key:** **F** = Favourable budget variation, **U** = Unfavourable budget variation.

\$ '000	2021 Budget	2021 Actual	2021 Variance	
<b>REVENUES</b>				
<b>Rates and annual charges</b>	64,943	65,151	208	0% <b>F</b>
<b>User charges and fees</b>	39,511	33,786	(5,725)	(14)% <b>U</b>
The lower User charges and fees mainly due to Child Care Benefits were allocated to Operating grants and contributions and Outdoor eating income was allocated to Other revenue.				
<b>Other revenues</b>	11,307	13,745	2,438	22% <b>F</b>
Higher Other revenues is driven by revenue for on-charging traffic control costs in relation to Bondi Beach Covid testing clinic to St Vincent which is not in the budget and parking fines received higher than expected.				
<b>Operating grants and contributions</b>	5,215	9,664	4,449	85% <b>F</b>
Higher Operating grants and contributions is due to Child Care Benefits are included in this category.				
<b>Capital grants and contributions</b>	16,673	19,185	2,512	15% <b>F</b>
Capital grant and contribution received higher than anticipated.				
<b>Interest and investment revenue</b>	2,348	3,714	1,366	58% <b>F</b>
Higher interest and investment revenue is driven by fair value movements on financial investments of \$1.85m.				
<b>Other income</b>	5,999	5,366	(633)	(11)% <b>U</b>
<b>EXPENSES</b>				
<b>Employee benefits and on-costs</b>	68,297	68,129	168	0% <b>F</b>
<b>Materials and services</b>	22,855	41,322	(18,467)	(81)% <b>U</b>
Unfavourable variance in Materials and services is due to a large number of expenses were re-classified from Other expenses in FY20/21. Refer to note B3-2 for details.				
<b>Depreciation, amortisation and impairment of non-financial assets</b>	22,010	21,412	598	3% <b>F</b>
<b>Other expenses</b>	21,402	6,705	14,697	69% <b>F</b>
Favourable variance in Other expenses is due to a large number of expenses were re-classified to Materials and services. Refer to note B3-2 for details.				
<b>Net losses from disposal of assets</b>	(977)	5,552	(6,529)	668% <b>U</b>
Net losses from disposal of assets are largely from write off other infrastructure assets (other structure & other open space/recreational assets) and road as a result from renewal/upgrade works.				

continued on next page ...

Page 33 of 83

**B5-1 Material budget variations (continued)**

\$ '000	2021 Budget	2021 Actual	2021 ----- Variance -----	
<b>STATEMENT OF CASH FLOWS</b>				
<b>Cash flows from operating activities</b>	<b>32,715</b>	<b>35,398</b>	<b>2,683</b>	<b>8% F</b>
It is due to higher operating grants and contributions received during the year than budget.				
<b>Cash flows from investing activities</b>	<b>(32,545)</b>	<b>(42,436)</b>	<b>(9,891)</b>	<b>30% U</b>
The actual cash outflows from investing activities is lower than the original budget largely due to Sale of investment securities.				
<b>Cash flows from financing activities</b>	<b>(435)</b>	<b>(857)</b>	<b>(422)</b>	<b>97% U</b>
It is due to principal component of lease payment not in the budget.				

DRAFT



**C Financial position****C1 Assets we manage****C1-1 Cash and cash equivalents**

\$ '000	2021	2020
<b>Cash and cash equivalents</b>		
Cash on hand and at bank	1,004	5,900
Cash-equivalent assets		
– Deposits at call	11,360	16,157
– Managed funds	15,966	14,168
<b>Total cash and cash equivalents</b>	<b>28,330</b>	<b>36,225</b>

**Reconciliation of cash and cash equivalents**

Total cash and cash equivalents per Statement of Financial Position	28,330	36,225
<b>Balance as per the Statement of Cash Flows</b>	<b>28,330</b>	<b>36,225</b>

**Accounting policy**

For Statement of Cash Flow presentation purposes, cash and cash equivalents include: cash on hand; deposits held at call with financial institutions; other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value; and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities on the Statement of Financial Position.

DRAFT

## C1-2 Investments

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
<b>Financial assets at fair value through the profit and loss</b>				
NCD's, FRN's	30,777	–	33,421	–
<b>Total</b>	<b>30,777</b>	<b>–</b>	<b>33,421</b>	<b>–</b>
<b>Debt securities at amortised cost</b>				
Long term deposits	91,500	2,000	90,500	12,500
<b>Total</b>	<b>91,500</b>	<b>2,000</b>	<b>90,500</b>	<b>12,500</b>
<b>Total financial investments</b>	<b>122,277</b>	<b>2,000</b>	<b>123,921</b>	<b>12,500</b>
<b>Total cash assets, cash equivalents and investments</b>	<b>150,607</b>	<b>2,000</b>	<b>160,146</b>	<b>12,500</b>

### Accounting policy

Financial instruments are recognised initially on the date that the Council becomes party to the contractual provisions of the instrument.

On initial recognition, all financial instruments are measured at fair value plus transaction costs (except for instruments measured at fair value through profit or loss where transaction costs are expensed as incurred).

#### Financial assets

All recognised financial assets are subsequently measured in their entirety at either amortised cost or fair value, depending on the classification of the financial assets.

#### Classification

On initial recognition, Council classifies its financial assets into the following categories – those measured at:

- amortised cost
- fair value through profit and loss (FVTPL)
- fair value through other comprehensive income – equity instrument (FVOCI-equity)

Financial assets are not reclassified subsequent to their initial recognition.

#### Amortised cost

Assets measured at amortised cost are financial assets where:

- the business model is to hold assets to collect contractual cash flows, and
- the contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Council's financial assets measured at amortised cost comprise trade and other receivables, term deposits and cash and cash equivalents in the Statement of Financial Position. Term deposits with an initial term of more than 3 months are classified as investments rather than cash and cash equivalents.

Subsequent to initial recognition, these assets are carried at amortised cost using the effective interest rate method less provision for impairment.

Interest income, impairment and gains or loss on de-recognition are recognised in profit or loss.

#### Fair value through other comprehensive income – equity instruments

Council has a number of strategic investments in entities over which they do not have significant influence nor control. Council has made an irrevocable election to classify these equity investments as fair value through other comprehensive income as they are not held for trading purposes.

These investments are carried at fair value with changes in fair value recognised in other comprehensive income (financial asset reserve). On disposal any balance in the financial asset reserve is transferred to accumulated surplus and is not reclassified to profit or loss.

Other net gains and losses excluding dividends are recognised in the Other Comprehensive Income Statement.

## C1-2 Investments (continued)

---

### **Financial assets through profit or loss**

All financial assets not classified as measured at amortised cost or fair value through other comprehensive income as described above are measured at fair value through profit or loss.

Net gains or losses, including any interest or dividend income, are recognised in profit or loss.

Council's financial assets measured at fair value through profit or loss comprise investments in FRNs and NCDs in the Statement of Financial Position.

DRAFT



### C1-3 Restricted cash, cash equivalents and investments

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
Total cash, cash equivalents and investments	150,607	2,000	160,146	12,500
<b>attributable to:</b>				
External restrictions	35,266	2,000	18,743	12,500
Internal restrictions	103,253	–	128,765	–
Unrestricted	12,088	–	12,638	–
	150,607	2,000	160,146	12,500

\$ '000	2021	2020
---------	------	------

#### Details of restrictions

##### External restrictions – included in liabilities

Specific purpose unexpended grants – general fund	970	–
<b>External restrictions – included in liabilities</b>	<b>970</b>	<b>–</b>

##### External restrictions – other

External restrictions included in cash, cash equivalents and investments above comprise:

Developer contributions – general	24,475	22,373
Specific purpose unexpended grants (recognised as revenue) – general fund	501	477
Domestic waste management	11,320	8,393
<b>External restrictions – other</b>	<b>36,296</b>	<b>31,243</b>
<b>Total external restrictions</b>	<b>37,266</b>	<b>31,243</b>

##### Internal restrictions

Council has internally restricted cash, cash equivalents and investments as follows:

Plant and vehicle replacement	4,950	4,148
SAMP Infrastructure	12,863	11,645
Employees leave entitlement	5,636	5,040
Carry over works	6,954	9,422
Deposits, retentions and bonds	16,290	13,162
Affordable housing	1,910	1,886
Cemeteries	583	872
Election	450	307
Centralised reserve	6,865	7,714
IT Information	1,998	2,613
Property Investment strategy	33,292	61,389
Looking good	–	53
Parking meters	1,923	2,571
Car Park Parking	2,296	1,540
Social housing	551	534
Unexpended loans	51	51
Other	6,641	5,818
<b>Total internal restrictions</b>	<b>103,253</b>	<b>128,765</b>

##### Total restrictions

<b>140,519</b>	<b>160,008</b>
----------------	----------------

Internal restrictions over cash, cash equivalents and investments are those assets restricted only by a resolution of the elected Council.

## C1-4 Receivables

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
<b>Purpose</b>				
Rates and annual charges	1,904	675	2,300	670
Interest and extra charges	91	237	145	193
User charges and fees	3,554	–	1,763	–
Accrued revenues				
– Interest on investments	290	–	669	–
– Other income accruals	234	–	258	–
Government grants and subsidies	8,141	–	3,453	–
Net GST receivable	63	–	786	–
Parking fines	1,719	2,779	933	1,730
<b>Total</b>	<b>15,996</b>	<b>3,691</b>	<b>10,307</b>	<b>2,593</b>
<b>Less: provision of impairment</b>				
User charges and fees	(57)	–	(181)	–
Parking fines	–	(1,383)	–	(1,383)
<b>Total provision for impairment – receivables</b>	<b>(57)</b>	<b>(1,383)</b>	<b>(181)</b>	<b>(1,383)</b>
<b>Total net receivables</b>	<b>15,939</b>	<b>2,308</b>	<b>10,126</b>	<b>1,210</b>
<b>Externally restricted receivables</b>				
Domestic waste management	1,099	355	1,193	281
<b>Total external restrictions</b>	<b>1,099</b>	<b>355</b>	<b>1,193</b>	<b>281</b>
<b>Unrestricted receivables</b>	<b>14,840</b>	<b>1,953</b>	<b>8,933</b>	<b>929</b>
<b>Total net receivables</b>	<b>15,939</b>	<b>2,308</b>	<b>10,126</b>	<b>1,210</b>

\$ '000	2021	2020
<b>Movement in provision for impairment of receivables</b>		
Balance at the beginning of the year (calculated in accordance with AASB 139)	1,564	1,472
– amounts already provided for and written off this year	(52)	(17)
– amounts provided for but recovered during the year	(72)	109
<b>Balance at the end of the year</b>	<b>1,440</b>	<b>1,564</b>

### Accounting policy

Receivables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method, less provision for impairment. Receivables are generally due for settlement within 30 days.

### Impairment

Impairment of financial assets measured at amortised cost is recognised on an expected credit loss (ECL) basis.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition, and when estimating ECL, the Council considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis based on Council's historical experience and informed credit assessment, and including forward-looking information.

When considering the ECL for rates debtors, Council takes into account that unpaid rates represent a charge against the rateable property that will be recovered when the property is next sold. For non-rates debtors, Council uses the presumption that an asset which is more than 30 days past due has seen a significant increase in credit risk.

The Council uses the presumption that a financial asset is in default when:

- the other party is unlikely to pay its credit obligations to the Council in full, without recourse by the Council to actions such as realising security (if any is held) or

continued on next page ...

Page 39 of 83

## C1-4 Receivables (continued)

- the financial assets (for non-rates debtors) are more than 90 days past due.

Credit losses are measured as the present value of the difference between the cash flows due to the entity in accordance with the contract, and the cash flows expected to be received. This is applied using a probability weighted approach.

On initial recognition of the asset, an estimate of the expected credit losses for the next 12 months is recognised. Where the asset has experienced significant increase in credit risk then the lifetime losses are estimated and recognised.

Council uses the simplified approach for trade receivables where the expected lifetime credit losses are recognised on day 1.

There has been no change in the estimation techniques or significant assumptions made during the current reporting period.

The Council writes off a trade receivable when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the debtor has been placed under liquidation or has entered into bankruptcy proceedings, or when the receivables are over one years past due, whichever occurs first.

None of the receivables that have been written off are subject to enforcement activity.

Where the Council renegotiates the terms of receivables due from certain customers, the new expected cash flows are discounted at the original effective interest rate and any resulting difference to the carrying value is recognised in profit or loss.

Rates and annual charges outstanding are secured against the property.

### **Accounting policy under AASB 139 – applicable for 2020 comparatives only**

For loans and receivables, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the financial asset's original effective interest rate. The carrying amount of the asset is reduced and the amount of the loss is recognised in profit or loss.

Collectability of receivables is reviewed on an ongoing basis. Debts that are known to be uncollectable are written off by reducing the carrying amount directly. An allowance account (provision for impairment of receivables) is used when there is objective evidence that the Council will not be able to collect all amounts due according to the original terms of the receivables. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial reorganisation, and default or delinquency in payments (more than 30 days overdue) are considered indicators that the receivable is impaired. When a receivable for which an impairment allowance had been recognised becomes uncollectable in a subsequent period, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against other expenses in the Income Statement.

Rates and annual charges outstanding are secured against the property.



## C1-5 Infrastructure, property, plant and equipment

By aggregated asset class	At 1 July 2020			Asset movements during the reporting period						At 30 June 2021		
	Gross carrying amount	Accumulated depreciation and impairment	Net carrying amount	Additions renewals <sup>1</sup>	Additions new assets	Carrying value of disposals	Depreciation expense	WIP transfers	Revaluation decrements to equity (ARR)	Gross carrying amount	Accumulated depreciation and impairment	Net carrying amount
\$ '000												
Capital work in progress	21,976	–	21,976	39,446	–	(1,087)	–	(15,217)	–	45,118	–	45,118
Plant and equipment	21,535	(12,045)	9,490	–	819	(185)	(1,919)	–	–	21,774	(13,569)	8,205
Office equipment	11,014	(9,928)	1,086	8	61	–	(275)	–	–	11,083	(10,203)	880
<b>Land:</b>												
– Crown land	156,201	–	156,201	–	–	–	–	–	–	156,201	–	156,201
– Operational land	78,811	–	78,811	–	–	–	–	–	–	78,811	–	78,811
– Community land	101,142	–	101,142	–	–	–	–	–	–	101,142	–	101,142
<b>Infrastructure:</b>												
– Buildings – non-specialised	125,520	(46,962)	78,558	501	–	–	(3,024)	–	–	126,022	(49,987)	76,035
– Buildings – specialised	125,243	(70,926)	54,317	971	1,085	–	(3,906)	2,516	–	129,815	(74,832)	54,983
– Other structures	29,717	(11,902)	17,815	524	676	(2,242)	(787)	910	6,395	38,056	(14,765)	23,291
– Roads	430,657	(208,480)	222,177	5,807	697	(1,568)	(5,702)	7,029	–	441,091	(212,651)	228,440
– Footpaths	59,358	(25,681)	33,677	476	401	(182)	(1,672)	3,731	–	63,506	(27,075)	36,431
– Stormwater drainage	126,110	(51,102)	75,008	286	1,079	(92)	(904)	84	–	127,411	(51,950)	75,461
– Other open space/recreational assets	111,801	(41,155)	70,646	1,627	3,051	(555)	(2,442)	947	7,638	140,156	(59,244)	80,912
<b>Other assets:</b>												
– Library books	3,983	(2,793)	1,190	–	202	–	(225)	–	–	4,185	(3,018)	1,167
– Other	6,196	(2,358)	3,838	–	–	–	(127)	–	–	6,197	(2,486)	3,711
<b>Total infrastructure, property, plant and equipment</b>	<b>1,409,264</b>	<b>(483,332)</b>	<b>925,932</b>	<b>49,646</b>	<b>8,071</b>	<b>(5,911)</b>	<b>(20,983)</b>	<b>–</b>	<b>14,033</b>	<b>1,490,568</b>	<b>(519,780)</b>	<b>970,788</b>

(1) Renewals are defined as the replacement of existing assets (as opposed to the acquisition of new assets).

continued on next page ...

Page 41 of 83

## C1-5 Infrastructure, property, plant and equipment (continued)

By aggregated asset class	At 1 July 2019			Asset movements during the reporting period							At 30 June 2020		
	Gross carrying amount	Accumulated depreciation and impairment	Net carrying amount	Additions renewals <sup>1</sup>	Additions new assets	Carrying value of disposals	Depreciation expense	WIP transfers	Adjustments and transfers	Revaluation decrements to equity (ARR)	Gross carrying amount	Accumulated depreciation and impairment	Net carrying amount
\$ '000													
Capital work in progress	9,538	–	9,538	17,764	–	(1,401)	–	(3,925)	–	–	21,976	–	21,976
Plant and equipment	21,917	(11,039)	10,878	–	992	(282)	(2,098)	–	–	–	21,535	(12,045)	9,490
Office equipment	10,878	(9,576)	1,302	–	135	–	(351)	–	–	–	11,014	(9,928)	1,086
<b>Land:</b>													
– Operational land	78,811	–	78,811	–	–	–	–	–	–	–	78,811	–	78,811
– Community land	95,029	–	95,029	–	–	–	–	–	–	6,113	101,142	–	101,142
– Crown land	180,398	–	180,398	–	–	–	–	–	–	(24,197)	156,201	–	156,201
<b>Infrastructure:</b>													
– Buildings – non-specialised	124,558	(44,092)	80,466	908	–	(162)	(3,015)	361	–	–	125,520	(46,962)	78,558
– Buildings – specialised	124,062	(67,331)	56,731	312	320	(144)	(3,882)	980	–	–	125,243	(70,926)	54,317
– Other structures	27,335	(11,121)	16,214	741	1,371	(1)	(782)	272	–	–	29,717	(11,902)	17,815
– Roads	351,119	(145,422)	205,697	3,114	4,808	(4,074)	(4,827)	341	(856)	17,974	430,657	(208,480)	222,177
– Footpaths	51,894	(15,430)	36,464	1,667	1,940	(724)	(1,470)	456	–	(4,656)	59,358	(25,681)	33,677
– Stormwater drainage	138,517	(47,535)	90,982	1,264	485	(581)	(1,186)	1,186	–	(17,142)	126,110	(51,102)	75,008
– Other open space/recreational assets	108,838	(39,545)	69,293	1,804	2,440	(869)	(2,299)	277	–	–	111,801	(41,155)	70,646
<b>Other assets:</b>													
– Library books	3,781	(2,566)	1,215	–	202	–	(227)	–	–	–	3,983	(2,793)	1,190
– Other	4,368	(1,304)	3,064	82	–	(37)	(127)	–	856	–	6,196	(2,358)	3,838
<b>Total infrastructure, property, plant and equipment</b>	<b>1,331,043</b>	<b>(394,961)</b>	<b>936,082</b>	<b>27,656</b>	<b>12,693</b>	<b>(8,275)</b>	<b>(20,264)</b>	<b>(52)</b>	<b>–</b>	<b>(21,908)</b>	<b>1,409,264</b>	<b>(483,332)</b>	<b>925,932</b>

(1) Renewals are defined as the replacement of existing assets (as opposed to the acquisition of new assets).

continued on next page ...

Page 42 of 83

## C1-5 Infrastructure, property, plant and equipment (continued)

### Accounting policy

Infrastructure, property, plant and equipment are held at fair value. Independent comprehensive valuations are performed at least every five years, however the carrying amount of assets is assessed by Council at each reporting date to confirm that it is not materially different from current fair value.

Increases in the carrying amounts arising on revaluation are credited to the revaluation reserve. To the extent that the increase reverses a decrease previously recognising profit or loss relating to that asset class, the increase is first recognised as profit or loss. Decreases that reverse previous increases of assets in the same class are first charged against revaluation reserves directly in equity to the extent of the remaining reserve attributable to the class; all other decreases are charged to the Income Statement.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to Council and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the Income Statement during the financial period in which they are incurred. When infrastructure, property, plant and equipment are acquired by Council for nil or nominal consideration, the assets are initially recognised at their fair value at acquisition date.

Land is not depreciated. The property, plant and equipment acquired under finance leases is depreciated over the asset's useful life or over the shorter of the asset's useful life and the lease term if there is no reasonable certainty that the Council will obtain ownership at the end of the lease term. Depreciation on other assets is calculated using the straight-line method to allocate their cost, net of their residual values, over their estimated useful lives as follows:

<b>Plant and equipment</b>	<b>Years</b>	<b>Other equipment</b>	<b>Years</b>
Office equipment	5 to 10	Playground equipment	5 to 15
Office furniture	10 to 20	Benches, seats etc.	10 to 20
Computer equipment	4		
Vehicles	5 to 8	<b>Buildings</b>	
Heavy plant/road making equipment	5 to 8	Buildings: masonry	50 to 100
Other plant and equipment	5 to 15	Buildings: other	20 to 40
		<b>Stormwater assets</b>	
<b>Other Assets</b>		Drains	80 to 100
Library Books	5 to 10	Culverts	50 to 80
Other	5 to 100	Flood control structures	80 to 100
		<b>Other infrastructure assets</b>	
<b>Transportation assets</b>		Bulk earthworks	20
Sealed roads: surface	20	Swimming pools	50
Sealed roads: structure	50	Unsealed roads	20
Unsealed roads	20	Other open space/recreational assets	20
Bridge: concrete	100	Other infrastructure	20
Bridge: other	50		
Road pavements	60		
Kerb, gutter and footpaths	40		

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each reporting date.

### Land under roads

Land under roads is land under roadways and road reserves including land under footpaths, nature strips and median strips. Council has elected not to recognise land under roads acquired before 1 July 2008 in accordance with AASB 1051 Land Under Roads.

Land under roads acquired after 1 July 2008 is recognised in accordance with AASB 116 Property, Plant and Equipment.

### Crown reserves

Crown reserves under Council's care and control are recognised as assets of the Council. While ownership of the reserves remains with the Crown, Council retains operational control of the reserves and is responsible for their maintenance and use in accordance with the specific purposes to which the reserves are dedicated.

Improvements on Crown reserves are also recorded as assets, while maintenance costs incurred by Council and revenues relating to the reserves are recognised within Council's Income Statement.

### Rural Fire Service assets

N/A



## C1-6 Investment properties

\$ '000	2021	2020
<b>Owned investment property</b>		
Investment property on hand at fair value	<b>110,785</b>	113,910
<b>Total owned investment property</b>	<b>110,785</b>	<b>113,910</b>

### Owned investment property

#### At fair value

Opening balance at 1 July	<b>113,910</b>	158,474
Capitalised subsequent expenditure	<b>532</b>	1,118
Net gain/(loss) from fair value adjustments	<b>(3,657)</b>	(45,734)
– Transfers from/(to) owner occupied (Note C1-5)	<b>–</b>	52
<b>Closing balance at 30 June</b>	<b>110,785</b>	<b>113,910</b>

#### Accounting policy

Investment property, principally comprising freehold office buildings, is held for long-term rental yields and is not occupied by the Council. Changes in fair values are recorded in the Income Statement as part of other income.

DRAFT

## C2 Leasing activities

### C2-1 Council as a lessee

Council has leases over a range of assets including land and buildings for staff office and sub-depots. Information relating to the leases in place and associated balances and transactions is provided below.

#### Terms and conditions of leases

These leases have between 1 and 5 years.

#### (a) Right of use assets

\$ '000	Property, Plant & Equipment	Total
<b>2021</b>		
Opening balance at 1 July	1,206	1,206
Depreciation charge	(429)	(429)
<b>Balance at 30 June</b>	<b>777</b>	<b>777</b>
<b>2020</b>		
Adoption of AASB 16 at 1 July 2019 – first time lease recognition	1,620	1,620
Depreciation charge	(414)	(414)
<b>Balance at 30 June</b>	<b>1,206</b>	<b>1,206</b>

#### (b) Lease liabilities

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
Lease liabilities	429	407	405	852
<b>Total lease liabilities</b>	<b>429</b>	<b>407</b>	<b>405</b>	<b>852</b>

#### (c) (i) The maturity analysis

The maturity analysis of lease liabilities based on contractual undiscounted cash flows is shown in the table below:

\$ '000	< 1 year	1 – 5 years	> 5 years	Total	Total per Statement of Financial Position
<b>2021</b>					
Cash flows	429	849	–	1,278	836
<b>2020</b>					
Cash flows	363	1,341	–	1,704	1,257

#### (d) Income Statement

\$ '000	2021	2020
---------	------	------

The amounts recognised in the Income Statement relating to leases where Council is a lessee are shown below:

Interest on lease liabilities	7	34
Variable lease payments based on usage not included in the measurement of lease liabilities	1,143	1,033
Depreciation of right of use assets	429	414

continued on next page ...

Page 45 of 83

## C2-1 Council as a lessee (continued)

	1,579	1,481
\$ '000	2021	2020

### (e) Statement of Cash Flows

Total cash outflow for leases	(429)	(363)
	(429)	(363)

### (f) Leases at significantly below market value – concessionary / peppercorn leases

#### Accounting policy

At inception of a contract, Council assesses whether a lease exists – i.e. does the contract convey the right to control the use of an identified asset for a period of time in exchange for consideration?

Council has elected not to separate non-lease components from lease components for any class of asset and has accounted for payments as a single component.

At the lease commencement, Council recognises a right-of-use asset and associated lease liability for the lease term. The lease term includes extension periods where Council believes it is reasonably certain that the option will be exercised.

The right-of-use asset is measured using the cost model where cost on initial recognition comprises: the lease liability, initial direct costs, prepaid lease payments, estimated cost of removal and restoration, less any lease incentives received. The right-of-use asset is depreciated over the lease term on a straight-line basis and assessed for impairment in accordance with the impairment of asset accounting policy.

The lease liability is initially recognised at the present value of the remaining lease payments at the commencement of the lease. The discount rate is the rate implicit in the lease, however where this cannot be readily determined then the Council's incremental borrowing rate for a similar term with similar security is used.

Subsequent to initial recognition, the lease liability is measured at amortised cost using the effective interest rate method. The lease liability is re-measured when there is a lease modification, or change in estimate of the lease term or index upon which the lease payments are based (e.g. CPI).

Where the lease liability is re-measured, the right-of-use asset is adjusted to reflect the re-measurement.

#### Exceptions to lease accounting

Council has applied the exceptions to lease accounting for both short-term leases (i.e. leases with a term of less than or equal to 12 months) and leases of low-value assets. Council recognises the payments associated with these leases as an expense on a straight-line basis over the lease term.

#### Leases at significantly below market value / Concessionary leases

Council has elected to measure the right of use asset arising from the concessionary leases at cost which is based on the associated lease liability at initial recognition.

## C2-2 Council as a lessor

### Operating leases

Council leases out a number of properties; these leases have been classified as operating leases for financial reporting purposes.

\$ '000	2021	2020
---------	------	------

#### (i) Assets held as investment property

The amounts recognised in the Income Statement relating to operating leases where Council is a lessor are shown below

continued on next page ...

Page 46 of 83



**C2-2 Council as a lessor (continued)**

\$ '000	2021	2020
Lease income (excluding variable lease payments not dependent on an index or rate)	2,831	2,631
<b>Total income relating to operating leases for investment property assets</b>	<b>2,831</b>	<b>2,631</b>
<b>Operating lease expenses</b>		
Direct operating expenses that generated rental income	(2,283)	(2,292)
Direct operating expenses that did not generate rental income	(460)	(509)
<b>Total expenses relating to operating leases</b>	<b>(2,743)</b>	<b>(2,801)</b>

**(ii) Assets held as property, plant and equipment**

Lease income (excluding variable lease payments not dependent on an index or rate)	2,535	3,985
<b>Total income relating to operating leases for Council assets</b>	<b>2,535</b>	<b>3,985</b>

**(iii) Maturity analysis of undiscounted lease payments to be received after reporting date for all operating leases:**

Maturity analysis of future lease income receivable showing the undiscounted lease payments to be received after reporting date for operating leases:

< 1 year	3,586	3,645
1–2 years	1,884	3,409
2–3 years	746	1,728
3–4 years	676	709
4–5 years	592	540
> 5 years	5,433	5,821
<b>Total undiscounted lease payments to be received</b>	<b>12,917</b>	<b>15,852</b>

**Accounting policy**

When Council is a lessor, the lease is classified as either an operating or finance lease at inception date, based on whether substantially all of the risks and rewards incidental to ownership of the asset have been transferred to the lessee. If the risks and rewards have been transferred then the lease is classified as a finance lease, otherwise it is an operating lease.

When Council has a sub-lease over an asset and is the intermediate lessor then the head lease and sub-lease are accounted for separately. The classification of the sub-lease is based on the right-of-use asset which arises from the head lease rather than the useful life of the underlying asset.

If the lease contains lease and non-lease components, the non-lease components are accounted for in accordance with AASB 15 *Revenue from Contracts with Customers*.

The lease income is recognised on a straight-line basis over the lease term for an operating lease and as finance income using amortised cost basis for finance leases.

## C3 Liabilities of Council

### C3-1 Payables

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
<b>Payables</b>				
Goods and services – operating expenditure	8,544	–	4,219	–
Goods and services – capital expenditure	6,737	–	5,281	–
Accrued expenses:				
– Borrowings	16	–	19	–
– Salaries and wages	521	–	1,649	–
– Other expenditure accruals	559	–	1,680	–
Security bonds, deposits and retentions	1,589	–	1,317	–
Builders deposits	14,701	–	11,846	–
Other	188	–	159	–
Prepaid rates	558	–	499	–
<b>Total payables</b>	<b>33,413</b>	<b>–</b>	<b>26,669</b>	<b>–</b>
<b>Income received in advance</b>				
Payments received in advance	1,259	–	618	–
<b>Total income received in advance</b>	<b>1,259</b>	<b>–</b>	<b>618</b>	<b>–</b>
<b>Total payables</b>	<b>34,672</b>	<b>–</b>	<b>27,287</b>	<b>–</b>
<b>Payables relating to restricted assets</b>				
\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
<b>Externally restricted assets</b>				
Domestic waste management	829	–	51	–
Payables relating to externally restricted assets	829	–	51	–
<b>Total payables relating to restricted assets</b>	<b>829</b>	<b>–</b>	<b>51</b>	<b>–</b>
<b>Total payables relating to unrestricted assets</b>	<b>33,843</b>	<b>–</b>	<b>27,236</b>	<b>–</b>
<b>Total payables</b>	<b>34,672</b>	<b>–</b>	<b>27,287</b>	<b>–</b>

continued on next page ...

Page 48 of 83

### C3-1 Payables (continued)

#### Current payables not anticipated to be settled within the next twelve months

\$ '000	2021	2020
The following liabilities, even though classified as current, are not expected to be settled in the next 12 months.		
Payables – security bonds, deposits and retentions	14,701	11,846
<b>Total payables and borrowings</b>	<b>14,701</b>	<b>11,846</b>

#### Accounting policy

Council measures all financial liabilities initially at fair value less transaction costs, subsequently financial liabilities are measured at amortised cost using the effective interest rate method.

#### Payables

Payables represent liabilities for goods and services provided to Council prior to the end of financial year that are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition.

### C3-2 Contract Liabilities

\$ '000	Notes	2021 Current	2021 Non-current	2020 Current	2020 Non-current
<b>Grants and contributions received in advance:</b>					
Unexpended capital grants (to construct Council controlled assets)	(i)	970	–	997	–
<b>Total grants received in advance</b>		<b>970</b>	<b>–</b>	<b>997</b>	<b>–</b>
<b>Total contract liabilities</b>		<b>970</b>	<b>–</b>	<b>997</b>	<b>–</b>

#### Notes

(i) Council has received funding to construct assets including sporting facilities, bridges, library and other infrastructure. The funds received are under an enforceable contract which require Council to construct an identified asset which will be under Council's control on completion. The revenue is recognised as Council constructs the asset and the contract liability reflects the funding received which cannot yet be recognised as revenue. The revenue is expected to be recognised in the next 12 months.

(ii) The contract liability relates to grants received prior to the revenue recognition criteria in AASB 15 being satisfied since the performance obligations are ongoing.

#### Contract liabilities relating to restricted assets

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
<b>Externally restricted assets</b>				
Unspent grants held as contract liabilities (excl. Water & Sewer)	970	–	–	–
<b>Contract liabilities relating to externally restricted assets</b>	<b>970</b>	<b>–</b>	<b>–</b>	<b>–</b>
<b>Total contract liabilities relating to restricted assets</b>	<b>970</b>	<b>–</b>	<b>–</b>	<b>–</b>
<b>Total contract liabilities relating to unrestricted assets</b>	<b>–</b>	<b>–</b>	<b>997</b>	<b>–</b>
<b>Total contract liabilities</b>	<b>970</b>	<b>–</b>	<b>997</b>	<b>–</b>

continued on next page ...

Page 49 of 83



### C3-2 Contract Liabilities (continued)

#### Revenue recognised that was included in the contract liability balance at the beginning of the period

\$ '000	2021	2020
<b>Grants and contributions received in advance:</b>		
Capital grants (to construct Council controlled assets)	970	1,003
<b>Total revenue recognised that was included in the contract liability balance at the beginning of the period</b>	<b>970</b>	<b>1,003</b>

#### Accounting policy

Contract liabilities are recorded when consideration is received from a customer / fund provider prior to Council transferring a good or service to the customer, Council presents the funds which exceed revenue recognised as a contract liability.

### C3-3 Borrowings

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
Loans – secured <sup>1</sup>	447	2,040	435	2,488
<b>Total borrowings</b>	<b>447</b>	<b>2,040</b>	<b>435</b>	<b>2,488</b>

(1) Loans are secured over the general rating income of Council.

Disclosures on liability interest rate risk exposures, fair value disclosures and security can be found in Note 18.

#### Borrowings relating to restricted assets

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
<b>Total borrowings relating to unrestricted assets</b>	<b>447</b>	<b>2,040</b>	<b>435</b>	<b>2,488</b>
<b>Total borrowings</b>	<b>447</b>	<b>2,040</b>	<b>435</b>	<b>2,488</b>

#### Current borrowings not anticipated to be settled within the next twelve months

The following borrowings, even though classified as current, are not expected to be settled in the next 12 months.

#### (a) Changes in liabilities arising from financing activities

\$ '000	2020		Non-cash movements				2021
	Opening Balance	Cash flows	Acquisition	Fair value changes	Acquisition due to change in accounting policy	Other non-cash movement	Closing balance
Loans – secured	2,923	(436)	–	–	–	–	2,487
Lease liability (Note C2-1b)	1,257	(421)	–	–	–	–	836
<b>Total liabilities from financing activities</b>	<b>4,180</b>	<b>(857)</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>3,323</b>

\$ '000	2019		Non-cash movements				2020
	Opening Balance	Cash flows	Acquisition	Fair value changes	Acquisition due to change in accounting policy	Other non-cash movement	Closing balance
Loans – secured	3,346	(423)	–	–	–	–	2,923
Lease liability (Note C2-1b)	3,240	(1,983)	–	–	–	–	1,257

continued on next page ...

Page 50 of 83

## C3-3 Borrowings (continued)

Total liabilities from financing activities	6,586	(2,406)	–	–	–	–	4,180
---	-------	---------	---	---	---	---	-------

## (b) Financing arrangements

\$ '000	2021	2020
<b>Total facilities</b>		
Bank overdraft facilities <sup>1</sup>	250	250
Credit cards/purchase cards	30	30
<b>Total financing arrangements</b>	<b>280</b>	<b>280</b>
<b>Undrawn facilities</b>		
– Bank overdraft facilities	250	250
– Credit cards/purchase cards	30	30
<b>Total undrawn financing arrangements</b>	<b>280</b>	<b>280</b>

(1) The bank overdraft facility may be drawn at any time and may be terminated by the bank without notice.

**Accounting policy**

Council measures all financial liabilities initially at fair value less transaction costs, subsequently financial liabilities are measured at amortised cost using the effective interest rate method.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down.

Borrowings are removed from the Statement of Financial Position when the obligation specified in the contract is discharged, cancelled or expired. The difference between the carrying amount of a financial liability that has been extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognised in other income or borrowing costs.

## C3-4 Employee benefit provisions

\$ '000	2021 Current	2021 Non-current	2020 Current	2020 Non-current
Annual leave	6,652	–	6,223	–
Sick leave	1,532	–	1,677	–
Long service leave	7,825	1,342	7,929	1,125
Gratuities	387	–	401	–
Time off in lieu	145	–	187	–
<b>Total employee benefit provisions</b>	<b>16,541</b>	<b>1,342</b>	<b>16,417</b>	<b>1,125</b>

**Employee benefit provisions relating to restricted assets**

Domestic Waste Management	1,357	282	1,535	312
<b>Total employee benefit provisions relating to restricted assets</b>	<b>1,357</b>	<b>282</b>	<b>1,535</b>	<b>312</b>
<b>Total employee benefit provisions relating to unrestricted assets</b>	<b>16,541</b>	<b>1,342</b>	<b>16,417</b>	<b>1,125</b>
<b>Total employee benefit provisions</b>	<b>16,541</b>	<b>1,342</b>	<b>16,417</b>	<b>1,125</b>

**Current employee benefit provisions not anticipated to be settled within the next twelve months**

continued on next page ...

Page 51 of 83

**C3-4 Employee benefit provisions (continued)**

<b>\$ '000</b>	<b>2021</b>	<b>2020</b>
----------------	-------------	-------------

The following provisions, even though classified as current, are not expected to be settled in the next 12 months.

Provisions – employees benefits	11,338	11,284
	<u>11,338</u>	<u>11,284</u>

DRAFT



### C3-4 Employee benefit provisions (continued)

#### Description of and movements in provisions

\$ '000	ELE provisions				Total
	Annual leave	Sick leave	Long service leave	Other employee benefits	
<b>2021</b>					
At beginning of year	6,223	1,677	9,054	588	17,542
Additional provisions	4,327	–	1,135	125	5,587
Amounts used (payments)	(3,898)	(145)	(1,022)	(181)	(5,246)
Total ELE provisions at end of year	6,652	1,532	9,167	532	17,883
<b>2020</b>					
At beginning of year	5,451	1,669	8,233	693	16,046
Additional provisions	3,620	8	1,484	40	5,152
Amounts used (payments)	(2,848)	–	(663)	(145)	(3,656)
Total ELE provisions at end of year	6,223	1,677	9,054	588	17,542

#### Accounting policy

Employee benefit provisions are presented as current liabilities in the Statement of Financial Position if Council does not have an unconditional right to defer settlement for at least 12 months after the reporting date, regardless of when the actual settlement is expected to occur and therefore all annual leave and vested long service leave (or that which vests within 12 months) is presented as current.

#### Short-term obligations

Liabilities for wages and salaries (including non-monetary benefits, annual leave and accumulating sick leave expected to be wholly settled within 12 months after the end of the period in which the employees render the related service) are recognised in respect of employees' services up to the end of the reporting period and are measured at the amounts expected to be paid when the liabilities are settled. The liability for annual leave and accumulating sick leave is recognised in the provision for employee benefits. All other short-term employee benefit obligations are presented as payables.

#### Other long-term employee benefit obligations

The liability for long-service leave and annual leave that is not expected to be wholly settled within 12 months after the end of the period in which the employees render the related service is recognised in the provision for employee benefits and measured as the present value of expected future payments to be made in respect of services provided by employees up to the end of the reporting period using the projected unit credit method. Consideration is given to expected future wage and salary levels, experience of employee departures, and periods of service. Expected future payments are discounted using market yields at the end of the reporting period on national government bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

#### On-costs

The employee benefit provisions include the aggregate on-cost liabilities that will arise when payment of current employee benefits is made in future periods.

These amounts include superannuation, payroll tax and workers compensation expenses which will be payable upon the future payment of certain leave liabilities which employees are entitled to at the reporting period.

### C3-5 Provisions

## C4 Reserves

### C4-1 Nature and purpose of reserves

---

#### **Infrastructure, property, plant and equipment revaluation reserve**

The infrastructure, property, plant and equipment (IPPE) revaluation reserve is used to record increments and decrements in the revaluation of infrastructure, property, plant and equipment.

DRAFT

## D Council structure

### D1 Interests in other entities

#### D1-1 Interests in joint arrangements

##### (i) Joint operations

	Principal activity
<b>(a) Council is involved in the following joint operations (JO's)</b>	
<b>Name of joint operation:</b>	
Bourke Road Integrated Facility	Council main depot operation

##### Council assets employed in the joint operations

\$ '000	2021	2020
<b>Council's own assets employed in the operations</b>		
<b>Current assets:</b>		
Receivables	112	148
<b>Non-current assets</b>		
Property, plant and equipment	17,695	18,025
<b>Total assets – Council owned</b>	<b>17,807</b>	<b>18,173</b>
<b>Total net assets employed – Council and jointly owned</b>	<b>17,807</b>	<b>18,173</b>

##### Accounting policy

The council has determined that it has only joint operations.

##### Joint operations:

In relation to its joint operations, where the Council has the rights to the individual assets and obligations arising from the arrangement, the Council has recognised:

- its assets, including its share of any assets held jointly
- its liabilities, including its share of any liabilities incurred jointly
- its share of the revenue from the sale of the output by the joint operation
- its expenses, including its share of any expenses incurred jointly.

These figures are incorporated into the relevant line item in the primary statements.



## E Risks and accounting uncertainties

### E1-1 Risks relating to financial instruments held

Council's activities expose it to a variety of financial risks including (1) price risk, (2) credit risk, (3) liquidity risk and (4) interest rate risk.

The Council's overall risk management program focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the financial performance of the Council.

Council does not engage in transactions expressed in foreign currencies and is therefore not subject to foreign currency risk.

Financial risk management is carried out by Council's finance section under policies approved by the Council.

The fair value of Council's financial assets and financial liabilities approximates their carrying amount.

\$ '000	Carrying value 2021	Carrying value 2020	Fair value 2021	Fair value 2020
<b>Financial assets</b>				
<b>Measured at amortised cost</b>				
Cash and cash equivalents	28,330	36,225	28,329	36,225
Receivables	18,247	11,336	17,669	11,336
Investments				
– Debt securities at amortised cost	93,500	103,000	93,500	103,000
<b>Fair value through profit and loss</b>				
Investments				
– Held for trading	30,777	33,421	124,277	33,421
<b>Total financial assets</b>	<b>170,854</b>	<b>183,982</b>	<b>263,775</b>	<b>183,982</b>
<b>Financial liabilities</b>				
Payables	33,413	26,669	32,863	26,669
Loans/advances	2,487	2,923	2,487	2,923
<b>Total financial liabilities</b>	<b>35,900</b>	<b>29,592</b>	<b>35,350</b>	<b>29,592</b>

Fair value is determined as follows:

- **Cash and cash equivalents, receivables, payables** – are estimated to be the carrying value that approximates market value.
- **Borrowings and held-to-maturity investments** – are based upon estimated future cash flows discounted by the current mkt interest rates applicable to assets and liabilities with similar risk profiles, unless quoted market prices are available.
- Financial assets classified (i) 'at fair value through profit and loss' or (ii) 'available-for-sale' – are based upon quoted market prices (in active markets for identical investments) at the reporting date or independent valuation.

Council's objective is to maximise its return on cash and investments whilst maintaining an adequate level of liquidity and preserving capital.

Council's finance area manages the cash and Investments portfolio with the assistance of independent advisors.

Council has an investment policy which complies with the Local Government Act 1993 and Minister's investment order 625. This policy is regularly reviewed by Council and its staff and an investment report is tabled before Council on a monthly basis setting out the portfolio breakup and its performance as required by Local Government regulations.

The risks associated with the instruments held are:

- **Price risk** – the risk that the capital value of Investments may fluctuate due to changes in market prices, whether there changes are caused by factors specific to individual financial instruments or their issuers or are caused by factors affecting similar instruments traded in a market.
- **Interest rate risk** – the risk that movements in interest rates could affect returns and income.
- **Liquidity risk** – the risk that Council will not be able to pay its debts as and when they fall due.

## E1-1 Risks relating to financial instruments held (continued)

- **Credit risk** – the risk that the investment counterparty will not complete their obligations particular to a financial instrument, resulting in a financial loss to Council – be it of a capital or income nature.

Council manages these risks (amongst other measures) by diversifying its portfolio and only purchasing investments with high credit ratings or capital guarantees.

Council also seeks advice from independent advisers before placing any funds in cash equivalents and investments.

### (a) Market risk – interest rate and price risk

\$ '000	2021	2020
The impact on result for the year and equity of a reasonably possible movement in the price of investments held and interest rates is shown below. The reasonably possible movements were determined based on historical movements and economic conditions in place at the reporting date.		
Impact of a 1% movement in interest rates		
– Equity / Income Statement	1,526	1,726
Impact of a 10% movement in price of investments		
– Equity / Income Statement	3,078	3,342

## E1-1 Risks relating to financial instruments held (continued)

### (b) Credit risk

Council's major receivables comprise (i) rates and annual charges and (ii) user charges and fees.

Council manages the credit risk associated with these receivables by monitoring outstanding debt and employing stringent debt recovery procedures. Council also encourages ratepayers to pay their rates by the due date through incentives.

The credit risk for liquid funds and other short-term financial assets is considered negligible, since the counterparties are reputable banks with high quality external credit ratings.

There are no significant concentrations of credit risk, whether through exposure to individual customers, specific industry sectors and/or regions.

The level of outstanding receivables is reported to Council monthly and benchmarks are set and monitored for acceptable collection performance.

Council makes suitable provision for doubtful receivables as required and carries out credit checks on most non-rate debtors.

There are no material receivables that have been subjected to a re-negotiation of repayment terms.

### Credit risk profile

#### Receivables – rates and annual charges

Credit risk on rates and annual charges is minimised by the ability of Council to recover these debts as a secured charge over the land; that is, the land can be sold to recover the debt. Council is also able to charge interest on overdue rates and annual charges at higher than market rates which further encourages payment.

\$ '000	Not yet overdue	< 1 year overdue	1 - 2 years overdue	2 - 5 years overdue	> 5 years overdue	Total
<b>2021</b>						
Gross carrying amount	6	2,573	–	–	–	2,579
<b>2020</b>						
Gross carrying amount	–	2,970	–	–	–	2,970

#### Receivables - non-rates and annual charges and contract assets

Council applies the simplified approach for non-rates and annual charges debtors and contract assets to provide for expected credit losses, which permits the use of the lifetime expected loss provision at inception. To measure the expected credit losses, non-rates and annual charges debtors and contract assets have been grouped based on shared credit risk characteristics and the days past due.

The loss allowance provision is determined as follows. The expected credit losses incorporate forward-looking information.

\$ '000	Not yet overdue	0 - 30 days overdue	31 - 60 days overdue	61 - 90 days overdue	> 91 days overdue	Total
<b>2021</b>						
Gross carrying amount	11,488	1,301	298	144	3,877	17,108
Expected loss rate (%)	0.00%	0.00%	0.00%	0.00%	37.14%	8.42%
<b>ECL provision</b>	–	–	–	–	1,440	1,440
<b>2020</b>						
Gross carrying amount	5,481	1,002	153	170	3,124	9,930
Expected loss rate (%)	0.00%	0.00%	0.00%	0.00%	50.06%	15.75%
<b>ECL provision</b>	–	–	–	–	1,564	1,564



## E1-1 Risks relating to financial instruments held (continued)

### (c) Liquidity risk

Payables, lease liabilities and borrowings are both subject to liquidity risk; that is, the risk that insufficient funds may be on hand to meet payment obligations as and when they fall due.

Council manages this risk by monitoring its cash flow requirements and liquidity levels, and by maintaining an adequate cash buffer. Payment terms can be extended, and overdraft facilities drawn upon in extenuating circumstances.

Borrowings are also subject to interest rate risk: the risk that movements in interest rates could adversely affect funding costs. Council manages this risk through diversification of borrowing types, maturities and interest rate structures.

The finance team regularly reviews interest rate movements to determine if it would be advantageous to refinance or renegotiate part or all of the loan portfolio.

The timing of cash flows presented in the table below to settle financial liabilities reflects the earliest contractual settlement dates. The timing of expected outflows is not expected to be materially different from contracted cashflows.

The amounts disclosed in the table are the undiscounted contracted cash flows for non-lease liabilities (refer to Note C2-1(b) for lease liabilities) and therefore the balances in the table may not equal the balances in the Statement of Financial Position due to the effect of discounting.

\$ '000	Weighted average interest rate	Subject to no maturity	≤ 1 Year	payable in:		Total cash outflows	Actual carrying values
				1 - 5 Years	> 5 Years		
<b>2021</b>							
Trade/other payables	0.00%	17,863	14,992	—	—	32,855	32,855
Loans and advances	0.00%	—	447	2,040	—	2,487	2,487
<b>Total financial liabilities</b>		<b>17,863</b>	<b>15,439</b>	<b>2,040</b>	<b>—</b>	<b>35,342</b>	<b>35,342</b>
<b>2020</b>							
Trade/other payables	0.00%	13,162	13,008	—	—	26,170	26,170
Loans and advances	2.68%	—	435	2,364	124	2,923	2,923
<b>Total financial liabilities</b>		<b>13,162</b>	<b>13,443</b>	<b>2,364</b>	<b>124</b>	<b>29,093</b>	<b>29,093</b>

### Loan agreement breaches

Detail here any breaches to loan agreements which have occurred during the reporting year.

## E2-1 Fair value measurement

The Council measures the following asset and liability classes at fair value on a recurring basis:

- Infrastructure, property, plant and equipment
- Investment property
- Financial assets and liabilities

The fair value of assets and liabilities must be estimated in accordance with various accounting standards for either recognition and measurement requirements or for disclosure purposes.

AASB 13 Fair Value Measurement requires all assets and liabilities measured at fair value to be assigned to a 'level' in the fair value hierarchy as follows:

**Level 1:** Unadjusted quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date.

**Level 2:** Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly.

**Level 3:** Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

		Fair value measurement hierarchy					
\$ '000	Notes	Level 2 Significant observable inputs		Level 3 Significant unobservable inputs		Total	
		2021	2020	2021	2020	2021	2020
Recurring fair value measurements							
Financial assets							
Financial investments	C1-2						
At fair value through profit or loss		30,777	33,421	—	—	30,777	33,421
Investment property							
Investment properties	C1-6	110,785	113,910	—	—	110,785	113,910
Total investment property		110,785	113,910	—	—	110,785	113,910
Infrastructure, property, plant and equipment							
	C1-5						
Buildings – non-specialised		—	—	76,035	78,558	76,035	78,558
Buildings special		—	—	54,983	54,317	54,983	54,317
Community land		—	—	101,142	101,142	101,142	101,142
Crown Land		—	—	156,201	156,201	156,201	156,201
Operational land		—	—	78,811	78,811	78,811	78,811
Footpaths		—	—	36,431	33,677	36,431	33,677
Roads		—	—	228,440	222,177	228,440	222,177
Stormwater drainage		—	—	75,461	75,008	75,461	75,008
Office equipment and furniture		—	—	880	1,086	880	1,086
Plant and equipment		—	—	8,205	9,490	8,205	9,490
Open space and recreation		—	—	80,912	70,646	80,912	70,646
Library books and resources		—	—	1,167	1,190	1,167	1,190
Other structures		—	—	23,291	17,815	23,291	17,815
Other assets		—	—	3,711	3,838	3,711	3,838
Total infrastructure, property, plant and equipment		—	—	925,670	903,956	925,670	903,956

### Valuation techniques

Where Council is unable to derive fair valuations using quoted market prices of identical assets (ie. level 1 inputs) Council instead utilises a spread of both observable inputs (level 2 inputs) and unobservable inputs (level 3 inputs).

The fair valuation techniques Council has employed while utilising level 2 and level 3 inputs are as follows:

continued on next page ...

Page 60 of 83

## E2-1 Fair value measurement (continued)

### Financial assets

At fair value through profit and loss are represented by Floating Rate Notes, Covered Bonds and Term Deposits. Council obtains valuations from its Investment Advisor on a monthly basis and at the end of each accounting period to ensure the financial statements reflect the most up to date valuation. The valuations of Floating Rate Notes are sourced base on mid-market prices. That is, valuations are marked at the mid-point of the bid and ask prices in the secondary market. This price represents a general market value for the asset.

There has been no change to the valuation techniques during the reporting period.

### Investment property

The valuation of Council's investment properties was undertaken at June 2021 by APV Valuers & Asset Management,

Investment properties such as commercial units, commercial terraces and retail shops have been valued as market value, having regard to the "highest and best use", taking in consideration the criteria of physical possibility, legal permissibility and financial feasibility. Implied within these criteria is the recognition of the contribution of that specific use to community environment or to community development goals, in addition to wealth maximisation to the individual owner.

The valuation technique utilised is Level 2 inputs (observable inputs), where applicable, included:

- Current rental income
- Rent reviews
- Capitalisation rate
- Price per square metre
- Direct comparison to sales evidence
- Zoning
- Location
- Land area and configuration
- Planning controls

Other investment properties such as public car park and shopping centre office space have been valued using Cost approach with Level 3 valuation inputs in the past. There has been a change to the valuation process by using Market approach with Level 2 valuation inputs as described above during the reporting period.

### Infrastructure, property, plant and equipment (IPPE)

#### Operational Land

The asset class comprises all of Council's land classified as Operational Land under the NSW Local Government Act 1993. The last valuation was undertaken at June 2017 and was performed by Scott Fullarton Valuations Pty Ltd, FAPI, Certified Practising Valuer, Registration No. VAL2144.

Operational land has been valued at market value, having regard to the "highest and best use", after identifying all elements that would be taken into account by buyers and sellers in settling the price, including but not limited to:

- The land's description and/or dimensions;
- Planning and other constraints on development; and
- The potential for alternative use.

Sale prices of comparable land parcels in close proximity were adjusted for differences in key attributes such as size and configuration. The most significant inputs into this valuation approach are price per square metre.

Since extensive professional judgements were required to determine the inputs these assets were classified as having been valued using Level 3 valuation input. There has been no change to the valuation process during the reporting period.

#### Community Land and Crown Land

Valuations of all Council's Community Land and Council managed land were based on either the land value provided by the Valuer-General or an average unit rate based on land value for similar properties where the Valuer-General did not provide a land value having regard to the highest and best use for this land. As these rates were not considered to be observable market evidence they have been classified as Level 3. There has been no change to the valuation process during the reporting period.

#### Buildings – Non Specialised and Specialised

Council's buildings are valued utilising the cost approach by Scott Fullarton Valuations Pty Ltd in June 2017.



## E2-1 Fair value measurement (continued)

The approach estimated the replacement cost of each building and componentising of significant parts with different useful lives and taking into account a range of factors. The unit rates could be supported by market evidence (Level 2 inputs), other inputs (such as estimates of residual value, useful life and asset condition) required extensive professional judgement and impacted significantly on the final determination of fair value.

As such, these assets have been valued using Level 3 inputs. There has been no change to the valuation process during the reporting period.

### Roads

The roads asset class includes roads, defined as the trafficable portion of a road, between but not including the kerb and gutter. It also includes "other roads" assets including Bridges, Carparks, Kerb and Gutter and Traffic facilities.

The 'Cost Approach' using Level 3 inputs was used to value the road carriageway and other road infrastructure. Valuations for the road carriageway, comprising surface, pavement and formation were based primarily on unit rates derived from the Councils schedule of rates tender. Other inputs (such as estimates pattern of consumption, asset condition and useful life) required extensive professional judgement and impacted significantly on the final determination of fair value. Additionally due to limitations in the historical records of very long lived assets there is some uncertainty regarding the actual design, specifications and dimensions of some assets. There has been no change to the valuation process during the reporting period.

### Footpaths

The 'Cost Approach' using Level 3 inputs was used to value footpaths. Valuation for the footpath was based primarily on unit rates derived from the Councils schedule of rates tender. Other inputs (such as estimates pattern of consumption, asset condition and useful life) required extensive professional judgement and impacted significantly on the final determination of fair value. Additionally due to limitations in the historical records of very long lived assets there some uncertainty regarding the actual design, specifications and dimensions of some assets. There has been no change to the valuation process during the reporting period.

### Stormwater Drainage

Assets within this class comprise pits, pipes, open channels, headwalls and various types of water quality devices.

The 'Cost Approach' estimated the replacement cost for each asset by componentising the assets into significant parts with different useful lives and taking into account a range of factors. While the unit rates based on linear metres of certain diameter pipes and prices per pit on similar could be supported from market evidence (Level 2) other inputs (such as estimates of pattern of consumption, asset condition and useful life) required extensive professional judgement and impacted significantly on the final determination of fair value.

Additionally due to limitations in the historical records of very long lived assets there is uncertainty regarding the actual design, specifications and dimensions of some assets. There has been no change to the valuation process during the reporting period.

### Plant & Equipment, Office Equipment and Furniture & Fittings

Plant & Equipment, Office Equipment and Furniture & Fittings are valued at cost but are disclosed at fair value in the notes. The carrying amount of these assets is assumed to approximate fair value due to the nature of the items. Examples of assets within these classes are as follows:

- Plant and Equipment      Trucks, tractors, ride on mowers, street sweepers, earthmoving equipment, buses and motor vehicles
- Office Equipment        Refrigerators, electronic appliances, flat-screen monitors and computer equipment
- Furniture & Fittings      Chairs, desks and display systems.

The key unobservable inputs to the valuation are the remaining useful life and residual value. Council reviews the value of these assets against quoted prices for the gross current replacement cost of similar assets and by taking account of the pattern of consumption, estimated remaining useful life and the residual value. There has been no change to the valuation process during the reporting period.

### Other Open Space / Recreational Assets

Assets within this class comprise Soft Fall Surfaces, BBQs, Regional Sporting Facilities and Playgrounds. All assets in this class were valued in-house by experienced engineering & asset management staff. While some elements of gross replacement values could be supported from market evidence (Level 2 input) other inputs (such as estimates of pattern of consumption, asset condition and useful life) required extensive professional judgement and impacted significantly on the final determination of fair value. There has been no change to the valuation process during the reporting period.

### Library Books and Resources

continued on next page ...

Page 62 of 83

## E2-1 Fair value measurement (continued)

Library Books are valued at cost but are disclosed at fair value in the notes. The carrying amount of these assets is assumed to approximate fair value due to the nature of the items. Council reviews the value of these assets against quoted prices for the gross current replacement cost of similar assets and by taking account of the pattern of consumption, estimated remaining useful life and the residual value. There has been no change to the valuation process during the reporting period.

### Other Structures

This asset class comprises Mall Light, Shade Structure, Flag Pole, Planter Boxes and Garden Beds.

The cost approach has been utilised whereby the replacement cost was estimated for each asset by taking into account a range of factors. While some elements of gross replacement values could be supported from market evidence (Level 2 input) other inputs (such as estimates of pattern of consumption, residual value, asset condition and useful life) required extensive professional judgement and impacted significantly on the final determination of fair value. As such these assets were all classified as having been valued using Level 3 valuation inputs. There has been no change to the valuation process during the reporting period.

### Other Assets

This asset class comprises trees and other miscellaneous assets.

The cost approach has been utilised whereby the replacement cost was estimated for each asset by taking into account a range of factors. While some elements of gross replacement values could be supported from market evidence (Level 2 input) other inputs (such as estimates of pattern of consumption, residual value, asset condition and useful life) required extensive professional judgement and impacted significantly on the final determination of fair value. As such these assets were all classified as having been valued using Level 3 valuation inputs. There has been no change to the valuation process during the reporting period.

## E2-1 Fair value measurement (continued)

---

Fair value measurements using significant unobservable inputs (level 3)

DRAFT

continued on next page ...

Page 64 of 83



## E2-1 Fair value measurement (continued)

### b. Significant unobservable valuation inputs used (for level 3 asset classes) and their relationship to fair value.

The following table summarises the quantitative information relating to the significant unobservable inputs used in deriving the various level 3 asset class fair values.

\$ '000	Fair value (30/6/21) 2021	Valuation technique/s	Unobservable inputs
<b>Infrastructure, property, plant and equipment</b>			
Buildings	131,018	Non-Specialised Buildings: Market Value Specialised Buildings: Depreciated replacement cost	* Gross replacement cost * Asset Condition * Remaining useful life
Community Land and Crown Land	257,343	Land values obtained from the NSW Valuer-General	* Price Per square metre
Operational Land	78,811	Market Value	* Price Per square metre
Footpaths	36,431	Unit rates per m2 or length	* Gross replacement cost * Asset Condition * Remaining useful life
Roads	228,440	Unit rates per m2 or length	* Gross replacement cost * Asset Condition * Remaining useful life
Stormwater Drainage	75,461	Unit rates per m2 or length	* Gross replacement cost * Asset Condition * Remaining useful life
Plant & Equipment	8,205	Historical Cost	* Gross replacement cost * Remaining useful life
Office Equipment	880	Historical Cost	* Gross replacement cost * Remaining useful life
Open Space & Recreation	80,912	Depreciated replacement cost	* Gross replacement cost * Asset Condition * Remaining useful life
Library Books	1,167	Historical Cost	* Gross replacement cost * Remaining useful life
Other Structures	23,291	Depreciated replacement cost	* Gross replacement cost * Asset Condition * Remaining useful life
Other Assets	3,711	Historical Cost	* Gross replacement cost * Remaining useful life

A reconciliation of the movements in recurring fair value measurements allocated to Level 3 of the hierarchy is provided below:

\$ '000	Investment properties		Buildings		Land		Plant & equipment	
	2021	2020	2021	2020	2021	2020	2021	2020
Opening balance	–	158,474	132,875	137,197	336,154	354,238	10,576	12,180
Total gains or losses for the period								
Recognised in other comprehensive income – revaluation surplus	–	–	–	–	–	(18,084)	–	–
Other movements								
Transfers from/(to) level 2 FV hierarchy	–	(158,474)	–	–	–	–	–	–
Purchases (GBV)	–	–	5,073	2,880	–	–	888	1,127
Disposals (WDV)	–	–	–	(305)	–	–	(185)	(282)
Depreciation and impairment	–	–	(6,930)	(6,897)	–	–	(2,194)	(2,449)
Closing balance	–	–	131,018	132,875	336,154	336,154	9,085	10,576

continued on next page ...

Page 65 of 83

## E2-1 Fair value measurement (continued)

\$ '000	Infrastructure		Other assets		Total	
	2021	2020	2021	2020	2021	2020
<b>Opening balance</b>	<b>419,363</b>	418,651	<b>5,028</b>	4,279	<b>903,996</b>	1,085,019
Recognised in other comprehensive income – revaluation surplus	<b>14,033</b>	(3,823)	–	–	<b>14,033</b>	(21,907)
Transfers from/(to) level 2 FV hierarchy	–	–	–	–	–	(158,474)
Transfers from/(to) another asset class	–	(856)	–	856	–	–
Purchases (GBV)	<b>27,285</b>	22,204	<b>202</b>	246	<b>33,448</b>	26,457
Disposals (WDV)	<b>(4,639)</b>	(6,249)	–	(37)	<b>(4,824)</b>	(6,873)
Depreciation and impairment	<b>(11,507)</b>	(10,564)	<b>(352)</b>	(316)	<b>(20,983)</b>	(20,226)
<b>Closing balance</b>	<b>444,535</b>	<b>419,363</b>	<b>4,878</b>	<b>5,028</b>	<b>925,670</b>	<b>903,996</b>

### Highest and best use

All of Council's non-financial assets are considered as being utilised for their highest and best use.

DRAFT

## E3-1 Contingencies

The following assets and liabilities do not qualify for recognition in the Statement of Financial Position, but their knowledge and disclosure is considered relevant to the users of Council's financial report.

### LIABILITIES NOT RECOGNISED

#### 1. Guarantees

##### (i) Defined benefit superannuation contribution plans

Council is party to an Industry Defined Benefit Plan under the Local Government Superannuation Scheme, named The Local Government Superannuation Scheme – Pool B (the Scheme) which is a defined benefit plan that has been deemed to be a 'multi-employer fund' for purposes of AASB119 Employee Benefits for the following reasons:

- Assets are not segregated within the sub-group according to the employees of each sponsoring employer.
- The contribution rates have been the same for all sponsoring employers. That is, contribution rates have not varied for each sponsoring employer according to the experience relating to the employees of that sponsoring employer.
- Benefits for employees of all sponsoring employers are determined according to the same formulae and without regard to the sponsoring employer.
- The same actuarial assumptions are currently used in respect of the employees of each sponsoring employer.

Given the factors above, each sponsoring employer is exposed to the actuarial risks associated with current and former employees of other sponsoring employers, and hence shares in the associated gains and losses (to the extent that they are not borne by members).

##### *Description of the funding arrangements.*

Pooled Employers are required to pay future service employer contributions and past service employer contributions to the Fund.

The future service employer contributions were determined using the new entrant rate method under which a contribution rate sufficient to fund the total benefits over the working life-time of a typical new entrant is calculated. The current future service employer contribution rates are::

Division B	1.9 times member contributions for non-180 Point Members; Nil for 180 Point Members*
Division C	2.5% salaries
Division D	1.64 times member contributions

\* For 180 Point Members, Employers are required to contribute 7% of salaries to these members' accumulation accounts, which are paid in addition to members' defined benefits.

The past service contribution for each Pooled Employer is a share of the total past service contributions of \$40.0 million for 1 July 2019 to 30 June 2021, apportioned according to each employer's share of the accrued liabilities as at 30 June 2019. These past service contributions are used to maintain the adequacy of the funding position for the accrued liabilities.

The adequacy of contributions is assessed at each triennial actuarial investigation and monitored annually between triennials.

##### *Description of the extent to which Council can be liable to the plan for other Council's obligations under the terms and conditions of the multi-employer plan*

As stated above, each sponsoring employer (Council) is exposed to the actuarial risks associated with current and former employees of other sponsoring employers and hence shares in the associated gains and losses.

However, there is no relief under the Fund's trust deed for employers to walk away from their defined benefit obligations. Under limited circumstances, an employer may withdraw from the plan when there are no active members, on full payment of outstanding additional contributions. There is no provision for allocation of any surplus which may be present at the date of withdrawal of the Council.

There are no specific provisions under the Fund's trust deed dealing with deficits or surplus on wind-up.

The amount of Council employer contributions to the defined benefit section of the Local Government Superannuation Scheme and recognised as an expense for the year ending 30 June 2021 was \$681,195.14. The last valuation of the Scheme was performed by the Fund Actuary, Richard Boyfield FIAA as at 30 June 2020, and covers the period ended 30 June 2021.



### E3-1 Contingencies (continued)

The amount of additional contributions included in the total employer contribution advised above is \$681,195.14. Council's expected contribution to the plan for the next annual reporting period is \$682,685.64.

The estimated employer reserves financial position for the Pooled Employers at 30 June 2021 is:

Employer reserves only *	\$millions	Asset Coverage
Assets	2,620.5	
Past Service Liabilities	2,445.6	107.2%
Vested Benefits	2,468.7	106.2%

\* excluding member accounts and reserves in both assets and liabilities.

The share of this deficit that is broadly attributed to Council is estimated to be in the order of \$681,195.14 as at 30 June 2021.

Council's share of that deficiency cannot be accurately calculated as the Scheme is a mutual arrangement where assets and liabilities are pooled together for all member councils. For this reason, no liability for the deficiency has been recognised in Council's accounts. Council has a possible obligation that may arise should the Scheme require immediate payment to correct the deficiency.

The key economic long term assumptions used to calculate the present value of accrued benefits are:

Investment return	5.75% per annum
Salary inflation *	3.5% per annum
Increase in CPI	2.5% per annum

\* Plus promotional increases

The contribution requirements may vary from the current rates if the overall sub-group experience is not in line with the actuarial assumptions in determining the funding program; however, any adjustment to the funding program would be the same for all sponsoring employers in the Pooled Employers group.

#### (ii) Statewide Limited

Council is a member of Statewide Mutual, a mutual pool scheme providing liability insurance to local government.

Membership includes the potential to share in either the net assets or liabilities of the fund depending on its past performance. Council's share of the net assets or liabilities reflects Council's contributions to the pool and the result of insurance claims within each of the fund years.

The future realisation and finalisation of claims incurred but not reported to 30/6 this year may result in future liabilities or benefits as a result of past events that Council will be required to fund or share in respectively.

#### (iii) StateCover Limited

Council is a member of StateCover Mutual Limited and holds a partly paid share in the entity.

StateCover is a company providing workers compensation insurance cover to the NSW local government industry and specifically Council.

Council has a contingent liability to contribute further equity in the event of the erosion of the company's capital base as a result of the company's past performance and/or claims experience or as a result of any increased prudential requirements from APRA.

These future equity contributions would be required to maintain the company's minimum level of net assets in accordance with its licence requirements.

#### (iv) Other guarantees

Council has provided no other guarantees other than those listed above.

### 2. Other liabilities

continued on next page ...

Page 68 of 83

## E3-1 Contingencies (continued)

### (i) Third party claims

The Council is involved from time to time in various claims incidental to the ordinary course of business including claims for damages relating to its services.

Council believes that it is appropriately covered for all claims through its insurance coverage and does not expect any material liabilities to eventuate.

### (ii) Potential land acquisitions due to planning restrictions imposed by Council

Council has classified a number of privately owned land parcels as local open space or bushland.

As a result, where notified in writing by the various owners, Council will be required to purchase these land parcels.

At reporting date, reliable estimates as to the value of any potential liability (and subsequent land asset) from such potential acquisitions has not been possible.

## ASSETS NOT RECOGNISED

### (i) Land under roads

As permitted under AASB 1051, Council has elected not to bring to account land under roads that it owned or controlled up to and including 30/6/08.

### (ii) Infringement notices/fines

Fines and penalty income, the result of Council issuing infringement notices is followed up and collected by the Infringement Processing Bureau.

Council's revenue recognition policy for such income is to account for it as revenue on receipt.

Accordingly, at year end, there is a potential asset due to Council representing issued but unpaid infringement notices.

Due to the limited information available on the status, value and duration of outstanding notices, Council is unable to determine the value of outstanding income.

## F People and relationships

### F1 Related party disclosures

#### F1-1 Key management personnel (KMP)

Key management personnel (KMP) of the council are those persons having the authority and responsibility for planning, directing and controlling the activities of the council, directly or indirectly.

The aggregate amount of KMP compensation included in the Income Statement is:

\$ '000	2021	2020
<b>Compensation:</b>		
Short-term benefits	2,235	2,152
Post-employment benefits	127	125
Other long-term benefits	152	79
<b>Total</b>	<b>2,514</b>	<b>2,356</b>

#### Other transactions with KMP and their related parties

Nature of the transaction	Ref	Transactions during the year	Outstanding balances including commitments	Terms and conditions	Impairment provision on outstanding balances	Impairment expense
<b>\$ '000</b>						
<b>2021</b>						
Grants & Contributions Provided to Waverley Action for Youth Services	1	86	—		—	—
Subsidised Property Rental from Waverley Action for Youth Services	2	13	—		—	—
<b>2020</b>						
Grants & Contributions Provided to Waverley Action for Youth Services	1	86	—		—	—
Subsidised Property Rental from Waverley Action for Youth Services	2	12	—		—	—

1 Council Provides a Community Grants Program to ensure the delivery of a range of services to the local community. A KMP is a member of the management committee of one of its supported Community Organisations - Waverley Action For Youth Services.

2 A KMP is member of the Waverley Action For Youth Services (WAYS) management committee. WAYS rents two properties for its operation from Council and Council provides rental subsidies of \$60k annually to WAYS for the two property leases. WAYS paid the Council at \$13k of rent and utility expenses in 2020/21.



## F1-2 Councillor and Mayoral fees and associated expenses

\$ '000	2021	2020
The aggregate amount of Councillor and Mayoral fees and associated expenses included in materials and services expenses in the Income Statement are:		
Mayoral fee	44	44
Councillors' fees	237	243
Other Councillors' expenses (including Mayor)	98	104
<b>Total</b>	<b>379</b>	<b>391</b>

DRAFT

## F2 Other relationships

### F2-1 Audit fees

\$ '000	2021	2020
---------	------	------

During the year, the following fees were incurred for services provided by the auditor of Council, related practices and non-related audit firms

#### Auditors of the Council - NSW Auditor-General:

##### (i) Audit and other assurance services

Audit and review of financial statements

#### Remuneration for audit and other assurance services

#### Total Auditor-General remuneration

#### Total audit fees

87	83
87	83
87	83
87	83

DRAFT

## G Other matters

### G1-1 Statement of Cash Flows information

#### Reconciliation of net operating result to cash provided from operating activities

\$ '000	2021	2020
<b>Net operating result from Income Statement</b>	<b>7,409</b>	<b>(43,418)</b>
<b>Adjust for non-cash items:</b>		
Depreciation and amortisation	21,412	20,678
Net losses/(gains) on disposal of assets	5,552	7,806
Adoption of AASB 15/1058	–	(2,000)
Losses/(gains) recognised on fair value re-measurements through the P&L:		
– Investments classified as 'at fair value' or 'held for trading'	(1,854)	372
– Investment property	3,657	45,734
<b>+/- Movement in operating assets and liabilities and other cash items:</b>		
Decrease/(increase) in receivables	(6,787)	(2,120)
Increase/(decrease) in provision for impairment of receivables	(124)	92
Decrease/(increase) in other current assets	(110)	142
Increase/(decrease) in payables	4,325	678
Increase/(decrease) in accrued interest payable	(3)	5
Increase/(decrease) in other accrued expenses payable	(2,249)	1,808
Increase/(decrease) in other liabilities	3,856	509
Increase/(decrease) in contract liabilities	(27)	997
Increase/(decrease) in provision for employee benefits	341	1,496
<b>Net cash provided from/(used in) operating activities from the Statement of Cash Flows</b>	<b>35,398</b>	<b>32,779</b>



## G2-1 Commitments

### Capital commitments (exclusive of GST)

\$ '000	2021	2020
---------	------	------

Capital expenditure committed for at the reporting date but not recognised in the financial statements as liabilities:

#### Property, plant and equipment

Buildings	29,258	4,962
Plant and equipment	503	153
Infrastructure	10,319	27,673
<b>Total commitments</b>	<b>40,080</b>	<b>32,788</b>

#### These expenditures are payable as follows:

Later than one year and not later than 5 years	353	6,208
Within the next year	39,727	26,580
<b>Total payable</b>	<b>40,080</b>	<b>32,788</b>

#### Sources for funding of capital commitments:

Unrestricted general funds	853	699
Future grants and contributions	8,866	15,793
Section 7.11 and 64 funds/reserves	609	4,467
Unexpended grants	707	477
Externally restricted reserves	36	207
Internally restricted reserves	29,009	11,145
<b>Total sources of funding</b>	<b>40,080</b>	<b>32,788</b>

DRAFT

### G3-1 Events occurring after the reporting date

---

Council is unaware of any material or significant 'non-adjusting events' that should be disclosed.

DRAFT

## G4 Statement of developer contributions as at 30 June 2021

### G4 Summary of developer contributions

\$ '000	Opening balance at 1 July 2020	Contributions received during the year		Interest and investment income earned	Amounts expended	Internal borrowings	Held as restricted asset at 30 June 2021	Cumulative balance of internal borrowings (to)/from
		Cash	Non-cash					
S7.12 levies – under a plan	2,237	3,645	–	–	(3,435)	–	2,447	–
<b>Total S7.11 and S7.12 revenue under plans</b>	2,237	3,645	–	–	(3,435)	–	2,447	–
S7.4 planning agreements	20,136	3,019	–	–	(1,127)	–	22,028	–
<b>Total contributions</b>	22,373	6,664	–	–	(4,562)	–	24,475	–

Under the Environmental Planning and Assessment Act 1979, Council has significant obligations to provide Section 7.11 (contributions towards provision or improvement of amenities or services) infrastructure in new release areas. It is possible that the funds contributed may be less than the cost of this infrastructure, requiring Council to borrow or use general revenue to fund the difference.

### S7.12 Levies – under a plan

\$ '000	Opening balance at 1 July 2020	Contributions received during the year		Interest and investment income earned	Amounts expended	Internal borrowings	Held as restricted asset at 30 June 2021	Cumulative balance of internal borrowings (to)/from
		Cash	Non-cash					
<b>S7.12 LEVIES – UNDER A PLAN</b>								
Roads	2,237	3,645	–	–	(3,435)	–	2,447	–
<b>Total</b>	2,237	3,645	–	–	(3,435)	–	2,447	–



## G5 Statement of performance measures

### G5-1 Statement of performance measures – consolidated results

\$ '000	Amounts 2021	Indicator 2021	2020	Prior periods 2019	2018	Benchmark
<b>1. Operating performance ratio</b>						
Total continuing operating revenue excluding capital grants and contributions less operating expenses <sup>1,2</sup>	(4,421)	(3.41)%	(8.34)%	0.78%	1.76%	>0.00%
Total continuing operating revenue excluding capital grants and contributions <sup>1</sup>	129,572					
<b>2. Own source operating revenue ratio</b>						
Total continuing operating revenue excluding all grants and contributions <sup>1</sup>	119,908	80.61%	79.17%	87.32%	86.65%	>60.00%
Total continuing operating revenue	148,757					
<b>3. Unrestricted current ratio</b>						
Current assets less all external restrictions	130,351	5.17x	6.73x	11.14x	10.15x	>1.50x
Current liabilities less specific purpose liabilities	25,221					
<b>4. Debt service cover ratio</b>						
Operating result before capital excluding interest and depreciation/impairment/amortisation <sup>1</sup>	17,073	18.18x	11.18x	42.77x	23.78x	>2.00x
Principal repayments (Statement of Cash Flows) plus borrowing costs (Income Statement)	939					
<b>5. Rates and annual charges outstanding percentage</b>						
Rates and annual charges outstanding	2,907	4.24%	5.06%	2.84%	3.11%	<5.00%
Rates and annual charges collectable	68,544					
<b>6. Cash expense cover ratio</b>						
Current year's cash and cash equivalents plus all term deposits	121,830	12.40	13.38	15.22	14.82	>3.00
Monthly payments from cash flow of operating and financing activities	9,823	mths	mths	mths	mths	mths

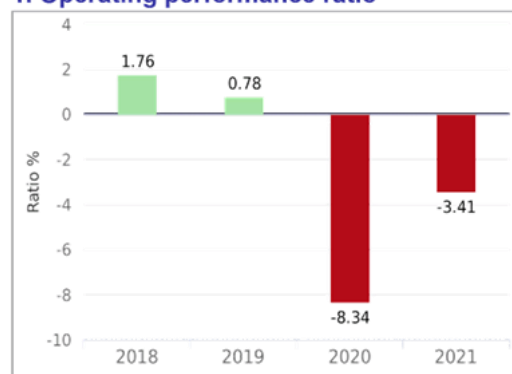
(1) Excludes fair value increments on investment properties, reversal of revaluation decrements, reversal of impairment losses on receivables, net gain on sale of assets and net share of interests in joint ventures and associates using the equity method and includes pensioner rate subsidies

(2) Excludes impairment/revaluation decrements of IPPE, fair value decrements on investment properties, net loss on disposal of assets and net loss on share of interests in joint ventures and associates using the equity method

## H Additional Council disclosures (unaudited)

### H1-1 Statement of performance measures – consolidated results (graphs)

#### 1. Operating performance ratio



##### Purpose of operating performance ratio

This ratio measures Council's achievement of containing operating expenditure within operating revenue.

##### Commentary on 2020/21 result

2020/21 ratio (3.41)%

In 2020/21 financial year, Council's operating performance has continuously been impacted by COVID-19. Council has experienced revenue loss from investment income and COVID relief package, at the same time, Council is proactively managing its costs. Consequently, the operating performance ratio has improved from 2019/20, but is still not meeting the industry benchmark of 0.00% for FY2020/21.

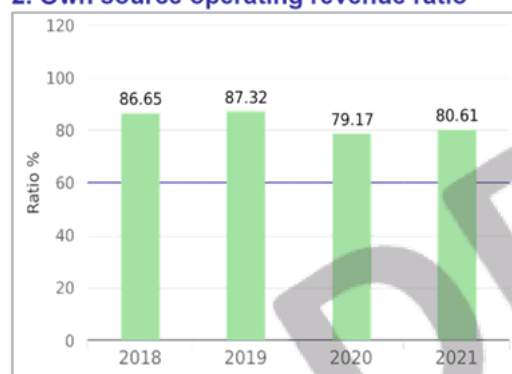
Benchmark: — > 0.00%

Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

Ratio is outside benchmark

#### 2. Own source operating revenue ratio



##### Purpose of own source operating revenue ratio

This ratio measures fiscal flexibility. It is the degree of reliance on external funding sources such as operating grants and contributions.

##### Commentary on 2020/21 result

2020/21 ratio 80.61%

The ratio compares well with the industry benchmark of greater than 60.00%, it shows Waverley Council is less reliant on external funding sources to carry out its services & activities.

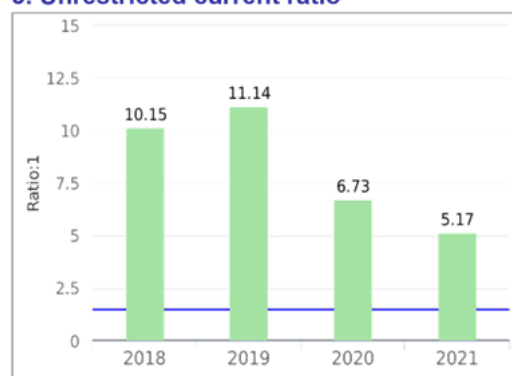
Benchmark: — > 60.00%

Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

Ratio is outside benchmark

#### 3. Unrestricted current ratio



##### Purpose of unrestricted current ratio

To assess the adequacy of working capital and its ability to satisfy obligations in the short term for the unrestricted activities of Council.

##### Commentary on 2020/21 result

2020/21 ratio 5.17x

Council's liquidity remains strong with sufficient liquid assets on hand to meeting short term obligations as they fall due. It compares well against the industry benchmark of 1.50x.

Benchmark: — > 1.50x

Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

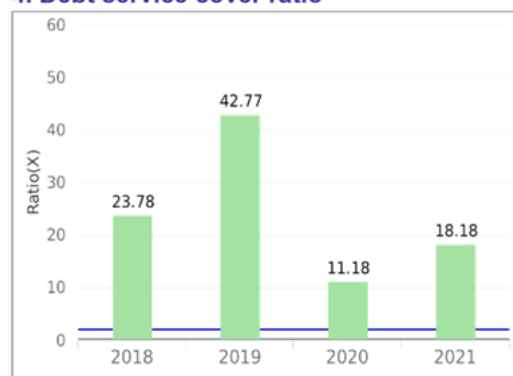
Ratio is outside benchmark

continued on next page ...

Page 78 of 83

## H1-1 Statement of performance measures – consolidated results (graphs) (continued)

### 4. Debt service cover ratio



#### Purpose of debt service cover ratio

This ratio measures the availability of operating cash to service debt including interest, principal and lease payments

#### Commentary on 2020/21 result

2020/21 ratio 18.18x

This ratio shows that Waverley Council has strong capacity to repay additional debt and provides a favorable comparison with the industry benchmark of greater than 2.00x.

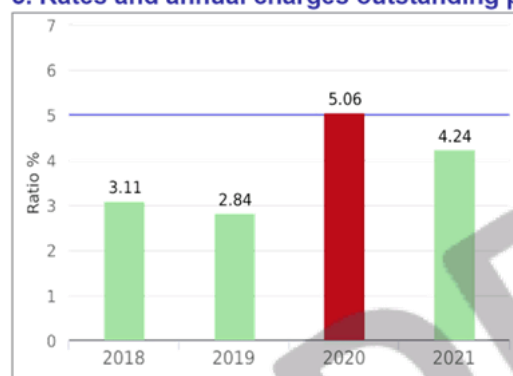
Benchmark: — > 2.00x

Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

Ratio is outside benchmark

### 5. Rates and annual charges outstanding percentage



#### Purpose of rates and annual charges outstanding percentage

To assess the impact of uncollected rates and annual charges on Council's liquidity and the adequacy of recovery efforts.

#### Commentary on 2020/21 result

2020/21 ratio 4.24%

The ratio compares well with the industry benchmark of less than 5.00%.

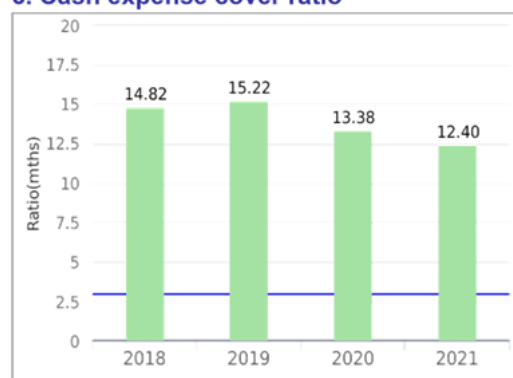
Benchmark: — < 5.00%

Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

Ratio is outside benchmark

### 6. Cash expense cover ratio



#### Purpose of cash expense cover ratio

This liquidity ratio indicates the number of months a Council can continue paying for its immediate expenses without additional cash inflow.

#### Commentary on 2020/21 result

2020/21 ratio 12.40 mths

This ratio compares favorably with the industry benchmark of greater than 3.00 months.

Benchmark: — > 3.00mths

Source of benchmark: Code of Accounting Practice and Financial Reporting

Ratio achieves benchmark

Ratio is outside benchmark



## H1-2 Financial review

### Key financial figures of Council over the past 5 years

\$ '000	2021	2020	2019	2018	2017
<b>Inflows:</b>					
Rates and annual charges revenue	65,151	63,403	61,429	59,366	57,375
User charges revenue	33,786	32,450	37,278	35,575	34,230
Interest and investment revenue (losses)	3,714	3,383	5,266	4,583	4,481
Grants income – operating and capital	22,081	20,404	10,858	7,785	9,468
Total income from continuing operations	150,611	147,638	141,037	144,113	138,106
Sale proceeds from IPPE	359	469	992	845	5,729
New loan borrowings and advances	–	–	–	–	2,200
<b>Outflows:</b>					
Employee benefits and on-cost expenses	68,129	70,122	63,857	55,865	58,268
Borrowing costs	82	128	90	120	142
Materials and contracts expenses	41,322	43,639	21,666	22,387	22,975
Total expenses from continuing operations	143,202	191,056	133,537	127,000	126,933
Total cash purchases of IPPE	56,261	37,703	19,978	20,310	24,268
Total loan repayments (incl. finance leases)	865	786	412	815	960
Operating surplus/(deficit) (excl. capital income)	(11,776)	(64,502)	(1,911)	6,742	2,510
<b>Financial position figures</b>					
Current assets	167,493	171,538	163,095	161,567	153,157
Current liabilities	53,059	45,541	37,438	37,240	36,741
Net current assets	114,434	125,997	125,657	124,327	116,416
Available working capital (Unrestricted net current assets)	(5,156)	(5,285)	5,892	4,882	6,811
Cash and investments – unrestricted	12,088	12,638	7,779	8,996	6,970
Cash and investments – internal restrictions	103,253	128,765	141,958	140,107	132,690
Cash and investments – total	152,607	172,646	179,429	171,783	157,727
Total borrowings outstanding (loans, advances and finance leases)	2,487	2,923	3,346	3,758	4,573
Total value of IPPE (excl. land and earthworks)	1,310,615	1,229,311	1,157,203	1,145,220	1,135,009
Total accumulated depreciation	519,780	483,332	394,961	379,029	364,101
Indicative remaining useful life (as a % of GBV)	60%	61%	66%	67%	68%

**Source:** published audited financial statements of Council (current year and prior year)

## H1-3 Council information and contact details

---

**Principal place of business:**

Customer Service Centre, 55 Spring Street Bondi Junction

**Contact details**

PO Box 9  
Bondi Junction  
NSW 1355

**Telephone:** 02 9083 8000

**Opening hours:**

9:00am - 5:00pm  
Monday to Friday

**Internet:** [www.waverley.nsw.gov.au](http://www.waverley.nsw.gov.au)

**Email:** [info@waverley.nsw.gov.au](mailto:info@waverley.nsw.gov.au)

**Officers**

**Emily Scott**  
General Manager

**Darren Smith**  
Responsible Accounting Officer

**Public Officer**  
Evan Hutchings

**Auditors**  
The Audit Office of New South Wales  
Level 19, Darling Park Tower 2  
201 Sussex Street  
Sydney NSW 2000

**Elected members**

Paula Masselos  
Mayor

**Councillors**

Cr Angela Burrill  
Cr Dominic Wy Kanak  
Cr Elaine Keenan  
Cr John Wakefield  
Cr George Copeland  
Cr Leon Glotsman  
Cr Sally Betts  
Cr Steve Lewis  
Cr Tony Kay  
Cr Will Nemesh

**Other information**

**ABN:** 12 502 583 608

## Waverley Council

### General Purpose Financial Statements for the year ended 30 June 2021

---

DRAFT



## Waverley Council

### General Purpose Financial Statements for the year ended 30 June 2021

---

DRAFT

DRAFT

# Waverley Council

## SPECIAL PURPOSE FINANCIAL STATEMENTS for the year ended 30 June 2021

*Connecting the city and the sea.*

*A welcoming and cohesive community that celebrates and enhances our spectacular coastline, vibrant places, and rich cultural heritage.*



## Waverley Council

### Special Purpose Financial Statements

for the year ended 30 June 2021

Contents	Page
<b>Statement by Councillors and Management</b>	<b>3</b>
<b>Special Purpose Financial Statements:</b>	
Income Statement of Property	4
Income Statement of Commercial waste	5
Income Statement of Cemetery	6
Statement of Financial Position of Property	7
Statement of Financial Position of Commercial waste	8
Statement of Financial Position of Cemetery	9
<b>Note – Significant Accounting Policies</b>	<b>10</b>
<b>Auditor's Report on Special Purpose Financial Statements</b>	<b>13</b>

#### Background

- i. These Special Purpose Financial Statements have been prepared for the use by both Council and the Office of Local Government in fulfilling their requirements under National Competition Policy.
- ii. The principle of competitive neutrality is based on the concept of a 'level playing field' between persons/entities competing in a market place, particularly between private and public sector competitors.

Essentially, the principle is that government businesses, whether Commonwealth, state or local, should operate without net competitive advantages over other businesses as a result of their public ownership.

- iii. For Council, the principle of competitive neutrality and public reporting applies only to declared business activities.

These include **(a)** those activities classified by the Australian Bureau of Statistics as business activities being water supply, sewerage services, abattoirs, gas production and reticulation, and **(b)** those activities with a turnover of more than \$2 million that Council has formally declared as a business activity (defined as Category 1 activities).

- iv. In preparing these financial statements for Council's self-classified Category 1 businesses and ABS-defined activities, councils must **(a)** adopt a corporatisation model and **(b)** apply full cost attribution including tax-equivalent regime payments and debt guarantee fees (where the business benefits from Council's borrowing position by comparison with commercial rates).



## Waverley Council

### Special Purpose Financial Statements

for the year ended 30 June 2021

---

#### Statement by Councillors and Management made pursuant to the Local Government Code of Accounting Practice and Financial Reporting

The attached Special Purpose Financial Statements have been prepared in accordance with:

- the NSW Government Policy Statement 'Application of National Competition Policy to Local Government',
- the Division of Local Government Guidelines 'Pricing and Costing for Council Businesses – A Guide to Competitive Neutrality',
- the Local Government Code of Accounting Practice and Financial Reporting.

To the best of our knowledge and belief, these statements:

- present fairly the operating result and financial position for each of Council's declared business activities for the year, and
- accord with Council's accounting and other records.

We are not aware of any matter that would render these statements false or misleading in any way.

Signed in accordance with a resolution of Council made on **17 August 2021**.

---

Paula Masselos  
Mayor  
17 August 2021

---

Elaine Keenan  
Deputy Mayor  
17 August 2021

---

Emily Scott  
General Manager  
17 August 2021

---

Darren Smith  
Responsible Accounting Officer  
17 August 2021

## Waverley Council

Income Statement of Property  
for the year ended 30 June 2021

\$ '000	2021 Category 1	2020 Category 1
<b>Income from continuing operations</b>		
User charges	2,681	2,716
Other income	3,178	2,959
<b>Total income from continuing operations</b>	<b>5,859</b>	<b>5,675</b>
<b>Expenses from continuing operations</b>		
Employee benefits and on-costs	563	564
Materials and services	649	792
Other expenses	5,189	47,104
<b>Total expenses from continuing operations</b>	<b>6,401</b>	<b>48,460</b>
<b>Surplus (deficit) from continuing operations before capital amounts</b>	<b>(542)</b>	<b>(42,785)</b>
<b>Surplus (deficit) from continuing operations after capital amounts</b>	<b>(542)</b>	<b>(42,785)</b>
<b>Surplus (deficit) from all operations before tax</b>	<b>(542)</b>	<b>(42,785)</b>
<b>Surplus (deficit) after tax</b>	<b>(542)</b>	<b>(42,785)</b>
<b>Plus accumulated surplus</b>	<b>113,703</b>	<b>158,465</b>
<b>Plus adjustments for amounts unpaid:</b>		
<b>Less:</b>		
– Dividend paid	(2,487)	(1,977)
<b>Closing accumulated surplus</b>	<b>110,674</b>	<b>113,703</b>
<b>Subsidy from Council</b>	<b>542</b>	<b>42,785</b>

## Waverley Council

Income Statement of Commercial waste  
for the year ended 30 June 2021

\$ '000	2021 Category 1	2020 Category 1
<b>Income from continuing operations</b>		
User charges	3,028	3,446
<b>Total income from continuing operations</b>	<b>3,028</b>	<b>3,446</b>
<b>Expenses from continuing operations</b>		
Employee benefits and on-costs	1,261	753
Materials and services	37	47
Depreciation, amortisation and impairment	2	6
Other expenses	1,487	1,948
<b>Total expenses from continuing operations</b>	<b>2,787</b>	<b>2,754</b>
<b>Surplus (deficit) from continuing operations before capital amounts</b>	<b>241</b>	<b>692</b>
<b>Surplus (deficit) from continuing operations after capital amounts</b>	<b>241</b>	<b>692</b>
<b>Surplus (deficit) from all operations before tax</b>	<b>241</b>	<b>692</b>
Less: corporate taxation equivalent [based on result before capital]	(63)	(190)
<b>Surplus (deficit) after tax</b>	<b>178</b>	<b>502</b>
<b>Plus accumulated surplus</b>	<b>139</b>	<b>24</b>
<b>Plus adjustments for amounts unpaid:</b>		
– Corporate taxation equivalent	63	190
<b>Less:</b>		
– Dividend paid	(522)	(577)
<b>Closing accumulated surplus</b>	<b>(142)</b>	<b>139</b>



## Waverley Council

Income Statement of Cemetery  
for the year ended 30 June 2021

\$ '000	2021 Category 2	2020 Category 2
<b>Income from continuing operations</b>		
User charges	1,298	833
Interest	16	23
<b>Total income from continuing operations</b>	<b>1,314</b>	<b>856</b>
<b>Expenses from continuing operations</b>		
Employee benefits and on-costs	814	892
Materials and services	178	184
Depreciation, amortisation and impairment	60	44
Other expenses	651	322
<b>Total expenses from continuing operations</b>	<b>1,703</b>	<b>1,442</b>
<b>Surplus (deficit) from continuing operations before capital amounts</b>	<b>(389)</b>	<b>(586)</b>
<b>Surplus (deficit) from continuing operations after capital amounts</b>	<b>(389)</b>	<b>(586)</b>
<b>Surplus (deficit) from all operations before tax</b>	<b>(389)</b>	<b>(586)</b>
<b>Surplus (deficit) after tax</b>	<b>(389)</b>	<b>(586)</b>
<b>Plus accumulated surplus</b>	<b>16,088</b>	<b>16,780</b>
<b>Plus adjustments for amounts unpaid:</b>		
<b>Add:</b>		
– Subsidy paid/contribution to operations	(502)	(106)
<b>Less:</b>		
<b>Closing accumulated surplus</b>	<b>15,197</b>	<b>16,088</b>
<b>Return on capital %</b>	<b>(0.7)%</b>	<b>(1.1)%</b>
<b>Subsidy from Council</b>	<b>1,170</b>	<b>1,052</b>

## Waverley Council

## Statement of Financial Position of Property

as at 30 June 2021

\$ '000	2021 Category 1	2020 Category 1
<b>ASSETS</b>		
<b>Current assets</b>		
Receivables	186	215
<b>Total current assets</b>	<b>186</b>	<b>215</b>
<b>Non-current assets</b>		
Investment property	110,785	113,910
<b>Total non-current assets</b>	<b>110,785</b>	<b>113,910</b>
<b>Total assets</b>	<b>110,971</b>	<b>114,125</b>
<b>LIABILITIES</b>		
<b>Current liabilities</b>		
Payables	129	266
Employee benefit provisions	91	79
<b>Total current liabilities</b>	<b>220</b>	<b>345</b>
<b>Total liabilities</b>	<b>220</b>	<b>345</b>
<b>Net assets</b>	<b>110,751</b>	<b>113,780</b>
<b>EQUITY</b>		
Accumulated surplus	110,674	113,703
Revaluation reserves	77	77
<b>Total equity</b>	<b>110,751</b>	<b>113,780</b>

## Waverley Council

## Statement of Financial Position of Commercial waste

as at 30 June 2021

\$ '000	2021 Category 1	2020 Category 1
<b>ASSETS</b>		
<b>Current assets</b>		
Receivables	131	238
<b>Total current assets</b>	<b>131</b>	<b>238</b>
<b>Total assets</b>	<b>131</b>	<b>238</b>
<b>LIABILITIES</b>		
<b>Current liabilities</b>		
Payables	192	11
Employee benefit provisions	81	88
<b>Total current liabilities</b>	<b>273</b>	<b>99</b>
<b>Total liabilities</b>	<b>273</b>	<b>99</b>
<b>Net assets</b>	<b>(142)</b>	<b>139</b>
<b>EQUITY</b>		
Accumulated surplus	(142)	139
<b>Total equity</b>	<b>(142)</b>	<b>139</b>

DRAFT



## Waverley Council

Statement of Financial Position of Cemetery  
as at 30 June 2021

\$ '000	2021 Category 2	2020 Category 2
<b>ASSETS</b>		
<b>Current assets</b>		
Cash and cash equivalents	583	872
<b>Total current assets</b>	<b>583</b>	<b>872</b>
<b>Non-current assets</b>		
Infrastructure, property, plant and equipment	52,401	52,992
<b>Total non-current assets</b>	<b>52,401</b>	<b>52,992</b>
<b>Total assets</b>	<b>52,984</b>	<b>53,864</b>
<b>LIABILITIES</b>		
<b>Current liabilities</b>		
Payables	23	10
Employee benefit provisions	113	115
<b>Total current liabilities</b>	<b>136</b>	<b>125</b>
<b>Total liabilities</b>	<b>136</b>	<b>125</b>
<b>Net assets</b>	<b>52,848</b>	<b>53,739</b>
<b>EQUITY</b>		
Accumulated surplus	15,197	16,088
Revaluation reserves	37,651	37,651
<b>Total equity</b>	<b>52,848</b>	<b>53,739</b>

## Note – Significant Accounting Policies

A statement summarising the supplemental accounting policies adopted in the preparation of the special purpose financial statements (SPFS) for National Competition Policy (NCP) reporting purposes follows.

These financial statements are SPFS prepared for use by Council and the Office of Local Government. For the purposes of these statements, the Council is a non-reporting not-for-profit entity.

The figures presented in these special purpose financial statements have been prepared in accordance with the recognition and measurement criteria of relevant Australian Accounting Standards, other authoritative pronouncements of the Australian Accounting Standards Board (AASB) and Australian Accounting Interpretations.

The disclosures in these special purpose financial statements have been prepared in accordance with the *Local Government Act 1993* (Act), the *Local Government (General) Regulation 2005* (Regulation) and the Local Government Code of Accounting Practice and Financial Reporting.

The statements are prepared on an accruals basis. They are based on historic costs and do not take into account changing money values or, except where specifically stated, fair value of non-current assets. Certain taxes and other costs, appropriately described, have been imputed for the purposes of the National Competition Policy.

The Statement of Financial Position includes notional assets/liabilities receivable from/payable to Council's general fund. These balances reflect a notional intra-entity funding arrangement with the declared business activities.

### National Competition Policy

Council has adopted the principle of 'competitive neutrality' in its business activities as part of the National Competition Policy which is being applied throughout Australia at all levels of government. The framework for its application is set out in the June 1996 NSW Government Policy statement titled 'Application of National Competition Policy to Local Government'. *The Pricing and Costing for Council Businesses – A Guide to Competitive Neutrality* issued by the Office of Local Government in July 1997 has also been adopted.

The pricing and costing guidelines outline the process for identifying and allocating costs to activities and provide a standard for disclosure requirements. These disclosures are reflected in Council's pricing and/or financial reporting systems and include taxation equivalents, Council subsidies, and returns on investments (rate of return and dividends paid).

### Declared business activities

In accordance with *Pricing and Costing for Council Businesses – A Guide to Competitive Neutrality*, Council has declared that the following are to be considered as business activities:

#### Category 1

(where gross operating turnover is over \$2 million)

##### a. Waverley Council Property Services

Comprising the whole of the operations and assets of the property services, commercial properties controlled by Waverley Council.

##### b. Waverley Council Trade Waste Services

Comprising the whole of the operations and assets of the commercial waste services which service the area of Waverley. This service collects and disposes of waste collected from commercial premises.

#### Category 2

(where gross operating turnover is less than \$2 million)

##### a. Waverley & South Head Cemeteries

Comprising the whole of the operations and assets of both the Waverley & South Head Cemeteries.

This business operates from offices located at Waverley Cemetery dealing with maintenance, sales and burials.

### Taxation equivalent charges

Council is liable to pay various taxes and financial duties. Where this is the case, they are disclosed as a cost of operations just like all other costs.

However, where Council does not pay some taxes which are generally paid by private sector businesses, such as income tax, these equivalent tax payments have been applied to all Council-nominated business activities and are reflected in Special Purpose Financial Statements.

## Note – Significant Accounting Policies (continued)

For the purposes of disclosing comparative information relevant to the private sector equivalent, the following taxation equivalents have been applied to all Council-nominated business activities (this does not include Council's non-business activities):

### Notional rate applied (%)

Corporate income tax rate – 27.5%

Land tax – the first \$692,000 of combined land values attracts 0%. For the combined land values in excess of \$692,001 up to \$4,321,000 the rate is 1.6% + \$100. For the remaining combined land value that exceeds \$4,321,000 a premium marginal rate of 2.0% applies.

Payroll tax – 5.45% on the value of taxable salaries and wages in excess of \$850,000.

### Income tax

An income tax equivalent has been applied on the profits of the business activities.

Whilst income tax is not a specific cost for the purpose of pricing a good or service, it needs to be taken into account in terms of assessing the rate of return required on capital invested.

Accordingly, the return on capital invested is set at a pre-tax level - gain/(loss) from ordinary activities before capital amounts, as would be applied by a private sector competitor. That is, it should include a provision equivalent to the corporate income tax rate, currently 27.5%.

Income tax is only applied where a gain/ (loss) from ordinary activities before capital amounts has been achieved.

Since the taxation equivalent is notional – that is, it is payable to Council as the 'owner' of business operations - it represents an internal payment and has no effect on the operations of the Council. Accordingly, there is no need for disclosure of internal charges in the SPFS.

The rate applied of 27.5% is the equivalent company tax rate prevalent at reporting date. No adjustments have been made for variations that have occurred during the year.

### Local government rates and charges

A calculation of the equivalent rates and charges for all Category 1 businesses has been applied to all assets owned, or exclusively used by the business activity.

### Loan and debt guarantee fees

The debt guarantee fee is designed to ensure that Council business activities face 'true' commercial borrowing costs in line with private sector competitors. In order to calculate a debt guarantee fee, Council has determined what the differential borrowing rate would have been between the commercial rate and Council's borrowing rate for its business activities.

#### (i) Subsidies

Government policy requires that subsidies provided to customers, and the funding of those subsidies, must be explicitly disclosed.

Subsidies occur when Council provides services on a less-than-cost-recovery basis. This option is exercised on a range of services in order for Council to meet its community service obligations.

Accordingly, 'subsidies disclosed' (in relation to National Competition Policy) represents the difference between revenue generated from 'rate of return' pricing and revenue generated from prices set by Council in any given financial year.

The overall effect of subsidies is contained within the Income Statement of each reported business activity.

#### (ii) Return on investments (rate of return)

The NCP policy statement requires that councils with Category 1 businesses 'would be expected to generate a return on capital funds employed that is comparable to rates of return for private businesses operating in a similar field'.

Funds are subsequently available for meeting commitments or financing future investment strategies. The rate of return is disclosed for each of Council's business activities on the Income Statement.

continued on next page ...

Page 11 of 13



## Note – Significant Accounting Policies (continued)

---

The rate of return is calculated as follows:

**Operating result before capital income + interest expense**

---

**Written down value of I,PP&E as at 30 June**

As a minimum, business activities should generate a return equal to the Commonwealth 10 year bond rate which is 1.49% at 30/6/21.

### (iii) Dividends

Council is not required to pay dividends to either itself (as owner of a range of businesses) or to any external entities.

DRAFT

## Waverley Council

### Special Purpose Financial Statements for the year ended 30 June 2021

---

DRAFT

DRAFT

# Waverley Council

SPECIAL SCHEDULES  
for the year ended 30 June 2021

*Connecting the city and the sea.*

*A welcoming and cohesive community that celebrates and enhances our spectacular coastline, vibrant places, and rich cultural heritage.*





## Waverley Council

### Special Schedules

for the year ended 30 June 2021

---

#### Contents

#### Page

#### Special Schedules:

Permissible income for general rates

3

Report on infrastructure assets as at 30 June 2021

4

DRAFT

## Waverley Council

## Permissible income for general rates

\$ '000	Notes	Calculation 2020/21	Calculation 2021/22
<b>Notional general income calculation <sup>1</sup></b>			
Last year notional general income yield	a	46,068	47,171
Plus or minus adjustments <sup>2</sup>	b	(75)	183
<b>Notional general income</b>	c = a + b	<b>45,993</b>	<b>47,354</b>
<b>Permissible income calculation</b>			
Rate peg percentage	e	2.60%	2.00%
Plus rate peg amount	i = e x (c + g)	1,196	947
<b>Sub-total</b>	k = (c + g + h + i + j)	<b>47,189</b>	<b>48,301</b>
Plus (or minus) last year's carry forward total	l	5	21
<b>Sub-total</b>	n = (l + m)	<b>5</b>	<b>21</b>
<b>Total permissible income</b>	o = k + n	<b>47,194</b>	<b>48,322</b>
Less notional general income yield	p	47,171	48,285
<b>Catch-up or (excess) result</b>	q = o - p	<b>23</b>	<b>37</b>
Less unused catch-up <sup>5</sup>	s	(2)	(2)
<b>Carry forward to next year <sup>6</sup></b>	t = q + r + s	<b>21</b>	<b>35</b>

## Notes

- (1) The notional general income will not reconcile with rate income in the financial statements in the corresponding year. The statements are reported on an accrual accounting basis which include amounts that relate to prior years' rates income.
- (2) Adjustments account for changes in the number of assessments and any increase or decrease in land value occurring during the year. The adjustments are called 'supplementary valuations' as defined in the Valuation of Land Act 1916.
- (5) Unused catch-up amounts will be deducted if they are not caught up within 2 years. Usually councils will have a nominal carry forward figure. These amounts can be adjusted for in setting the rates in a future year.
- (6) Carry forward amounts which are in excess (an amount that exceeds the permissible income) require ministerial approval by order published in the NSW Government Gazette in accordance with section 512 of the Local Government Act 1993. The OLG will extract these amounts from Council's Permissible income for general rates Statement in the financial data return (FDR) to administer this process.

## Waverley Council

## Report on infrastructure assets as at 30 June 2021

Asset Class	Asset Category	Estimated cost to bring assets to satisfactory standard	Estimated cost to bring to the agreed level of service set by Council	2020/21 Required maintenance <sup>a</sup>	2020/21 Actual maintenance	Net carrying amount	Gross replacement cost (GRC)	Assets in condition as a percentage of gross replacement cost				
		\$ '000	\$ '000	\$ '000	\$ '000	\$ '000	\$ '000	1	2	3	4	5
Buildings	Council Offices/ Administration Centres	223	223	792	817	11,445	24,911	0.0%	25.1%	69.8%	5.1%	0.0%
	Council Works Depot	—	—	1,002	1,021	8,372	11,185	98.2%	0.0%	1.8%	0.0%	0.0%
	Council Public Halls	864	864	200	261	21,129	70,002	11.2%	0.0%	81.7%	7.1%	0.0%
	Libraries	—	—	593	579	21,329	37,025	0.0%	100.0%	0.0%	0.0%	0.0%
	Cultural Facilities	531	531	684	764	13,054	22,069	62.6%	0.0%	30.2%	4.3%	2.9%
	Other Buildings	801	801	1,512	1,398	50,163	82,668	11.0%	46.9%	36.5%	5.6%	0.0%
	Specialised Buildings	39	39	613	682	5,527	7,977	66.5%	6.1%	24.7%	2.7%	0.0%
	<b>Sub-total</b>	<b>2,458</b>	<b>2,458</b>	<b>5,396</b>	<b>5,522</b>	<b>131,018</b>	<b>255,837</b>	<b>18.4%</b>	<b>32.3%</b>	<b>44.4%</b>	<b>4.7%</b>	<b>0.3%</b>
Other structures	Other structures	1,053	386	215	371	23,291	38,056	44.6%	31.7%	7.9%	15.8%	0.0%
	<b>Sub-total</b>	<b>1,053</b>	<b>386</b>	<b>215</b>	<b>371</b>	<b>23,291</b>	<b>38,056</b>	<b>44.6%</b>	<b>31.7%</b>	<b>7.9%</b>	<b>15.8%</b>	<b>0.0%</b>
Roads	Roads	—	—	—	—	—	—	0.0%	0.0%	0.0%	0.0%	0.0%
	Sealed roads	225	—	885	907	64,684	107,713	24.2%	56.6%	18.0%	1.2%	0.0%
	Footpaths	332	—	5,204	5,455	36,430	63,506	14.7%	66.3%	16.0%	3.0%	0.0%
	Other road assets	142	—	2,395	2,581	17,083	28,329	35.6%	47.2%	14.4%	2.8%	0.0%
	Sealed roads structure	—	—	—	—	79,254	195,254	2.4%	0.1%	97.5%	0.0%	0.0%
	Kerb and Gutter	825	—	67	70	67,420	109,795	32.7%	48.9%	14.3%	4.1%	0.0%
	Other road assets (incl. bulk earth works)	—	—	—	—	—	—	0.0%	0.0%	0.0%	0.0%	0.0%
	<b>Sub-total</b>	<b>1,524</b>	<b>—</b>	<b>8,551</b>	<b>9,013</b>	<b>264,871</b>	<b>504,597</b>	<b>17.1%</b>	<b>33.8%</b>	<b>47.5%</b>	<b>1.7%</b>	<b>0.0%</b>
Stormwater drainage	Stormwater drainage	—	—	407	529	—	29,216	27.5%	67.9%	4.6%	0.0%	0.0%
	Other	365	—	—	—	75,461	98,195	12.4%	68.2%	18.3%	1.1%	0.0%
	<b>Sub-total</b>	<b>365</b>	<b>—</b>	<b>407</b>	<b>529</b>	<b>75,461</b>	<b>127,411</b>	<b>15.9%</b>	<b>68.1%</b>	<b>15.2%</b>	<b>0.8%</b>	<b>0.0%</b>
Open space / recreational assets	Swimming pools	1,785	—	5,592	5,652	80,912	140,156	27.6%	40.1%	25.7%	6.6%	0.0%
	<b>Sub-total</b>	<b>1,785</b>	<b>—</b>	<b>5,592</b>	<b>5,652</b>	<b>80,912</b>	<b>140,156</b>	<b>27.6%</b>	<b>40.1%</b>	<b>25.7%</b>	<b>6.6%</b>	<b>0.0%</b>
<b>Total – all assets</b>		<b>7,185</b>	<b>2,844</b>	<b>20,161</b>	<b>21,087</b>	<b>575,553</b>	<b>1,066,057</b>	<b>19.6%</b>	<b>38.3%</b>	<b>38.6%</b>	<b>3.5%</b>	<b>0.1%</b>

(a) Required maintenance is the amount identified in Council's asset management plans.

## Infrastructure asset condition assessment 'key'

1 **Excellent/very good** No work required (normal maintenance)4 **Poor**

Renewal required

continued on next page ...

Page 4 of 7



Waverley Council

Report on infrastructure assets as at 30 June 2021 (continued)

---

2	Good	Only minor maintenance work required	5	Very poor	Urgent renewal/upgrading required
3	Satisfactory	Maintenance work required			

DRAFT

## Waverley Council

## Report on infrastructure assets as at 30 June 2021

## Infrastructure asset performance indicators (consolidated) \*

\$ '000	Amounts 2021	Indicator 2021	2020	Prior periods 2019	2018	Benchmark
<b>Buildings and infrastructure renewals ratio</b>						
Asset renewals <sup>1</sup>	49,638					
Depreciation, amortisation and impairment	18,437	269.23%	158.13%	82.57%	94.13%	>=100.00%
<b>Infrastructure backlog ratio</b>						
Estimated cost to bring assets to a satisfactory standard	7,185					
Net carrying amount of infrastructure assets	620,671	1.16%	0.97%	1.01%	1.05%	<2.00%
<b>Asset maintenance ratio</b>						
Actual asset maintenance	21,087					
Required asset maintenance	20,161	104.59%	108.19%	102.33%	94.25%	>100.00%
<b>Cost to bring assets to agreed service level</b>						
Estimated cost to bring assets to an agreed service level set by Council	2,844	0.27%	0.56%	0.60%	0.64%	
Gross replacement cost	1,066,057					

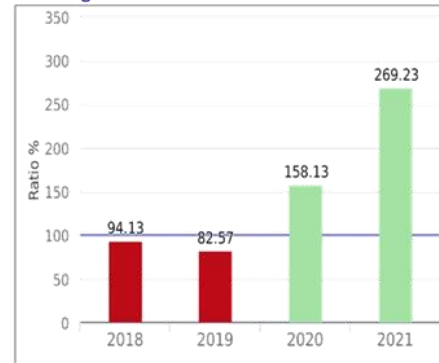
(\*) All asset performance indicators are calculated using classes identified in the previous table.

(1) Asset renewals represent the replacement and/or refurbishment of existing assets to an equivalent capacity/performance as opposed to the acquisition of new assets (or the refurbishment of old assets) that increases capacity/performance.

## Waverley Council

## Report on infrastructure assets as at 30 June 2021

## Buildings and infrastructure renewals ratio

Benchmark: —  $\geq 100.00\%$ 

Source of benchmark: Code of Accounting Practice and Financial Reporting

## Buildings and infrastructure renewals ratio

To assess the rate at which these assets are being renewed relative to the rate at which they are depreciating.

## Commentary on result

20/21 ratio 269.23%

Council's infrastructure assets upgrades and renewals are carried out as per its Strategic Asset Management Plan (SAMP) to ensure the assets are keeping to the agreed community satisfactory level.

Ratio achieves benchmark

Ratio is outside benchmark

## Asset maintenance ratio

Benchmark: —  $> 100.00\%$ 

Source of benchmark: Code of Accounting Practice and Financial Reporting

## Asset maintenance ratio

Compares actual vs. required annual asset maintenance. A ratio above 1.0 indicates Council is investing enough funds to stop the infrastructure backlog growing.

## Commentary on result

20/21 ratio 104.59%

This ratio compares well with the industry benchmark of 100%. It indicates Council's spending on asset maintenance is sufficient to stop the infrastructure backlog from growing.

Ratio achieves benchmark

Ratio is outside benchmark

## Infrastructure backlog ratio

Benchmark: —  $< 2.00\%$ 

Source of benchmark: Code of Accounting Practice and Financial Reporting

## Infrastructure backlog ratio

This ratio shows what proportion the backlog is against the total value of a Council's infrastructure.

## Commentary on result

20/21 ratio 1.16%

This ratio shows that Council has a small proportion of infrastructure backlog and it compares favorably with the industry benchmark of less than 2.00%.

Ratio achieves benchmark

Ratio is outside benchmark

## Cost to bring assets to agreed service level



## Cost to bring assets to agreed service level

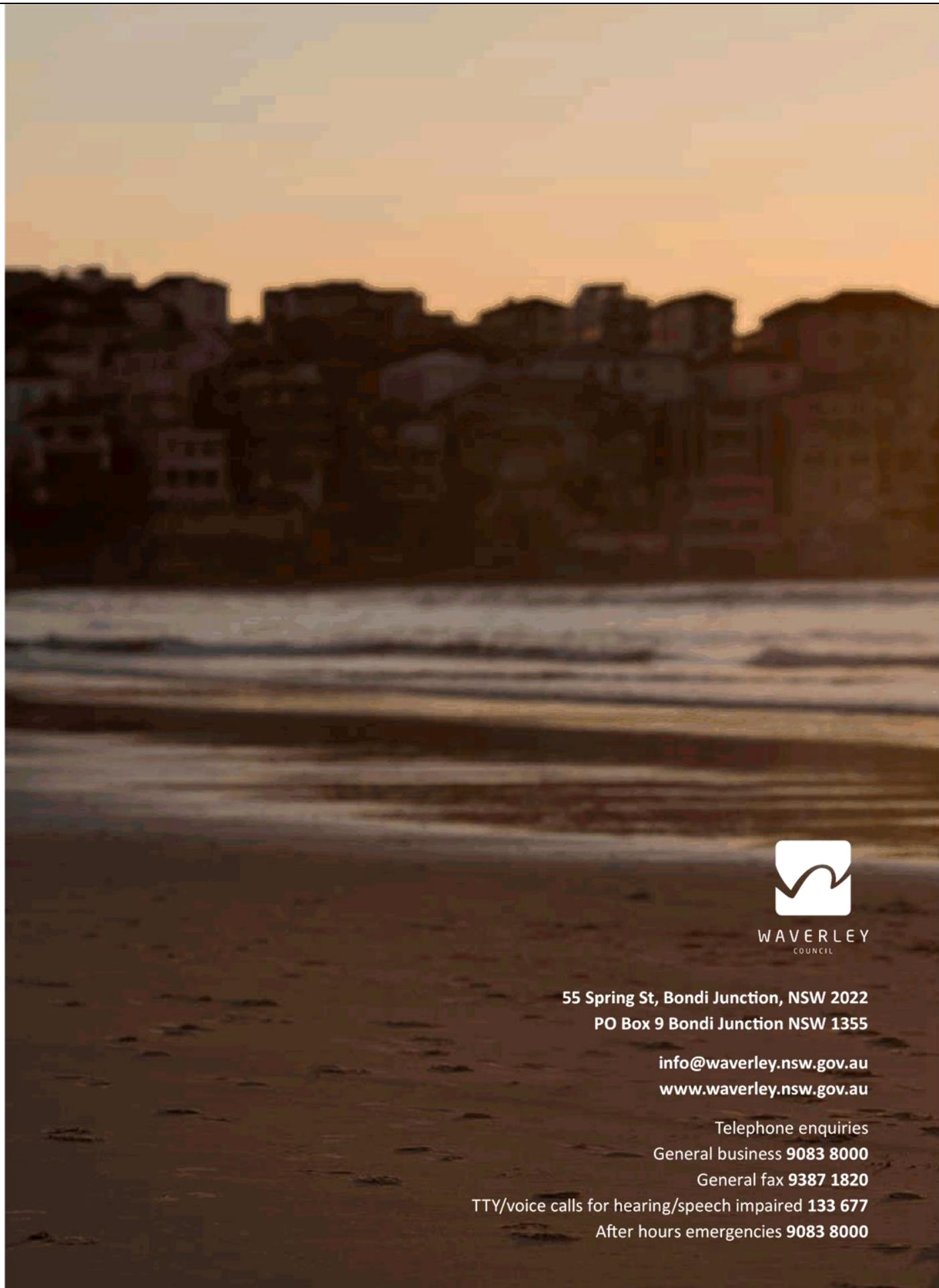
This ratio provides a snapshot of the proportion of outstanding renewal works compared to the total value of assets under Council's care and stewardship.

## Commentary on result

20/21 ratio 0.27%

This ratio shows that Council has a small proportion of outstanding infrastructure upgrade/renewal works to bring assets at agreed service levels, as compared to the total value of its assets.





**WAVERLEY**  
COUNCIL

**55 Spring St, Bondi Junction, NSW 2022**  
**PO Box 9 Bondi Junction NSW 1355**

**[info@waverley.nsw.gov.au](mailto:info@waverley.nsw.gov.au)**  
**[www.waverley.nsw.gov.au](http://www.waverley.nsw.gov.au)**

Telephone enquiries  
General business **9083 8000**  
General fax **9387 1820**  
TTY/voice calls for hearing/speech impaired **133 677**  
After hours emergencies **9083 8000**





WAVERLEY  
COUNCIL

# BIODIVERSITY ACTION PLAN 2021-2030

Waverley Council LGA  
Remnant Vegetation  
Sites



## BIODIVERSITY ACTION PLAN 2021-2030

### Waverley Council LGA Remnant Vegetation Sites

Quality Control	© Total Earth Care Pty Ltd 2020		
Revision/Version No.	Draft D	Date of revision	21 July 2021
Prepared by:	G Tear, G Barron, T Boreham, K Raines		
Authorised by:	W Thurston, G Barron, G Tear		
Prepared for:	Waverley Council		
TEC Job No.	C11688		

Cover Photo: *Acacia terminalis* subsp. *Eastern Sydney* at Loombah Rd, Dover Heights



July 2021

Total Earth Care Pty Ltd

## TABLE OF CONTENTS

1	Introduction	1
2	North Clifftop Remnants – Clarke Reserve, Jensen Avenue, MacDonald Street, Tower Street Reserves, Kimberley Street, Douglas Parade, Bay Street and Sam Fiszman Park	5
3	Diamond Bay Reserve	17
4	Eastern Reserve	30
5	Caffyn Park	42
6	Raleigh, Rodney & Weonga Reserves	50
7	Loombah Road Cliffs	60
8	Hugh Bamford Reserve	68
9	Bondi Golf Course & Williams Park	79
10	South Clifftop Remnants - Bronte to Tamarama, South Bondi & Gaerloch to South Bondi	85
11	Tamarama Marine Drive	101
12	Calga Reserve & Bronte Cutting	109
13	Waverley Cemetery Cliffs	120
14	York Road Bushland	130
15	Priority Actions across the Waverley Council LGA	134
16	References	147
	GLOSSARY	149
	ACRONYMS AND ABBREVIATIONS	149
	Appendix A – Recommended Action Methodologies	150

Appendix B – Methodology used for preparing this plan	160
Appendix C – Weed species of the Waverley LGA	162
Appendix D – Weed Treatment and Timing for Priority Weeds	168
Appendix E – Fauna Species Recorded in the Waverley LGA Since 2010 (DPIE 2020 – Bionet & AMBS 2011)	170
Appendix F – Revegetation Species List	176
Appendix G – Dominant Problem Native Species By Site	180

## Table of Tables

Table 2-1 – Native Flora Species of the North Clifftop Remnants (SBRC 2020)	6
Table 2-2 – North Clifftop Remnants Management Zones and Actions – Clarke & Jensen Avenue Reserves	9
Table 2-3 – North Clifftop Remnants Management Zones and Actions – Tower Street And MacDonald Street Reserves & Kimberley Street	12
Table 2-4 – North Clifftop Remnants Management Zones and Actions – Douglas Parade, Bay Street and Sam Fiszman Park	15
Table 3-1 – Native Flora Species of the Diamond Bay Reserve Bushland Remnants (SBRC 2020)	17
Table 3-2 – Diamond Bay Remnants Management Zones and Actions	22
Table 4-1 – Native Flora Species of the Eastern Reserve Remnants (SBRC 2020)	30
Table 4-2 – Eastern Reserve Management Zones and Actions	35
Table 5-1 – Caffyn Park Native Flora Species (SBRC 2020)	42
Table 5-2 – Caffyn Park Management Zones and Actions	46
Table 6-1 – Raleigh, Rodney and Weonga Reserves Native Flora Species (SBRC 2020)	50
Table 6-2 – Raleigh, Rodney and Weonga Reserves Management Zones and Actions	54
Table 7-1 – Loombah Road Cliff Native Flora Species (SBRC 2020)	60
Table 7-2 – Loombah Road Cliffs Management Zones and Actions	64
Table 8-1 – Hugh Bamford Reserve Cutting Bushland Remnants Native Flora Species (SBRC 2020)	68
Table 8-2 – Hugh Bamford Reserve Management Zones and Actions	72
Table 9-1 – Bondi Golf Course & Williams Park Native Flora Species (SBRC 2020)	79
Table 9-2 – Bondi Golf Course & Williams Park Remnants Management Zones and Actions	82
Table 10-1 – Native Flora Species of the South Clifftop Remnants (SBRC 2020)	85
Table 10-2 – South Clifftop Remnants Management Zones and Actions – South Bondi (Map 10-1)	89

July 2021

Total Earth Care Pty Ltd

Table 10-3 – South Clifftop Remnants Management Zones and Actions – Gaerloch to South Bondi (Map 10-2) .....	95
Table 10-4 – South Clifftop Remnants – Bronte to Tamarama – Management Zones and Management Actions (Map 10-3) .....	99
Table 11-1 – Tamarama Marine Drive Native Flora Species (SBRC 2020) .....	101
Table 11-2 – Tamarama Marine Drive Management Zones and Actions .....	105
Table 12-1 – Calga Reserve and Bronte Cutting Bushland Remnants Native Flora Species (SBRC 2020) .....	109
Table 12-2 – Calga Reserve & Bronte Cutting Management Zones and Actions .....	114
Table 13-1 – Waverley Cemetery Cliffs Bushland Remnants Native Flora Species (SBRC 2020) .....	120
Table 13-2 – Waverley Cemetery Cliffs Management Zones and Actions .....	124
Table 14-1 – York Road Bushland Remnants Native Flora Species (SBRC 2020) .....	130
Table 14-2 – York Road Management Zones and Actions .....	133
Table 15-1. 2021 to 2026 Priority actions within each site and year within the Waverley Council LGA .....	134
Table 15-2. 2026 to 2030 Priority actions within each site and year within the Waverley Council LGA .....	143
Table C-1. Weed species present at each site (X – Observed on site, XX – Dominant weed on site, A – Observed by Council on site.) .....	162

## Table of Maps

Map 1-1 – Remnant Vegetation of the Waverley LGA included in this BAP .....	4
Map 2-1 – North Cliff Top Remnants – Clarke & Jensen Avenue Reserves – Weed Density and Management Actions .....	8
Map 2-2 – North Clifftop Remnants – Tower Street And MacDonald Street Reserves & Kimberley Street – Weed Density and Management Actions .....	11
Map 2-3 – North Clifftop Remnants – Douglas Parade, Bay Street and Sam Fiszman Park – Weed Density and Management Actions .....	14
Map 3-1 – Diamond Bay (North) – Weed Density and Management Actions .....	20
Map 3-2 – Diamond Bay Reserve (South) – Weed Density and Management Actions .....	21
Map 4-1 – Eastern Reserve (North) – Weed Density and Management Actions .....	33
Map 4-2 – Eastern Reserve (South) – Weed Density and Management Actions .....	34
Map 5-1 – Caffyn Park – Weed Density and Management Actions .....	45
Map 6-1 – Raleigh, Rodney & Weonga Reserves (North) – Weed Density and Management Actions ..	52
Map 6-2 – Raleigh, Rodney & Weonga Reserves (South) – Weed Density and Management Actions ..	53
Map 7-1 – Loombah Road Cliffs – Weed Density and Management Actions .....	63
Map 8-1 – Hugh Bamford Reserve – Weed Density and Management Actions .....	71
Map 9-1 – Bondi Golf Course & Williams Park – Weed Density and Management Actions .....	81

Map 10-1 – South Clifftop Remnants - South Bondi – Weed Density and Management Actions .....	88
Map 10-2 – South Clifftop Remnants - Gaerloch to South Bondi – Weed Density and Management Actions .....	94
Map 10-3 – South Clifftop Remnants Management Zones and Actions –Tamarama to Bronte .....	98
Map 11-1 – Tamarama Marine Drive – Weed Density and Management Actions .....	104
Map 12-1 – Calga Reserve & Bronte Cutting (North) – Weed Density and Management Actions .....	112
Map 12-2 – Calga Reserve & Bronte Cutting (South) – Weed Density and Management Actions .....	113
Map 13-1 – Waverley Cemetery Cliffs (North) – Weed Density and Management Actions .....	122
Map 13-2 – Waverley Cemetery Cliffs (South) – Weed Density and Management Actions .....	123
Map 14-1 – York Road – Weed Density and Management Actions .....	132

July 2021

Total Earth Care Pty Ltd

## 1 INTRODUCTION

### 1.1 BACKGROUND

The natural coastline and its native vegetation is an important feature of the geography of the Waverley LGA, due to the aesthetic beauty, natural heritage values and the biodiversity it provides. Just under 6 hectares of remnant vegetation remains in the LGA. The remnant vegetation is supported by planted areas of native flora. Together, these areas of remnant and planted native vegetation create a fragmented, but diverse landscape which supports a wide range of animals. Protection of these areas is critical from an ecological perspective but also in order to meet the Premier's priorities and to allow for access to green space by current and future generations.

The vegetation within Waverley LGA is both fragmented and small in area, but still holds an incredible amount of diversity and some interesting species if you know where to look! Within our remnants there are sites such as the Tamarama Marine Drive Remnant, which supports an enormous number (44) of native plant species, despite being surrounded by housing, turfed areas and the coastline. Other remnant areas include the critically endangered ecological community (CEEC) Eastern Suburbs Banksia Scrub (ESBS) at Queens Park and York Road, which is managed in conjunction with Centennial Parklands. Waverley's only population of the threatened plant species, *Acacia terminalis* subsp. *Eastern Sydney* exists within one of our smallest remnant patches. Five years ago the population had dropped to only two individual plants, but now, with active management, there is an established and thriving population. See Map 1-1 for areas of remnant vegetation across the Waverley LGA addressed in this Biodiversity Action Plan (BAP).

A map of the remnant vegetation within the Waverley LGA can also be found here: <https://discover.waverley.nsw.gov.au/connect/analyst/mobile/#/main?mapcfg=Environment>.

The remnant vegetation and supporting native bushland exists in some of the most visited areas along the Australian coastline. This vegetation has evolved in harsh salty conditions and changing weather and provides the background for tourists and locals alike at Waverley Cemetery, along Bondi to Bronte walk, and the parks of the south-eastern section of the Bondi to Manly walk. These popular walking routes are also the location for the Waverley areas main habitat corridor which the remnant vegetation and adjacent planted bushland play a key role in supporting.

The pressures of development, recreation, clearing of vegetation, and weeds, mean that without ongoing management, the remnant vegetation and supporting bushland areas will be continually reduced in size, degrade in condition and eventually disappear. Fragmentation also means that there is likely low genetic diversity within plant species, which reduces the resilience and ability of plants to thrive.

The Bidjigal and Gadigal people are the traditional custodians of the Waverley LGA. A number of the remnant vegetation sites included in the BAP contain aboriginal heritage sites such as the rock engravings at the Bondi Golf Course and Marks Park. A total of nine known Aboriginal Heritage sites exist within the Waverley LGA. These include rock engravings, shelters with painted art motifs, open campsites and rock shelters with middens.

The ongoing management of the native vegetation within Waverley LGA must maintain and support a balance between human activity and biodiversity whilst providing cultural, social and spiritual learning platforms. It is important that personnel working in areas of known aboriginal heritage sites are aware of their locations to avoid damage or harm to the site. By managing the biodiversity in areas surrounding these sites it will help retain the integrity of the bushland that form part of the aboriginal history of the area. It is recommended that Council engage with the traditional owners for additional input including involvement in cultural burning or education programs to raise community awareness of the importance of biodiversity and the aboriginal history of the area.

This Plan outlines management actions to address the Waverley Council Environmental Action Plan Version 4 2018-2030 (EAP4) biodiversity targets:

- To ensure no loss of remnant vegetation based on 2009 to 2010 figures; and
- That 40% of remnant vegetation is of good condition by 2040.

In addition Council acknowledges the importance of non-remnant native vegetation, and so additional targets within EAP4 include:

- Improve and expand areas of revegetation; and
- Improve and strengthen existing habitat corridors, enrich known microhabitat habitat patches for specific fauna, and create new habitat connections where possible.

Maintaining and improving the condition and extent of remnant vegetation and restored native vegetation requires an integrated approach. The Plan is divided up into the 13 main remnant vegetation areas and their supporting planted bushland sites. As biodiversity and climate are ever changing, the management actions proposed need to be continually assessed before and after implementation to ensure effectiveness.



July 2021

Total Earth Care Pty Ltd

## 1.2 ABOUT THIS PLAN

This Plan is the second BAP developed for Waverley LGA and outlines detailed management actions and recommendations relating to weed management, buffer planting, stimulation of natural regeneration of remnants where possible, and fauna habitat creation, retention and enhancement. Protection of the remnants is of priority, but on occasion this is to be achieved via management actions within surrounding planted vegetation as opposed to within the remnant itself. For example, if there is an area of high weed density adjacent to a patch of good quality remnant vegetation, managing the weeds to prevent encroachment would be a high priority for this area. The period of this Plan is nine years, providing actions up until 2029 – 2030 Financial Year (FY).

The recommended management actions detailed in this Plan are aimed at achieving the above mentioned targets but is dependent on available budgets. Some areas require large investments of resources and funding in management actions to protect, improve or expand areas of remnant but are vital in protecting remnants from being lost. By fully budgeting for this plan it will, prevent further loss of remnant vegetation, improve the resilience of the remnant bushland to climate change and reduce the future management costs. If all management actions were fully budgeted for and adaptive management continued towards 2040, it is likely that 40% of remnant vegetation could be in good condition by 2040. If the plan can only be partially budgeted, some more resilient areas of remnant vegetation can still be improved. However it is possible smaller fragments of remnant vegetation that require more protection and investment may be lost. Therefore actions have been prioritised to maximise investments and prevent the loss of remnant vegetation.

By improving the remnant vegetation condition it will make the bushland more resilient to climate change, ongoing urban pressures and continue to provide habitat to support a diverse range of native animals. Due to the increasing urban pressures of the area and fragmented nature of the remnant vegetation and climate change, without management it is likely many remnants would be lost and with it the loss of fauna habitat and decline of local native fauna populations.

## 1.3 FAUNA HABITAT MANAGEMENT

An incredible 139 fauna species have been recorded within the Waverley LGA since 2010 (Appendix E, AMBS 2011, DPIE 2020). This is significant diversity in a largely urban LGA. Management strategies must also consider fauna habitat for example areas of exposed sandstone, dead logs and branches should be retained as these are important habitat features for a number of fauna species including birds and lizards (AMBS 2011). Where

possible, existing patches of vegetation should be joined through connectivity plantings to allow passage for fauna and to extend available habitat.

Weed thickets, particularly Lantana thickets and dense areas of *Coprosma repens* (Mirror Bush) are known to provide shelter and nesting habitat for small birds. As such, the retention of these weeds can also be important where available habitat is limited. Rather than removing these they can be contained and managed as habitat. Where weed thickets are to be removed they should be done in a staged manner to allow replacement habitat to be planted and establish before removing existing habitat. (AMBS 2011)

Additional habitat management may include the retention of logs and reuse of hollows. Species selection for buffer and connectivity is also important to ensure a variety of suitable plant species are used that will provide food or habitat to the fauna likely to use the site (AMBS 2011). Further details on habitat management are provided in Appendix A.

## 1.4 BIOSECURITY ACT 2015

Under the NSW *Biosecurity Act 2015* Council have a legal obligation to manage the biosecurity risk posed or likely to be posed by reducing the impacts of Priority Weeds on human health, the economy, community and the environment. Council are obligated to control Priority Weeds within Council managed lands. They are also the Local Control Authority to ensure other land owners carry out their obligations to manage the Biosecurity Risk as imposed under the Act by controlling Priority Weeds. The Priority Weeds identified in the Waverley LGA are provided in the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022* and detailed in Appendix C.

Management actions have been based on weed management requirements under the *Biosecurity Act 2015* with consideration also given to their importance as fauna habitat.

## 1.5 ADAPTIVE MANAGEMENT & CLIMATE CHANGE

This plan provides site specific management actions to improve condition and expand the area of remnant vegetation. It is likely that changes in climate, heavy rains or prolonged dry periods may affect the outcomes of management actions. As such, adaptive management is required where changes may be implemented to management actions or priorities may shift. With any management actions implemented, it is essential that results and effectiveness are monitored and adapted where necessary. Monitoring is also important to assess the success of more innovative actions and allow for them to be adapted to improve their outcomes or to utilise them in additional locations.

July 2021

Total Earth Care Pty Ltd

The management actions in this plan follow basic bush regeneration principals. As such, they allow for the remnant vegetation to self-propagate through their own seed and seed present within the seedbank as a priority over planting or revegetation. Germination from the native seedbank is encouraged through actions including weed management, exposure to light, soil disturbance, smoke and fire. In some cases this may not be successful if no viable seedbank remains. Therefore it is essential to adapt management techniques based on the outcomes of the work overtime.

A key threatening process to the ongoing resilience of our local remnant vegetation is climate change. Flora and fauna species have evolved over thousands of years in response to the historical climate. Anthropogenic climate change is resulting in rapid shifts in temperatures and changed rainfall patterns including an increased number of extreme weather events. The majority of species cannot adapt at the speed with which the climate is changing, which means that the local remnant vegetation will likely have reduced resilience and be more vulnerable to weed encroachment. Climate change will likely reduce the ability of remnants to self generate and it is likely that smaller remnants will be lost if conditions become drier, hotter and with longer summers. It is critical that management strategies are adaptive in the face of climate change with regular monitoring and reporting so that alternative strategies can be provided if required.

In addition to climate change, there are further pressures which require adaptive management, including the glyphosate ban implemented by Waverley Council in July 2020. Glyphosate is a non-selective herbicide, which has commonly been used in bush regeneration practices to control weeds due to its effectiveness, little to no residual within the soil and its low cost. Alternatives to glyphosate include manual or mechanical weeding techniques (hand weeding, chipping, brush cutting, mulching and mowing), alternative herbicides which are often more potent and pose a higher toxicity to humans, flora and fauna, and organic/non-chemical herbicides. Most alternatives are either less effective and less efficient or more costly. As a result, the glyphosate ban may lead to higher costs for weed management or less work completed within weed management budgets and may impact on achieving the targets set out in the EAP4.

Alternative strategies to the use of Glyphosate which can be used in the LGA include soil seedbank translocation, ecological burning and sandstone capping. These strategies present greater initial costs but can be more cost effective in the long term when compared to traditional bush regeneration techniques. Bush regeneration techniques and alternative strategies are discussed further in Appendix A.

## 1.6 BEYOND 2030

Given the ongoing pressures of urbanisation and climate change, it is likely these actions will need to be carried through into the future, in order to protect and manage the sparse areas of remnant vegetation. The ideal is that the resilience of the vegetation will increase allowing for a decrease in bush regeneration efforts. However, in a highly fragmented landscape, the remaining vegetation will always present new and ongoing management requirements.

In our ever changing environment, these management actions are flexible to being updated with resources reallocated where deemed necessary, as new information and management techniques becomes available, or where circumstances or conditions change.

## 1.7 KEY MANAGEMENT ACTIONS FOR THE REMNANT SITES

This Plan includes site specific prioritised actions to improve biodiversity, habitat connectivity and protect remnant vegetation. Integrated weed management methods are recommended for all sites. Methods include hand weeding sensitive areas, species specific herbicide use, staged clearing of high density weed areas and revegetation, delineation of remnant edges, ecological burns, sandstone capping and more. These weed management methods are detailed in Appendix A along with other weed management options to be considered where glyphosate use is banned. Some areas of remnant and planted vegetation require the management or removal of dominant native species to improve diversity. Additional innovative options have been included in this plan to protect and enhance biodiversity. These include soil seedbank translocation, ecological burning, soil disturbance or scarification to promote regeneration of the seedbank, and direct seeding. These options have been recommended on a site by site basis where suitable. Soil seedbank translocation could be utilised where an area of remnant vegetation is being cleared for development either within the LGA or elsewhere in Sydney. Sites within the Waverley LGA could become recipient sites for a soil seedbank translocation potentially for an Endangered or Critically Endangered Ecological Community such as Eastern Suburbs Banksia Scrub. Further details on these innovative practices are included in Appendix A.

Buffer and connectivity planting are methods currently being used to protect remnant vegetation and additional locations have been identified in the plan for revegetation. When planning buffer and connectivity planting there are a number of factors that need to be considered. These are provided in more detail in Appendix A along with details of recommended fauna habitat creation.



**Title: Waverley LGA  
Remnant Bushland**

Map No: 1-1

Site: Waverley LGA



Client: Waverley Council

Date: April 2020

Project No: C116688

Author: G Barron

**Legend**

-  Local Government Area
-  Bushland Remnant

0 250 500 1,000 Meters



Data Source:  
Total Earth Care  
Nearmap  
SBRC 2020



total earth care

Copyright Total Earth Care Pty Ltd, 2020  
Tel: 02 9913 1432 Fax: 02 9913 1434



© Department of Customer Service 2020



July 2021

Total Earth Care Pty Ltd

## 2 NORTH CLIFFTOP REMNANTS – Clarke Reserve, Jensen Avenue, MacDonald Street, Tower Street Reserves, Kimberley Street, Douglas Parade, Bay Street and Sam Fisman Park



Figure 2-1. Cliff-line below Jensen Avenue

The Clarke Reserve, Jensen Avenue, MacDonald Street and Tower Street Reserves consist of remnant pockets of vegetation adjoining small public parks. Successful buffer planting has been conducted at the Tower Street and Clarke Reserves. The remnant at Kimberley Street consists of a small pocket of vegetation with connectivity to the adjacent vegetation along the cliff line, including that below the Diamond Bay Cliff walk to the north.

The Sam Fisman Park remnant is located within an area of local heritage significance listed for the natural and scenic coastal landscapes which include the native vegetation and restorative plantings. The Bay Street and Douglas Parade remnants are small isolated remnant patches adjacent to housing areas.

### 2.1 FLORA

The North Cliff-top remnants are considered to be in 'very poor' condition primarily due to the presence of weeds including *Stenotaphrum secundatum*, *Hydrocotyle bonariensis*, *Coprosma repens* and *Asparagus aethiopicus* (SBRC 2020). The vegetation communities Sea-cliff Sedgeland and Sea-cliff Heath (SBRC 2020) are present at Clarke Reserve, Jensen Avenue, MacDonald Street, and Tower Street Reserves (Z1, Z2, Z3, D1a), whereas only Sea-cliff Sedgeland (SBRC 2020) is present at Kimberley Street (Z5) and Bay Street (Z18).

The Sea-cliff Heath is an open to closed low growing community within 50m of sea cliffs on skeletal sand to sand lenses on sandstone with impeded drainage. Typical remnant species including *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*. The Sea-cliff Sedgeland is dominant with *Ficinia nodosa* and is located within 20m of the sea cliffs, often on modified soils (SBRC 2020).

Sea-cliff Grassland is present at Sam Fisman Park (Z9) and Imperata Grassland is present at Douglas Parade (Z8). Sea-cliff Grassland is low to open community dominated by *Paspalum vaginatum*, *Sporobolus virginicus* and *Zoysia macrantha* and is located on skeletal sands with impeded drainage. Imperata Grassland is an open to closed community dominated by *Imperata cylindrica* and located on deeper, disturbed sandy soils. Imperata Grassland is much more common than most other vegetation communities within the LGA (SBRC 2020).

Due to the small patch sizes and the high weed densities present, these remnants have low resilience and may be lost in the absence of management actions.

July 2021

Total Earth Care Pty Ltd

Table 2-1 – Native Flora Species of the North Clifftop Remnants (SBRC 2020)

Scientific Name	Common Name	Clarke Reserve, Jensen Ave, MacDonald St & Tower St Reserves	Kimberley Street	Douglas Parade	Sam Fiszman Park	Bay Street
<i>Baeckea imbricata</i>	Heath Myrtle	X				
<i>Baumea juncea</i>	Bare Twig-rush		X			
<i>Commelina cyanea</i>	Native Wandering Jew	X	X			
<i>Ficinia nodosa</i>	Knobby Club-rush	X	X	X	X	X
<i>Imperata cylindrica</i>	Blady Grass			X		
<i>Isolepis cernua</i>	Nodding Club-rush					
<i>Lachnagrostis billardierei</i>	Coast Blown-grass	X			X	
<i>Lobelia anceps</i>	Angled Lobelia	X				
<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle	X				
<i>Paspalum vaginatum</i>	Salt-water Couch				X	
<i>Sporobolus virginicus</i>	Sand Couch	X				
<i>Westringia fruticosa</i>	Coastal Rosemary	X				

## 2.2 FAUNA

The low open and closed shrubs present, particularly in the buffer planting areas provide foraging and sheltering resources for birds, reptiles and frogs. Sandstone rock outcrops provide basking habitat for skinks and other reptile species likely to use the sites. The dense native and exotic shrubs along the cliff edge provide suitable nesting habitat for small bird species such as White-browed Scrubwren (*Sericornis frontalis*) and Superb Fairy-wrens (*Malurus cyaneus*). The Lesser Crested Tern (*Thalasseus bengalensis*) was observed utilising the patch near Clarke Reserve during the June 2020 site assessment, demonstrating that it provides suitable habitat for seabirds (SBRC 2020).

## 2.3 MANAGEMENT ACTIONS

### 2.3.1 Previous works

Buffer plantings at Clarke Reserve and Tower Street Reserves have been successful, however weed incursions are evident by a number of exotic grass species, Canna Lilies (*Canna x generalis*), *Hydrocotyle bonariensis* and Coastal Morning Glory (*Ipomoea cairica*). Buffer plantings should continue to be maintained and the edges should be delineated to prevent further weed encroachments. There was previously a continuous buffer planted the entire length of Clarke Reserve along the coastal fence. This was planted in 2017, however as a result of local resident lobbying with respect to perceptions that the height of the low growing coastal heath vegetation was impeding ocean views, a large section of the buffer plantings was removed in early 2020 and replaced with turf.

### 2.3.2 Key management actions

Due to the small size and the low resilience of the remnants at these sites, they are likely to be lost in the coming years if management actions are not taken. However, due to the high weed density of these sites and the location of the remnants along the cliff line, management actions will be costly requiring ropes works or novel techniques such as sandstone capping. In addition, dense weeds present such as *Coprosma repens* provide important habitat for a number of fauna species including birds and so remnant management must be balanced with loss of habitat. As a result, management priority of this site is medium. The management of the buffer plantings is of higher priority than the remnant itself at this site as the buffer plantings would support no-net loss of the remnant, improve habitat connectivity and works in the buffer areas are more achievable and affordable than works in the remnant itself due to the locations on the cliff edge. Therefore, for the conservation of the remnant, it is imperative that the aforementioned removed buffer planting be reinstated. Key management actions generally include:

- **Delineation:** create and maintain an edge between mown lawn and buffer vegetation to ensure no encroachment of exotic grasses into the remnant or the buffer vegetation. This will reduce future maintenance and facilitate reduction of exotic species within the remnant.
- **Connectivity planting:** extend buffer plantings to improve connectivity of fauna habitat. Utilise low growing shrubs in order to maintain residents' views.
- **Retention of logs:** any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.



July 2021

Total Earth Care Pty Ltd

- **Isolate weeds:** some areas where weeds are difficult to treat ie. cliff edges or have importance as habitat are to be isolated to prevent encroachment on the remnant and retained as habitat, such as Kimberley Street.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

Innovative management actions such as sandstone capping may be suitable for certain areas within the northern cliff-top remnants, for example at Bay Street, Jensen Avenue Reserve, Clarke Reserve and Tower Street Reserve. Techniques such as sandstone capping present higher up-front costs but in the long term reduce maintenance requirements and can present suitable solutions following the glyphosate ban within Waverley LGA. It is recommended at Bay Street to trial crushed sandstone halos to plant quick establishing species like *Acacia longifolia* subsp. *sophorae* that will also provide habitat while outcompeting exotic grasses and weeds. Alternatively jute mat could be used instead of crushed sandstone. Additionally, sandstone capping and planting of Buffer 3 at Clarke Reserve is recommended to address asbestos in this area.

Jensen Avenue and Tower Street Reserves may be suitable locations of soil seedbank translocations for all or part of the sites. Timing for this would be dependent on when a donor site may require translocation, therefore has not been included in the actions tables. Alternatively these sites could include areas of sandstone capping or mulching and planting.

The weed densities and management actions for the different areas are shown in Map 2-1, Map 2-2 and Map 2-3 and provided in Table 2-2, Table 2-3 and Table 2-4. Detailed methodologies for the recommended management actions are provided in Appendix A.

## 2.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The implementation of management at this site is expected to result in significant improvement to the condition of the vegetation. The provision of delineation and maintenance (weeding) is expected to protect the existing remnant vegetation and avoid further encroachment of grasses into the remnant patches and connectivity and buffer plantings.

Due to the high density of weeds and management issues presented as a result of the steep nature of the sites, it is unlikely that the sites will ever be clear of weeds as it will not be cost effective. Instead selective weed control works should be conducted to protect key areas of native vegetation and buffer plantings, for example at Clarke Reserve.

Herbicides are necessary to treat woody weeds on cliff edges as it is not viable to completely remove woody weeds due to erosion and stability on cliff line. However species such as *Asparagus* can be carefully dug out with minimal disturbance to the soil. With the Glyphosate ban other herbicides will be required to treat woody weeds on clifftops or areas susceptible to erosion. This may be more potent and more expensive.

Management at these sites will improve the existing vegetation and the connectivity of the habitat corridor along the coastline. This will provide more habitat for fauna to utilise and provide protected passage between existing patches of remnant vegetation.



**Title: Weeds & Manag. Actions**



Map No: 2-1

Site: Clarke & Jensen Ave  
Reserves




Client: Waverley Council

Date: July 2021





Author: G Barron

-  Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover**

-  5% - 30%  
 30% - 70%  
 >70%

**Management Actions**

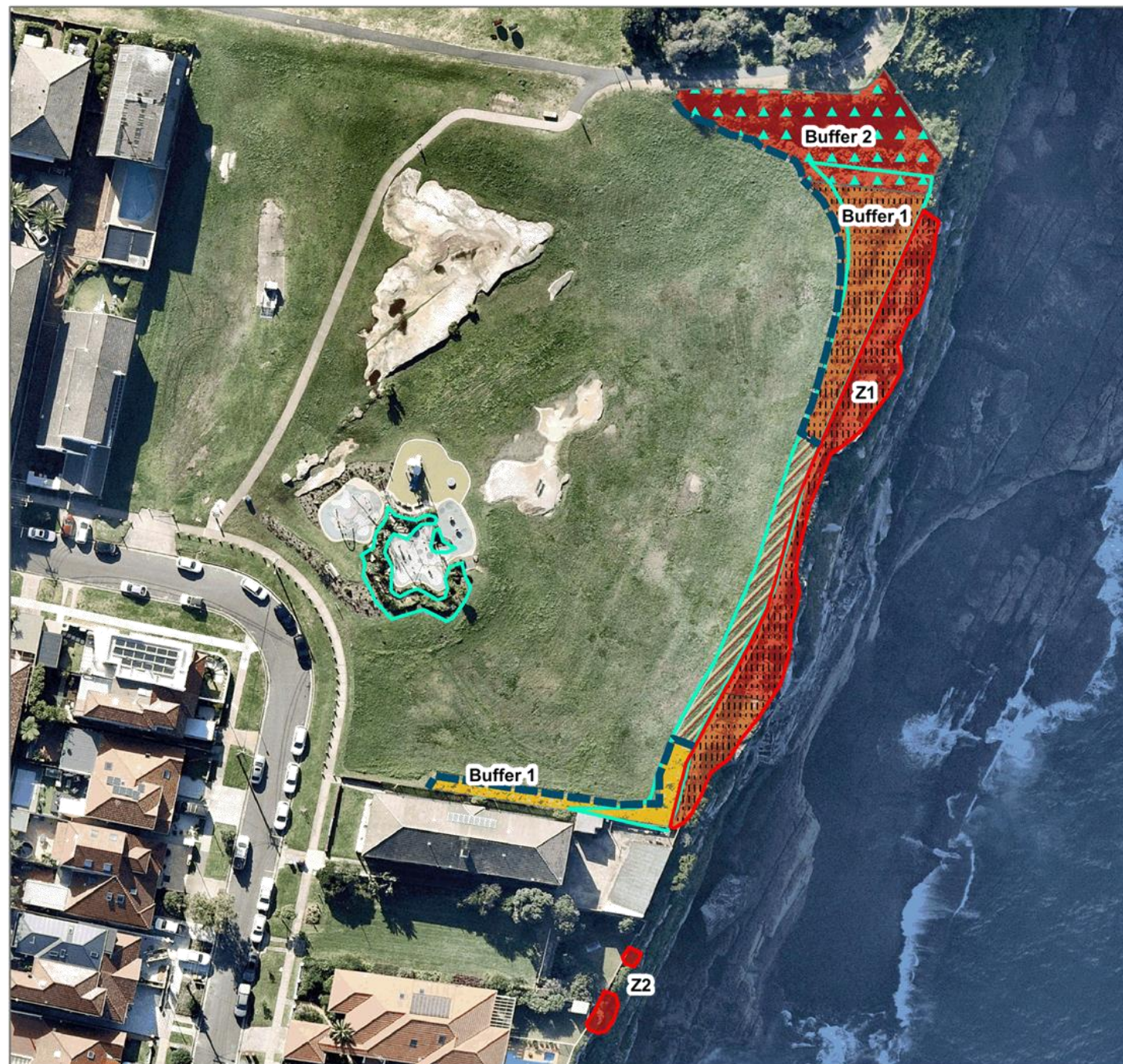
-  Connectivity Planting  
 Sandstone Capping and Planting  
 Targeted Weed Control  
 Create Delineation



0 5 10 20 Meters



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 2-2 – NORTH CLIFFTOP REMNANTS MANAGEMENT ZONES AND ACTIONS – CLARKE &amp; JENSEN AVENUE RESERVES

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
North Clifftop Remnants – Clarke & Jensen Avenue Reserve							
Buffer 1	High	<b>Clarke Reserve</b>  Consists of buffer plantings to the west of remnant Z1.	<p><b>Create delineation</b> – create and maintain an edge between mown lawn and buffer vegetation to prevent encroachment of exotic grasses into the remnant. Spray edge recommended with a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Other delineation options are provided in Appendix A. Any other non-monocotyledonous weeds should be removed by hand.</p> <p><b>Targeted weeding</b> – target woody weeds, vines and herbaceous perennials including Coastal Morning Glory (<i>Ipomoea cairica</i>) and <i>Canna x generalis</i>. It is important that woody weeds and vines are targeted to prevent spread into the adjacent remnant. Target annual weeds before seeding to prevent germination.</p> <p><b>Connectivity planting</b> – provide connectivity between existing areas of buffer plantings to improve habitat connections for fauna. Low growing coastal heath shrubs should be installed along the fence which provide habitat whilst maintaining residents' views. Water in and maintain to establish.</p>	<p>Minimum of 12 visits per year during 2021 – 2022 FY and 2022 – 2023 FY.</p> <p>Minimum of 6 visits for maintenance years (2023 – 2024 FY to 2029 – 2030 FY).</p>	30-70%	<p>Reduce and maintain weed density at &lt;5% by the end of 2022 – 2023 FY. Maintain at &lt;5% ongoing.</p> <p>Reduced encroachment of exotic grass species.</p> <p>Increased connectivity through established buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	<p><b>Create delineation &amp; buffer planting</b> – Parks staff</p> <p><b>Targeted weeding</b> – trained bush regenerators.</p>
Buffer 2	Medium	<b>Clarke Reserve</b>  Consists of high density weeds and has been reported to contain asbestos. This buffer sloped down towards buffer 2 and is likely to continue to increase weed densities in buffer 2 and potential remnant vegetation if not addresses.	<p><b>Sandstone capping and planting</b> – sandstone capping is a suitable method to cap asbestos whilst also suppressing weeds. The area should be cleared of weeds and about two flushes of weeds allowed to come up and be treated while young. A geotextile layer marker layer must be laid and a minimum of 300mm of crushed sandstone placed on top. Coir logs may be required to manage sandstone on the slope. The sandstone should be planted with native grasses and shrubs that will not penetrate the marker layer with their roots. This area has potential to provide great habitat for birds and small reptiles and improve connectivity along the cliff line when established. All guidelines, precautions and protocols must be followed for working with or around asbestos.</p>	<p>Minimum of 6 visits for maintenance years (2023 – 2024 FY to 2029 – 2030 FY).</p> <p>Ideally planting should be conducted in autumn or spring when conditions are not too dry to reduce watering requirements.</p> <p>Additional watering visits as required depending on weather conditions.</p>	>70%	<p>Planting survival rate of &gt;80% 6 months after planting.</p>	<p><b>Sandstone capping</b> – civil works company trained in asbestos capping.</p> <p><b>Planting and maintenance</b> – Trained parks staff or trained bush regenerators.</p>
Remnant Z1	Medium	<b>Clarke Reserve</b>  Consists of 477m <sup>2</sup> of Sea-cliff Heath along the cliff line.	<p><b>Targeted weeding</b> – target woody weeds, vines and herbaceous perennials. This remnant displays a high weed density with <i>Opuntia stricta</i>, <i>Asparagus aethiopicus</i>, <i>Coprosma repens</i> and <i>Olea europaea</i> subsp. <i>cuspidata</i>. Ropes</p>	<p>Minimum of 6 times per year.</p>	>70%	<p>No loss of remnant vegetation</p>	<p>Trained bush regenerators.</p>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
North Clifftop Remnants – Clarke & Jensen Avenue Reserve							
		Remnant is in poor condition and is hard to access. The vegetation will benefit from established buffer plantings and connectivity.	<p>work is required due to accessibility with the existing fence line. Installation of a new fence line in 2021 may improve access to sections of this remnant.</p> <p><b>Ropes work</b> - target infestations of <i>Asparagus aethiopicus</i>, and <i>Coprosma repens</i> on the cliff edge.</p> <p>Areas of dense woody weeds, such as <i>Coprosma repens</i>, should be removed gradually in patches and concurrently with replacement planting to provide a similar structure of habitat. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge.</p>			<p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p>	
Remnant Z2	Medium	<p><b>Jensen Avenue Reserve</b></p> <p>Consists of two small remnant patches of Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i>.</p> <p>Patches are largely isolated and have poor access and improvement in condition will be costly. However, if management actions are not conducted these small remnants will likely be lost.</p>	<p><b>Ropes work</b> - target woody weeds, vines and herbaceous perennials including <i>Asparagus aethiopicus</i>, and <i>Coprosma repens</i>.</p> <p>Areas of dense woody weeds, such as <i>Coprosma repens</i>, should be removed gradually in patches and concurrently with replacement planting to provide a similar structure of habitat. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge.</p>	Minimum of 4 times per year.	>70%	<p>No loss of remnant vegetation.</p> <p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p>	Trained bush regenerators.
All Zones	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish one photo-point in each remnant</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.



**Title: Weeds & Manag. Actions**

Map No: 2-2

Site: Tower St & MacDonald St  
Reserves & Kimberley St

Client: Waverley Council

Date: January 2021

Author: G Barron

- Bushland Remnant
- Previous Buffer Planting

**Weed % Cover 2020**

- <5%
- 5% - 30%
- 30% - 70%
- >70%

**Management Actions**

- Buffer Planting
- Connectivity Planting
- Targeted Weed Control
- Create Delineation
- Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 2-3 – NORTH CLIFFTOP REMNANTS MANAGEMENT ZONES AND ACTIONS – TOWER STREET AND MACDONALD STREET RESERVES &amp; KIMBERLEY STREET

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
North Cliff-top Remnants – Tower Street and MacDonald Street Reserves & Kimberley Street							
<b>Remnant D1a</b>	High	<p><b>MacDonald Street Reserve</b></p> <p>Consists of thin strip (202m<sup>2</sup>) of Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i>.</p> <p>The remnant is hard to access safely as it is on the edge of the cliff. A buffer should be installed to create connectivity to Diamond Bay remnants.</p>	<p><b>Ropes work</b> - target infestations of <i>Asparagus aethiopicus</i>, and <i>Coprosma repens</i> on the cliff edge.</p> <p>Areas of dense woody weeds, such as <i>Coprosma repens</i>, should be removed gradually in patches and concurrently with replacement planting to provide a similar structure of habitat. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge.</p> <p><b>Connectivity planting</b> – west and south of the remnant patch to create a buffer between the turf and the remnant and to create connectivity to the core of the Diamond Bay remnant D1b. This will improve habitat connection for fauna species.</p> <p><b>Create delineation</b> – create and maintain an edge between mown lawn and planted buffer vegetation to prevent encroachment of exotic grasses into the remnant. Could be created by using mulched edge.</p>	<p>Ropes work twice per year.</p> <p>Minimum of 12 site visits per year for the first two years of buffer planting.</p> <p>6 site visits per year once plantings are established.</p>	30-70%	<p>No loss of remnant vegetation.</p> <p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Creation of connectivity through establishment of buffer plantings.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	<p><b>Create delineation &amp; buffer planting</b> – trained bush regenerators.</p> <p><b>Ropes work</b> – trained bush regenerators.</p>
<b>Remnant Z5</b>	Medium	<p><b>Kimberley Street</b></p> <p>Consists of a 70m<sup>2</sup> patch of Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i>.</p> <p>The patch is largely isolated and has poor access and improvement in condition will be costly. However, if management actions are not conducted this small remnant will likely be lost.</p>	<p><b>Targeted weeding</b> –target woody weeds, vines and herbaceous perennials including <i>Acetosa sagitta</i>, <i>Opuntia stricta</i> and <i>Parietaria judaica</i>.</p> <p>Ropes work may be required due to accessibility.</p> <p>Areas of dense woody weeds should be removed gradually in stages and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge.</p>	Minimum of 6 times per year.	<70%	<p>No loss of remnant vegetation.</p> <p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p>	Trained bush regenerators.






July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>North Clifftop Remnants – Tower Street and MacDonald Street Reserves &amp; Kimberley Street</b>							
<b>Buffer 1</b>	Low	<b>Tower Street Reserve</b> Consists of a small patch of existing buffer planting	<b>Maintain delineation</b> – maintain existing edging between mown lawn and buffer vegetation to prevent encroachment of exotic grasses into the buffer.	Minimum of 4 visits per year.	<5%	Maintain weed density at <5% on going.	Parks staff
<b>Buffer 2</b>	Low	<b>Tower Street Reserve</b> Proposed area of buffer planting to create a buffer between turf and remnant if it does still persist.	<b>Buffer planting</b> – planting (low growing coastal heath) where feasible around rock outcrop and remove turf to expose rock outcrop.	Minimum 8 visits in first year to ensure establishment of plantings	N/A	Maintain weed density at <5% on going.	Parks staff
<b>Remnant Z3</b>	Low	<b>Tower Street Reserve</b> Consists of a small remnant patch that has been described as “too disturbed to discern”.  The remnant patch is likely to have been outcompeted by exotic turf species and no longer persists.	<b>N/A no longer exists</b>				
<b>All Zones</b>	Required	Ecological monitoring across all zones.	Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"> <li>Establish one photo-point in each remnant</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> Provide annual reports summarising findings to Waverley Council.	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	



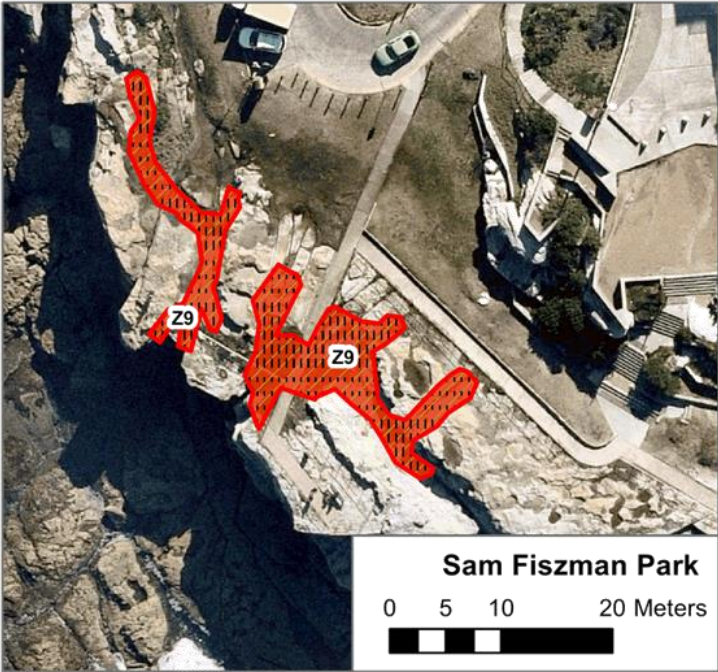
**Title:** Weeds & Manag. Actions  
**Map No:** 2-3  
**Site:** Douglas Parade, Bay Street and Sam Fiszman Park  
**Client:** Waverley Council  
**Date:** January 2021  
**Author:** G Barron

-  Bushland Remnant
- Management Actions**
-  Targeted Weed Control
- Weed % Cover 2020**
-  <5%
  -  5% - 30%
  -  30% - 70%
  -  >70%



Data Source:  
Total Earth Care  
Nearmap

  total earth care





July 2021

Total Earth Care Pty Ltd

TABLE 2-4 – NORTH CLIFFTOP REMNANTS MANAGEMENT ZONES AND ACTIONS – DOUGLAS PARADE, BAY STREET AND SAM FISZMAN PARK

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed density	Key Performance Indicators (KPIs)	Role
North Clifftop Remnants – Douglas Parade, Bay Street and Sam Fiszman Park							
<b>Remnant Z8</b>	Medium	<b>Douglas Parade</b> Consists of a remnant patch of Imperata Grassland.  Patch is isolated by dense exotics, and houses, however has high resilience and will need frequent maintenance.	<b>Targeted weeding</b> – control WONS and priority weeds such as <i>Lantana camara</i> , <i>Asparagus aethiopicus</i> and <i>Anredera cordifolia</i> . Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge.  Target annual weeds before seeding to prevent germination.  Primary works to target <i>Strelitzia spp.</i> in Z8 buffer unlikely due to access, erosion and public interest.	Minimum of 4 visits per year.	5-30%	No reduction in remnant patches.  Natural regeneration.  Maintain weed density in core of remnant to <5%.	Trained bush regenerators
<b>Remnant Z18</b>	Medium	<b>Bay Street</b> Consists of a remnant patch of Sea-cliff Grassland dominant in <i>Ficinia nodosa</i> .  The patch is completely isolated and with a high density of exotic grasses. Without management actions, the remnant may be lost due to being overrun by weeds.	<b>Targeted weeding</b> – control woody weeds such as <i>Coprosma repens</i> and herbaceous weeds such as <i>Parietaria judaica</i> .  Areas of dense woody weeds, such as <i>Coprosma repens</i> , should be removed gradually in patches and concurrently with replacement planting to provide a similar structure of habitat. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge.  Target annual weeds before seeding to prevent germination.  <b>Alternative management</b> – potential alternative management actions at this site are sandstone capping in halos and planting, jute matting sections and planting or clearing the present weeds to expose the rock platform below. This method protects the remnant from weed incursions but will result in a temporary loss of fauna habitat. Staged sandstone capping in halos and planting allows for the maintenance and gradual replacement of weedy habitat with habitat provided by native species.	Minimum of 3 site visits in 2021 – 2022 FY and 2 per year for the following years.	>70%	Reduction of woody weeds.  Containment.	Trained bush regenerators
<b>Remnant Z9</b>	Medium	<b>Sam Fiszman Park</b> Consists of a remnant patch of Sea-cliff Grassland.  The patch is completely isolated and with a high density of exotic grasses. Without management	<b>Targeted weeding</b> – control woody weeds such as <i>Coprosma repens</i> and herbaceous weeds such as <i>Gazania tomentosa</i> . Target annual weeds before seeding to prevent germination.	Minimum of 3 site visits in 2021 – 2022 FY and 2 per year for the following years (2023 – 2024 FY to 2029 – 2030 FY).	30-70%	Reduce and maintain at <30%.  Natural regeneration.  No reduction in remnant patches.	Trained bush regenerators

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed density	Key Performance Indicators (KPIs)	Role
North Clifftop Remnants – Douglas Parade, Bay Street and Sam Fiszman Park							
		actions, the remnant may be lost due to being overrun by weeds.					
<b>Z8 Buffer</b>	Low	<b>Douglas Parade</b> Dense exotics and weeds adjacent the Z8 remnant.  Priority is to contain this area to ensure no encroachment into the remnant.	<b>Containment</b> – establish an edge between remnant core and surrounding exotics. Prevent further encroachment of WONS and priority weeds.  <b>Primary weeding</b> – primary works to target <i>Strelitzia spp.</i> , although this is difficult due to access, erosion and public interest. Works to also target the edge of the remnant and slowly extend into the denser weeds to allow for natural regeneration to extend the current extent of the remnant.  It is recommended Council install a gate to improve access for contractors.	Minimum of 4 visits per year.	>70%	Increased area of adjacent remnant patch Z8.	Trained bush regenerators
<b>All Zones</b>	Required	Ecological monitoring across all zones.	Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"> <li>Establish at least one photo-point in each remnant</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> Provide annual reports summarising findings to Waverley Council.	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.



### 3 DIAMOND BAY RESERVE



Figure 3-1. Rosa Gully, Diamond Bay Reserve

The Diamond Bay Reserve is an open grassed park bound by remnant vegetation that provides dramatic views over the sandstone cliff edge at over 80m above sea level. The remnant vegetation comprises seven patches of Sea-Cliffs Sedgeland and Sea-cliff Heath. These remnants are vitally important in the LGA as together they cover about 8000m<sup>2</sup>, which is the largest area of vegetation covered in this Action Plan.

The site is of local heritage significance listed for its natural landscape escarpment and its considerable scenic value which contributes to the character of Sydney's eastern beaches and foreshore. It is also an area of Aboriginal heritage significance as there is a rock engraving site located on the cliff edge.

### 3.1 FLORA

The Sea-cliff Heath is located in patches to the east of the open park and in the north of the site (D1b, D2a, D2b and D3a). This community is an open to closed low growing community within 50m of sea cliffs on skeletal sand to sand lenses on sandstone with impeded drainage. Typical remnant species including *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*. The patches of this vegetation are along the centre and north of the site and are mostly in "very poor" condition due to the prevalence of weed species. The protected core is considered to be 'fair' condition (SBRC 2020).

The Sea-cliff Sedgeland patches are positioned at the south of the site (D1c and D3b). This community is dominant with *Ficinia nodosa* and *Baumea juncea* and is located within 20m of the sea cliffs. It is an open canopy growing on skeletal sand to sand lenses on sandstone, often on modified soils (SBRC 2020). The encroachment of species such as *Stenotaphrum secundatum*, *Asparagus aethiopicus*, *Lantana camara* and *Asparagus aethiopicus* is problematic.

Table 3-1 – Native Flora Species of the Diamond Bay Reserve Bushland Remnants (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Juncus pallidus</i>	Pale Rush
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Juncus planifolius</i>	Broadleaf Rush
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Lachnagrostis billardierei</i>	Coast Blown-grass
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Lobelia anceps</i>	Angled Lobelia
<i>Banksia ericifolia</i>	Heath-leaved Banksia	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Baumea juncea</i>	Bare Twig-rush	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Carpobrotus glaucescens</i>	Pigface	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Monotoca elliptica</i>	Tree Broom-heath
<i>Cyperus polystachyos</i>	Bunchy Sedge	<i>Olearia tomentosa</i>	Toothed Daisy-bush
<i>Deyeuxia quadriseta</i>	Reed Bent-grass	<i>Opercularia aspera</i>	Coarse Stinkweed
<i>Dianella congesta</i>	Beach Flax-lily	<i>Paspalidium distans</i>	Spreading Panic
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Doodia caudata</i>	Small Rasp Fern	<i>Rytidosperma spp.</i>	Wallaby Grass

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Scientific Name	Common Name
<i>Entolasia stricta</i>	Wiry Panic	<i>Smilax glycyphylla</i>	Sweet Sarsparilla
<i>Epacris longiflora</i>	Fuchsia Heath	<i>Themeda triandra</i>	Kangaroo Grass
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Typha orientalis</i>	Broad-leaved Cumbungi
<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Gleichenia rupestris</i>	Coral Fern	<i>Xanthosia pilosa</i>	Woolly Xanthosia
<i>Isolepis cernua</i>	Nodding Club-rush	<i>Zoysia macrantha</i>	Prickly Couch
<i>Juncus kraussii</i>	Sea Rush		

## 3.2 FAUNA

The Sea-cliff Heath vegetation provides foraging and sheltering resources for reptiles and birds including species such as White-browed Scrubwren (*Sericornis frontalis*) and Superb Fairy-wrens (*Malurus cyaneus*). The areas of Sea-cliff Sedgeland and Rosa Gully also provide moist breeding habitat for frog species (AMBS 2010). Sandstone rock outcrops provide basking habitat for skinks and other reptile species including Dark-flecked Garden Sunskink (*Lampropholis delicata*) and the Cream-striped Shinning-skink (*Cryptoblepharus virgatus*). Bird species commonly heard include the Eastern Koel (*Eudynamis orientalis*) and the Channel-billed Cuckoo (*Scythrops novaehollandiae*) which is the world's largest cuckoo.

## 3.3 MANAGEMENT ACTIONS

### 3.3.1 Previous works

Management has been generally successful with near total eradication of *Opuntia stricta* from zones D1b and D2b, where the cliffs and near cliff edges were heavily infested. *Salpichroa originifolia* has also been nearly entirely eliminated from most buffer planting areas (Apunga 2018b). Management in the Sea-cliff Sedgeland (D3b) has focused on *Hydrocotyle bonariensis*, *Parietaria judaica*, *Asparagus aethiopicus*, *Sonchus sp.* and *Ipomoea cairica*. Maintenance works successfully controlled herbaceous and grass weeds within disturbed and planted areas. However, works within the sedgeland did not see a notable reduction in *Hydrocotyle bonariensis* (Dragonfly Environmental 2020). A sediment fence was installed above the *Baumea juncea* sedgeland to prevent future incursions from exotic weed species.

### 3.3.2 Key management actions

Management priority of this site is high due to the large size of the remnants with high resilience. The boardwalk is expected to be replaced around late 2021 or mid-2022. If this will affect access for management work, site visits should be timed prior to construction works and soon after to manage any impacts from the work. Key management actions generally include:

- **Delineation:** create and maintain an edge between mown lawn and buffer vegetation to prevent encroachment of exotic grasses into the remnant. This will reduce future maintenance and facilitate reduction of exotic species within the remnant. Protection of the remnant will ensure conservation of fauna habitat.
- **Buffer and connectivity planting:** extend buffer plantings to improve connectivity of fauna habitat and enhance the resilience of the remnant vegetation. Sandstone capping and planting or mulching and planting could be used in these areas.
- **Targeted weeding:** to target woody weeds, vines, herbaceous perennials within remnants and adjacent areas in order to stay on top of any reshooting weeds across the site. Areas of high density weeds such as Rosa Gully should be retained as these provide important fauna habitat and would be very costly to restore to native vegetation.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

Alternative management actions for this site may include flame weeding of remnant bushland or areas where there is likely to be a native seedbank remaining. The management of *Hydrocotyle bonariensis* at this site has been an ongoing issue. Alternative treatment methods including application of iron-sulphate and crunch spraying should be trialled in plots. See Appendix A.

The weed densities and management actions for the different areas are shown in Map 3-1 and Map 3-2 and provided in Table 3-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

## 3.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The implementation of management at this site is expected to result in a significant improvement to the condition of the vegetation as the large patches have high resilience. The provision of connectivity and buffer plantings and delineation of the mown edges is

*July 2021**Total Earth Care Pty Ltd*

expected to protect the existing remnant vegetation and avoid further encroachment of grasses into the patches.

Patches D1b, D2a, D2b, D3a and D3c will likely be able to be restored to 'good' condition by 2040. The extension and management of the buffer and connectivity plantings would be important in managing the condition of the remnants.

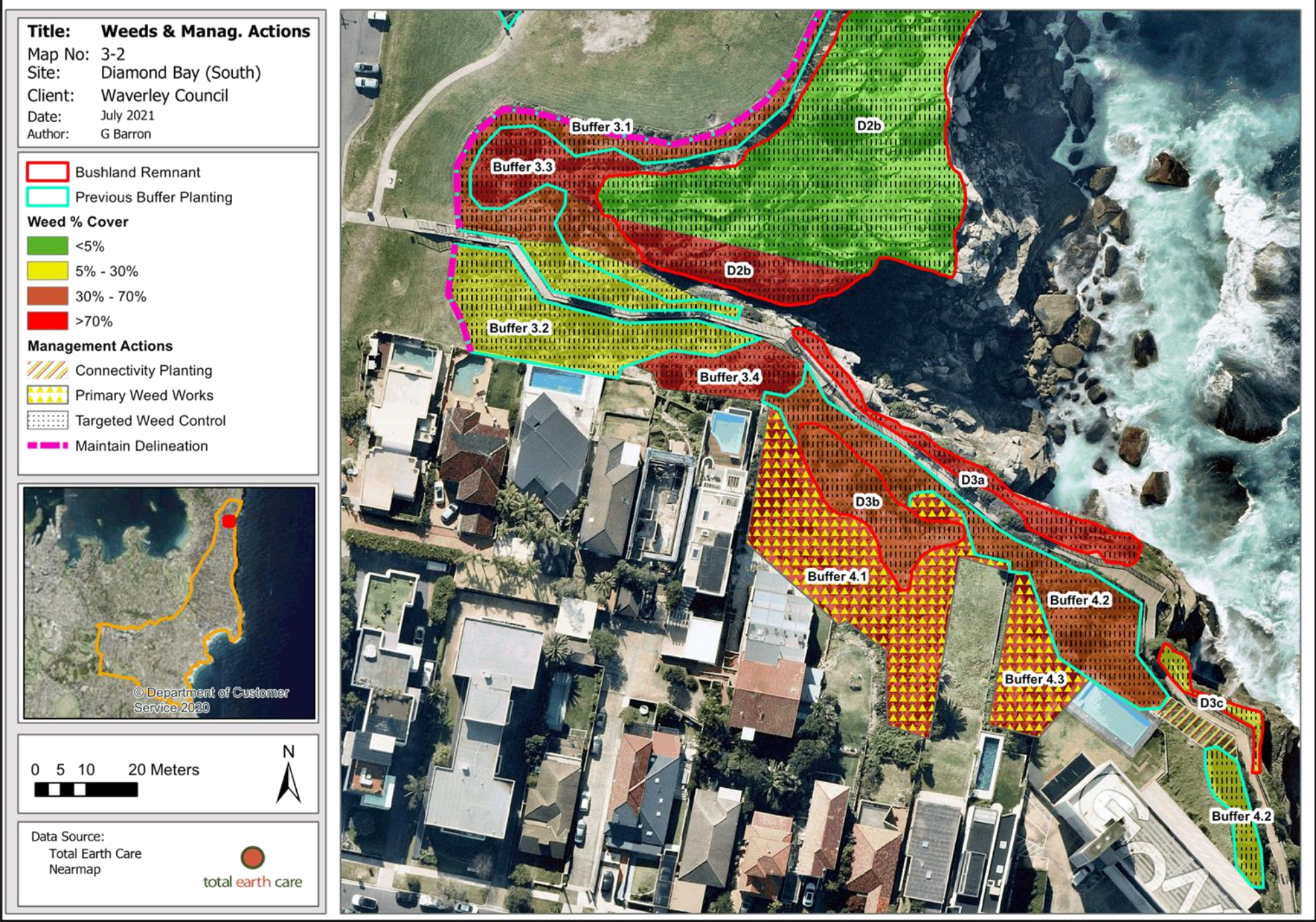
Management at this site will improve the existing vegetation and the connectivity of the habitat corridor along the coastline by improving vegetation condition and widening the large remnant patch. This site is integral in the connectivity of the northern section of the coastline as it provides a large tract of habitat amongst the small remnants of the northern clifftops.

DRAFT











July 2021

Total Earth Care Pty Ltd

TABLE 3-2 – DIAMOND BAY REMNANTS MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
<b>Remnant D1b Core</b>	High	<p>The D1b remnant consists of Sea-cliff Heath.</p> <p>The core of the remnant is dominated displays high resilience and is in good condition.</p> <p>The southern edge of the remnant vegetation is in poorer condition as it is harder to access.</p>	<p><b>Targeted weeding</b> – to target woody weeds, vines and herbaceous perennials. If any dense thickets are present, removal should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Ropes work</b> – to target <i>Asparagus aethiopicus</i> and woody weeds on cliff edge.</p> <p><b>Buffer planting</b> – Planting is to be conducted on the northern edge of the remnant, extending buffer 1 to connect to remnant D1b. This protects the remnant from edge effects and improves habitat connectivity for fauna. A gap can be left between the planted areas and remnant edge to allow for natural regeneration and extension of the remnant. However, if this approach is to be taken more resources will be required to manage weeds in between the plantings and remnant in order to protect the condition of the remnant. Plantings should include a diversity of species.</p> <p><b>Create delineation</b> – Following buffer plantings the edge should be delineated between the mown lawn and planted vegetation to ensure no encroachment of exotic grasses. A sandstone edge or mulch edge could be used here if sandstone capping or mulching is used. Maintenance of the edges will be required.</p> <p><b>Creation of habitat piles and retention of logs</b> – where appropriate any fallen logs should be retained and habitat piles created using dead branches and rocks as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>	<p>Ropes work four times per year.</p> <p>10 site visits per year.</p>	5-30%	Reduce and maintain weed density at <5% by the end of 2022 – 2023 FY. Maintain at <5% ongoing.	<p><b>Create delineation</b>– parks staff</p> <p><b>Targeted weeding, maintenance weeding and ropes work</b> – trained bush regenerators.</p>
<b>Remnant D1b East</b>	High	<p>The D1b remnant consists of Sea-cliff Heath.</p> <p>The eastern edge of the remnant is dominated by weed species such as <i>Lantana camara</i> and <i>Asparagus aethiopicus</i>.</p>	<p><b>Targeted weeding</b> – to target woody weeds, vines and herbaceous perennials.</p> <p><b>Containment</b> – ensure no encroachment of the weedy edge into the higher quality core of the remnant.</p> <p><b>Creation of piles of branches and rocks and retention of logs</b> – where appropriate any fallen logs are to be retained and piles of sticks and</p>	12 site visits per year.	30-70%	Reduce and maintain weed density at <5% by the end of 2022 – 2023 FY. Maintain at <5% ongoing.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
			rocks are to be created as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.				
<b>Buffer 2.1</b>	High	Consists of established buffer plantings.  There is potential to expand this buffer to better protect remnants D2a and D2b.	<p><b>Targeted weeding</b> – as the weed density in this remnant is low all woody weeds, vines and herbaceous perennials should be targeted in order to stay on top of any reshooting weeds. This will serve to protect planted areas and maintain fauna habitat connectivity.</p> <p><b>Containment</b> – contain high density weeds within the gully north of the buffer.</p> <p><b>Maintain delineation</b> – maintain existing edge between mown lawn and remnant vegetation to prevent encroachment of exotic grasses into the buffer plantings and provide protection to the remnants.</p> <p><b>Control of dominant natives</b> - target and remove <i>Wollastonia uniflora</i> as it is dominant and smothering other natives. Replace with small shrub species. See Appendix F for recommended species.</p> <p><b>Maintenance weeding</b> - Target annual weeds before seeding to prevent germination.</p>	Minimum of 8 site visits per year.	<5%	<p>Maintain weed density at &lt;5% ongoing.</p> <p>Control of <i>Wollastonia uniflora</i>.</p> <p>Natural native regeneration.</p>	<p><b>Maintain delineation</b>– parks staff</p> <p><b>Targeted weeding, maintenance weeding, control of dominant natives and containment of weeds</b> – trained bush regenerators.</p>
<b>Buffer 2.2</b>	High	Consists of high weed density vegetation between the Buffer 2.1 and the remnant vegetation D2b.  Dominant weed species include <i>Lantana camara</i> and <i>Ipomoea spp.</i>	<p><b>Containment</b> – ensure no encroachment of the weedy edge into the higher quality core of the remnant. Isolate <i>Lantana camara</i>. This will serve to prevent encroachments into the remnant, protecting the remnant quality and conserving associated fauna habitat.</p> <p><b>Targeted weeding</b> – clearing of dominant weeds such as <i>Coprosma repens</i>, <i>Lantana camara</i>, <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i>. Removal of dense woody weeds should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat. By removing weeds in this area it will connect remnant and buffer 2.1 which have low weed densities. This will improve the resilience of these areas and reduce future maintenance.</p> <p><b>Buffer planting</b> – buffer planting may be necessary between Buffer 2.2 and remnant D2b if natural native regeneration is low to enhance the resilience of the remnant vegetation and protect it from weed incursions. This will also improve fauna habitat.</p>	Minimum of 8 site visits per year.	>70%	<p>Reduce and maintain weed density at &lt;5% by the end of 2022 – 2023 FY. Maintain at &lt;5% ongoing.</p> <p>Natural native regeneration.</p>	Trained bush regenerators.
<b>Buffer 3.1</b>	High	Consists of established buffer plantings west of remnant	<b>Targeted weeding</b> – target woody weeds, vines, herbaceous perennials and stay on top of any reshooting weeds. Removal of dense woody weeds should be staged to preserve fauna habitat and the next	Minimum of 8 site visits per year.	30-70%	Reduce to weed density to <5% by the end of 2022 –	<b>Maintain delineation</b> – parks staff

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
		D2b closest to the managed lawn	<p>stage shouldn't commence until replacement plantings provide sufficient habitat.</p> <p><b>Control of dominant natives</b> - target and remove <i>Wollastonia uniflora</i> as it is dominant and smothering other natives. Replace with small shrub species. See Appendix F for recommended species.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Maintain delineation</b> – maintain existing edging between mown lawn and remnant vegetation to ensure no encroachment of exotic grasses into the remnant. Leave a gap between the buffer edge and remnant edge as natural regeneration beyond the remnant edge was observed during the 2020 site assessment.</p>			<p>2023 FY. Maintain at &lt;5% ongoing.</p> <p>Natural native regeneration.</p>	<b>Targeted weeding, maintenance weeding and control of dominant natives</b> – trained bush regenerators.
<b>Buffer 3.3</b>	High	Consists of native and weeds species immediately west of remnant D2b	<p><b>Targeted weeding</b> – target woody weeds, vines, herbaceous perennials and stay on top of any reshooting weeds. Removal of dense woody weeds should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.</p> <p><b>Control of dominant natives</b> - target and remove <i>Wollastonia uniflora</i> as it is dominant and smothering other natives. Replace with small shrub species. See Appendix F for recommended species.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Maintain delineation</b> – maintain existing edging between mown lawn and remnant vegetation to ensure no encroachment of exotic grasses into the remnant. Leave a gap between the buffer edge and remnant edge as natural regeneration beyond the remnant edge was observed during the 2020 site assessment.</p>	Minimum of 8 site visits per year.	30 - >70%	<p>Reduce to weed density to &lt;20% by the end of 2022 – 2023 FY and 5% by 2023-2024. Maintain at &lt;5% ongoing.</p> <p>Natural native regeneration.</p>	<b>Targeted weeding, maintenance weeding and control of dominant natives</b> – trained bush regenerators.
<b>Remnant D2b</b>	High	<p>Consists of a large (3,986m<sup>2</sup>) remnant patch of Sea-cliff Heath.</p> <p>The remnant has high resilience and suffers only from minor weed infestations from species such as <i>Asparagus aethiopicus</i>.</p>	<p><b>Targeted weeding</b> – target woody weeds, vines, herbaceous perennials and stay on top of any reshooting weeds. If any dense thickets are present, removal should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p>	Minimum of 12 site visits per year.	5-30%	<p>Reduce and maintain weed density at &lt;5% ongoing.</p> <p>Natural native regeneration.</p>	<p><b>Maintain delineation</b> – parks staff</p> <p><b>Targeted weeding and maintenance weeding</b> – trained bush regenerators.</p>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
		The southern edge has denser weed infestations and should be targeted.	<p><b>Maintain delineation</b> – maintain existing edging between mown lawn and remnant vegetation to ensure no encroachment of exotic grasses into the remnant. Leave a gap between the delineated edges and remnant edge as natural regeneration beyond the remnant edge was observed during the 2020 site assessment.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>				
<b>Remnant D3b</b>	High	<p>Consists of a 356m<sup>2</sup> patch of Sea-cliff Sedgeland.</p> <p>The remnant patch will benefit from primary works and buffer plantings installed above.</p>	<p><b>Targeted weeding</b> - target woody weeds, vines and herbaceous perennials. If any dense thickets are present, removal should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.</p> <p><b>Trial other methods to target <i>Hydrocotyle bonariensis</i></b> –continue to set up plots to research methods most successful in the reduction of <i>Hydrocotyle bonariensis</i> and natural regeneration of sedges. Methodology to be applied through other zones once established. Ensure monitoring and reporting is conducted on trial plots at every site visit. See Appendix A for other recommended treatment methods to be trialed.</p> <p>Target annual weeds before seeding to prevent germination.</p>	Minimum of 12 site visits per year.	30-70%	<p>Reduce and maintain density to &lt;10% by end of 2021 - 2022 FY. Reduce weeds to &lt;5% by the end of 2022 – 2023 FY. Maintain at &lt;5% on going.</p> <p>Reduction in <i>Hydrocotyle bonariensis</i>.</p> <p>Natural native regeneration.</p>	Trained bush regenerators.
<b>Buffer 4.3</b>	Medium	Consists of highly weed infested vegetation upslope from Buffer 4.2.	<p><b>Primary weeding</b> – mosaic clearing of dominant weeds such as <i>Coprosma repens</i>, <i>Lantana camara</i>, <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i>. Removal of dense woody weeds should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.</p> <p><b>Buffer planting</b> – buffer planting above to enhance connectivity to Buffer 4.2 below.</p> <p><b>Targeted weeding</b> – target woody weeds, vines, herbaceous perennials and stay on top of any reshooting weeds.</p>	<p>Mosaic clearing and revegetation every 2 years, working from patches of higher quality vegetation to lower quality vegetation.</p> <p>Minimum of 12 site visits per year.</p>	>70%	<p>Increased connectivity through buffer.</p> <p>Establishment of buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.
<b>Remnant D1b</b> <b>West</b>	Medium	<p>The D1b remnant consists of Sea-cliff Heath.</p> <p>The western edge of the remnant is infested weed species such as <i>Lantana</i></p>	<p><b>Containment</b> – ensure no encroachment of the weedy western area into the higher quality core of the remnant. This will ensure protection of the resilient area maintaining fauna habitat.</p> <p><b>Targeted weeding</b> – over time gradual staged weed removal works can occur adjacent to the good condition core area of bushland in order to</p>	8 site visits per year.	>70%	<p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p>	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
		<i>camara</i> and <i>Asparagus aethiopicus</i> . The remnant will benefit from works taking place above and the creation of a buffer.	expand the area of the remnant that is in good condition. Woody weeds, vines and herbaceous perennials should be targeted. Subsequent removals shouldn't be conducted until replacement plantings have grown and provide a similar level of habitat structure for fauna species such as birds which utilise the area.			<10% weed cover by end of 2025 – 2026 FY.  Maintained at <10% weed cover ongoing.	
<b>Remnant D2a</b>	Medium	Consists of a 51m <sup>2</sup> patch of Sea-cliff Heath.  The remnant is hard to access, therefore will benefit from occasional maintenance weeding and ropes work. Works should focus on increasing the condition of the buffer above. Due to the small size of the remnant it may be lost if works are not done in the adjacent buffer area to support it.	<b>Targeted weeding</b> –target sprouting woody weeds, vines and herbaceous perennials within the remnant to maintain resilience and low weed density of the remnant. If any dense thickets are present, removal should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.  <b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.	Ropes work four times per year.	5-30%	Decrease and maintain weed density at <5% by the end of 2021 - 2022 FY.  Recruitment of native seedbank.	Trained bush regenerators.
<b>Buffer 3.4</b>	Medium	Consists of a mix of natives and weed species.	<b>Targeted weeding</b> –target woody weeds, vines, herbaceous perennials and stay on top of any reshooting weeds. Removal of weed species, including woody weeds, in this area will prevent expansion to the east and potential encroachments on the D3b remnant. If any dense thickets are present, removal should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.  <b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.  <b>Maintain delineation</b> – maintain existing edge between mown lawn and vegetation on the western end of the buffer to ensure no encroachment of exotic grasses into the buffer plantings.	Minimum of 8 site visits per year.	>70%	Reduce and maintain density to <20% by the end of 2021 – 2022 FY. Reduce weeds to <5% by the end of 2022 – 2023 FY. Maintain at <5% ongoing.  Natural native regeneration.	<b>Targeted weeding, maintenance weeding and control of dominant natives</b> – trained bush regenerators.  <b>Maintain delineation</b> – parks staff
<b>Buffer 3.2</b>	Medium	Consists of established buffer plantings west of remnant D2b.	<b>Targeted weeding</b> –target woody weeds, vines, herbaceous perennials and stay on top of any reshooting weeds. Removal of weed species, including woody weeds, in this area will prevent expansion to the east and potential encroachments on the D3b remnant. If any dense thickets are present, removal should be staged to preserve fauna	Minimum of 8 site visits per year.	5-30%	Reduce and maintain weed density at <5%.  Natural native regeneration.	<b>Maintain delineation</b> – parks staff  <b>Targeted weeding, maintenance weeding and control of dominant natives</b>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
			<p>habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.</p> <p><b>Control of dominant natives</b> - target and remove <i>Wollastonia uniflora</i> as it is dominant and smothering other natives. Replace with small shrub species. See Appendix F for recommended species.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Maintain delineation</b> – maintain existing edge between mown lawn and vegetation on the western end of the buffer to ensure no encroachment of exotic grasses into the buffer plantings.</p>				– trained bush regenerators.
<b>Buffer 4.2</b>	Medium	Established buffer plantings located between remnants D3a, D3b and D3c.	<p><b>Targeted weeding</b> - target woody weeds, vines and herbaceous perennials. Woody weeds should be targeted to prevent encroachments into the adjacent remnant patches to both the north and south. This protects the remnant patches, maintaining both their condition and fauna habitat.</p> <p>Target annual weeds before seeding to prevent germination.</p> <p><b>Connectivity planting</b> – extend buffer to join north and south buffers to increase resilience of remnant and to improve fauna habitat connectivity.</p>	Minimum of 8 site visits per year.	5-30%	<p>Reduce and maintain &lt;5% weed density by the end of 2021 - 2022 FY.</p> <p>Increased connectivity through establishment of buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.
<b>Remnant D3a</b>	Medium	Consists of a remnant patch of Sea-cliff Heath.	<b>Targeted weeding</b> – target woody weeds, vines and herbaceous perennials. Problematic weeds include <i>Hydrocotyle bonariensis</i> , <i>Coprosma repens</i> , <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> . Removal of dense woody weeds should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.	Minimum of 12 site visits per year.	>70%	<p>Reduce and maintain density to &lt;20% by the end of 2021 – 2022 FY. Reduce weeds to &lt;5% by the end of 2022 – 2023 FY. Maintain at &lt;5% ongoing.</p> <p>Reduction in <i>Hydrocotyle bonariensis</i>.</p> <p>Natural native regeneration.</p>	Trained bush regenerators.
<b>Remnant D3c</b>	Medium	Consists of a remnant patch of Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i>	<p><b>Targeted weeding</b> – Target annual weeds before seeding to prevent germination. Problematic weeds include <i>Hydrocotyle bonariensis</i>, <i>Coprosma repens</i>, <i>Lantana camara</i>, <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i>.</p> <p><b>Trial new recommended methods for Hydrocotyle treatment</b> - see Appendix A. Set up plots to research methods most successful in the</p>	Minimum of 12 site visits per year.	5-30%	<p>Reduce and maintain &lt;5% weed density.</p> <p>Reduction in <i>Hydrocotyle bonariensis</i>.</p> <p>Natural native regeneration.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
			reduction of <i>Hydrocotyle bonariensis</i> and natural regeneration of sedges. Methodology to be applied through other zones once established.				
<b>Remnant D1c</b>	Low	Consists of a 6m <sup>2</sup> patch of Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i> and surrounding buffer.  Remnant patch is isolated and works should target the adjacent buffer in order to improve these areas and protect the remnant from weed encroachment and potential loss.	<b>Targeted weeding</b> – target woody weeds, vines and herbaceous perennials. Woody weeds should be targeted to prevent encroachment into the adjacent remnant patch. Removal of dense woody weeds should be staged to preserve fauna habitat and the next stage shouldn't commence until replacement plantings provide sufficient habitat.  <b>Buffer planting</b> – extend buffer plantings to increase resilience of remnant.	Ropes work twice per year.  10 site visits per year.	5-30%	Decrease and maintain weed density at <5%.  Planting survival rate of >80% 6 months after planting.  Increase in resilience.	Trained bush regenerators.
<b>Buffer 1</b>	Low	Consists of small patches of buffer plantings and high density weeds above Rosa Gully.  Rosa Gully has a very high weed density and would be very costly to treat and result in the removal of a large amount of fauna habitat. This should be a low priority long term goal, with the weeds treated gradually and the area planted to minimise loss of habitat.	<b>Containment</b> – of the high density weeds within the gully below to ensure no encroachment of the weedy edge into the higher quality core of the remnant. Isolate <i>Lantana camara</i> . This ensures protection of the remnant, maintaining fauna habitat.  <b>Targeted weeding</b> – target woody weeds, vines, herbaceous perennials in order to stay on top of any reshooting weeds above the gully such as <i>Coprosma repens</i> , <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> . Areas of dense woody weeds, such as <i>Coprosma repens</i> and <i>Lantana camara</i> , should be removed gradually in stages, concurrently with replacement planting to provide a similar structure of habitat. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge. Woody weeds within Rosa Gully should not be targeted due to the habitat provided and costs required to restore this area.  <b>Connectivity planting</b> – extend buffer planting along D1b remnant to enhance connectivity for fauna to D1a remnant and improve the resilience of the remnant vegetation. A gap can be left between the planted areas and remnant edge to allow for natural regeneration and extension of the remnant. However, if this approach is to be taken more resources will be required to manage weeds in between the plantings and remnant in order to protect the condition of the	Minimum of 12 site visits per year.	30-70%	Containment of high density weed edge.  Establishment of buffer plantings.  Planting survival rate of >80% 6 months after planting.	<b>Create delineation</b> – parks staff  Most of the western patch, not abutting remnant vegetation to be handed to Parks staff.  <b>Targeted weeding, connectivity planting and containment</b> – trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Diamond Bay</b>							
			remnant. Plantings should include a diversity of species in order to provide fauna habitat.  <b>Create delineation</b> – create and maintain an edge between mown lawn and remnant vegetation to ensure no encroachment of exotic grasses into the remnant.				
<b>Buffer 4.1</b>	Low	Consists of highly weed infested vegetation above the D3b remnant.  Primary works and buffer plantings are necessary to conserve the remnants down slope.  Due to the high density weeds present this area will be resource intensive to treat.	<b>Containment</b> – ensure no encroachment of the weedy edge into the D3b remnant below.  <b>Primary weeding</b> – mosaic clearing of dominant weeds such as <i>Coprosma repens</i> , <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> . Removal of dense woody weeds should be staged to preserve fauna habitat. Successive stages should not be commenced until plantings in initial stages provide sufficient habitat.  <b>Buffer planting</b> – buffer planting above to enhance connectivity and to protect the remnant below. Buffer plantings should provide suitable fauna habitat including flora species which generate leaf litter for lizards and provide foraging and roosting resources for birds.  <b>Targeted weeding</b> –target woody weeds, vines, herbaceous perennials and to stay on top of any reshooting weeds.	Mosaic clearing and revegetation every 2 years, working from patches of higher quality vegetation to lower quality vegetation.  Minimum of 12 site visits per year.	>70%	Increased connectivity through buffer.  Decreased weed density in remnant vegetation below.  Establishment of buffer planting.  Planting survival rate of >80% 6 months after planting.	Trained bush regenerators.
<b>All Zones</b>	Required	Ecological monitoring across all zones	Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"> <li>Establish one photo-point in each zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> <li>Establish methodology, plots (including a control plot) and monitoring quadrats for best practice for control and reduction of <i>Hydrocotyle bonariensis</i>.</li> </ul> Provide annual reports detailing monitoring data and summarising outcomes to Waverley Council.	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

## 4 EASTERN RESERVE



Figure 4-1. Steps leading to Eastern Reserve, Dover Heights

Eastern Reserve is a long open park with cliff-top views over the ocean which is a popular location for whale watching. Eastern Reserve has four patches of remnant Sea-Cliffs Sedgeland and Sea-cliff Heath vegetation that is positioned along the cliff edge. The patches provide a strip of connected vegetation along the east of the Reserve. The Reserve is of local and Aboriginal heritage significance due to its natural landscape escarpment and its considerable scenic value which contributes to the character of Sydney's eastern beaches and foreshore.

### 4.1 FLORA

The two patches of Sea-cliff Sedgeland are positioned at the north of the site. This community is dominant with *Ficinia nodosa* and is located within 20m of the sea cliffs. It is characterised by an open canopy growing on skeletal sand to sand lenses on sandstone, often on modified soils. The condition of these patches is 'very low' in the north of the site (Ea, Eb) with many exotic grasses and ground covers including *Stenotaphrum secundatum* and *Gazania spp.* (SBRC 2020). Native biodiversity is low, comprising mostly of *Ficinia nodosa*, *Dianella spp.* and some *Westringia fruticosa* (Apunga, 2019a).

The two patches of Sea-cliff Heath are positioned to the south of the site (Ec, Ed). This community is an open to closed low growing community within 50m of sea cliffs on skeletal sand to sand lenses on sandstone with impeded drainage. Typical remnant species include *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*. This patch is in 'good' condition in the core (Ed) with a surrounding buffer of 'very poor' condition, which is abundant with *Ipomoea spp.* and *Passiflora spp.* (SBRC 2020). The southern section of remnant Ed contains what is most likely Waverley LGA's oldest *Banksia ericifolia*. Anecdotal evidence over many years has found that that this location has a higher species richness of birds than any other site within the Waverley LGA.

Table 4-1 – Native Flora Species of the Eastern Reserve Remnants (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longfolia</i>	Coastal Wattle	<i>Hakea teretifolia</i>	Needlebush
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Isolepis cernua</i>	Nodding Club-rush
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Lachnagrostis billardiieri</i>	Coast Blown-grass
<i>Banksia ericifolia</i>	Heath-leaved Banksia	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Baumea juncea</i>	Bare Twig-rush	<i>Lobelia anceps</i>	Angled Lobelia
<i>Carpobrotus glaucescens</i>	Pigface	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Cyperus polystachyos</i>	Bunchy Sedge	<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Deyeuxia quadriseta</i>	Reed Bent-grass	<i>Samolus repens</i>	Creeping Brookweed
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Zoysia macrantha</i>	Prickly Couch
<i>Gleichenia rupestris</i>	Coral Fern		



## 4.2 FAUNA

This site provides a consistent connectivity corridor along the coastline. The Sea-cliff Heath vegetation provides essential foraging and sheltering resources for reptiles and bird species including small insectivorous bird species such as White-browed Scrubwren (*Sericornis frontalis*) and Superb Fairy-wrens (*Malurus cyaneus*). The Sea-cliff Sedgeland also provides moist habitat for frog species. Sandstone rock outcrops provide basking habitat for skinks and other reptile species including Dark-flecked Garden Sunskink (*Lampropholis delicata*) and the Cream-striped Shinning-skink (*Cryptoblepharus virgatus*). Birds of prey are commonly seen utilising this area (Apunga, 2019a). The site most likely provides habitat for their prey species.

## 4.3 MANAGEMENT ACTIONS

### 4.3.1 Previous works

New buffer plantings have been established to the east of the remnants Ec and Ea. Consistent hand weeding and spraying in the past few years has resulted in a reduction in the weed seedbank across the site and remnant zones that were heavily infested with *Ipomea indica* and *Passiflora edulis* have shown a reduction in weed density. The area near George Street has finally been able to stabilise after the construction work completed there, which has allowed it to return to its previous state, and rope work has been invaluable in treating the vine infestations in all areas along the cliff edge.

### 4.3.2 Key management actions

Management priority of this site is moderate due to some areas of remnants demonstrating resilience with low weed densities. Some of the smaller low condition patches may be difficult to manage and be resource extensive. The boardwalk is expected to be replaced around late 2021 or mid-2022. If this will affect access to complete management work, site visits should be timed prior to construction works and soon after to manage any impacts from the work. Key management actions generally include:

- **Targeted weeding:** Target annual weeds before seeding to prevent germination. Target reoccurring weeds such as *Hydrocotyle bonariensis*, *Gazania spp.* and *Stenotaphrum secundatum*, *Ipomoea spp.* and garden exotics.
- **Containment:** There are several high density weed areas within this site, including buffer 5. It is important that these areas are contained in order to prevent degradation of adjacent remnants. Buffer 5 is currently delineated from remnant Ec by a sediment

fence which is effectively excluding weed species. Containment measures must be maintained and installed where required across the Reserve.

- **Infill planting:** Infill planting should be considered in the remnant and buffer patches to increase diversity. Continue buffer/infill planting within the existing buffers plantings where necessary.
- **Preserve rocky areas** – There is a large number of rocky sandstone areas across this site. It is important that these are maintained as they provide basking opportunities and habitat for a number of reptile species. Weeds should be prevented from overgrowing rocky outcrops and platforms (AMBS 2011).
- **Retention of logs** – any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species (AMBS 2011).
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

The weed densities and management actions for the different areas are shown in Map 4-1 and Map 4-2 and provided in Table 4-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

Additionally, alternative management actions including direct seeding could be used in the southern area of the reserve in the area designated for buffer planting (see Map 4-2). Infill planting may not be viable in some areas due to shallow soils, direct seeding of local provenance seeds within clifftop remnants could be beneficial. This aims to increase diversity thus improve resilience to disturbance.

## 4.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The remnants at this site should be managed differently depending on their resilience and current condition. It is expected that the management of the higher quality patches (Ea, Eb North) would result in significant improvement to the condition of the vegetation. Management of the poor condition patches (Ec, Eb South and Buffer 5) should focus on their containment and primary weeding.

Patches Ea, Eb North, Ec South and Ed) will likely be able to be restored to 'good' condition by 2040 especially with the implementation of infill planting (where relevant) to increase diversity. It is not expected that the poor condition patches (Ec, Eb South, and Buffer 5) would be able to be managed to 'good' condition without extensive management.



*July 2021**Total Earth Care Pty Ltd*

This site provides a significant habitat corridor with notable width and connected patches across the site. The further extension of buffer plantings will provide more habitat for fauna to utilise and provide protected passage between existing patches of remnant vegetation. Infill plantings will also provide more complex vegetation.

DRAFT

**Title: Weeds & Manag. Actions**



Map No: 4-1

Site: Eastern Reserve (North)



Client: Waverley Council

Date: January 2021




Author: G Barron

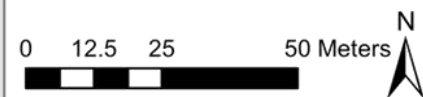
-  Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover**

-  <5%  
 5% - 30%  
 >70%

**Management Actions**

-  Targeted Weed Control  
 Create Delineation  
 Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





**Title: Weeds & Manag. Actions**



Map No: 4-2

Site: Eastern Reserve (South)





Client: Waverley Council

Date: July 2021






Author: G Barron

-  Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover 2020**

-  <5%  
 5% - 30%  
 30% - 70%  
 >70%

**Management Actions**

-  Buffer Planting  
 Primary Weed Works  
 Targeted Weed Control  
 Create Delineation  
 Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 4-2 – EASTERN RESERVE MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Eastern Reserve</b>							
<b>Remnant Ea</b>	High	<p><b>Oceanview Avenue</b></p> <p>Consists of 684m<sup>2</sup> of remnant Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i>.</p> <p>Whilst the remnant is in a stable condition displaying low weed density, the diversity in zone remains low, consisting mainly of <i>Ficinia nodosa</i> and is unlikely to increase in diversity naturally due to the shallow soils.</p>	<p><b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Hydrocotyle bonariensis</i>, <i>Gazania spp.</i> and <i>Stenotaphrum secundatum</i>.</p> <p><b>Ropes work</b> – to target <i>Asparagus aethiopicus</i> vines, root systems of <i>Hydrocotyle bonariensis</i>, and woody weeds on cliff edge. Woody weeds should be targeted in order to prevent encroachment into the good condition remnant.</p> <p><b>Infill planting</b> - this remnant exhibits high resilience but is suffering from low diversity. Attempts could be made to plant suitable sedge and rush species of local provenance, or propagated from local species to increase the diversity of the remnant, whilst still retaining the genetic value.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	<p>Ropes work 4 times per year.</p> <p>6 site visits per year.</p>	5-30%	<p>Reduce and maintain weed density at &lt;5% by the end of 2022 – 2023 FY. Maintain at &lt;5% ongoing.</p> <p>No net loss of remnant.</p> <p>Increase of diversity through infill planting of local species.</p>	Trained bush regenerators.
<b>Buffer 2</b>	High	<p><b>Eastern Avenue</b></p> <p>Consist of established buffer plantings between the turf and the Ea and Eb remnants. Delineation of the turf edge has benefited the plantings with little grass encroachment.</p> <p>There has been significant growth of <i>Hydrocotyle bonariensis</i>, but most of this has been able to be treated by removing the root systems in between the plantings.</p>	<p><b>Maintain delineation</b> – maintain existing fence and delineation with turf edge.</p> <p><b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Hydrocotyle bonariensis</i>, <i>Gazania spp.</i> and <i>Stenotaphrum secundatum</i>.</p> <p>Continue hand removal of <i>Hydrocotyle bonariensis</i>.</p> <p><b>Buffer planting</b> – continue buffer/infill planting where necessary.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	<p>Minimum of 8 site visits per year.</p>	5-30%	<p>Reduce and maintain weed density at &lt;5% by the end of 2022 – 2023 FY. Maintain at &lt;5% ongoing.</p> <p>Maintained delineation.</p> <p>Natural native regeneration.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	<p><b>Maintain delineation</b>– parks staff</p> <p><b>Targeted weeding and buffer planting</b> – trained bush regenerators.</p>
<b>Remnant Eb North</b>	High	<p><b>Eastern Avenue</b></p>	<p><b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such</p>	<p>Minimum of 8 site visit per year.</p>	5-30%	<p>Reduce and maintain weed density at &lt;5% by the end</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
Eastern Reserve							
		<p>Consists of 432m<sup>2</sup> of remnant Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i>.</p> <p>Whilst the remnant is in a stable condition displaying low weed density, the diversity in zone remains low, consisting mainly of <i>Ficinia nodosa</i>, <i>Dianella spp.</i> and <i>Westringia fruticosa</i> and is unlikely to increase in diversity naturally due to the shallow soils.</p>	<p>as <i>Hydrocotyle bonariensis</i>, <i>Gazania spp.</i> and <i>Stenotaphrum secundatum</i>.</p> <p><b>Infill planting</b> - this remnant exhibits high resilience but is suffering from low diversity. Attempts could be made to plant suitable sedge and rush species of local provenance, or propagated from local species to increase the diversity of the remnant, whilst still retaining the genetic value.</p>			<p>of 2022 – 2023 FY. Maintain at &lt;5% ongoing.</p> <p>No net loss of remnant.</p> <p>Increase of diversity through infill planting of local species.</p>	
Remnant Ec South	High	<p><b>Bulga Road</b></p> <p>Consists of 1173m<sup>2</sup> of Sea-cliff heath. The vegetation falls within the SEPP 19.</p> <p>Previous works have targeted this remnant which has seen growth and stabilisation over the past year, with the native shrubs and grasses filling out leaving most annuals no room to germinate.</p>	<p><b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Ipomoea spp.</i> to prevent them from becoming established.</p> <p><b>Ropes work</b> – to target <i>Asparagus aethiopicus</i> vines, root systems of <i>Hydrocotyle bonariensis</i>, and woody weeds on cliff edge. Woody weeds can provide critical fauna habitat and should only be removed in staged manner. It is critical that the woody weeds are controlled along the cliff edge to prevent encroachment into the good condition remnant.</p> <p><b>Maintain delineation</b> – maintenance of sediment fence to reduce weed encroachment from Buffer 5 upslope.</p>	<p>Ropes works 4 times per year.</p> <p>Minimum of 10 visits per year.</p>	5-30%	<p>Reduce and maintain weed density at &lt;5% by the end of 2022 – 2023 FY. Maintain at &lt;5% ongoing.</p> <p>Natural regeneration of natives.</p> <p>Increased resilience.</p>	Trained bush regenerators.
Buffer 4	High	<p><b>Bulga Road</b></p> <p>Consists of established buffer plantings displaying high resilience.</p>	<p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Ipomoea spp.</i> to prevent them from becoming established.</p>	Minimum of 6 site visits per year.	5-30%	Maintain weed density at <5% by the end of 2021 – 2022 FY. Maintain at <5% weeds on going.	Trained bush regenerators.
Buffer 6	High	<p><b>George street and Lancaster Street</b></p> <p>Consists of a large strip of poor quality vegetation and buffer plantings between the residential buildings and the remnant bushland.</p> <p>The buffer vegetation has been subject to disturbance through</p>	<p><b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Ipomoea spp.</i>, <i>Passiflora spp.</i> and garden exotics.</p> <p><b>Buffer planting</b> – Some clearing of shrubs and groundcover species is evident towards the south of this zone, possibly by residents to maintain views. Buffer planting should be conducted to restore vegetation</p>	Minimum of 12 site visits per year.	>70%	<p>Reduce weed density to &lt;20% by the end of 2021 – 2022 FY, &lt;10% by the end of 2022 – 2023 FY and &lt;5% within by the end of 2023 – 2024 FY. Maintain at &lt;5% ongoing.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Eastern Reserve</b>							
		construction and clearing by local residents to maintain views.	structure as this patch provides important habitat for a number of fauna species, including small birds.  <b>Retention of logs</b> – any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.			Increased connectivity through buffer planting.  Planting survival rate of >80% 6 months after planting.  Natural regeneration of native species.	
<b>Remnant Ed Core</b>	High	<b>Northern Part of Lancaster Remnant</b>  The core of the Sea-cliff Heath remnant displays high resilience. The remnant vegetation will benefit from works targeting Buffer 6 to prevent weed encroachment from above and to create connectivity.  The vegetation falls within the SEPP 19.	<b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Ipomoea spp.</i> , <i>Passiflora spp.</i> and garden exotics.  <b>Delineation</b> – create temporary delineation from poorer quality buffer vegetation to decrease encroachment of invasive species into the remnant bushland. Sediment fencing should be used.  <b>Retention of logs</b> – any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.	Minimum 8 site visits per year.	5-30%	Reduce and maintain weed density at <5% by the end of 2021 – 2022 FY.  Increased resilience.  Natural regeneration of native species.	Trained bush regenerators.
<b>Buffer 5</b>	High	<b>George Street</b>  Consists of a highly weed infested vegetation on the cliff edge between remnants Ec and Ed to the east and west of the boardwalk.  Containment of these areas is a high priority to prevent weed encroachment into the adjacent remnants to the north and south. In the long term the patches could be controlled but this will require a large investment of resources and money including rope work. The native seedbank in these areas is also likely entirely depleted and so planting will be required.	<b>Containment (high priority)</b> – due to the severely poor condition of the vegetation, the priority is to contain this area to ensure no encroachment into remnants. The sediment fence at the boundary with remnant Ec to the north, must be maintained.  <b>Primary weeding (low priority)</b> – mosaic clearing of dominant weeds such as <i>Coprosma repens</i> , <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> . Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge. If woody weeds are not controlled the remnant is at risk of being lost due to the thin nature of the strip.  <b>Ropes work (low priority)</b> – to target <i>Asparagus aethiopicus</i> vines, root systems of <i>Hydrocotyle bonariensis</i> , and woody weeds on cliff edge. Care should be taken when treating woody weeds along the cliff edge	Monitor sediment fencing and maintain as required.  Mosaic clearing and revegetation every 2 years, working from patches of higher quality vegetation to lower quality vegetation.  Minimum of 12 site visits per year.	>70%	Sediment fence is functioning correctly and weed encroachments are not entering the remnant.  <50% weed cover by end of 2023 – 2024 FY.  <30% weed cover by end of 2024 – 2025 FY.  <10% weed cover by end of 2025 – 2026 FY.  Maintained at <10% weed cover ongoing.  Establishment of buffer planting to increase connectivity and stability.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Eastern Reserve</b>							
		Restoration of this zone is of low priority but containment is a high priority.	<p>as these may be providing stabilisation and preventing erosion. Weeds should be managed at the remnant boundaries to prevent encroachment.</p> <p><b>Buffer planting (low priority)</b> – to be undertaken once primary works and ropes works are undertaken. The zone will benefit from a buffer of heathy shrubs and ground covers, of low growing species to not obstruct the public view whilst still providing fauna habitat.</p> <p>Buffer plantings will be necessary to control erosion and stability. Install terracing or coir logs along the length of the slopes.</p>			Planting survival rate of >80% 6 months after planting.	
<b>Remnant Ec North</b>	Medium	<p><b>Bulga Road</b></p> <p>Consists of 1173m<sup>2</sup> of Sea-cliff heath. The northern section of the remnant is in poor condition.</p> <p>This zone will need to be contained from the higher quality remnant vegetation to the south, whilst efforts target problematic weed species such as <i>Lantana camara</i>, <i>Coprosma repens</i>, <i>Asparagus aethiopicus</i> and <i>Ipomoea spp.</i></p>	<p><b>Containment</b> – due to the severely poor condition of the vegetation, the priority is to contain this area in order to ensure no encroachment into the better condition area to the south.</p> <p><b>Primary weeding</b> – mosaic clearing of weeds such as <i>Coprosma repens</i>, <i>Lantana camara</i>, <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i>. Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat.</p> <p><b>Infill planting</b> – if natural regeneration of native heath and ground cover species are not successful after primary works take place, infill planting may be required. Plantings should be locally sourced species, or propagated from remnant species. This will increase the resilience of the remnant and create habitat complexity and connectivity, whilst still maintaining the genetic integrity of the remnant.</p>	<p>Mosaic clearing and revegetation every 2 years, working from patches of higher quality vegetation to lower quality vegetation.</p> <p>Minimum of 12 site visits per year.</p>	>70%	<p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Natural regeneration and/or infill planting if required to increased connectivity and habitat complexity.</p> <p>Increase in remnant condition.</p>	Trained bush regenerators.
<b>Buffer 1</b>	Medium	<p><b>Oceanview Avenue</b></p> <p>Consists of established buffer plantings which display low weed density and high resilience.</p>	<p><b>Create delineation</b> – create and maintain delineation between buffer plantings and turf to control encroachment of exotic grasses. Spray edge or a combination with permanent edging is recommended. For spray edge create a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a</p>	Minimum of 6 site visits per year.	<5%	<p>Maintain weed density at &lt;5%.</p> <p>Maintained delineation.</p> <p>Natural native regeneration.</p>	Parks staff.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Eastern Reserve</b>							
			monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand. <b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Hydrocotyle bonariensis</i> , <i>Gazania spp.</i> and <i>Stenotaphrum secundatum</i> . <b>Buffer planting</b> – continue buffer/infill planting where necessary.			Planting survival rate of >80% 6 months after planting.	
<b>Buffer 3</b>	Medium	<b>Bulga Road</b> Consists of established buffer plantings displaying high resilience.	<b>Maintain delineation</b> – maintain existing delineation with turf edge. <b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Ipomoea spp.</i>	Minimum of 6 site visits per year.	5-30%	Maintain weed density at <5%.	<b>Maintain delineation</b> – parks staff. <b>Maintenance weeding</b> - trained bush regenerators.
<b>Remnant Ed North</b>	Medium	<b>Northern Part of Lancaster Remnant</b> Consists of a small isolated patch of remnant Sea-cliff Heath. The remnant will benefit from works targeting Buffer 6 to prevent weed encroachment from above and to create connectivity.	<b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Ipomoea spp.</i> and garden exotics. Due to the small size of this patch of the Ed remnant may be lost if management of weeds, including woody weeds, is not undertaken.	Minimum of 6 site visits per year.	>70%	<50% weed cover by end of 2023 – 2024 FY. <30% weed cover by end of 2024 – 2025 FY. <5% weed cover by end of 2025 – 2026 FY. Maintained at <5% weed cover ongoing. Natural regeneration of natives.	Trained bush regenerators.
<b>Remnant Ed East</b>	Medium	<b>Northern Part of Lancaster Remnant</b> The eastern edge of the remnant is predominantly in poorer condition, with some lower weed density patches in the north. Works should focus on the higher quality remnant in the north and work southward.	<b>Targeted weeding</b> - target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Hydrocotyle bonariensis</i> , <i>Gazania spp.</i> and <i>Stenotaphrum secundatum</i> . Targeted weeding should focus on the higher quality remnant in the northern section of this zone. <b>Ropes work</b> – to target <i>Asparagus aethiopicus</i> vines, root systems of <i>Hydrocotyle bonariensis</i> , and woody weeds on cliff edge. Care should be taken when treating woody weeds along the cliff edge as these may be providing stabilisation and preventing erosion, however if they	Ropes work 4 times per year. Minimum 8 site visits per year.	>70%	<50% weed cover by end of 2023 – 2024 FY. <30% weed cover by end of 2024 – 2025 FY. <10% weed cover by end of 2025 – 2026 FY. Maintained at <10% weed cover ongoing.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
Eastern Reserve							
			aren't managed gradually over time the remnant will decline in condition.			Natural regeneration of natives.	
Remnant Eb South	Low	<b>Eastern Avenue</b> Consists of 432m <sup>2</sup> of remnant Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i> .  This zone will need to be contained from the higher quality remnant vegetation south, whilst efforts target problematic weed species such as <i>Lantana camara</i> , <i>Coprosma repens</i> , <i>Asparagus aethiopicus</i> and <i>Ipomoea spp.</i>	<b>Containment</b> – due to the severely poor condition of the vegetation, the priority is to contain this area to ensure no encroachment into the better condition remnant vegetation to the north and south. Sediment fences are an effective method of containment.  <b>Primary weeding</b> – mosaic clearing of dominant weeds such as <i>Coprosma repens</i> , <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> . Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat.  <b>Infill planting</b> – if natural regeneration of native heath and ground cover species are not successful after primary works take place, infill planting may be required. Plantings should be locally sourced species, or propagated from remnant species. This will increase the resilience of the remnant and create habitat complexity and connectivity, whilst still maintaining the genetic integrity of the remnant. Habitat creation should be considered during species selection.	Mosaic clearing and revegetation every 2 years, working from patches of higher quality vegetation to lower quality vegetation.  Minimum of 12 site visits per year.	>70%	<50% weed cover by end of 2024 – 2025 FY.  <30% weed cover by end of 2025 – 2026 FY.  <10% weed cover by end of 2026 – 2027 FY.  Natural regeneration/ or infill planting if required to increased connectivity and habitat complexity.  Increase in remnant condition.	Trained bush regenerators.
Remnant Ed South	Low	<b>Lancaster Street</b> Consists of small 2m <sup>2</sup> patch of remnant Sea-cliff Heath on the edge of the cliff.  Due to accessibility issues and isolation of this remnant, it is of low priority. Works should focus on the surrounding vegetation to create connectivity and ensure no net loss of remnant.	<b>Targeted weeding</b> - Target annual weeds before seeding to prevent germination. Target reoccurring weeds such as <i>Hydrocotyle bonariensis</i> , <i>Gazania spp.</i> and <i>Stenotaphrum secundatum</i> .  Weed works should be focused on the surrounding vegetation to connect the southern Ed remnant patch to the core of the Ed remnant patch.  <b>Ropes work</b> – to target <i>Asparagus aethiopicus</i> vines, root systems of <i>Hydrocotyle bonariensis</i> , and woody weeds on cliff edge. . Care should be taken when treating woody weeds along the cliff edge as these may be providing stabilisation and preventing erosion, however if they	Ropes work 2 times per year.  Minimum 4 site visits per year.	>70%	No loss of remnant vegetation.  Increased connectivity.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
Eastern Reserve							
			aren't managed gradually over time this remnant patch is likely to be lost due to its small size and isolated position.				
All Zones	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish one photo-point in each zone and two photo-monitoring points in each primary work zone</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.

## 5 CAFFYN PARK



Figure 5-1. Remnant F5 at Caffyn Park

The Caffyn Park is positioned on an elevated on a sandstone plateau with views of Sydney Harbour. It provides an open grassed area for recreational activities and children's playground. The north-west edge of Caffyn Park runs along a sandstone ledge containing remnants of Sandstone Moist Heath.

The park is of local heritage significance which is listed for its inter-war heritage value including a semi-circular layout of Canary Island Palms. Caffyn Park consists of three patches of remnant vegetation on either side of Victory Street. These vegetation communities comprise Sandstone Dry Scrub and Sandstone Moist Heath.

### 5.1 FLORA

The natural sandstone ledge that runs along the southern side of Victory Street to the west and north to the park provides a small cliff-soak habitat of Sandstone Moist Heath (F5). Sandstone Moist Heath is a low open growing community with sun-loving tolerate species which occurs within 50m of sea cliffs on sandstone slopes and ledges. It typically includes *Banksia ericifolia*, *Callistemon citrinus* and *Callistemon linearis*. This area specifically comprises a diverse mix of herbs, grass, sedge and fern species and has a shrub canopy dominated by Tick Bush (*Kunzea ambigua*). This section of remnant vegetation is considered to be 'poor' and 'fair' condition (SBRC 2020), however with recent management, the current weed density (<5%) the reserve is in good condition.

To the north and south of Victory Street (F1, F6) the Sandstone Dry Scrub community is present. This community typically comprises dense low growing dry vegetation including *Acacia longifolia*, *Monotoca elliptica* and *Kunzea ambigua*. This patch is considered to be in 'very poor' condition (SBRC 2020) and contains a mixture of exotic and native species including several Coastal banksias (*Banksia integrifolia*).

Table 5-1 – Caffyn Park Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Juncus planifolius</i>	Broadleaf Rush
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Kunzea ambigua</i>	Tick Bush
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Lachnagrostis billardierei</i>	Coast Blown-grass
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Baumea juncea</i>	Bare Twig-rush	<i>Lepidosperma concavum</i>	Sandhill Sword-sedge
<i>Callistemon rigidus</i>	Stiff Bottlebrush	<i>Leptorhynchos squamatus</i>	Scaly Buttons
<i>Centrolepis strigosa</i>	Hairy centrolepis	<i>Lobelia anceps</i>	Angled Lobelia
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Cyperus polystachyos</i>	Bunchy Sedge	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Dianella caerulea</i>	Blue Flax-lily	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Dianella revoluta</i>	Blueberry Lily	<i>Monotoca elliptica</i>	Tree Broom-heath
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Olearia tomentosa</i>	Toothed Daisy-bush

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Scientific Name	Common Name
<i>Entolasia stricta</i>	Wiry Panic	<i>Opercularia aspera</i>	Coarse Stinkweed
<i>Epacris longiflora</i>	Fuchsia Heath	<i>Paspalidium distans</i>	Spreading Panic
<i>Epaltes australis</i>	Spreading Nut-heads	<i>Pimelea linifolia</i>	Slender Rice Flower
<i>Eragrostis brownii</i>	Brown's Lovegrass	<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Psilotum nudum</i>	Skeleton Fork-Fern
<i>Gleichenia dicarpa</i>	Pouched Coral Fern	<i>Schoenus apogon</i>	Fluke Bogrush
<i>Gleichenia rupestris</i>	Coral Fern	<i>Schoenus brevifolius</i>	Zig-zag Bog-rush
<i>Histiopteris incisa</i>	Bat's Wing Fern	<i>Smilax glycyphylla</i>	Sweet Sarsparilla
<i>Isolepis cernua</i>	Nodding Club-rush	<i>Wahlenbergia gracilis</i>	Australian Bluebell
<i>Juncus continuus</i>	Juncus continuus	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Juncus pallidus</i>	Pale Rush	<i>Xanthosia pilosa</i>	Woolly Xanthosia

## 5.2 FAUNA

Caffyn Park contains isolated patches of habitat with little connectivity to other vegetation. As such, it would provide limited habitat to mammals and reptiles and is most likely to serve as refuge for more common urban bird species such as Noisy Minors (*Manorina melanocephala*) and Australian Magpies (*Cracticus tibicen*). Flowering Coastal Banksias provide an important foraging resource for many nectarivorous and urban bird species as well as the Grey-headed Flying-fox (*Pteropus poliocephalus*) (Vulnerable under the BC Act and EPBC Act) which has been recently recorded at Rodney Reserve (DPIE 2020) to the west. Additionally, the small moist rock outcrops provide microhabitats for small reptile species.

## 5.3 MANAGEMENT ACTIONS

### 5.3.1 Previous works

Weed management has focused on the infestations of *Hydrocotyle* across the site, particularly in the Sandstone Moist Heath (F5). Turbation of the soil profile in the Sandstone Dry Scrub (F6) to expose a possible seedbank and encourage native regeneration, has achieved limited results, with some germination of native grasses. Further control of the *Hydrocotyle* will be limited to hand weeding only as these areas are now evincing native regeneration.

### 5.3.2 Key management actions

Management priority of this site is moderate due to the resilient patches of Sandstone Dry Scrub (F1) and Sandstone Moist Heath (F5). Key management actions generally include:

- **Delineation:** Establish a No Mow Zone to encompass the south eastern remnants (F6, Buffer 1)
- **Maintenance weeding:** Target annual weeds before seeding to prevent germination across the site and maintain the current low weed density.
- **Retention of logs:** any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.
- **Preservation of Sandstone Moist Heath and management of dominant natives:** Selective pruning of Kunzea and Acacias to encourage light to the understory to promote native regeneration and improve diversity. Do not remove too many Kunzeas or Acacias as these are important to the remnant and are helping keep weeds at bay. They are unlikely to be impacting the water received to the Sandstone Moist Heath Manage and trim ferns along footpath for pedestrian access. Infill planting bare areas in the Sandstone Moist Heath where no native regeneration is occurring will help improve the condition and diversity of the plant community.
- **Preserve rocky areas** – The escarpment provides important habitat in the form of rocks, crevices, and rock shelves. It is important that these are maintained as they provide basking opportunities and habitat for a number of reptile species. Weeds and exotic grasses should be prevented from overgrowing rocky outcrops and platforms.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

As an alternative method, the trialling of flame weeding is recommended to treat *Ehrharta erecta* and promote regeneration of natives from the seed bank.

The weed densities and management actions for the different areas are shown in Map 5-1 and provided in Table 5-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

## 5.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

Management at this site is expected to easily maintain the condition of the existing vegetation in F1 and F5 as both currently display a low prevalence of weeds. Particular



*July 2021**Total Earth Care Pty Ltd*

attention must be paid to the Sandstone Moist Heath and cliff edge present in remnant F5 as this is vegetation community has only been recorded at two sites within the LGA (SBRC 2020). The implementation of the no-mow zone at the F6 patches will prevent encroachment of exotic grasses into the remnant patches.



It is expected that the patches F1, F5 and F6 will be able to be restored to 'good' condition by 2040, partially with the implementation of infill planting to increase diversity. Management

at this site will not increase connectivity as the site is located about 200m to the west of the nearest site (Rodney Reserve). However, the maintenance of the condition of the patches provides an important island of vegetation for fauna.

DRAFT

**Title: Weeds & Manag. Actions**






Map No: 5-1  
Site: Caffyn Park  
Client: Waverley Council  
Date: January 2021  
Author: G Barron

-  Bushland Remnant
-  Previous Buffer Planting

**Weed % Cover 2020**

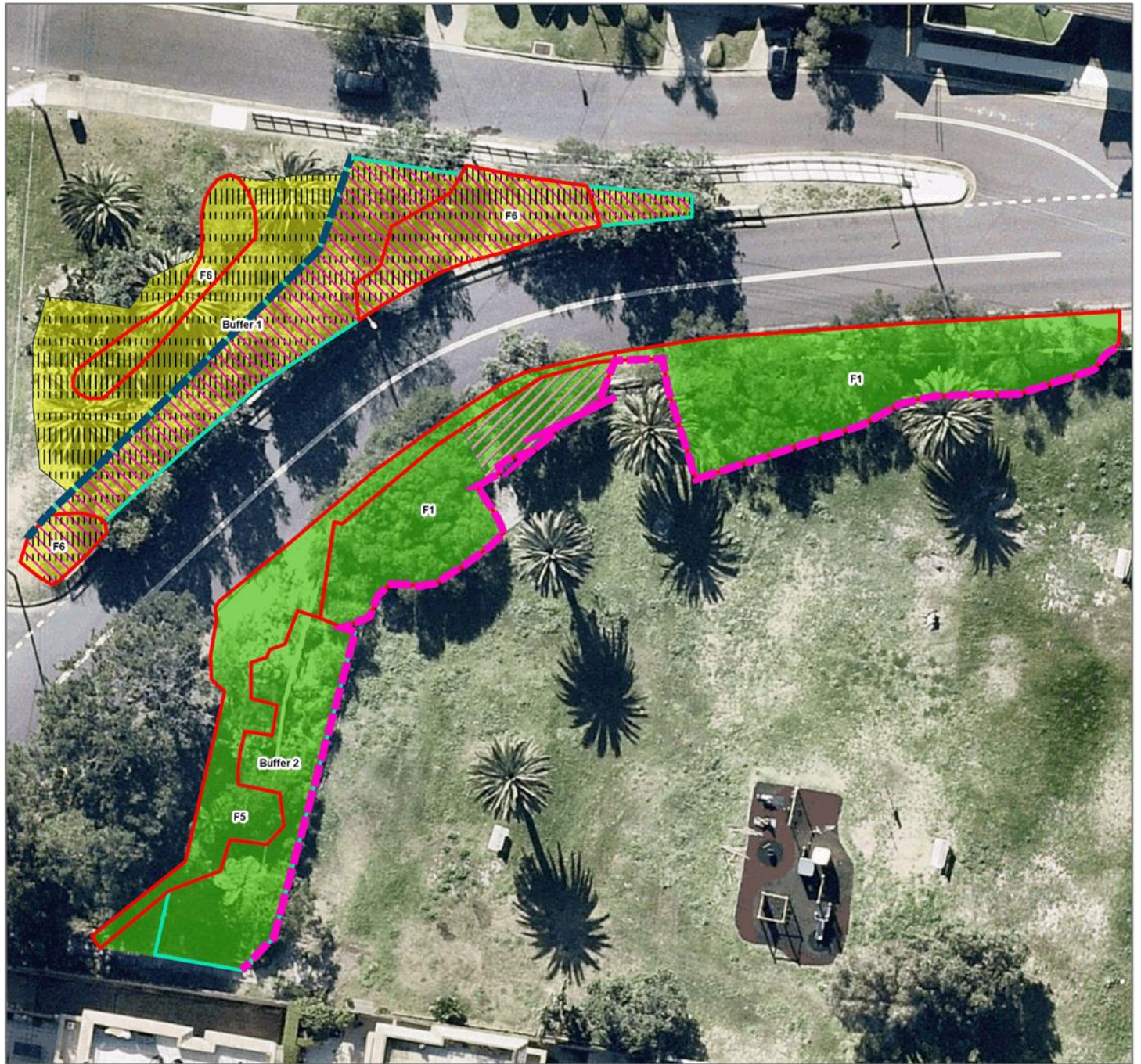
-  <5%
-  5% - 30%

**Management Actions**

-  Infill Planting
-  No Mow Zone
-  Targeted Weed Control
-  Create Delineation
-  Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 5-2 – CAFFYN PARK MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Caffyn Park</b>							
<b>Remnant F1 West</b>	High	Remnant vegetation consisting of Sandstone Dry Scrub, located between Caffyn Park and Victory Street. The vegetation display low weed density and high resilience, however some patches of bare ground will benefit from infill planting.	<p><b>Infill planting</b> – of low shrubs and ground covers to increase diversity within area of bare ground displayed on Map 5-1.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Maintain delineation</b> – maintain existing delineation between mown lawn and native vegetation to prevent encroachment into the remnant. The current wooden sleepers are effectively excluding exotic grasses.</p> <p><b>Control of dominant natives</b> – selective trimming of <i>Kunzea ambigua</i> and Acacias. Trim ferns to allow pedestrian access along footpath.</p> <p><b>Promote natural regeneration</b> – by trialing flame weeding.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	<p>8 visits per year to establish infill planting.</p> <p>6 visits per year in the following year.</p> <p>4 visits per year in the subsequent years.</p>	<5%	<p>Maintain weed density at &lt;5% ongoing.</p> <p>Establishment of buffer plantings.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	<p><b>Maintain delineation</b> – Parks staff</p> <p><b>Maintenance weeding, control of dominant natives, retention of habitat and infill planting</b> – trained bush regenerators.</p>
<b>Remnant F6</b>	High	<p>Consists of three Sandstone Dry Scrub remnant patches, located north west of Victory Street.</p> <p>The vegetation display low weed density and high resilience but is suffering from loss through mowing and turf maintenance.</p>	<p><b>Targeted weeding</b> – to control dominant weed species such as <i>Lantana camara</i> and <i>Strelitzia spp.</i></p> <p><b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination.</p> <p><b>Create delineation</b> – establish a No Mow Zone to encompass the two remnants adjacent to Victory Street and buffer 1. Maintain delineation between mown lawn and native vegetation to ensure no encroachment into the remnant patches. Delineation can be in the form of a spray edge or physical</p>	<p>12 visits per year in initial years.</p> <p>Extend No Mow Zone further north west after 6 years to incorporate all remnant patches.</p> <p>6 visits per year for maintenance weeding.</p>	5-30%	<p>Establishment of buffer plantings.</p> <p>Natural native regeneration and increased diversity through supplementary planting.</p> <p>Decreased erosion through planting.</p>	<p><b>Create delineation</b> – Parks staff</p> <p><b>Maintenance and targeted weeding, infill planting and control of dominant natives</b> – trained bush regenerators.</p>



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Caffyn Park</b>							
			<p>delineation in the form of edging or wooden sleepers as per remnant F1.</p> <p>In approximately 6 years once the remnant patches and buffer 1 are established the no mow zone should be extended to include the remnant patch within the centre of the mown area. The extension of the no mow zone will require intensive initial weeding and infill planting and so sufficient resources for these activities must be sourced prior to commencing work.</p> <p><b>Infill planting</b> – plantings of ground cover species to increase diversity, to be installed once a No Mow Zone has been established.</p> <p><b>Control of dominant natives (Low priority)</b> – control of northern NSW <i>Hibiscus tiliaceus</i>, any seedlings should be removed. Removed native vegetation should be piled on site to provide fauna habitat. All dead branches and fallen logs should also be left for the same reason.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>			<p>Weed density &lt;5% by the end of 2021 – 2022 FY. Maintain weed density at &lt;5% on going.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	
<b>Buffer 1</b>	High	<p>Consists of the buffer vegetation between remnants F6.</p> <p>This zone has potential to be extended north west once a No Mow Zone has been established, to better encompass the F6 remnants.</p>	<p><b>Targeted weeding</b> – to control dominant weed species such as <i>Lantana camara</i>, and <i>Strelitzia spp.</i></p> <p><b>Control of dominant natives</b> – control of northern NSW <i>Hibiscus tiliaceus</i>, any seedlings should be removed. Removed native vegetation should be piled on site to provide fauna habitat. All dead branches and fallen logs should also be left for the same reason.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Create delineation</b> – establish a No Mow Zone to encompass the south eastern remnants. <b>Maintain delineations</b> between mown lawn and native</p>	<p>12 visits per year in initial years.</p> <p>Extend No Mow Zone further north west after 6 years to incorporate all remnant patches.</p> <p>6 visits per year for maintenance weeding.</p>	5-30%	<p>Establishment of buffer plantings.</p> <p>Natural native regeneration and increased diversity through supplementary planting.</p> <p>Decreased erosion through planting.</p> <p>Weed density &lt;5% by the end of 2021 – 2022 FY. Maintain weed density at &lt;5% on going.</p>	<p><b>Create delineation</b> – Parks staff</p> <p><b>Maintenance and targeted weeding, buffer planting and control of dominant natives</b> – trained bush regenerators.</p>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Caffyn Park</b>							
			<p>vegetation to ensure no encroachment into the remnant and native vegetation within Buffer 1. Delineation can be in the form of a spray edge or physical delineation in the form of edging or wooden sleepers as per remnant F1.</p> <p><b>Buffer planting</b> – if little native regeneration, infill planting where required (low priority). In the long term, the buffer should be extended to connect the isolated remnant within the centre of the turf to the north-west. In-fill planting may be required at this stage to improve connectivity. Habitat creation should be considered during species selection. Myrtaceae species provide nectar for birds such as New Holland Honeyeater (<i>Phylidonyris novaehollandiae</i>) and groundcover species provide habitat for reptiles.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>				
<b>Remnant F5</b>	High	<p>Remnant vegetation consisting of Sandstone Moist Heath, located on the western and northern edge of Caffyn Park adjacent to Victory Street. This remnant also includes the cliff edge along the Victory Street footpath. The vegetation displays low weed density and high resilience. This remnant should be prioritised for maintenance weeding to prevent the loss of the Sandstone Moist Heath.</p> <p>*Please note that the full extent of remnant F5 is not shown in the map. It extends along the cutting below remnant F1 and is only accessible from the footpath.</p>	<p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing the cliff edge as this area can provide basking opportunities and habitat for a number of reptile species.</p> <p><b>Infill planting</b> - in bare areas where no regeneration is occurring.</p> <p><b>Promote regeneration</b> – by managing dominant natives such as Bracken Fern and <i>Commelina cyanea</i>.</p>	4 visits per year.	<5%	Maintain weed density at <5% on going.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Caffyn Park</b>							
<b>Remnant F1 East</b>	Medium	Remnant vegetation consisting of Sandstone Dry Scrub, located between Caffyn Park and Victory Street. The vegetation display low weed density and high resilience.	<p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Manage dominant natives</b> – trim and manage ferns along walkway to allow pedestrian access. Selectively prune Kunzeas and Acacias.</p> <p><b>Promote native regeneration</b> – trial flame weeding to treat exotic grasses and encourage native recruitment.</p> <p><b>Maintain delineation</b> – maintain delineations between mown lawn and native vegetation to ensure no encroachment into the remnant.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>	Minimum of 4 visits per year.	<5%	Maintain weed density at <5% ongoing.	<p><b>Maintain delineation</b> – parks staff.</p> <p><b>Maintenance weeding, habitat retention and flame weeding trials</b> – trained bush regenerators.</p>
<b>Buffer 2</b>	Low	Consists of the buffer vegetation between Caffyn Park and remnant F5.	<p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Maintain delineation</b> – maintain delineations between mown lawn and native vegetation to ensure no encroachment into the remnant.</p>	4 visits per year.	<5%	Maintain weed density at <5% ongoing.	<p><b>Maintain delineation</b> – parks staff.</p> <p><b>Maintenance weeding</b> – trained bush regenerators.</p>
<b>All Zones</b>	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish one photo-point in each zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

## 6 RALEIGH, RODNEY & WEONGA RESERVES



Figure 6-1. Raleigh, Rodney and Weonga Reserves with remnant vegetation along the cliff edge

Raleigh, Rodney and Weonga Reserves together provide a long open grassed park with expansive cliff-top views over the ocean. The Reserves have a large sports field, a children's playground and off leash dog areas.

The Reserves have five patches of remnant Sea-Cliffs Sedgeland and Sea-cliff Heath vegetation that is positioned along the cliff edge. The vegetated strip along the cliff, including the patches of remnant vegetation, is of local heritage significance due to its natural landscape escarpment and its considerable scenic value which contributes to the character of Sydney's eastern beaches and foreshore. The remains of the base of one of the instruments mounted by CSIRO for astronomical observations in the 1950's is present at the east of the playing fields at Rodney Reserve, however is inaccessible due to the fencing.

### 6.1 FLORA

The three patches of Sea-cliff Heath are located to the north (Z7) and south (Z6, R2) of the playing fields. This vegetation community is an open to closed low growing community within 50m of sea cliffs on skeletal sand to sand lenses on sandstone with impeded drainage. Typical remnant species including *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*. The Sea-cliff Sedgeland patches are positioned at the south of the site (R1). This community is dominant with *Ficinia nodosa* and is located

within 20m of the sea cliffs. It is an open canopy growing on skeletal sand to sand lenses on sandstone, often on modified soils.

The patches of both vegetation types are 'very poor' due to a high prevalence of shrub and groundcover weeds including *Ipomoea cairica*, *Lagunaria patersonia*, *Lantana camara* and *Asparagus aethiopicus* except for some small areas of Sea-cliff Heath near Lyons Street. Although highly weedy, the biodiversity is moderate with 32 native flora species recorded across the reserves (SBRC 2020).

Table 6-1 – Raleigh, Rodney and Weonga Reserves Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Juncus pallidus</i>	Pale Rush
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Lepidosperma concavum</i>	Sandhill Sword-sedge
<i>Baumea juncea</i>	Bare Twig-rush	<i>Lobelia anceps</i>	Angled Lobelia
<i>Cassytha pubescens</i>	Downy Dodder-laurel	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Centrolepis strigosa</i>	Hairy centrolepis	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Dianella caerulea</i>	Blue Flax-lily	<i>Olearia tomentosa</i>	Toothed Daisy-bush
<i>Dianella congesta</i>	Beach Flax-lily	<i>Opercularia aspera</i>	Coarse Stinkweed
<i>Entolasia stricta</i>	Wiry Panic	<i>Paspalidium distans</i>	Spreading Panic
<i>Epacris longiflora</i>	Fuchsia Heath	<i>Pimelea linifolia</i>	Slender Rice Flower
<i>Epaltes australis</i>	Spreading Nut-heads	<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Pteris vittata</i>	Chinese Brake
<i>Gleichenia rupestris</i>	Coral Fern	<i>Smilax glyciphylla</i>	Sweet Sarsparilla
<i>Histiopteris incisa</i>	Bat's Wing Fern	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Isolepis cernua</i>	Nodding Club-rush	<i>Xanthosia pilosa</i>	Woolly Xanthosia

July 2021

Total Earth Care Pty Ltd

## 6.2 FAUNA

The dense native and exotic shrub layers of both the bushland remnants and the buffer plantings provide foraging and sheltering habitat for small reptile and bird species such as White-browed Scrubwren (*Sericornis frontalis*) and Superb Fairy-wrens (*Malurus cyaneus*). Flowering native plants such as the *Baeckea* spp., *Melaleuca* spp., and *Banksia* spp. attract pollinators and provide abundant foraging resources for many nectarivorous and insectivorous species including the New Holland Honeyeater (*Phylidonyris novaehollandiae*) and the Grey-headed Flying-fox (*Pteropus poliocephalus*) (Vulnerable under the BC Act and EPBC Act) which has been recently recorded at Rodney Reserve (DPIE 2020). The long strip of vegetation, both natives and exotic species, provide a considerable patch of habitat for fauna that is rare within the surrounding suburb.

## 6.3 MANAGEMENT ACTIONS

### 6.3.1 Previous works

Buffer plantings (Buffer 1.2 and Buffer 2) have become well established and have resulted in less weeds germinating in these areas, although continued management is required. Efforts to eradicate *Ipomoea* and *Acetosa* have been a focus, using rope work to access and treat the root systems and tubers on the cliff edge. *Melaleuca nodosa* and *Leptospermum laevigatum* have been planted in exposed spots (in Z6) and when established and at a sufficient height, will be able to slowly replace the *Olea europaea*. (Apunga, 2018a, 2019d). In the south of the site, the remnant patch (R3) is significantly weedy dominated by *Pennisetum clandestinum* and *Asparagus aethiopicus* which has been managed primarily by hand weeding and rope work. *Salpichroa organifolia* has been successfully treated at numerous spots throughout the site, however is present in high densities in remnant Z7.

### 6.3.2 Key management actions

Management priority of this site is moderate. Additional buffer areas (Buffer 3 and Buffer 4) are to be established to provide connectivity between remnant patches. However, as access to the remnants is difficult, it is more practical and resourceful to focus on the buffer areas to provide protection for the remnants from weed encroachments. Key management actions generally include:

- **Delineation:** Create and maintain delineations between mown lawn and native vegetation to ensure no encroachment into the remnants (Buffer 1.1, Buffer 1.2).

- **Targeted weeding:** Target woody weeds, vines and annual weeds before seeding to prevent germination. Targeted weeding is required across most of the site. Care should be taken when treating woody weeds along the cliff edge as these may be providing stabilisation and preventing erosion, however if they aren't managed small isolated or narrow remnants may be lost.
- **Ropes work:** Ropes work to access the core of the R2 remnant is of high priority as this patch has a high proportion of established natives and displays high resilience.
- **Primary Weeding / Buffer Planting:** Implementation of new buffer plantings (Buffers 3, 4.1 and 4.2) to connect the remnants of Z6, Z7, R1 and R2.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

The weed densities and management actions for the different areas are shown in Map 6-1 and Map 6-2 and provided in Table 6-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

## 6.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The management and implementation of buffer plantings is an important feature at this site. It is expected that the implementation of new buffer plantings (Buffers 3, 4.1 and 4.2) would protect the remnants from loss. Extensive primary weed works would be required in these areas before buffer planting can be undertaken.

The remnant vegetation cannot be thoroughly assessed without ropes access, however is likely to improve in condition and regenerate throughout the length of the management plan, contributing to meeting the objectives of the EAP4.

The implementation of the new buffer areas would improve and expand the habitat connectivity of the site. In particular, Buffer 3 would provide a new connection between four remnant patches (Z6, Z7, R1, R2). As well as provided new habitat for fauna, the buffer planting will provide protection for the remnant patches to ensure no loss of the small and vulnerable patches.



**Title: Weeds & Manag. Actions**


Map No: 6-1

Site: Raleigh, Rodney & Weonga  
Reserves (North)

Client: Waverley Council


Date: January 2021


Author: G Barron


 Previous Buffer Planting


 Bushland Remnant
**Weed % Cover 2020**
 <5%


 5% - 30%


 30% - 70%

 >70%
**Management Actions**
 Connectivity Planting

 Primary Weed Works

 Targeted Weed Control

 Create Delineation

 Maintain Delineation


Data Source:  
Total Earth Care  
Nearmap





**Title: Weeds & Manag. Actions**



Map No: 6-2

Site: Raleigh, Rodney & Weonga  
Reserves (South)






Client: Waverley Council

Date: January 2021





Author: G Barron

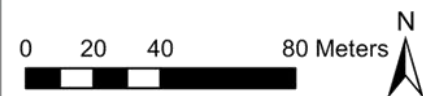
-  Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover 2020**

-  Not assessed  
 <5%  
 5% - 30%  
 30% - 70%  
 >70%

**Management Actions**

-  Connectivity Planting  
 Targeted Weed Control  
 Create Delineation  
 Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 6-2 – RALEIGH, RODNEY AND WEONGA RESERVES MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Raleigh, Rodney and Weonga Reserves</b>							
<b>Buffer 1.1</b>	High	<p><b>Weonga Reserve</b></p> <p>Consist of a stretch of established planted buffer between the recreation park and the clifftop remnant. This buffer extends beyond the plantings and is highly weed infested.</p> <p>A large portion of the buffer is fenced off for safety issues and will need ropes to access and ensure no encroachment of invasive weed species onto remnant patches.</p> <p>Access beyond the fence is of priority.</p>	<p><b>Maintain delineation</b> – maintain existing delineation between mown lawn and native vegetation to ensure no encroachment into the buffer and adjacent remnant R6. Current spray edge combined with plastic edging is effectively preventing weed incursions.</p> <p><b>Targeted weeding</b> - target woody and vines. Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. Woody weeds should be targeted in the long term to prevent spread into the adjacent remnant Z6.</p> <p>Target annual weeds before seeding to prevent germination.</p> <p>Target weeds include <i>Ambrosia psilostachya</i>, <i>Acetosa sagittata</i>, <i>Olea europaea subsp. cuspidata</i>, and <i>Ipomoea spp.</i></p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination, particularly focusing on resilient vegetation within the buffer.</p> <p><b>Creation of piles of sticks and rocks and retention of logs</b> – where appropriate any fallen logs and dead branches are to be retained and piles of sticks and rocks are to be created as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>	<p>A minimum of 8 site visits per year.</p> <p>Ropes work 6 times year.</p>	30-70%	<p>Control of dominant weeds and turf encroachment.</p> <p>Reduce weed density to &lt;10% by end of 2021 – 2022 FY and &lt;5% by 2022 – 2023 FY.</p> <p>Maintain weed density at &lt;5% on going.</p> <p>Recruitment of native species.</p>	<p><b>Maintain delineation</b> – parks staff.</p> <p><b>Targeted and maintenance weeding</b> – trained bush regenerators.</p>
<b>Remnant R1</b>	High	<p><b>Rodney Reserve</b></p> <p>Consists of a small Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i>.</p> <p>Remnant patch is located beyond the fence line and access is of priority. If weeds are not controlled this small remnant is at risk of being lost.</p>	<p><b>Targeted weeding</b> – targeting dominant weeds and vines, and extending works beyond the remnant patch to ensure no loss of remnant. Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge. If woody weeds are not controlled the remnant is at risk of being lost due to the thin nature of the strip.</p>	<p>A minimum of 8 site visits per year.</p>	30-70%	<p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintain weed density at 10% ongoing.</p>	<p>Trained bush regenerators.</p>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Raleigh, Rodney and Weonga Reserves</b>							
						No loss or reduction or remnant. Natural native regeneration.	
<b>Buffer 4.2</b>	High	<b>Rodney Reserve</b>  Highly weed invaded bushland above the R2 remnants. This site is of high priority to protect the remnant below and to extend the bushland corridor.  This area should be worked in order to continue the connectivity along the sea-cliff working in areas of higher quality vegetation surrounding the existing buffers and remnants patches.	<b>Primary weeding</b> – mosaic clearing of dominant weeds further east beyond the fence. Target weeds include <i>Coprosma repens</i> , <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> . Large <i>Erythrina crista-galli</i> to be targeted. Primary weeding to prioritise and work outwards from patches of higher quality vegetation. Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge. If woody weeds are not controlled the remnant is at risk of being lost due to the thin nature of the strip.  <b>Buffer planting</b> – extend buffer planting east to widen the corridor and protect the remnants R1 and R2 from weed incursions. This will also increase the habitat area available for fauna species.	Mosaic clearing and revegetation every 2 years, working from patches of higher quality vegetation to lower quality vegetation.  Minimum of 16 site visits per year.	>70%	Gradual decrease of weed infestation.  Reduce weed density to <10% within year 1 of weed treatment and <5% within year 2. Maintain weed density at <5% on going.  Establishment of buffer plantings and increased connectivity.  Planting survival rate of >80% 6 months after planting.	Trained bush regenerators.
<b>Remnant R2</b>	High	<b>Rodney Reserve</b>  Consists of a large patch of remnant Sea-cliff Heathland. The remnant patch appears to be in fair condition with high resilience.  Access to the core of this remnant is priority.	<b>Targeted weeding</b> – targeting dominant weeds and vines.  Target annual weeds before seeding to prevent germination.  <b>Ropes work</b> - to target woody weeds, vines and herbaceous weeds such as <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> . Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge. If woody weeds are not controlled the remnant is at risk of being lost due to the narrow width of the strip.  <b>Buffer planting</b> – create buffer plantings upslope (west and south up to R3) of the remnant vegetation to protect and widen the corridor. These buffer plantings will also improve the connectivity of the vegetation and subsequently of the fauna habitat.	A minimum of 8 visits per year, ropes work is likely necessary to access remnant vegetation safely.	30-70%	<50% weed cover by end of 2023 – 2024 FY.  <30% weed cover by end of 2024 – 2025 FY.  <10% weed cover by end of 2025 – 2026 FY.  Maintain weed density at 10% ongoing.  Recruitment of native species.  Establishment of buffer plantings west of remnant. Planting survival rate of >80% within first 6 months.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Raleigh, Rodney and Weonga Reserves</b>							
<b>Remnant R3</b>	Medium	<p><b>Raleigh Reserve</b></p> <p>Consists of a thin strip of Sea-cliff Heath on the edge of the cliff.</p> <p>The remnant is hard to access and in poor condition, but could improve from some targeted weeding.</p>	<p><b>Targeted weeding</b> – targeting dominant weeds and vines. Priority weeds include <i>Olea europaea</i> subsp. <i>cuspidata</i>, <i>Asparagus aethiopicus</i>, <i>Hydrocotyle bonariensis</i> and <i>Parietaria judaica</i>.</p> <p>Target annual weeds before seeding to prevent germination.</p> <p><b>Ropes work</b> - to target woody weeds, vines and herbaceous weeds such as <i>Lantana camara</i>, <i>Ipomoea</i> spp. and <i>Asparagus aethiopicus</i>. Areas of dense woody weeds should be removed gradually in patches and concurrently with replacement planting. The adjacent areas should not be removed until planted species have grown to provide sufficient fauna habitat. This will also reduce erosion risk along the cliff edge. If woody weeds are not controlled areas of the remnant are at risk of being lost due to the narrow width of the strip.</p> <p><b>Connectivity planting</b> – create buffer plantings upslope (west and north up to R2) of the remnant vegetation, within the current turf area adjacent to the fence, to protect and widen the corridor. These buffer plantings will also improve the connectivity of the vegetation.</p> <p><b>Create delineation</b> – create and maintain delineation between new buffer plantings and turf. Spray edge or a combination with permanent edging for example plastic as per other areas within the site is recommended. For spray edge create a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand.</p>	<p>Minimum of 6 site visits per year.</p> <p>Ropes work 4 times per year.</p>	>70%	<p>Recruitment of native species.</p> <p>Establishment of buffer plantings west of remnant. Planting survival rate of &gt;80% within first 6 months.</p>	<p><b>Create delineation and buffer planting</b> – parks staff.</p> <p><b>Targeted weeding and ropes work</b> – trained bush regenerators.</p>
<b>Buffer 4.1</b>	Medium	<p><b>Rodney Reserve</b></p> <p>Established buffer plantings between the park and remnants Z7 and R1. The buffer needs to extend east into the previously unworked buffer 3.</p>	<p><b>Targeted weeding</b> – target dominant weeds and annuals before seeding within the buffer plantings.</p> <p>Targeted weeding of <i>Hydrocotyle bonariensis</i>, hand weeding is desired around native vegetation.</p> <p><b>Control of dominant natives</b> - target and remove <i>Wollastonia uniflora</i> as it is dominant and smothering other natives, resulting in decreased diversity and requiring too much up keep to control. Replace with small shrub species where removed. See Appendix F for recommended species.</p> <p><b>Maintain delineation</b> – maintain existing delineations between mown lawn and native vegetation to ensure no encroachment</p>	<p>Minimum of 12 site visits per year.</p>	30-70%	<p>Reduce and maintain weed density to &lt;5% by the end of 2021 – 2022 FY.</p> <p>Reduction in <i>Hydrocotyle bonariensis</i>.</p> <p>Control of <i>Wollastonia uniflora</i>.</p>	<p><b>Maintain delineation</b> – parks staff.</p> <p><b>Targeted weeding and control of dominant natives</b> – trained bush regenerators.</p>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Raleigh, Rodney and Weonga Reserves</b>							
			into the remnant. Current spray edge combined with plastic edging is effectively preventing weed incursions.  <b>Creation of piles of sticks and rocks and retention of logs</b> – where appropriate any fallen logs and dead branches are to be retained and piles of sticks and rocks are to be created as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.				
<b>Buffer 5</b>	Medium	<b>Rodney Reserve</b>  Establishing buffer vegetation above the southern R2 remnants.	<b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination. Target any encroaching or reshooting dominant woody weeds and vines.  <b>Maintain delineation</b> – maintain existing delineations between mown lawn and native vegetation to ensure no encroachment into the remnant. Current spray edge combined with plastic edging is effectively preventing weed incursions.	A minimum of 6 visits per year.	5-15%	Reduce and maintain weed density to <5% by the end of 2021 – 2022 FY.	<b>Maintain delineation</b> – parks staff.  <b>Maintenance weeding</b> – trained bush regenerators.
<b>Buffer 3</b>	Low	<b>Rodney Reserve</b>  Consists of a highly weed infested patch of connectivity planting between remnants Z6 and Z7.  This area should be worked in order to continue the connectivity along the sea-cliff working in areas of higher quality vegetation surrounding the existing buffers.  <i>Salpichroa organifolia</i> has been an issue in this zone, invading and smothering previous buffer plantings under previous BAP.	<b>Containment (high priority)</b> – due to the severely poor condition of the vegetation, the priority is to contain this area to ensure no encroachment into remnants and buffer plantings.  <b>Primary weeding</b> – mosaic clearing of dominant weeds further east beyond the fence. Target weeds include <i>Coprosma repens</i> , <i>Lantana camara</i> , <i>Ipomoea spp.</i> <i>Salpichroa organifolia</i> and <i>Asparagus aethiopicus</i> . Primary weeding to prioritise and work outwards from patches of higher quality vegetation.  <b>Infill planting</b> – following primary weed works to maintain habitat connection between remnants.  <b>Control of <i>Salpichroa organifolia</i></b> – Begin with containment by delineating from areas that are mown or slashed. Mowing or slashing will encourage vegetative growth of this species. Communicate with Parks staff that no mowing and slashing should encroach on areas of <i>Salpichroa organifolia</i> . Fruit must be cut and bagged. Containment to be followed by eradication through the use of foliar spray and hand removal (see Appendix A and Appendix D). This may take several seasons of dedicated weed treatment to eradicate the species.	Total suppression of <i>Salpichroa organifolia</i> required before planting.  Minimum of 16 site visits per year.	>70%	Containment of dominant weeds.  Increased connectivity and resilience through buffer planting.  Planting survival rate of >80% 6 months after planting.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Raleigh, Rodney and Weonga Reserves</b>							
<b>Buffer 1.2</b>	Low	<b>Weonga Reserve</b> Consists of two established buffer patches surrounded by parkland.	<b>Create delineation (high priority)</b> – create No Mow Zones to prevent encroachment. Create and maintain delineations between mown lawn and native vegetation to ensure no encroachment into the remnant. Mulch edge, spray edge or a combination with permanent edging for example plastic as per other areas within the site is recommended. For spray edge create a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand.  <b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.  <b>Creation of piles of sticks and rocks and retention of logs</b> – where appropriate any fallen logs and dead branches are to be retained and piles of sticks and rocks are to be created as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.	A minimum of 4 site visits per year.	5-30%	Reduce and maintain weed density to <5% by the end of 2021 – 2022 FY.  Permanent delineation and control of turf encroachment.	<b>Create delineation</b> – parks staff.  <b>Maintenance weeding</b> – parks staff.
<b>Remnant Z6</b>	Low	<b>Weonga Reserve</b> Consists of two remnant patches of Sea-cliff Scrub on the cliff edge.  Due to access issues, works will have to concentrate on reducing weed density and improving the condition of the vegetation above within the buffer vegetation, to protect and ensure no further loss of remnant vegetation.	<b>Ropes work</b> – to target woody weeds, vines and herbaceous weeds such as <i>Lantana camara</i> , <i>Ipomoea spp.</i> and <i>Asparagus aethiopicus</i> .	Ropes work four times per year.	30-70%	Maintenance of remnant condition.  No net loss of remnants.  Reduction of woody weeds.	Trained bush regenerators.
<b>Buffer 2</b>	Low	<b>Rodney Reserve</b> Established buffer plantings south of the Rodney Reserve playing field.	<b>Create delineation</b> – create and maintain delineations between mown lawn and native vegetation to ensure no encroachment into the remnant. Mulch edge, spray edge or a combination with permanent edging for example plastic as per other areas within the site is recommended. For spray edge create a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand.	A minimum of 4 site visits per year.	5-30%	Reduce and maintain weed density to <5% by the end of 2021 – 2022 FY.  Control of turf encroachment.  Control of public access.	Parks staff.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Raleigh, Rodney and Weonga Reserves</b>							
			<p><b>Public access</b> – prevent public access or formalise public pathways through the vegetation. Informal paths have been created through the vegetation and either need to be fenced off permanently to allow for the establishment of native plants, or to be made into a formal path.</p> <p><b>Creation of piles of sticks and rocks and retention of logs</b> – where appropriate any fallen logs and dead branches are to be retained and piles of sticks and rocks are to be created as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>				
<b>Remnant Z7</b>	Low	<p><b>Rodney Reserve</b></p> <p>Consists of a remnant patch of Sea-cliff Heath.</p> <p>The remnant is located on the edge of the cliff and is difficult to access, therefore efforts should be focused on the buffer above to prevent further spread into the remnant.</p>	<p><b>Ropes work</b> - target woody weeds and vines. Care should be taken when targeting woody weeds as they may be stabilising the cliff edge. Weeds should be treated gradually in stages. It is important that woody weeds are targeted to prevent the loss of this remnant due to its small size.</p> <p>Target annual weeds before seeding to prevent germination.</p>	Ropes work 4 times per year.	30-70%	<p>No net loss of remnant vegetation.</p> <p>Improvement in condition from targeted works above.</p>	Trained bush regenerators.
<b>Buffer 6</b>	Low	<p><b>Raleigh Reserve</b></p> <p>Consists of a thin strip of <i>Lomandra</i> plantings along residential properties.</p>	<p><b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination.</p>	Minimum of 4 site visits per year.	<5%	Maintain weed density at <5%.	Parks staff.
<b>All Zones</b>	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish two photo-point in each remnant zone and three photo points in each high priority buffer zones.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.

## 7 LOOMBAH ROAD CLIFFS



Figure 7-1. Loombah Road Cliffs

The Loombah Road Cliffs site is a hidden, yet floristically diverse patch of remnant bushland of high conservation value. The site is made up of five separate remnant patches, contained by Loombah Road to the east, and by residential properties on all other sides and delineates the border between North Bondi and Dover Heights. The site vegetation can be described as low woodland / low forest (SBRC 2020) growing on wet sandstone.

The reserve is of high conservation value as it home to the threatened *Acacia terminalis* subsp. *Eastern Sydney*, commonly known as the Sunshine Wattle (Endangered under the BC Act and EPBC Act). This beautiful and rare subspecies differs from more widespread subspecies by being hairier, possessing thicker flower stalks and wider seed pods (DPIE

2019). Waverley LGA is one of the very few areas the Sunshine Wattle is known to occur, as the species only occurs in coastal areas from the northern shores of Sydney Harbour to Botany Bay. The reserve is threatened by encroachment of neighbouring properties, over-shading, prolonged absence of fire, edge effects and weed dispersal, particularly facilitated by stormwater discharge.

### 7.1 FLORA

The sandstone cliffs provide habitat for heath species such as *Epacris longiflora* (Fuchsia Heath) and there has been an increase of seedling recruitment of many native species including the threatened *Acacia terminalis* subsp. *Eastern Sydney*. The remnant has previously been mapped as consisting of remnant vegetation that is in 'Very Poor' condition (SBRC 2020), however based on the current weed density and previous management actions the reserve is in good condition. The core of the vegetation contains less than 5% weeds, with edge effects only apparent on the outskirts of the vegetation with some higher density areas in the south-east of the site. The cliff edge also contains a higher density of weed cover due to accessibility issues and increased weed dispersal from stormwater flow.

Table 7-1 – Loombah Road Cliff Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Juncus continuus</i>	Juncus continuus
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Kunzea ambigua</i>	Tick Bush
<i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i>	Sunshine Wattle	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Leptospermum polyanthum</i>	Leptospermum polyanthum
<i>Cayratia clematidea</i>	Native Grape	<i>Lobelia anceps</i>	Angled Lobelia
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Dianella caerulea</i>	Blue Flax-lily	<i>Lomatia silaifolia</i>	Crinkle Bush
<i>Dianella congesta</i>	Beach Flax-lily	<i>Microlaena stipoides</i>	Weeping Grass
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Opercularia aspera</i>	Coarse Stinkweed
<i>Entolasia stricta</i>	Wiry Panic	<i>Paspalidium distans</i>	Spreading Panic



July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Scientific Name	Common Name
<i>Epacris longiflora</i>	Fuchsia Heath	<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Eragrostis brownii</i>	Brown's Lovegrass	<i>Platysace lanceolata</i>	Shrubby Platysace
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Pteridium esculentum</i>	Bracken
<i>Gleichenia dicarpa</i>	Pouched Coral Fern	<i>Rytidosperma longifolium</i>	Long-leaved Wallaby Grass
<i>Glochidion ferdinandi</i>	Cheese Trees	<i>Smilax glycyphylla</i>	Sweet Sarsparilla
<i>Hakea teretifolia</i>	Needlebush	<i>Stephania japonica</i> var. <i>discolor</i>	Snake Vine
<i>Histiopteris incisa</i>	Bat's Wing Fern	<i>Sticherus flabellatus</i>	Umbrella Fern
<i>Homalanthus populifolius</i>	Bleeding Heart	<i>Xanthosia pilosa</i>	Woolly Xanthosia

## 7.2 FAUNA

The reserve is home to a number of nectarivorous bird species such as the Rainbow Lorikeet, and honeyeaters. The low canopy of *Glochidion ferdinandi* (Cheese Tree) would provide foraging habitat for honeyeaters, doves and parrot species, as well as provide habitat for arboreal mammals such as possums. The rocky sandstone substrate and temporal pooling from stormwater flows creates ideal habitat for a number of amphibian species and reptiles. Small birds, such as wrens and honeyeaters, and bees are key facilitators in genetic dispersion and pollination of the endangered species *Acacia terminalis* subsp. *Eastern Sydney*.

## 7.3 MANAGEMENT ACTIONS

Previous management actions of the Loombah Road reserve have been very successful. Primary weed control works have been conducted across the majority of the remnant vegetation. Weed and sediment control have increased the resilience of the remnant vegetation. Regular weed works have increased the regeneration of native ground covers and allowed for the establishment of planted tube stock, which now provides a buffer for the core remnant vegetation. The success of current management actions for this remnant site are evident in the prolific regeneration of native seedlings including *Acacia terminalis* subsp. *Eastern Sydney* particularly within the area of buffer planting.

Some remnants are partially or wholly within private property. Currently Council does not have access to these sites and they are not included in the Council bush regeneration contract area.

Currently the core of the site is in good condition with less than 5% weed cover. Most woody weeds have been eradicated. There is evidence of reshooting *Olea europaea* subsp. *cuspidata* (African Olive). *Senna pendula* var. *glabrata* and *Cotoneaster glaucophyllus* are also present on adjoining private land and continue to germinate within. Reshooting should be controlled and new works are to involve negotiation with adjoining residents to expand the area of primary works.

Both *Ipomoea indica* (Morning Glory) and *Anredera cordifolia* (Madeira Vine) are present in low densities. Works should target the eradication of these species from site. The north-western corner of the site contains an ephemeral drainage line fed into by a stormwater pipe. This poses a threat to the vegetation as in high rainfall periods overflows into the adjacent bushland, will result in increased dispersal of weed seeds, sedimentation, water-logging and increased nutrients. The priority for this area is to contain runoff and prevent overland flows.

### 7.3.1 Key management actions

Management priority of this site is high due to the presence of the threatened species *Acacia terminalis* subsp. *Eastern Sydney* and all works should be conducted by trained bush regenerators. Visits should be conducted monthly at a minimum across the entirety of the site, with efforts as detailed below.

Key management actions generally include:

- **Control runoff:** Contain runoff and prevent overland flows to reduce and control propagule dispersal (L1b and buffer planting). This will include the replacement and maintenance of sediment fencing.
- **Control of dominant natives:** Thinning of mesic species within the canopy targeting *Pittosporum undulatum* (Sweet Pittosporum), *Glochidion ferdinandi* (Cheese Tree) and *Homalanthus populifolius* (Bleeding Heart) should progress in order to increase sunlight levels in areas and promote regeneration of shrub species including *Acacia terminalis* subsp. *Eastern Sydney*. Mosaic clearing of native ground covers (*Microlaena stipoides* and *Commelina cyanea*) should be conducted with a focus on the ground beneath *Acacia terminalis* subsp. *Eastern Sydney* to promote further germination. All vegetation clearing should be conducted mosaically so as to not decrease the area of or reduce the quality



July 2021

Total Earth Care Pty Ltd

of available fauna habitat. Removed native vegetation should be piled on site to provide fauna habitat. All dead branches and fallen logs should also be left for the same reason.

- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

The weed densities and management actions for the different areas are shown in Map 7-1 and provided in Table 7-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

#### 7.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The management at this site is expected to result in an improvement to the condition of the vegetation across about half of the site. Management of some remnants is not possible as they fall within private property including remnants L25a and L27a. About half of the remnant vegetation (L1b, L1c) will likely be able to be restored to 'good' condition by 2040 as it is already has low weed prevalence and has a high resilience.

Management of the area around the *Acacia terminalis* subsp. *Eastern Sydney* is of particular importance in order to protect the threatened species. The replacement and maintenance of the sediment fencing would minimise erosion and control the dispersal of weeds which would improve habitat downslope. The excavation of the channel to increase channel volume and removal of excess sediment should be considered. The extension of habitat corridors or connections is not possible at this site due to restrictions (i.e. private property, roadway).



**Title: Weeds & Manag. Actions**




Map No: 7-1

Site: Loombah Road Cliffs






Client: Waverley Council

Date: January 2021




Author: G Barron

-  Lot
-  Bushland Remnant
-  Previous Buffer Planting

**Weed % Cover**

-  Not assessed
-  <5%
-  5% - 30%
-  30% - 70%
-  >70%

**Management Actions**

-  Contain Runoff
-  Control Dominant Natives
-  Targeted Weed Control



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 7-2 – LOOMBAH ROAD CLIFFS MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Loombah Road Cliffs</b>							
<b>Remnant L1b</b>	High	Consists of Low Woodland remnant vegetation.  The largest of zones within the remnant vegetation. This zone is the core of the bushland which has had primary weed works.	<p><b>Control runoff</b> – prevent overland flow to reduce and control propagule dispersal. Increase channel volume by removing excess sediment and debris. Excavation of channel should be considered.</p> <p>Replace and maintain sediment fencing.</p> <p><b>Targeted weeding</b> – repeated weeding is recommended to exhaust the seed bank, particularly of perennial herbaceous weeds.</p> <p>Eradication of <i>Ipomoea indica</i> (Morning Glory) and <i>Anredera cordifolia</i> (Madeira Vine).</p> <p><b>Control of dominant natives</b> - thinning of mesic species within the canopy targeting <i>Pittosporum undulatum</i> (Sweet Pittosporum), <i>Glochidion ferdinandi</i> (Cheese Tree) and <i>Homalanthus populifolius</i> (Bleeding Heart) should progress in order to increase sunlight levels in areas and promote regeneration of shrub species including <i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i>. Removed native vegetation should be piled on site to provide fauna habitat. All dead branches and fallen logs should also be left for the same reason.</p> <p>Control of <i>Stephania japonica</i> (Snake vine) and <i>Cayratia clematidea</i> (Native Grape) to prevent smothering of native shrub and ground cover species.</p> <p>Mosaic clearing of native ground cover (<i>Microlaena stipoides</i> and <i>Commelina cyanea</i>) with a focus on the ground beneath <i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i> to promote further germination.</p>	Minimum 8 times a year with a minimum of 4 visits in spring/summer.	5%	<p>Zone maintained at &lt;5% weed density.</p> <p>Recruitment of native seedbank.</p> <p>Eradication of weed vines.</p> <p>Protection of regenerating <i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i>.</p>	Trained bush regenerators.
<b>Buffer 1</b>	High	Located upslope of the core remnant vegetation. Creates a buffer between Loombah Road and the reserve.	<p><b>Control propagule dispersal</b> - contain runoff and prevent overland flow. Increase channel volume by removing excess sediment and debris. Excavation of channel should be considered.</p> <p>Replace and maintain sediment fencing.</p> <p><b>Targeted weeding</b> - repeated weeding is recommended to exhaust the seed bank, particularly of perennial herbaceous weeds.</p> <p>Eradication of <i>Ipomoea indica</i> (Morning Glory) and <i>Anredera cordifolia</i> (Madeira Vine).</p>	12 times a year with a minimum of 4 visits in spring/summer.	5%	<p>Zone maintained at &lt;5% weed density.</p> <p>Recruitment of native seedbank.</p>	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Loombah Road Cliffs</b>							
			<p>Control of <i>Cotoneaster glaucophyllus</i> and <i>Asparagus spp.</i> is high priority as it occurs upslope from the endangered <i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i>.</p> <p><b>Control of dominant natives</b> - thinning of mesic species within the canopy targeting <i>Pittosporum undulatum</i> (Sweet Pittosporum), <i>Glochidion ferdinandi</i> (Cheese Tree) and <i>Homalanthus populifolius</i> (Bleeding Heart) should progress in order to increase sunlight levels in areas and promote regeneration of shrub species including <i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i>. Control of <i>Stephania japonica</i> (Snake vine) and <i>Cayratia clematidea</i> (Native Grape) to prevent smothering of native shrub and ground cover species. Removed native vegetation should be piled on site to provide fauna habitat. All dead branches and fallen logs should also be left for the same reason.</p>				
<b>Buffer 2</b>	High	Weedy slope adjacent to 18 Loombah Road.	<p><b>Containment</b> – due to high weed density, priority is to contain this area until targeted weeding begins here, to minimise encroachment into higher quality remnant vegetation.</p> <p><b>Targeted weeding</b> – target woody weeds (<i>Senna pendula</i> and <i>Cotoneaster glaucophyllus</i>) and remove reproductive material. Targeted weeding of vines and persistent <i>Ageratina adenophora</i> (Crofton Weed), <i>Asparagus aethiopicus</i> (Asparagus Fern), <i>Ipomoea indica</i> (Morning Glory) and <i>Parietaria Judaica</i> (Pellitory).</p> <p><b>Buffer planting</b> – once controlled extend buffer plantings of mesic species between Buffer 1 and L1c. Species list can be found in Appendix F.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>	12 times a year with a minimum of 4 visits in spring/summer.	>70%	<p>Reduce and maintain weed density at &lt;5% by the end of 2023 – 2024 FY. Maintenance ongoing.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p> <p>Increased connectivity through establishment of buffer planting.</p>	Trained bush regenerators.
<b>Remnant L1c</b>	High	Consists of Sandstone Dry Scrub vegetation along Loombah Rd.	<p><b>Targeted weeding</b> - control of herbaceous weeds including <i>Tradescantia fluminensis</i> (Wandering Jew) and <i>Asparagus aethiopicus</i>.</p> <p>Removal of planted exotic species (<i>Strelitzia spp.</i>).</p> <p><b>Buffer planting</b> – extend buffer plantings or infill plantings to create connectivity between this remnant and the core of the remnant.</p> <p><b>Control of dominant natives</b> - Thinning of mesic species within the canopy targeting <i>Pittosporum undulatum</i> (Sweet Pittosporum), <i>Glochidion ferdinandi</i> (Cheese Tree) and <i>Homalanthus populifolius</i> (Bleeding Heart). Removed native vegetation should be piled on site to provide fauna</p>	6 times a year with a minimum of 2 visits in Spring/summer.	5-30%	<p>Works to achieve &lt;5% weed density.</p> <p>Recruitment of native seedbank.</p> <p>Increased connectivity through buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Loombah Road Cliffs</b>							
			habitat. All dead branches and fallen logs should also be left for the same reason.				
<b>Remnant L1a</b>	Low	Located along the cliff edge adjoining a shared driveway of residential properties.	<b>Targeted weed control</b> – control herbaceous weeds and promote native ground cover at the base of the cliff. <b>Planting</b> - potential for infill planting at the base of the cliff.	Ropes work, once a year to control herbaceous weeds hanging off the cliff such as <i>Asparagus aethiopicus</i> .  4 times per year to control herbaceous weeds and promote native ground cover at the base of the cliff.	30-70%	Works to achieve <10% weed density.  Recruitment of native seedbank.	Trained bush regenerators.
<b>Buffer 3</b>	Low	Planted street verge containing native ornamentals including <i>Lomandra longifolia</i> .	<b>Targeted weed control</b> – conduct periodic control of herbaceous annual and perennial weeds.	2 times a year.	<5%	Maintain weed density at <5%.	Parks staff
<b>Remnant L14</b>	Low	Located on private land below the residency at 16 Loombah Road.	Organise access with private landowner for site assessment and primary weed works.  Periodic weed work and planting if necessary.	2 times a year.	Not assessed.	Access and assessment of remnant vegetation.	Not assessed.
<b>Remnant L16</b>	Low	Located on private land below the residency at 16/14 Loombah Road.	Organise access with private landowner for site assessment and primary weed works.  Periodic weed work and planting if necessary.	2 times a year.	Not assessed.	Access and assessment of remnant vegetation.	Not assessed.
<b>Remnant L18</b>	Low	Located on private land below the residency at 18 Loombah Road.	Organise access with private landowner for site assessment and primary weed works.  Periodic weed work and planting if necessary.	2 times a year.	Not assessed.	Access and assessment of remnant vegetation.	Not assessed.
<b>Remnant L134</b>	Low	Located on the edge of the cliff above 134 Clyde St.	Gain access.  Potential for ropes work to remove any woody weeds and reproductive material to prevent further degradation.		Not assessed.	Zone access and protection of remnant vegetation.	Not assessed.
<b>Remnant L136</b>	Low	Located on the edge of the cliff above 136 Clyde St.	Gain access.  Potential for ropes work to remove any woody weeds and reproductive material to prevent further degradation.		Not assessed.	Zone access and protection of remnant vegetation.	Not assessed.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Loombah Road Cliffs</b>							
All Zones	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish one photo-point in each accessible zone and two photo-points in L1b.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

## 8 HUGH BAMFORD RESERVE



Figure 8-1. Hugh Bamford Reserve

Hugh Bamford Reserve is located in North Bondi, bounded by sea cliffs to the east and Military Road to the west. The reserve itself is predominately cleared land with a modified fill area, used as a half size playing field. A total of 4825m<sup>2</sup> of remnant vegetation is located in the reserve spread across a large patch of Sea-cliff Scrub on the north eastern boundary of the reserve and within a small patch of Sandstone Moist Heath located along side Military Road.

The remnant vegetation in Hugh Bamford Reserve contributes the largest area of SEPP 19 Bushland in Urban Areas vegetation, within the LGA. The site is considered important for its recreational, educational and ecological value, which Waverley Council aims to enhance and protect. The diverse bushland is in high ecological condition and supports a range of high quality habitats for both native flora and fauna species.

### 8.1 FLORA

The core of the bushland (remnant code H1a) has been determined to be in "Good Condition" (SBRC 2020) with the highest floristic diversity across the site reflecting the success of the

previous management actions and bush regeneration efforts. The vegetation is classified as Sea-cliff Scrub. This community comprises open to closed low growing vegetation within 50m of sea cliffs on skeletal sand to sand lenses on sandstone. Typical remnant species including *Melaleuca armillaris*, *Melaleuca nodosa* and *Leptospermum laevigatum*. The small patches along Military Road comprise Sandstone Moist Heath which is an open low growing community occurring more than 50m from the sea cliffs on sandstone slopes and ledges with shallow skeletal soils with impeded drainage. Typical species of this community are moisture tolerant species such as *Banksia ericifolia*, *Callistemon citrinus* and *Callistemon linearis*. Both *Callistemon citrinus* and *Callistemon linearis* were present in the 2019 floristic surveys.

Of the 41 species recorded in the reserve, nine are considered to be rare in the LGA those being those being *Banksia marginata*, *Banksia serrata*, *Billardiera scandens*, *Callistemon citrinus*, *Callistemon linearis*, *Parsonsia straminea*, *Pimelea linifolia* and *Platysace lanceolata*.

Table 8-1 – Hugh Bamford Reserve Cutting Bushland Remnants Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Lachnagrostis billardierei</i>	Coast Blown-grass
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Lepidosperma concavum</i>	Sandhill Sword-sedge
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Lepidosperma viscidum</i>	Sticky Sword-sedge
<i>Banksia ericifolia</i>	Heath-leaved Banksia	<i>Leptospermum laevigatum</i>	Coast Teatree
<i>Banksia marginata</i>	Silver Banksia	<i>Lobelia anceps</i>	Angled Lobelia
<i>Banksia serrata</i>	Old-man Banksia	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Billardiera scandens</i>	Hairy Apple Berry	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Callistemon citrinus</i>	Crimson Bottlebrush	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	<i>Monotoca elliptica</i>	Tree Broom-heath
<i>Cassytha pubescens</i>	Downy Dodder-laurel	<i>Parsonsia straminea</i>	Common Silkpod
<i>Centrolepis strigosa</i>	Hairy centrolepis	<i>Paspalidium distans</i>	Spreading Panic
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Pimelea linifolia</i>	Slender Rice Flower
<i>Corymbia gummifera</i>	Red Bloodwood	<i>Platysace lanceolata</i>	Shrubby Platysace

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Scientific Name	Common Name
<i>Dianella caerulea</i>	Blue Flax-lily	<i>Samolus repens</i>	Creeping Brookweed
<i>Dianella congesta</i>	Beach Flax-lily	<i>Smilax glyciphylla</i>	Sweet Sarsparilla
<i>Dianella revoluta</i>	Blueberry Lily	<i>Tetragonia tetragonioides</i>	New Zealand Spinach
<i>Entolasia stricta</i>	Wiry Panic	<i>Typha orientalis</i>	Broad-leaved Cumbungi
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Gleichenia rupestris</i>	Coral Fern	<i>Zoysia macrantha</i>	Prickly Couch
<i>Isolepis cernua</i>	Nodding Club-rush		

## 8.2 FAUNA

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. Flowering native plants such as the *Melaleuca spp.*, *Leptospermum spp.* and *Banksia spp.* attract pollinators and provide abundant foraging resources for many nectarivorous and insectivorous species such as the Red Wattlebird (*Anthochaera carunculata*) which is the second largest honeyeater in Australia, and the White-cheeked Honeyeater (*Phylidonyris niger*) observed on site. The White-browed Scrubwren (*Sericornis frontalis*) and Silvereye (*Zosterops lateralis*) are some of the species that inhabit the dense scrub and can often be heard loudly calling at intruders in the area. Whilst the White-browed Scrubwren is an often sedentary species, the Silvereyes are highly mobile with different populations being present at different times of the year. The exposed sandstone ridges and outcrops are inhabited by a number of reptile species including the Cream-striped Shinning-skink (*Cryptoblepharus virgatus*), Pale-flecked Garden Sunskink (*Lampropholis guichenoti*) and Three-toed Skink (*Saiphos equalis*).

## 8.3 MANAGEMENT ACTIONS

### 8.3.1 Previous works

Buffer plantings along Military Road have been extremely successful and are well established. Efforts have been focused on the management of the remnant patch (H2a) along Military Road particularly with regards to treating the infestation of *Hydrocotyle bonariensis*.

Management actions should target the high density weeds which are present above the buffer plantings between Military Road and the reserve playing field, in order to contain and reduce the spread of reproductive material downslope, which will in turn reduce the future maintenance requirements in the buffer planting areas.

The planting in the northern extent of remnant zone H1a is well established and has good diversity. Maintenance weeding (particularly for *Passiflora spp.*) and delineation of this area is necessary to reduce the persistence of grass species.

The patches surrounding H1a (H1b, H1c) are in a relatively stable condition. Spraying of herbicide in these patches has helped keep *Ehrharta erecta* at bay and any *Asparagus aethiopicus* has been removed by hand. The plantings in H1c are growing well and work has continued to remove any germinating *Acetosa sagittata*, although the seed bank there remains persistent. The plantings at the northern end of zone H1a have grown in very well and now only require maintenance from the grasses that intrude from the adjacent mown turf area.

### 8.3.2 Key management actions

Management priority of this site is high as the large remnant patches to the east (H1a, H1b, H1c) are already in good condition and ongoing management requirements are low to keep the remnants in good condition. The containment of Buffers 3, 4 and 5 is required as a priority to protect the H2a remnant from weed invasion.

Key management actions generally include:

- **Delineation:** maintain and create delineation between the remnant vegetation (H1a) and the mown turf to prevent the encroachment of grasses. This will reduce future maintenance requirements and facilitate a reduction of exotic species within the remnant.
- **Maintain fences:** fences should be maintained in order to prevent public access into the sensitive remnants and to exclude key predators foxes, dogs and cats.
- **Ropes works:** further ropes work will be required to continue the treatment of *Chrysanthemoides monilifera* along the edge of the cliff (H1a). Works should be focused on good patches of native shrubs with small weed incursions and on treating the roots of vine species (*Ipomoea spp.*).
- **Containment:** the small remnant H2a is at risk due to its isolated nature and the poor condition of the surrounding Buffers 3, 4 and 5. In order to contain the high density



July 2021

Total Earth Care Pty Ltd

weeds within these zones, a sediment fence should be installed to control seed dispersal downslope into Buffer 2 and H2a remnant whilst primary works take place.

- **Maintenance weeding:** target re-occurring exotics and germinating annuals. Elimination of *Acetosa sagittata* is achievable in H1a if targeted before germination. Maintenance weeding in Buffer 9 should result in a notable difference and natural regeneration.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

Alternative management action for this site include pile burns and flame weeding in H1c and H1a. This should be trialled to test the resilience of the seedbank in these areas. Where staged primary weeding in Buffers 3, 4, 5, 6 and 7 is planned this could utilise sandstone capping with coir logs and jute mesh for stabilisation. This could then be planted into.

The weed densities and management actions for the different areas are shown in Map 8-1 and provided in Table 8-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

#### 8.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

Management at this site is expected to result in significant improvement to the condition of the vegetation, particularly the maintenance of H1a and the improvement of Buffer 5. The provision of delineation and maintenance (weeding) is expected to maintain the good condition of the existing remnant vegetation (H1a) and improve the condition of H1b, H1c and Buffer 9.

It is likely the remnant patches H1a, H1b and H1c can increase in condition and regenerate throughout the length of the management plan, contributing to meeting the objectives of the EAP4. Due to the high density of weeds and steep nature of the vegetation on the west of the site (Buffers 2 to 5, H2a), it is unlikely that these patches will ever be clear of weeds as it will not be cost effective. Prior to primary weed management in Buffers 3, 4 and 5, containment must be undertaken to protect the H2a remnant from weed invasion during works.

The management of the eastern areas (H1b, H1c and Buffer 9) is important in providing and maintaining a wide connectivity corridor for remnants and fauna habitat along the coastline. Additionally, the thinning out of *Leptospermum spp.* and replanting in H1c will increase the diversity of the western section of the patch and increase the overall quality and diversity of the vegetation in the corridor.



**Title: Weeds & Manag. Actions**



Map No: 8-1

Site: Hugh Bamford Reserve





Client: Waverley Council

Date: January 2021

Author: G Barron

 Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover**

 <5%  
 5% - 30%  
 30% - 70%  
 >70%

**Management Actions**

 Buffer Planting  
 Control Dominant Natives  
 Infill Planting  
 Primary Weed Works  
 Targeted Weed Control  
 Create Delineation  
 Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 8-2 – HUGH BAMFORD RESERVE MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Hugh Bamford Reserve</b>							
<b>Remnant H1a</b>	High	The largest of zones within the remnant vegetation. This zone is the core of the bushland which been maintained at a low weed density.  The remnant vegetation is within the SEPP 19.	<p><b>Maintenance weeding</b> - should continue to target re-occurring exotics and germinating annuals. Elimination of <i>Acetosa sagittata</i> is achievable if targeted before germination.</p> <p><b>Promote native regeneration</b> – through trialling pile burns and flame weeding to improve diversity.</p> <p><b>Ropes works</b> - further rope work will be required to continue the treatment of <i>Chrysanthemoides monilifera</i> along the edge of the cliff. A focus on good patches of native shrubs and roots of vine species (<i>Ipomoea spp.</i>).</p> <p><b>Maintain delineation</b> – maintain delineation between the remnant vegetation and the mown turf to prevent the encroachment of grasses.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>	<p>Ropes work 4 times per year.</p> <p>10 site visits per year with a minimum of 5 in spring/summer.</p>	<5%	<p>Reduced encroachment of turf.</p> <p>Zone maintained at &lt;5% weed density on going.</p> <p>Recruitment of native seedbank.</p>	Trained bush regenerators.
<b>Buffer 1</b>	High	Buffer planting proposed to be established along fenced edge on the western side of H1a.	<p><b>Maintain delineation</b> – maintain existing fence delineation to prevent public access and create edge delineation between the buffer and the mown turf to prevent encroachment by exotic grass species. Spray edge recommended with a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand.</p> <p><b>Maintenance weeding</b> - should continue to target re-occurring exotics and germinating annuals.</p> <p><b>Buffer planting</b> – extend buffer plantings around the remnant fence at the end of the laneway behind numbers 48 and 50 Wentworth Street. Plantings should be installed to improve remnant connectivity, deter public access and improve the resilience of the remnant. Habitat creation should be considered during species selection including species which provide foraging and nesting resources for birds or habitat for ground fauna such as reptiles.</p>	6 site visits per year.	5-30%	<p>Reduced encroachment of turf.</p> <p>Reduce weed density to &lt;5% by the end of 2021 – 2022 FY. Maintain at &lt;5% weeds ongoing.</p>	Parks staff.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Hugh Bamford Reserve</b>							
			<b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.				
<b>Remnant H1b</b>	High	Sea-cliff Scrub remnant south of the core H1a remnant.	<p><b>Targeted weeding</b> – target persistent annual weeds and vines. Elimination of <i>Acetosa sagittata</i> may be possible as it occurs in a small density, and by targeting the species before seeding. Progression of works into lower quality areas.</p> <p><b>Ropes works</b> – focused around patches of good patches of native shrubs and <i>Ipomoea indica</i> roots.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>	<p>Ropes work 4 times per year.</p> <p>10 site visits per year with a minimum of 5 in spring/summer.</p>	5-30%	<p>Reduce weed density to &lt;5% by the end of 2021 – 2022 FY. Maintain at &lt;5% weeds ongoing.</p> <p>Recruitment of native seedbank.</p>	Trained bush regenerators.
<b>Remnant H1c</b>	High	Located between the private residency at 50 Wentworth Street and the playing field.	<p><b>Delineation</b> – create delineation here between the remnant vegetation and the mown turf to deter informal public access and to prevent the encroachment of grasses, particularly in the area of new plantings in the north of the zone. A spray or mulch edge is recommended.</p> <p><b>Maintenance of APZ</b> – maintenance of the APZ between the bushland remnant and 48 and 50 Wentworth Street by means of vegetation clearing as per the RFS Standards for Asset Protection Zones (2006).</p> <p><b>Control of dominant natives</b> – thin out or selectively prune and control the <i>Leptospermum spp.</i> Removed native vegetation should be piled on site to provide fauna habitat. All dead branches and fallen logs should also be left for the same reason.</p> <p><b>Promote native regeneration</b> – through trialing pile burns and flame weeding to improve diversity.</p> <p><b>Infill planting</b> - planting of ground covers and small heath shrub species as currently low diversity due to the monoculture of <i>Leptospermum spp.</i> This will improve habitat for ground fauna such as reptiles.</p> <p><b>Retention of logs</b> – any fallen logs and branches are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p>	<p>Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.</p> <p>12 visits per year.</p>	5-30%	<p>80% survival rate of plantings. Increased diversity.</p> <p>Reduced encroachment of turf.</p> <p>Zone maintained at &lt;5% weed density.</p>	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Hugh Bamford Reserve</b>							
<b>Buffer 9</b>	High	Consists of weed infested vegetation between the playing field and the cliff edge.  This vegetation is of high priority as it displays signs of natural resilience and connects into the good core of the remnant bushland.	<b>Targeted weeding</b> - annuals and vines including the removal of reproduction material to reduce infestation and slowly exhaust seedbank. Target species include vines and woody weeds ( <i>Lantana camara</i> , <i>Olea europaea subsp. cuspidata</i> ).  <b>Delineation</b> – maintain existing fence to deter access and prevent dogs, cats and foxes. Create edge delineation between the remnant vegetation and the mown turf to prevent the encroachment of grasses. Spray edge recommended with a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand. Mulch edge not recommended adjacent to the cliff-line.  <b>Ropes works</b> - focused around patches of good patches of native shrubs and <i>Ipomoea indica</i> roots.  If the regeneration of native species from the natural seedbank is not sufficient, post targeted weed works, infill planting may be required to increase the resilience of the vegetation.	Ropes works 4 times per year.  Minimum of 12 site visits per year	30-70%	Reduce weed density to <5% by the end of 2021 – 2022 FY. Maintain at <5% weeds ongoing.  Natural regeneration of native species and increased connectivity.	Trained bush regenerators.
<b>Remnant H2a</b>	High	Small patch of remnant vegetation located between the buffer plantings on Military Road. Remnant is at risk of becoming dominated by weed species due to being exposed to high density weed areas up slope in Buffers 3, 4 and 5. The remnant is also adjacent to Military Road and could be subject to the transport of weed propagules by vehicles. If not managed, this remnant could be lost.	<b>Maintenance weeding</b> - regularly to focus on vines ( <i>Lonicera japonica</i> and <i>Ipomoea spp.</i> ) and reducing the growth of <i>Hydrocotyle bonariensis</i> and <i>Asparagus aethiopicus</i> . Works should be focused on the buffer zones above to reduce the facilitation of weeds downslope.  <b>Create delineation</b> - installation of a sediment fence along the boundary of buffer zones 3, 4 and 5, in order to contain the weed infestation above. This is particularly important to prevent the spread of weed propagules down slope during primary works in these areas.	6 site visits per year.	30-70%	Zone maintained at <10% weed density.	Trained bush regenerators.
<b>Buffer 3</b>	High	Buffer planting above Military Road and H2 remnant. This zone consists of multiple buffer planting areas which are well-established native shrubs and grasses.	<b>Containment (High Priority)</b> – due to the poor condition of the adjacent zone (Buffer 4), priority is to contain the high density weeds. Installation of a sediment fence to control seed dispersal downslope into Buffer 2 and H2a remnant. This sediment fence should continue south along the base of Buffer 4 and Buffer 5.  <b>Targeted weeding</b> – bush regeneration works above the buffer planting adjacent to Military Road. Target weed species include	2021 – 2022 FY – establish buffer.  Primary works and buffer plantings to occur in two year time slots. For example:	30-70%	Mosaic clearing of <i>Lantana camara</i> and other persistent woody weeds above the roadside plantings.  <50% weed cover by end of 2023 – 2024 FY.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Hugh Bamford Reserve</b>							
			<p>vines and woody weeds (<i>Lantana camara</i>), prior to germination to prevent weed seed dispersal downslope. This should be carried out in a mosaic style in order to limit disturbance to fauna likely to be utilising the dense <i>Lantana</i> thickets.</p> <p><b>Buffer planting</b> – following bush regeneration, install infill plantings where required. These will serve to buffer the H2a remnant and provide fauna habitat. Suggestions of coir logging and jute matting to assist with erosion control.</p> <p><b>Maintain delineation</b> - between the buffer vegetation and the mown turf to the east to prevent encroachment of exotic grasses.</p>	<p>2022 – 2025 FYs – start primary weed works around existing buffers. Installation of buffer plantings. In 2024 - 2027 repeat and push primary works out.</p> <p>24 site visits per year.</p>		<p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Successful establishment of buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	
<b>Buffer 4</b>	Medium	High weed density area above Military Road and H2a remnant. This zone also contains existing buffer planting areas adjacent to the mown turf area.	<p><b>Containment (High Priority)</b> – due to the poor condition of this zone, priority is to contain the high density weeds. Installation of a sediment fence to control seed dispersal downslope into Buffer 2 and H2a remnant whilst primary works take place. This sediment fence should continue to the north and south along the base of Buffer 3 and Buffer 5.</p> <p><b>Primary weeding</b> – bush regeneration works above the buffer planting adjacent to Military Road. Target species include vines and woody weeds (<i>Lantana camara</i>). This should be carried out in a mosaic style to limit disturbance to fauna likely to be utilising the dense <i>Lantana</i> thickets.</p> <p>Primary weed works to focus around areas of higher quality buffer plantings and extend outwards to increase the chances of natural regeneration.</p> <p><b>Buffer planting</b> – once primary works addressed, future buffer and infill plantings should be installed where required. These will serve to buffer the H2a remnant. Suggestions of coir logging and jute matting to assist with erosion control. Habitat creation should be considered during species selection including species which provide foraging and nesting resources for birds or habitat for ground fauna such as reptiles.</p> <p><b>Maintain delineation</b> - between the remnant vegetation and the mowed turf to prevent the encroachment of grasses.</p>	<p>2021 – 2022 FY – establish buffer.</p> <p>Primary works and buffer plantings to occur in two year time slots. For example:</p> <p>2022 – 2025 FYs – start primary weed works around existing buffers. Installation of buffer plantings. In 2024 - 2027 repeat and push primary works out.</p> <p>24 site visits per year.</p>	>70%	<p>Mosaic clearing of <i>Lantana camara</i> and other persistent woody weeds above the roadside plantings.</p> <p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Successful establishment of buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Hugh Bamford Reserve</b>							
<b>Buffer 5</b>	Medium	High weed density area upslope from Buffer 2 and Military Road. This zone also contains an established buffer planting area in the north-east of the zone adjacent to the Medland-Bamford Ramp.	<p><b>Containment (High Priority)</b> – due to the poor condition of this zone, priority is to contain the high density weeds. Installation of a sediment fence to control seed dispersal downslope into Buffer 2 whilst primary works take place. This sediment fence should continue to the north along the base of Buffer 3 and Buffer 4.</p> <p><b>Primary weeding</b> – bush regeneration works above the buffer planting adjacent to Military Road. Target species include vines and woody weeds (<i>Lantana camara</i>). This should be carried out in a mosaic style to limit disturbance to fauna likely to be utilising the dense <i>Lantana</i> thickets.</p> <p>Primary weed works to focus around areas of higher quality buffer plantings and extend outwards to increase the chances of natural regeneration.</p> <p><b>Buffer planting</b> – once primary works addressed, future buffer and infill planting should be installed where required. These will serve to buffer the H2a remnant. Suggestions of coir logging and jute matting to assist with erosion control. Habitat creation should be considered during species selection including species which provide foraging and nesting resources for birds or habitat for ground fauna such as reptiles.</p> <p><b>Targeted weeding</b> – targeted treatment of weeds around the edges of established buffer plantings to maintain the quality of the buffer plantings.</p> <p><b>Maintain delineation</b> - between the remnant vegetation and the mown turf to the north of the zone to prevent the encroachment of grasses.</p>	<p>2021 – 2022 FY – establish buffer.</p> <p>Primary works and buffer plantings to occur in two year time slots. For example:</p> <p>2022 – 2025 FYs – start primary weed works around existing buffers. Installation of buffer plantings. In 2024 - 2027 repeat and push primary works out.</p> <p>24 site visits per year.</p>	>70%	<p>Mosaic clearing of <i>Lantana camara</i> and other persistent woody weeds above the roadside plantings.</p> <p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Successful establishment of buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	<p><b>Primary and targeted weeding and weed containment</b> - Trained bush regenerators.</p> <p><b>Previous buffer planting</b> – Parks staff</p> <p><b>Maintain delineation</b> – Parks staff</p>
<b>Buffer 2</b>	Medium	Buffer 2 comprises established planted areas adjacent to Military Road.	<p><b>Control of dominant natives</b> - control/trim planted <i>Acacia longifolia</i> within the buffer planting areas to allow for the growth and recruitment of other native species. Removed native vegetation should be piled on site to provide fauna habitat. All dead branches and fallen logs should also be left for the same reason.</p> <p><b>Maintenance weeding</b> - regular sweeps to focus on vines (<i>Lonicera japonica</i> and <i>Ipomoea spp.</i>) and reducing the growth of <i>Hydrocotyle bonariensis</i> and <i>Asparagus aethiopicus</i> within the roadside plantings. This will serve to protect the adjacent remnant (H1a).</p>	8 site visits per year.	5-30%	<p>Reduce weed density to &lt;5% by the end of 2021 – 2022 FY. Maintain at &lt;5% weeds ongoing.</p> <p>Decreased dominance of <i>Acacia longifolia</i> in buffer planting areas.</p> <p>Decreased presence of weed vines species, <i>Hydrocotyle bonariensis</i> and <i>Asparagus</i></p>	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Hugh Bamford Reserve</b>							
						<i>aethiopicus</i> within the roadside plantings.	
<b>Buffer 6</b>	Low	<p>Located along Medland Bamford Ramp on the west of the field. This zone includes a patch of existing buffer plantings along the road verge.</p> <p>Whilst this buffer is not directly adjacent to a remnant, management of weeds in this area will reduce weed seed dispersion within the locality. It also improves habitat connectivity for fauna.</p>	<p><b>Containment</b> – priority of this zone is to contain the high density weeds to the south, particularly above the Sydney Water Wastewater Treatment Plant.</p> <p><b>Targeted weeding</b> – targeted treatment of weeds around the edges of established buffer plantings to maintain the quality of the buffer plantings. Annuals and vines in particular should be targeted including the removal of reproduction material to reduce infestation and slowly exhaust seedbank.</p> <p><b>Maintain delineation</b> – delineation between the mown turf and the buffer area should be Maintained to prevent further encroachment of exotic grasses. Spray or mulch edge recommended.</p>	4 times per year.	30-70%	<p>Containment of high density weed areas.</p> <p>Reduce and maintain to &lt;30% weed density.</p>	Parks staff
<b>Buffer 7</b>	Low	<p>Located to the north of the Sydney Water Wastewater Treatment Plant, in the south-west corner of the field. This zone is largely weed dominated and does not contain any existing buffer plantings.</p> <p>Whilst this buffer is not directly adjacent to a remnant, management of weeds in this area will reduce weed seed dispersion within the locality. It also improves habitat connectivity for fauna.</p>	<p><b>Containment</b> – priority of this zone is to contain the high density weeds, particularly above the Sydney Water Wastewater Treatment Plant.</p> <p><b>Targeted weeding</b> - annuals and vines including the removal of reproduction material to reduce infestation and slowly exhaust seedbank.</p> <p><b>Maintain delineation</b> – delineation between the mown turf and the buffer area should be Maintained to prevent further encroachment of exotic grasses. Spray or mulch edge recommended.</p>	4 times per year.	>70%	<p>Containment of high density weed areas.</p> <p>Reduce and maintain to &lt;30% weed density.</p>	Parks staff
<b>Buffer 8</b>	Low	<p>Located to the north of the Sydney Water Wastewater Treatment Plant, in the south-east corner of the playing field. This zone includes established buffer plantings.</p> <p>Whilst this buffer is not directly adjacent to a remnant, management of weeds in this</p>	<p><b>Containment</b> – priority of this zone is to contain the high density weeds to the west (Buffer 7) from dominating the existing buffer plantings.</p> <p><b>Targeted weeding</b> - annuals and vines including the removal of reproduction material to reduce infestation and slowly exhaust seedbank.</p>	4 times per year.	>70%	<p>Containment of high density weed areas.</p> <p>Reduce and maintain to &lt;30% weed density.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Hugh Bamford Reserve</b>							
		area will reduce weed seed dispersion within the locality. It also improves habitat connectivity for fauna.	<b>Maintain delineation</b> – delineation between the mown turf and the buffer area should be Maintained to prevent further encroachment of exotic grasses. Spray or mulch edge recommended.				
<b>Remnant H2b</b>		No longer exists					
<b>All Zones</b>	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish two photo-points within each buffer zone, one photo-point in H2a and two photo-points in all other remnant zones</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

## 9 BONDİ GOLF COURSE & WILLIAMS PARK



Figure 9-1. Remnant vegetation adjacent to Bondi Golf Course

Bondi Golf Course and Williams Park remnant vegetation persists along the cliff line to the east of the recreational spaces including the Murrivier Pass. The remnant vegetation is made up of 5787m<sup>2</sup> of Sea-cliff Heath and Sea-cliff Sedgeland. The park includes an Aboriginal engraving site which features clifftop engravings of a whale, humans, fish and mundoes. Mundoes are Aboriginal rock carvings of human-like footprints that are usually restricted to sacred sites as they indicate a spiritual path to be followed.

The 2009 Waverley Council Landscape Plan for Bondi Golf Course incorporated plant species tolerant of the exposed environment and reflective of the Aboriginal heritage including *Lomandra spp.* which was traditionally used for weaving baskets. Waverley Council acknowledges the Bidjigal and Gadigal people who traditionally occupied the Sydney coast and adopted a Reconciliation Action Plan in 2014 which aims to protect the carvings of the Bondi Golf Course.

### 9.1 FLORA

The 2020 Flora Survey report determined all remnants to be in 'Very Poor' condition with the exception of a small patch of vegetation in the Murrivier Pass. Total Earth Care's mapping is consistent with this due to the extensive infestation of turf species into the remnant vegetation, reducing the resilience of the remnant vegetation. Delineation and control of exotic grass invasion will be a priority action for this site.

The Sea-cliff Heath is an open to closed low growing community within 50m of sea cliffs on skeletal sand to sand lenses on sandstone with impeded drainage. Typical remnant species include *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*. The Sea-cliff Sedgeland is dominated in *Ficinia nodosa* which is located within 20m of the sea cliffs, has an open canopy growing on skeletal sand to sand lenses on sandstone, often on modified soils (SBRC 2020). Along with the encroachment of *Centaurium tenuiflorum* and other turf species, into the Sea-cliff remnants, invasion of *Asparagus aethiopicus* *Lantana camara* and *Asparagus aethiopicus* is also problematic.

Table 9-1 – Bondi Golf Course & Williams Park Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Lobelia anceps</i>	Angled Lobelia
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Carpobrotus glaucescens</i>	Pigface	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Dianella congesta</i>	Beach Flax-lily	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Monotoca elliptica</i>	Tree Broom-heath
<i>Dillwynia retorta</i>	Heathy Parrot-pea	<i>Opercularia aspera</i>	Coarse Stinkweed
<i>Epaltes australis</i>	Spreading Nut-heads	<i>Tetragonia tetragonioides</i>	New Zealand Spinach
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Isolepis cernua</i>	Nodding Club-rush	<i>Xanthosia pilosa</i>	Woolly Xanthosia
<i>Leptospermum laevigatum</i>	Coast Teatree	<i>Zoysia macrantha</i>	Prickly Couch

### 9.2 FAUNA

The Bondi Golf Course and Williams Park is highly exposed to the elements subject to high winds, and scorching heat. Small pockets of microhabitats and rock crevices are essential for the species that inhabit the cliff-tops. The flora habitat is not considered diverse as the majority of remnant occupies a thin linear space on the cliff-tops. Some change in soil



July 2021

Total Earth Care Pty Ltd

moisture levels occurs as a result of drainage patterns where sedgeland is supported. The Large open rock platforms provide an abundance of basking and foraging areas for native skinks. Ephemeral pools, damp sedgeland and low heath provide potential breeding and foraging habitat for frogs. The more dense heath vegetation surrounding the Murrivier Pass provides sheltering and nesting opportunities for smaller passerine birds, whilst the airspace above the cliff line would provide foraging habitat for larger birds of prey. The crevices and overhangs within the Murrivier Pass are sheltered and likely to be used by nesting swallows and martins, which are a social species foraging on insects in large flocks. Overhangs and crevices are also likely to be utilised by roosting microbats. The Grey-headed Flying-fox (*Pteropus poliocephalus*) (Vulnerable under the BC Act and EPBC Act) has also been recently recorded at this site and may forage on some of the native flowering shrub species.

### 9.3 MANAGEMENT ACTIONS

#### 9.3.1 Previous works

No previous bush regeneration work has been undertaken at this site as it has not previously been included in the previous BAP 2014-20 and it is not currently Council managed land.

#### 9.3.2 Key management actions

Management priority of this site is high as it has potential to extend the corridor from Hugh Bamford Reserve in the north. Key management actions generally include:

- **Buffer planting:** along the cliff edge to create a buffer between turfed Golf Course and the remnant vegetation. Buffer plantings will increase the overall aesthetics of the site and the safety of the site by placing a barrier between pedestrians and the cliff edge. Buffer plantings will also increase connectivity, create habitat, increase diversity and protect the remnants from weed encroachment.
- **Delineation:** following buffer planting formal edge delineation should be installed to prevent the encroachment of exotic grasses. This will reduce future maintenance and facilitate a reduction of exotic species within the remnant.
- **Ropes works:** targeting weeds including *Asparagus aethiopicus*, *Chrysanthemoides monilifera* and *Lantana camara* along the edge of the cliff. Ropes work is required due to inaccessibility and the hazard of the cliff edge.
- **Maintenance weeding:** targeting germinating perennial and annual weeds including *Asparagus aethiopicus*, *Anredera cordifolia* and *Centaurium tenuiflorum*. Elimination of *Coprosma repens* and woody weeds. Maintenance will reduce the re-establishment of weeds. Woody weeds should be targeted to prevent potential reduction in size of

remnants, however removal should be staged as weeds may be stabilizing cliff edge and providing habitat to fauna species. To protect patches of *Ficinia nodosa* on rocky areas, weeding should progress outwards from the *Ficinia* patches clearing rock shelves of weeds and creating more habitat for the remnant to expand.

- **Preserve rocky areas** – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

Additionally, this site would be suited to trialling a sugar treatment of annual weeds to alter the soil pH which would reduce recruitment of annuals over time.

The weed densities and management actions for the different areas are shown in Map 9-1 and provided in Table 9-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

### 9.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

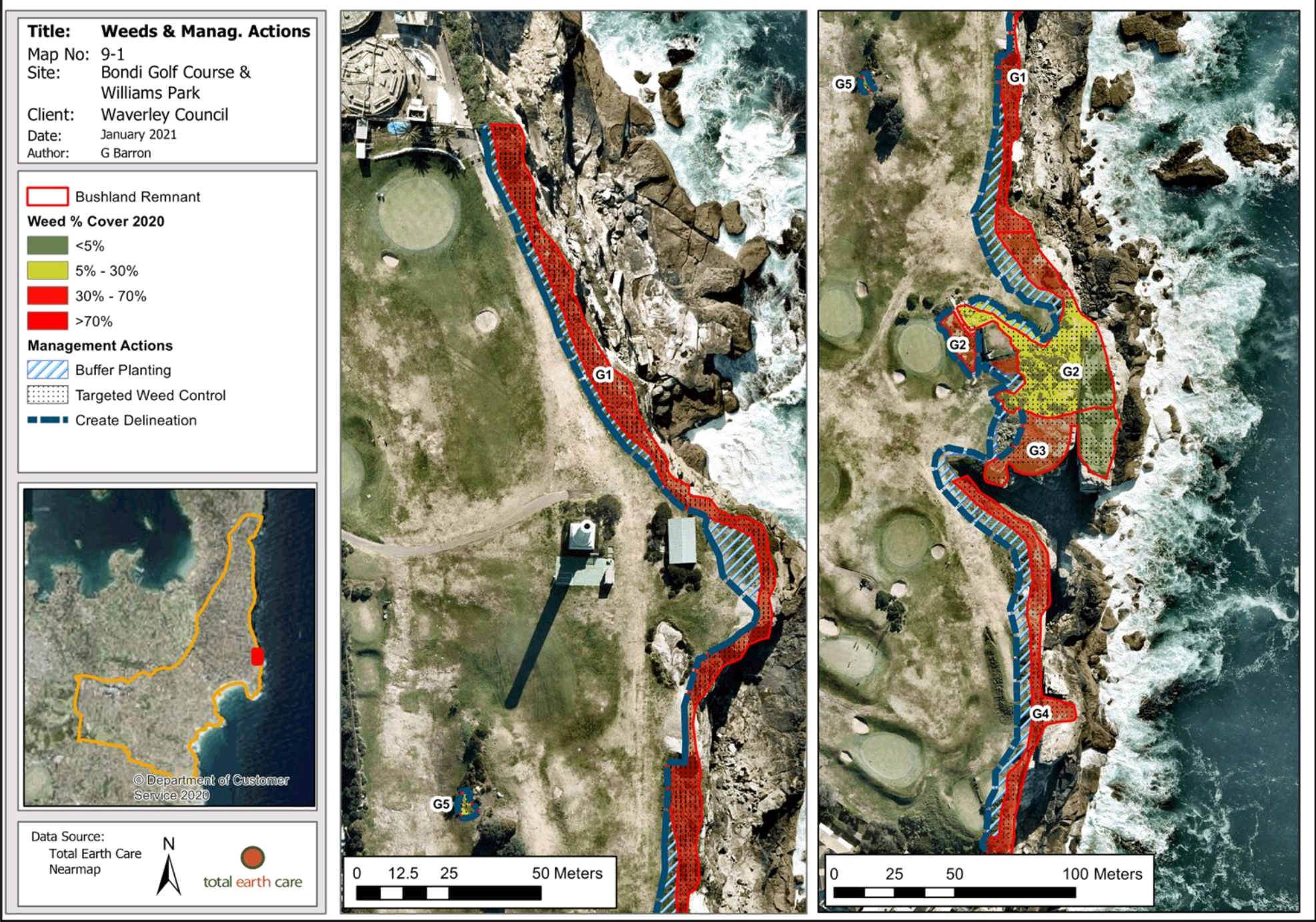
This site was not covered by the previous BAP (TEC 2014) and so implementation of management at this site is expected to result in significant improvement to the condition of remnant vegetation. The provision of buffer planting, delineation and weeding is expected to protect the existing remnant vegetation, particularly the core of the remnants G2 and G3 and avoid further encroachment of grasses into the patches.

Patches G2 and G3 will likely be able to be restored to 'good' condition by 2040. The installation of buffer plantings along the remnants G1 and G4 will contribute to the no net-loss targets of these remnants.

Management at this site will improve the existing vegetation and the connectivity of the habitat corridor along the coastline by improving vegetation condition and encouraging the regeneration of native species. This will provide more habitat for fauna to utilise and provide protected passage between existing patches of remnant vegetation.

The use of a combination of hand removal and herbicide spraying is recommended within the core remnant to increase the area available for native species occurrence. The use of herbicide spraying will be required during early stages of management and in high priority areas due to the high degree of weed cover, particularly exotic grasses.







July 2021

Total Earth Care Pty Ltd

TABLE 9-2 – BONDI GOLF COURSE &amp; WILLIAMS PARK REMNANTS MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Bondi Golf Course &amp; Williams Park</b>							
<b>Remnant G2</b>	High	This zone is located on the cliffs and rock ledge north of the Murrivier Pass and encompasses 2050m <sup>2</sup> of Sea-Cliff Heath.	<p><b>Maintenance weeding</b> – targeting germinating perennial and annual weeds. Control of <i>Asparagus aethiopicus</i>, <i>Anredera cordifolia</i> and <i>Centaurium tenuiflorum</i>. Elimination of <i>Coprosma repens</i> and woody weeds on the flat cliff-top, not along the cliff face where ropes work is required.</p> <p><b>Ropes work (low priority)</b> – target <i>Asparagus aethiopicus</i>, <i>Chrysanthemoides monilifera</i> and <i>Lantana camara</i> along the edge of the cliff. Woody weeds should be targeted to prevent potential reduction in size of remnant, however removal should be staged as weeds may be stabilising the cliff edge and providing habitat to fauna species.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	<p>Minimum of 6 visits per year.</p> <p>Ropes work four times per year.</p>	5-30%	<p>Zone to reach and maintain at &lt;5% weed density.</p> <p>Recruitment of native seedbank.</p>	Trained bush regenerators.
<b>Remnant G3</b>	High	Located on the south-eastern point of the Murrivier Pass and encompasses 997m <sup>2</sup> of Sea-cliff Sedgeland: c) <i>Ficinia nodosa</i> .	<p><b>Targeted weeding</b> – targeting germinating perennial and annual weeds. Control of <i>Asparagus aethiopicus</i>, <i>Anredera cordifolia</i> and <i>Centaurium tenuiflorum</i>.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	<p>Minimum of 6 visits per year.</p> <p>Ropes work four times per year.</p> <p>Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.</p>	30-70%	<p>Zone to reach &lt;10% weed density.</p> <p>Recruitment of native seedbank.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.
<b>Buffer 1</b>	High	Creation of a new buffer along the cliff-top between the remnants and the golf course grass. The area for the proposed plantings currently comprises mown grass.	<b>Buffer planting</b> – occurs along the cliff edge to create a buffer between turf-ed Golf Course and the remnant vegetation. Buffer plantings will increase the overall aesthetics of the site and the safety of the site by placing a barrier between pedestrians and the cliff edge. Buffer plantings will also increase connectivity, create habitat, increase diversity and protect the remnants from weed encroachment. A gap may be left between the remnant edge and the buffer planting in order to allow areas for natural regeneration and expansion of the remnants. However, if this approach is to be taken more resources will be required to manage weeds in between	Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.	-	<p>Establishment of buffer plantings and connectivity between Hugh Bamford Reserve in the north and remnant vegetation in the south and along the eastern edge of Bondi Golf Course.</p> <p>Establishment of buffer plantings and connectivity.</p>	Parks staff.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Bondi Golf Course &amp; Williams Park</b>							
			<p>the plantings and remnant in order to protect the condition of the remnant.</p> <p><b>Create delineation</b> – following buffer plantings the edge should be delineated between the mown lawn and planted vegetation to ensure no encroachment of exotic grasses. The buffer in turn protects the edge of the remnant. Spray edge is recommended with a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>			<p>Planting survival rate of &gt;80% 6 months after planting.</p> <p>Recruitment of native seedbank.</p> <p>Containment and reduced encroachment of turf into the adjacent remnants.</p>	
<b>Remnant G4</b>	Medium	Extends south from the Murrivier Pass along the cliff edge and encompasses 1265m <sup>2</sup> of Sea-cliff Sedgeland: c) <i>Ficinia nodosa</i> .	<p><b>Ropes work</b> – Ropes work to target <i>Asparagus aethiopicus</i>, <i>Chrysanthemoides monilifera</i> and <i>Lantana camara</i> along the edge of the cliff. Woody weeds should be targeted to prevent potential reduction in size of remnant, however removal should be staged as weeds may be stabilising the cliff edge and providing habitat to fauna species.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	<p>Ropes work four times per year to control <i>Asparagus aethiopicus</i> and <i>Chrysanthemoides monilifera</i> infestation.</p> <p>Minimum of 6 site visits per year.</p>	>70%	<p>Recruitment of native seedbank.</p> <p>No loss of remnant vegetation.</p>	Trained bush regenerators.
<b>Remnant G1</b>	Medium	The northern most zone within Bondi Golf course consisting of Sea-cliff Sedgeland: c) <i>Ficinia nodosa</i> . This is the largest zone spanning 1447m <sup>2</sup> .	<p><b>Ropes work</b> – targeting <i>Asparagus aethiopicus</i>, <i>Chrysanthemoides monilifera</i> and <i>Lantana camara</i> along the edge of the cliff.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	<p>Ropes work four times per year.</p> <p>A minimum of 8 site visits per year.</p>	>70%	<p>Recruitment of native seedbank.</p> <p>No loss of remnant.</p>	Trained bush regenerators.
<b>Remnant G5</b>	Low	The remnant vegetation potentially no longer exists here as it was classified as “to disturbed to discern” (SBRC 2020). The vegetation present is native plantings and some	<p><b>Create delineation</b> – between the remnant vegetation and the mowed turf to prevent the encroachment of grasses.</p> <p><b>Maintenance weeding</b> – targeting germinating perennial and annual weeds.</p>	Site visit four times per year.	5-30%	<p>Reduced encroachment of turf.</p> <p>Zone maintained at &lt;5% weed density.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Bondi Golf Course &amp; Williams Park</b>							
		mature <i>Banksia integrifolia</i> .					
All Zones	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish two fixed photo monitoring points within each remnant.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.

10 SOUTH CLIFFTOP REMNANTS - Bronte to Tamarama, South Bondi & Gaerloch to South Bondi



Figure 10-1. Remnant vegetation along the cliffs at Gaerloch to South Bondi

The South Cliff-top remnants consist of pockets of vegetation adjoining small public parks and cliff coastlines. These patches include the vegetation communities of Sea-cliff Heath, Sea-cliff Sedgeland, Sea-cliff Herbland, Sea-cliff Grassland, Imperata Grassland and Beach Grassland (SBRC 2020), the latter of which is rare in the LGA. Although these patches are typically small in size, they exhibit a diversity of niche vegetation communities and provide connective patches along the coastline.

The remnants at Gaerloch to South Bondi, South Bondi and Bronte to Tamarama are located within an area of local heritage significance listed for their natural and scenic coastal landscapes which include the native vegetation and restorative plantings. The Mirror Bush (*Coprosma repens*) at the Bronte to Tamarama patches (T3a, T3b, T7) are protected under the listing of ‘Tamarama Beach, Park & Marine Drive’ (OEH, 2000).

10.1 FLORA

These patches are considered to be in ‘very poor’ condition primarily due to the presence of weeds including *Acetosa sagittata*, *Hydrocotyle bonariensis*, *Coprosma repens* and *Asparagus aethiopicus* (SBRC 2020). However, at Gaerloch to South Bondi there is a strong population of the native grass, *Sporobolus virginicus* (Apunga 2019b).

The vegetation communities of Sea-cliff Sedgeland and Sea-cliff Herbland are present at the Gaerloch to South Bondi, Bronte to Tamarama and South Bondi. Sea-cliff Heath is also present at the latter two sites. Sea-cliff Grassland is present at South Bondi and Gaerloch to South Bondi. Beach Grassland is present at Bronte to Tamarama and Imperata Grassland is present at South Bondi.

The three grassland communities vary depending on the location, key species and soils present. Sea-cliff Grassland is low to open community dominated by *Paspalum vaginatum*, *Sporobolus virginicus* and *Zoysia macrantha* and is located on skeletal sands with impeded drainage. Beach Grassland is a low open vegetation community dominated by *Sporobolus virginicus* which occurs on deep marine sands. Comparatively, Imperata Grassland is an open to closed community dominated by *Imperata cylindrica* and located on deeper, disturbed sandy soils. Imperata Grassland is much more common across the LGA (SBRC 2020).

South Bondi has the largest diversity of species in this group with 21 species observed (SBRC 2020). This can be attributed to the variation within the five different vegetation communities present along this section of coastline.

Table 10-1 – Native Flora Species of the South Cliff-top Remnants (SBRC 2020)

Scientific Name	Common Name	Gaerloch to South Bondi	South Bondi	Bronte to Tamarama
<i>Acacia longifolia</i>	Coastal Wattle		X	
<i>Adiantum aethiopicum</i>	Common Maidenhair		X	
<i>Apium prostratum</i> var. <i>filiforme</i>	Sea Celery			X
<i>Atriplex semibaccata</i>	Creeping Saltbush	X	X	X
<i>Carex pumila</i>			X	X
<i>Commelina cyanea</i>	Native Wandering Jew	X	X	



July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Gaerloch to South Bondi	South Bondi	Bronte to Tamarama
<i>Cyperus polystachyos</i>	Bunchy Sedge	X	X	X
<i>Dianella congesta</i>	Beach Flax-lily	X	X	
<i>Ficinia nodosa</i>	Knobby Club-rush	X	X	X
<i>Imperata cylindrica</i>	Blady Grass		X	
<i>Isolepis cernua</i>	Nodding Club-rush	X	X	X
<i>Lachnagrostis billardierei</i>	Coast Blown-grass	X	X	X
<i>Lachnagrostis filiformis</i>	Blown Grass	X		X
<i>Lobelia anceps</i>	Angled Lobelia	X	X	X
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush		X	
<i>Monotoca elliptica</i>	Tree Broom-heath	X	X	
<i>Paspalum vaginatum</i>	Salt-water Couch	X	X	
<i>Samolus repens</i>	Creeping Brookweed	X		X
<i>Sonchus hydrophilus</i>	Native Sowthistle		X	
<i>Sporobolus virginicus</i>	Sand Couch	X	X	
<i>Tetragonia tetragonioides</i>	New Zealand Spinach	X	X	
<i>Triglochin striata</i>	Streaked Arrowgrass		X	X
<i>Zoysia macrantha</i>	Prickly Couch	X	X	X

## 10.2 FAUNA

The rocky cliff line provides roosting habitat for a multitude of marine bird species. The Silver Gull (*Chroicocephalus novaehollandiae*), White-faced Heron (*Egretta novaehollandiae*), Cape Gannet (*Morus capensis*), Great Cormorant (*Phalacrocorax carbo*) were observed flying by, foraging in the ocean and resting on the sea cliffs (SBRC 2020).

The low lying native and exotic shrubs and grass and sedge species typical of this area provide sheltering and foraging resources for small passerine birds such as the Superb Fairy-wren (*Malurus cyaneus*) and Variegated Fairy-wren (*Malurus lamberti*) as well as reptiles. Leaf

litter and rocky outcrops provide basking and foraging opportunities for reptiles such as Sunskinks (*Lampropholis guichenoti*) and provided pockets of moisture in high rainfall events for amphibian species. These patches provide important islands of vegetation to support connectivity for fauna to move along the coastline.

## 10.3 MANAGEMENT ACTIONS

### 10.3.1 Previous works

A significant amount of effort has been undertaken in remnant patches Z13a-c and the surrounding buffer areas to establishing stable pocket of vegetation and eradicate or minimise *Asparagus aethiopicus*, *Salpichroa organifolia*, *Hydrocotyle bonariensis* and *Anredera cordifolia* (Apunga 2019b).

Other small patches around the coastline at Gaerloch to South Bondi, South Bondi and Bronte to Tamarama have been generally hand weeded or by rope work. Weed species in these areas include *Bryophyllum delagoense*, *Hydrocotyle bonariensis* and *Acetosa sagittata*.

### 10.3.2 Key management actions

A large proportion of remnants are isolated and difficult to access, therefore are of lower priority. The management of the buffer plantings is often of higher priority than the remnant itself as the buffer plantings would support the condition of the remnant, and contribute to the objective of no-net loss of remnant vegetation by reducing the pressure of weed encroachment and lack of connectivity.

Currently there is little habitat connectivity around the remnants from Tamarama to Bronte (Map 10-3) and remnants are largely isolated and of low diversity. Alternative methods such as direct seeding within the remnants could be trialed as soils are generally too shallow to infill plant.

Key management actions generally include:

- **Targeted weeding:** targeting infestations of herbaceous weeds such as *Parietaria judaica*, *Coprosma repens*, *Gazania tomentosa* and *Ageratina adenophora*. Target annual weeds before seeding to prevent germination.
- **Buffer planting:** infill planting within existing buffer zones to increase diversity and improve habitat for fauna. This is particularly important where monocultures of natives such as *Acacia longifolia* have established, which would have a low resilience to

July 2021

Total Earth Care Pty Ltd

disturbance. The creation of new buffer planting to create connectivity, particularly at Tamarama.

- **Maintenance weeding:** target annual weeds before seeding to prevent germination at most patches.
- **Habitat creation:** there is opportunity for habitat creation within buffer zones. It is recommended that a diversity of at least 20 species if achieved from a variety of grasses and nectar providing species. Where sandstone exists, it is important to clear them of weedy ground covers such to provide basking habitat for amphibians. The introduction of sandstone boulders and logs would encourage the retention of water and make the sites more inhabitable for amphibians and decaying wood adds nutrients to the soils and attracts insects. This will also assist with erosion control in steep areas.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of the objectives.

The weed densities and management actions for the different areas are shown in Map 10-1, Map 10-2 and Map 10-3 and provided in Table 10-2, Table 10-3 and Table 10-4. Detailed methodologies for the recommended management actions are provided in Appendix A.

Alternative management actions include:

- **Sandstone capping:** particularly between Tamarama and Bronte along the cliffline to create connection between remnants and combat weed encroachments. This should be a staged trial as the nature of the site may make this challenging and to manage removal and re-establishment of fauna habitat. Coir logs and jute mesh will be required to stabilise the capping See Appendix A for more detail. Other areas that could utilise this method include
- **Direct seeding:** of local provenance seeds, within clifftop remnants with low diversity to improve diversity thus improve resilience to disturbance. This can also be used on in the sandstone capping areas and can be combined with planting.

#### 10.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

Management at these patches generally aims to ensure no net-loss of remnant patches by focusing on the management of buffer planting. This is particularly relevant to the patches at South Bondi and Gaerloch to South Bondi which have previously unworked vegetation and infestations of *Coprosma repens*.

With adequate weeding and management of the associated buffers, it is possible that remnant patch Z13d, Z13f, Z13i and Z14a can likely be maintained in 'good' condition by 2040. Other patches which are isolated and display low diversity would take significant work to increase the remnant to 'good' condition. These patches would require ropes work to target hard to reach infestations, and should be prioritised to ensure remnants are not lost. Diversity could be increased through direct seeding method as planting is not viable on shallow cliff edge soils.

The management of the remnant patch Buffer 3 is of high priority to ensure the nearby remnants Z12f and Z12a are not lost. Buffer 3 also an important connective habitat for fauna passage and requires infill planting within the buffer to increase diversity and improve microhabitat. Currently Buffer 3 contains a monoculture of *Acacia longifolia*, and infestations of *Stenotaphrum secundatum*. The buffer would benefit from the planting of a variety of nectar provide shrubs, and a variety of native grasses to attract a more diverse assemblage of pollinators, reptiles and birds.

Overall, the improvement of buffers along the coastline of Gaerloch to South Bondi is important as they double the habitat availability. The planting in these buffers (Buffer 3, 6, 7 and 8) would encourage complexity in the vegetation and improve habitat and passage for native fauna.



**Title: Weeds & Manag. Actions**

Map No: 10-1

Site: South Bondi

Client: Waverley Council

Date: January 2021

Author: G Barron

- Bushland Remnant
- Previous Buffer Planting

**Weed % Cover 2020**

- 5% - 30%
- 30% - 70%
- >70%

**Management Actions**

- Buffer Planting
- Contain Runoff
- Primary Weed Works
- Targeted Weed Control
- Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 10-2 – SOUTH CLIFFTOP REMNANTS MANAGEMENT ZONES AND ACTIONS – SOUTH BONDI (MAP 10-1)

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Cliff-top Remnants – South Bondi (Map 10-1)							
<b>Remnant Z12b-e</b>	High	<p><b>South Bondi (Map10-1)</b> – South of Bondi Icebergs Club.</p> <p>Consists of two patches of Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i> and Sea-cliff Grassland.</p> <p>Remnant patches are largely isolated due to fragmentation from the sea-cliffs and public pathway. These patches are of priority to ensure remnants are not completely overrun by weed species and lost.</p>	<p><b>Targeted weeding</b> – control and contain weed infestations. Target weed species include <i>Coprosma repens</i>, <i>Gazania tomentosa</i> and exotic grasses.</p> <p><b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination.</p> <p><b>Buffer planting</b> – potential for buffer plantings of native grasses above Z12c to increase connectivity, decrease weed encroachment and ensure no net loss of remnants.</p>	Minimum of 6 site visits per year.	30-70%	<p>Reduce and maintain at &lt;5% weed density by 2023 – 2024 FY.</p> <p>No net loss of remnant.</p> <p>Increased connectivity through buffer plantings.</p> <p>Buffer planting survival rate of &gt;80% 6 months after planting.</p> <p>Signs of regeneration aided by direct seeding.</p>	Trained bush regenerators.
<b>Remnant Z11c</b>	High	<p><b>South Bondi (Map10-1)</b> – North of Bondi Icebergs Club.</p> <p>Consists of 100m<sup>2</sup> of Imperata Grassland, in fairly good condition.</p> <p>This patch is isolated by two weed plumes (Buffer 2) and it is a high priority to ensure no encroachment.</p>	<p><b>Contain:</b> weed infestations north and south of remnant patch to ensure no encroachment.</p> <p><b>Targeted weeding</b> – target woody and herbaceous weed infestations such as <i>Coprosma repens</i> and <i>Asparagus aethiopicus</i>.</p> <p><b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination.</p>	Minimum of 4 visits per year.	5-30%	<p>Reduce and maintain &lt;5% weed density within first year.</p> <p>Natural native regeneration.</p>	Trained bush regenerators.
<b>Buffer 3.1</b>	High	<p><b>South Bondi (Map10-1)</b> – Hunter Park.</p> <p>Consists of buffer vegetation that is dominated by <i>Acacia longifolia</i> protecting remnant Z12a</p>	<p><b>Maintain delineation</b> – maintain buffer edge around native vegetation. This can be achieved by spraying and mulching (re-mulched every 2 to 3 years). Permanent delineation to stop future encroachment of exotic grasses into buffer plantings and reduce maintenance. Once exotic grass species are controlled, there is potential for natural native germination or ground species.</p> <p>Control public access into established buffer plantings.</p> <p><b>Targeted weeding</b> – targeting infestations of herbaceous weeds such as <i>Parietaria judaica</i> and <i>Ageratina adenophora</i>. Target annual weeds before seeding to prevent germination.</p>	<p>Minimum of 8 visits per year.</p> <p>Buffer/infill planting only to occur once exotic grasses and reoccurring annuals are controlled.</p>	30-70%	<p>Reduce and maintain at &lt;5% weed density by 2023 - 2024.</p> <p>Containment and reduced encroachment of turf.</p> <p>Permanent delineation established by 2022 – 2023 FY.</p> <p>Recruitment of native seedbank.</p> <p>Increased diversity.</p>	<p><b>Delineation</b> – parks staff</p> <p><b>Targeted weeding, control of dominant natives, buffer planting and habitat creation</b> - trained bush regenerators.</p>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Clifftop Remnants – South Bondi (Map 10-1)							
			<p><b>Control of dominant natives</b> – <i>Acacia longifolia</i> has become a dominant species and needs trimming and removal to promote diversity.</p> <p><b>Infill planting</b> – infill planting within buffers if natural regeneration is not successful to increase diversity and replace thinned out Acacias.</p> <p><b>Habitat creation</b> – It is recommended that a diversity of at least 15 species if achieved from a variety of grasses and nectar providing species. Clear natural bushrock of weeds and dominant groundcovers to allow for basking opportunities for reptiles. Retain fallen logs and branches.</p>			Planting survival rate of >80% 6 months after planting.	
<b>Remnant Z13a-c</b>	High	<p><b>Gaerloch to South Bondi (Map 10-1)</b> – Marks Park.</p> <p>Consists of 200m<sup>2</sup> of Sea-cliff Grassland highly infested with garden exotics.</p> <p>Primary works in Buffer 5 upslope will reduce maintenance in this area.</p> <p>Remnant patches are largely isolated due to fragmentation from the sea-cliffs and public pathway. These patches are of priority to ensure remnants are not completely overrun by weed species and lost.</p>	<p><b>Targeted weeding</b> – once above buffer is controlled. Control and contain weed infestations. Target weed species include <i>Coprosma repens</i>, <i>Gazania tomentosa</i>, <i>Geranium spp.</i>, <i>Anredera cordifolia</i>, <i>Canna x generalis</i> and <i>Acetosa sagittata</i>.</p> <p>Target annual weeds before seeding to prevent germination.</p> <p><b>Ropes work</b> – to target priority weeds.</p>	Minimum of 12 times per year once weeds are controlled in the buffer upslope.	70%	<p>Reduce and maintain at &lt;20% weed density by 2026 – 2027 FY.</p> <p>Recruitment of native seedbank.</p> <p>No loss of remnants.</p>	Trained bush regenerators.
<b>Buffer 3.2</b>	Medium	<p><b>South Bondi (Map10-1)</b> – Hunter Park.</p> <p>Consists of scattered stands of buffer vegetation.</p>	<p><b>Maintain delineation</b> – maintain buffer edge around native vegetation. This can be achieved by spraying and mulching (re-mulched every 2 to 3 years). Permanent delineation to stop future encroachment of exotic grasses into buffer plantings and reduce maintenance. Once exotic grass species are controlled, there is potential for natural native germination or ground species.</p> <p>Control public access into established buffer plantings.</p> <p><b>Targeted weeding</b> – targeting infestations of herbaceous weeds such as <i>Parietaria judaica</i> and <i>Ageratina adenophora</i>. Target annual weeds before seeding to prevent germination.</p>	<p>Minimum of 8 visits per year.</p> <p>Buffer/infill planting only to occur once exotic grasses and reoccurring annuals are controlled.</p>	30-70%	<p>Reduce and maintain at &lt;5% weed density by 2023 - 2024.</p> <p>Containment and reduced encroachment of turf. Permanent delineation established by 2022 – 2023 FY.</p> <p>Recruitment of native seedbank.</p>	<p><b>Delineation</b> – parks staff</p> <p><b>Targeted weeding, control of dominant natives, buffer planting and habitat creation</b> – Parks staff in consultation with Urban Ecology team.</p>

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Clifftop Remnants – South Bondi (Map 10-1)							
			<p><b>Control of dominant natives</b> – <i>Acacia longifolia</i> has become a dominant species and needs trimming and removal to promote diversity.</p> <p><b>Infill planting</b> – infill planting within buffers where required.</p> <p><b>Habitat creation</b> – It is recommended that a diversity of at least 15 species if achieved from a variety of grasses and nectar providing species. Clear natural bushrock of weeds and dominant groundcovers to allow for basking opportunities for reptiles. Retain fallen logs and branches.</p>			<p>Increased diversity.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	
Buffer 5	Medium	South Bondi (Map10-1) – Consists of buffer plantings a dense thickets of weeds above remnants Z13a-b, will need to be contained to prevent propagule dispersion into the remnants.	<p><b>Containment (high priority)</b> – seed dispersal and erosion needs to be controlled along the drainage line.</p> <p><b>Maintain delineation</b> – to aid containment of weed infestation by installing sediment fencing.</p> <p><b>Maintenance weeding (high priority)</b> – a large portion of the buffer plantings are established and resilient. Target annual weeds before seeding to prevent germination.</p> <p><b>Primary weeding (low priority)</b> – targeting infestations of woody weeds, herbaceous weeds and exotic grasses. Target weeds include <i>Coprosma repens</i>, <i>Parietaria judaica</i>, <i>Geranium spp.</i> <i>Anredera cordifolia</i>, <i>Canna x generalis</i> and <i>Acetosa sagittata</i>.</p> <p><b>Buffer planting</b> – buffer planting to increase connectivity and diversity.</p>	<p><b>2021 – 2026 FY</b> – Minimum of 8 visits per year.</p> <p><b>Subsequent years</b> – Minimum of 6 visits per year.</p>	70%	<p>Reduce weed density to &lt;20% by end of 2026 FY.</p> <p>Maintain at &lt;20% weed density.</p> <p>Increased connectivity and diversity.</p> <p>Recruitment of native seedbank.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.
Buffer 2	Medium	South Bondi (Map10-1) – North of Bondi Icebergs Club.  Consists of weed plumes north and south of the Z11c remnant patch which have potential to be rehabilitated to create a buffer.	<p><b>Containment (high priority)</b> – contain infestation to ensure no encroachment into remnant.</p> <p><b>Primary weeding</b> – mosaic clearing targeting woody and herbaceous weeds. Target weeds are <i>Coprosma repens</i>, <i>Geranium spp.</i> <i>Ricinus communis</i> and <i>Asparagus aethiopicus</i>.</p> <p><b>Buffer planting</b> – extend buffer planting north and south of remnant patch Z11c to increase resilience and connectivity.</p> <p><b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination.</p> <p>Ensure a gap around Z11c is maintained to allow to expansion of remnants.</p>	<p>Minimum of 18 site visits per year until 2024 – 2025 FY.</p> <p>Minimum of 6 site visits subsequently for maintenance weeding.</p>	>70%	<p>Reduce and maintain &lt;10% weed density by 2024 – 2025 FY.</p> <p>Establishment of buffer plantings and increased connectivity</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Cliff-top Remnants – South Bondi (Map 10-1)							
<b>Remnant Z11a-b</b>	Low	<b>South Bondi (Map 10-1)</b> - South Bondi Beach.  Consists of 330m <sup>2</sup> of Sea-cliff Grassland.	<b>Contain</b> – remnant vegetation is isolated. Works should focus on containment.  <b>Primary weeding</b> – mosaic clearing targeting woody and herbaceous weeds such as <i>Coprosma repens</i> , <i>Acetosa sagittata</i> and exotic grasses.  <b>Infill Planting</b> – natural regeneration is unlikely and the area may need to be revegetated post primary works. Planting to incorporate local sourced or propagated species of Sea-cliff Grassland to maintain genetic integrity.	Minimum of 6 visits per year.	>70%	Containment of weeds.  No loss of remnant.	Trained bush regenerators.
<b>Buffer 1</b>	Low	<b>South Bondi (Map10-1)</b> – South Bondi Beach.  Consists of the buffer plantings west of the Z11a remnant patches. This buffer is isolated from remnants by the public pathway therefore is of low priority, but provides a good opportunity for habitat improvement.	<b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination.  <b>Habitat creation</b> – It is recommended that a diversity of at least 20 species if achieved from a variety of grasses and nectar providing species. Introduce sandstone boulders and retain fallen logs and branches.	Minimum of 4 visits per year.	5-30%	Reduce and maintain weed density <5% by 2022 – 2023 FY.	Trained bush regenerators.
<b>Remnant Z11d</b>	Low	<b>South Bondi (Map 10-1)</b> – North of Bondi Icebergs Club.  Consists of 108m <sup>2</sup> of Sea-cliff Herbland dominant in <i>Dianella congesta</i> .	<b>Contain</b> – remnant vegetation is isolated. Works should focus on containment.  <b>Targeted weeding</b> – target woody and herbaceous weed infestations such as <i>Coprosma repens</i> and <i>Asparagus aethiopicus</i> .	Minimum of 2 visits per year.  Likely to need ropes work but not a high priority.	>70%	Weed density reduced.  Containment of weeds.	Trained bush regenerators.
<b>Remnant Z12a and f</b>	Low	<b>South Bondi (Map 10-1)</b> – Hunter Park  Consists of 95m <sup>2</sup> of Sea-cliff Herbland predominant in <i>Dianella congesta</i> .  The remnant will benefit from works in the surrounding buffer.	Will benefit from targeted weed works and delineation in the surrounding buffer.  <b>Targeted weeding</b> – target infestations of herbaceous weeds and exotic grasses such as <i>Bidens pilosa</i> and <i>Centaureum tenuiflorum</i> .	Minimum of 4 visits per year.	>70%	Reduce and maintain at <5% weed density.  Natural regeneration.	Trained bush regenerators.
<b>Buffer 4</b>	Low	<b>South Bondi (Map10-2)</b> – 16 Wilga St, Bondi	<b>Containment and control runoff (high priority)</b> – seed dispersal and erosion needs to be controlled along the drainage line. Installation of sediment fencing.	Minimum of 4 visits per year.	30-70%	Control runoff and propagule dispersion by 2022 – 2023 FY.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>South Clifftop Remnants – South Bondi (Map 10-1)</b>							
		Consists of buffer vegetation south of the Z12 remnant.  Drainage and erosion problems are causing consistent weed infestations e.g. <i>Parietaria judaica</i> and <i>Ageratina adenophora</i> .	<p><b>Targeted weeding</b> – target infestations of herbaceous weeds due to high seed dispersal. Target annual weeds before seeding to prevent germination.</p> <p><b>Buffer planting</b> – once sediment and hydrology is contained, area has potential for revegetation.</p> <p><b>Maintenance weeding</b> – a large portion of the buffer plantings are established and resilient. Target annual weeds before seeding to prevent germination.</p> <p>Maintenance of young buffer plantings.</p>	Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.		<p>Reduce and maintain at &lt;5% weed density by 2025 2026 FY.</p> <p>Established native plantings.</p> <p>Increased connectivity and diversity.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	
<b>All Zones</b>	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish one fixed photo monitoring point within each remnant and buffer zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.



**Title: Weeds & Manag. Actions**


Map No: 10-2

Site: Gaerloch to South Bondi





Client: Waverley Council

Date: May 2021








Author: G Barron

 Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover 2020**

 <5%  
 5% - 30%  
 30% - 70%  
 >70%

**Management Actions**

 Buffer Planting  
 Connectivity Planting  
 Contain Runoff  
 Infill Planting  
 Primary Weed Works  
 Targeted Weed Control  
 Maintain Delineation



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 10-3 – SOUTH CLIFFTOP REMNANTS MANAGEMENT ZONES AND ACTIONS – GAERLOCH TO SOUTH BONDI (MAP 10-2)

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Cliff-top Remnants – Gaerloch to South Bondi (Map 10-2)							
<b>Remnant Z14a</b>	High	<b>Gaerloch to South Bondi (Map10-2)</b> – Gaerloch Reserve, Tamarama.  Consists of approximately 100m <sup>2</sup> of Sea-cliff Grassland.	<b>Targeted weeding</b> – to control infestations of <i>Coprosma repens</i> , <i>Gazania tomentosa</i> and exotic grasses.  Target annual weeds before seeding to prevent germination.  <b>*Direct seeding or infill planting</b> – within remnant to increase diversity, once weed infestations are contained.	<b>2021 – 2022 FY</b> - 12 visits per year.  <b>Subsequent years</b> - 6 visits per year.	30-70%	Reduce and maintain at <5% weed density.  No reduction in remnant.	Trained bush regenerators.
<b>Remnant Z14b - c</b>	Medium	<b>Gaerloch to South Bondi (Map 10-2)</b> – Gaerloch Reserve, Tamarama.  Consists of a small 22m <sup>2</sup> isolated patch of Sea-cliff Grassland and three small isolated patches of Sea-cliff Herbland dominant in <i>Lobelia anceps</i> across 36m <sup>2</sup> .	<b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination and to ensure no loss of remnant.	Minimum of 6 visits per year.	<5%	Maintain at <5% weed density.  Increased connectivity through buffer maintenance.  No net loss of remnant.	Trained bush regenerators.
<b>Buffer 6</b>	Medium	<b>Gaerloch to South Bondi (Map10-2)</b> – Marks Park.  Consists of fragmented patches of buffer plantings. Still contains stands of woody weeds which have the potential to be removed and revegetated. Good opportunity for habitat creation.	<b>Primary weeding</b> – continue primary weeding targeting infestations of woody weeds such as <i>Coprosma repens</i> and exotic grasses. Begin primary weeding in areas of high resilience or close to remnant Z13e.  <b>Buffer planting</b> – once primary works addressed, future buffer and infill planting where required. Suggestions of coir logging and jute matting to assist with erosion control.  <b>Maintenance weeding</b> – a large portion of the buffer plantings are established and resilient. Target annual weeds before seeding to prevent germination.  <b>Habitat creation</b> – It is recommended that a diversity of at least 20 species if achieved from a variety of grasses and nectar providing species. Introduce sandstone boulders and logs, this will also assist with erosion control.	<b>2021 – 2022 FY</b> – Minimum of 6 visits per year.  <b>Subsequent years</b> – Minimum of 4 visits per year.  Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.	5-30%	Maintain at <5% weed density in areas previously planted.  Reduce weed density to <5% in previously untargeted areas by 2023 – 20234 FY.  Increased connectivity and diversity.  Planting survival rate of >80% 6 months after planting.	Parks staff - although trained bush regenerators are to manage areas of the buffer immediately adjacent to any remnant vegetation.
<b>Remnant Z13h</b>	Medium	<b>Gaerloch to South Bondi (Map 10-2)</b> – Marks Park.  Consist of 136m <sup>2</sup> of Sea-cliff Sedgeland dominant in <i>Carex pumila</i> .	No longer discernible.  <b>Primary weeding</b> – to control infestations of woody weeds such as <i>Coprosma repens</i> .  Will benefit from primary works within the buffer zone, (Buffer 7) and further buffer planting, potential for recovery.	Minimum of 6 visits per year.  Works to occur in line with buffer zone upslope.	>70%	Create connectivity through buffer planting.  Recruitment of native seedbank.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Clifftop Remnants – Gaerloch to South Bondi (Map 10-2)							
			Ensure gap is created and maintained between buffer plantings and remnant.  <b>Infill planting</b> – within remnant to increase diversity.			Planting survival rate of >80% 6 months after planting.	
<b>Remnant Z13d-f</b>	Medium	<b>Gaerloch to South Bondi (Map 10-2 and 10-3)</b> - Bondi Bay / Marks Park  Consists of 480m <sup>2</sup> of Sea-cliff Grassland.	<b>Targeted weeding</b> – to control infestations of <i>Coprosma repens</i> , <i>Gazania tomentosa</i> and exotic grasses.	Minimum of 6 visits per year.	5-30%	Maintain at <5% weed density.  Increased connectivity and diversity.  Recruitment of native seedbank.	Trained bush regenerators.
<b>Remnant Z14b - c</b>	Medium	<b>Gaerloch to South Bondi (Map 10-2)</b> – Gaerloch Reserve, Tamarama.  Consists of a small 22m <sup>2</sup> isolated patch of Sea-cliff Grassland and three small isolated patches of Sea-cliff Herbland dominant in <i>Lobelia anceps</i> across 36m <sup>2</sup> .	<b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination and to ensure no loss of remnant.	Minimum of 6 visits per year.	<5%	Maintain at <5% weed density.  Increased connectivity through buffer maintenance.  No net loss of remnant.	Trained bush regenerators.
<b>Buffer 7</b>	Medium	<b>Gaerloch to South Bondi (Map 10-2)</b> – Marks Park / Mackenzies Point.  Consists of established buffer plantings and weed plumes along the coastal walk and within Marks Park.  A large portion of this buffer is a monoculture of <i>Coprosma</i> .	<b>Contain (high priority)</b> – weed infestations around remnant Z13h.  <b>Buffer planting</b> – once primary works addressed, future buffer and infill planting where required. Suggestions of coir logging and jute matting to assist with erosion control.  <b>Targeted weeding</b> – target annual weeds before seeding to prevent germination. Target exotic grasses to allow for natural regeneration of native groundcovers.  <b>Habitat creation and retention</b> – The monoculture of <i>Coprosma</i> should be contained as habitat. It is recommended in other areas that a diversity of at least 20 species if achieved from a variety of grasses and nectar providing species. Introduce sandstone boulders and logs, this will also assist with erosion control.	<b>2021 – 2023 FYs</b> – Minimum of 4 visits per year.  Buffer planting to occur once weed density is controlled.  Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.	30-70%	Reduce and maintain at <10% weed density by 2025 – 2026 FY.  Establishment of buffer plantings.  Planting survival rate of >80% 6 months after planting.	Parks staff - although, trained bush regenerators are to manage areas of the buffer immediately adjacent to any remnant vegetation.

July 2021







Total Earth Care Pty Ltd

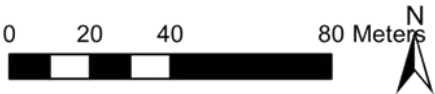
Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>South Clifftop Remnants – Gaerloch to South Bondi (Map 10-2)</b>							
<b>Buffer 8</b>	Low	<b>Gaerloch to South Bondi (Map10-2)</b> – Gaerloch Reserve, Tamarama.  Consists of buffer plantings and the heath vegetation surrounding the Z14 remnants. Also includes Stage 2 and 3 of Gaerloch Reserve steep slope remediation.	<p><b>Targeted weeding</b> – control infestations of <i>Coprosma repens</i>, <i>Gazania tomentosa</i> and exotic grasses.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Buffer planting</b> – infill planting where required to increase connectivity. Extend further buffer planting where stand of <i>Coprosma repens</i> have been removed and no native regeneration. Plant species to consist of low heath shrubs and ground covers to maintain residential view.</p> <p>Suggestions of coir logging and jute matting to assist with erosion control.</p> <p><b>Habitat creation</b> – It is recommended that a diversity of at least 20 species if achieved from a variety of grasses and nectar providing species. Introduce sandstone boulders and logs, this will also assist with erosion control.</p>	<p><b>2021 – 2024 FYs</b> – Minimum of 4 visits per year.</p> <p>Buffer planting to occur once weed density is controlled.</p> <p>Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.</p>	30-70%	<p>Reduce and maintain at &lt;5% weed density by 2025 – 2026 FY.</p> <p>Establishment of buffer plantings.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.
<b>All Zones</b>	Required	Ecological monitoring across all zones.	<p>Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.</p> <p>Monitoring actions include:</p> <ul style="list-style-type: none"> <li>Establish one fixed photo monitoring point within each remnant and buffer zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> <p>Provide annual reports summarising findings to Waverley Council.</p>	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.




**Title: Weeds & Manag. Actions**

Map No: 10-3  
Site: Tamarama to Bronte  
Client: Waverley Council  
Date: January 2021  
Author: G Barron

-  Bushland Remnant  
 Previous Buffer Planting
- Weed % Cover 2020**
-  5% - 30%  
 30% - 70%  
 >70%
- Management Actions**
-  Targeted Weed Control



Data Source:  
Total Earth Care  
Nearmap



total earth care





July 2021

Total Earth Care Pty Ltd

TABLE 10-4 – SOUTH CLIFFTOP REMNANTS – BRONTE TO TAMARAMA – MANAGEMENT ZONES AND MANAGEMENT ACTIONS (MAP 10-3)

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Cliff-top Remnants – Bronte to Tamarama (Map10-3)							
Remnant T5	High	<b>Bronte to Tamarama (Map 10-3) – North of Tamarama Beach.</b>  Consists of 214m <sup>2</sup> of Sea-cliff Sedgeland dominant in <i>Carex pumila</i> .	<b>Targeted weeding</b> – target weed species above the remnant first. Control dominant weed species within remnant such as <i>Asparagus aethiopicus</i> , <i>Gazania tomentosa</i> and exotic grasses. Target annual weeds before seeding to prevent germination.  <b>*Direct seeding</b> – within remnant to increase diversity and stabilisation.  <b>Infill planting</b> – above remnant T5 between public footpaths once weed density has been reduced to extend and protect remnant below.	Minimum of 6 times per year.	30-70%	<50% weed cover by end of 2021 – 2022 FY.  <30% weed cover by end of 2022 – 2023 FY.  <10% weed cover by end of 2023 – 2024 FY.  Main and reduce to <10% weed density.  Planting survival rate of >80% 6 months after planting.	Trained bush regenerators.
Remnant T7	Medium	<b>Bronte to Tamarama (Map 10-3) – South Tamarama Beach.</b>  Consists of a 31m <sup>2</sup> patch of Beach Grassland.	<b>Targeted weeding</b> – control <i>Gazania tomentosa</i> and exotic grasses to ensure no loss of remnant.	Minimum of 4 times per year.	5-30%	Maintain at <10% weed density.  Not likely to improve due to isolation and public access.	Trained bush regenerators.
Remnant T3a-b	Medium	<b>Bronte to Tamarama (Map 10-3) – South Tamarama Beach.</b>  Consists of two patches of Sea-cliff Heath across approximately 500m <sup>2</sup> .	<b>Targeted weeding</b> – control priority weed species such as <i>Asparagus aethiopicus</i> , <i>Gazania tomentosa</i> , <i>Lantana camara</i> and exotic grasses. Target annual weeds before seeding to prevent germination.	Minimum of 4 times per year.	30-70%	<50% weed cover by end of 2021 – 2022 FY.  <30% weed cover by end of 2022 – 2023 FY.  <10% weed cover by end of 2023 – 2024 FY.  Main and reduce to <10% weed density.	Trained bush regenerators.
Remnant Z15a-b	Medium	<b>Bronte to Tamarama (Map 10-3) – Between Tamarama Beach and Bronte Beach located along the Bronte Marine Drive pathway.</b>  Consists of a patch of Sea-cliff Herbland dominant in <i>Lobelia anceps</i>	<b>Targeted weeding</b> – Target annual weeds before seeding to prevent germination. Removal of woody weeds not a priority here due to slope destabilisation.  <b>Containment</b> – control and contain exotic grass encroachment onto remnant patches growing in shallow soils on the rock platforms.	Minimum of 4 times per year.	>70%	Containment of weeds.  No reduction in remnant patches.  <50% weed cover by end of 2023 – 2024 FY.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
South Clifftop Remnants – Bronte to Tamarama (Map10-3)							
		and a patch of Sea-cliff Sedgeland dominant in <i>Ficinia nodosa</i> .  Both patches are suffering from edge effects and low diversity due to isolation.	Buffer planting and revegetation unlikely to be successful due to exposure and shallow soils.  <b>*Consider sandstone capping and direct seeding</b> – to link and buffer remnants T3b, T3a, T7, Z15a and Z15b. This will also create habitat connectivity. This should be staged in sections to test methodology and manage habitat removal and re-establishment.			<30% weed cover by end of 2026 – 2027 FY.  <10% weed cover by end of 2023 – 2024 FY.  Main and reduce to <10% weed density.  Regeneration of native species aided by direct seeding.	
All Zones	Required	Ecological monitoring across all zones.	Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"> <li>Establish one fixed photo monitoring point within each remnant and buffer zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> Provide annual reports summarising findings to Waverley Council.	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

## 11 TAMARAMA MARINE DRIVE



Figure 11-1. Tamarama Marine Drive remnant vegetation

The Tamarama Marine Drive remnant is one of the largest and most diverse patches of native vegetation in the Waverley LGA, with 56 native species recorded in the reserve (SBRC 2020). The remnant vegetation consist of approximately 2800m<sup>2</sup> of Sea-cliff Heath. The remnant patch is of substantial importance due to its size, species diversity within all strata layers and condition. It provides opportunities for long term resilience of the remnant vegetation as the edge effects are minimal. It provides a unique location for fauna to utilise as a haven in the urban landscape.

The remnant patch is located within an area of local heritage significance listed for its natural and scenic coastal landscapes which include the native vegetation and can be enjoyed along the 1930's period scenic drive from Tamarama to Bronte.

### 11.1 FLORA

This patch exhibits the most diverse native species of all patches of remnant vegetation. It contains species such as River Rose (*Bauera rubioides*), Red spider flower (*Grevillea speciosa*) and Wonga Wonga Vine (*Pandorea pandorana*) which are not recorded in any other remnant patch (SBRC 2020). In the majority of core remnant the weed density is less than 5% weed cover with sections in 'good' and 'fair' condition. The core of the vegetation is highly resilient. The considerable size and round shape of this patch enables the core to be protected from weed invasion allowing it to support more complexity in the vegetation structure including canopy trees, mid-storey shrubs and native groundcovers.

The Sea-cliff Heath vegetation typically exists within 50m of sea-cliffs on skeletal sands to sand lenses on sandstone, drainage is often impeded. Characteristic species are *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*, all of which are present in this patch.

Table 11-1 – Tamarama Marine Drive Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Histiopteris incisa</i>	Bat's Wing Fern
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Homalanthus populifolius</i>	Bleeding Heart
<i>Apium prostratum</i> var. <i>filiforme</i>	Sea Celery	<i>Isolepis cernua</i>	Nodding Club-rush
<i>Atriplex semibaccata</i>	Creeping Saltbush	<i>Juncus continuus</i>	Juncus continuus
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Juncus kraussii</i>	Sea Rush
<i>Banksia ericifolia</i>	Heath-leaved Banksia	<i>Kunzea ambigua</i>	Tick Bush
<i>Banksia marginata</i>	Silver Banksia	<i>Lachnagrostis billardierei</i>	Coast Blown-grass
<i>Bauera rubioides</i>	River Rose	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Baumea juncea</i>	Bare Twig-rush	<i>Lepidosperma concavum</i>	Sandhill Sword-sedge
<i>Billardiera scandens</i>	Hairy Apple Berry	<i>Lobelia anceps</i>	Angled Lobelia
<i>Carex pumila</i>		<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Cassytha pubescens</i>	Downy Dodder-laurel	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Centella asiatica</i>	Indian Pennywort	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Scientific Name	Common Name
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Monotoca elliptica</i>	Tree Broom-heath
<i>Cyperus polystachyos</i>	Bunchy Sedge	<i>Opercularia aspera</i>	Coarse Stinkweed
<i>Deyeuxia quadriseta</i>	Reed Bent-grass	<i>Pandorea pandorana</i>	Wonga Wonga Vine
<i>Dianella caerulea</i>	Blue Flax-lily	<i>Paspalidium distans</i>	
<i>Dianella congesta</i>	Beach Flax-lily	<i>Paspalum vaginatum</i>	Salt-water Couch
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Pteris vittata</i>	Chinese Brake
<i>Entolasia stricta</i>	Wiry Panic	<i>Pultenaea linophylla</i>	
<i>Eragrostis brownii</i>	Brown's Lovegrass	<i>Samolus repens</i>	Creeping Brookweed
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Schoenus brevifolius</i>	Zig-zag Bog-rush
<i>Gleichenia dicarpa</i>	Pouched Coral Fern	<i>Sporobolus virginicus</i>	Sand Couch
<i>Gleichenia rupestris</i>	Coral Fern	<i>Tetragonia tetragonioides</i>	New Zealand Spinach
<i>Glochidion ferdinandi</i>	Cheese Tree	<i>Triglochin striata</i>	Streaked Arrowgrass
<i>Grevillea speciosa</i>	Red Spider Flower	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Hakea gibbosa</i>	Needlebush	<i>Xanthosia pilosa</i>	Woolly Xanthosia
<i>Hakea teretifolia</i>	Needlebush	<i>Zoysia macrantha</i>	Prickly Couch

## 11.2 FAUNA

This patch provides one of the larger extents of habitat for fauna within the LGA. It is also in close proximity to significant vegetated area in Tamarama Park to the north, providing a larger refuge for native fauna. Overall the site displays high habitat complexity, floral diversity and is in close proximity to Tamarama Gully. The thick shrubs and canopy trees provide habitat for arboreal mammals such as the Common Brushtail Possum (*Trichosurus vulpecula*) and Common Ringtail Possum (*Pseudocheirus peregrinus*). The presence of many flowering species including various Banksias and Melaleucas provides foraging and sheltering habitat for small bird and mammal species including the New Holland Honeyeater (*Phylidonyris novaehollandiae*), Superb Fairy-wren (*Malurus cyaneus*) and the Grey-headed Flying-fox (*Pteropus poliocephalus*) (Vulnerable under the BC Act and EPBC Act) which has been recently recorded on the site (DPIE 2020). The calls of several amphibian species can be heard in this patch including the Bleating Tree Frog (*Litoria dentata*) and the Eastern Dwarf Tree Frog

(*Litoria fallax*) (AMBS 2010, ALA 2020). However the bushland is largely isolated with limited connectivity to surrounding bushland.

### MANAGEMENT ACTIONS

#### 11.2.1 Previous works

The success of current management actions for this remnant site are evident (Southern Habitat 2019). Weeding has been recently undertaken in the remnant patch targeting *Ipomoea indica*, *Anredera cordifolia*, *Acetosa sagittata* and *Asparagus aethiopicus*. Steep areas have been re-terraced, mulched and planted to minimise erosion. Revegetation of buffer areas should continue, as this will assist in protecting the remnant from further weed encroachment and provide additional habitat for fauna.

#### 11.2.2 Key management actions

Management priority of this site is high as the core vegetation should be maintained in good condition. Key management actions generally include:

- **Targeted weeding:** Continued bush regeneration targeting re-occurring exotic species and managing abundant exotics, particularly in the good condition core vegetation (T1). Key target species include *Ehrharta erecta*, *Bidens pilosa*, *Conyza spp.*, *Ipomoea indica* and *Senna pendula* var. *glabrata*.
- **Buffer planting:** Install terracing or coir logs and leaf mulch along the length of the slope prior to installation of buffer plantings and mulching. Removal of high density weeds in buffer areas must be staged as they provide habitat to small birds and reptiles. New plantings must be well established to replace weed habitat before clearing additional areas.
- **Maintenance weeding:** Target annual weeds before seeding to prevent germination.
- **Preserve rocky areas and retention of logs** – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species. Any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species this is of particular importance within the T1 remnant of Buffer 3.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

Alternative restoration methods that could be used at this site include trialling flame weeding in remnants to treat exotic grasses and promote native regeneration from the seedbank.

July 2021

Total Earth Care Pty Ltd

Additionally, scarification of the soil and pruning in areas of dense Banksia canopy will also assist in promoting native regeneration. As an alternative option to planting out Buffer 5 after primary weed treatment, this area could be considered as a recipient site for soil seedbank translocation if a suitable donor site is available.

The weed densities and management actions for the different areas are shown in Map 11-1 and provided in Table 11-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

### 11.3 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The management at this site is expected to result in an improvement to the condition of the vegetation, particularly in the core (T1). The provision of targeted weeding and buffer planting is expected to improve the condition of the core remnant vegetation.

The core vegetation (T1) will likely be able to be restored to 'good' condition by 2040 as it is already has low weed density and has a high resilience. The revegetation and management of the buffers are likely to increase the resilience and condition, as it will reduce the stress from the high weed density vegetation in the south (Buffer 4 and Buffer 5).

The use of a combination of hand removal and herbicide spraying is recommended. The use of herbicide can likely be avoided within the core (T1) area, however may be required along the edges to achieve good condition.



**Title: Weeds & Manag. Actions**


Map No: 11-1

Site: Tamarama Marine Dr





Client: Waverley Council

Date: January 2021






Author: G Barron

 Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover 2020**

 <5%  
 5% - 30%  
 30% - 70%  
 >70%

**Management Actions**

 Buffer Planting  
 Buffer Reveg - Priority 1  
 Buffer Reveg - Priority 2  
 Contain Runoff  
 Infill Planting  
 Targeted Weed Control



0 5 10 20 Meters



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 11-2 – TAMARAMA MARINE DRIVE MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Tamarama Marine Drive</b>							
<b>Remnant T1 Core</b>	High	Core of the bushland remnant. This area is mostly free of weeds. Some areas of ground cover contain patches of <i>Ehrharta erecta</i> and herbaceous species including <i>Bidens pilosa</i> and <i>Conyza spp.</i>  <i>Commelina cyanea</i> , whilst native, has dominated some areas of ground cover which may be preventing recruitment of other natives from the seedbank.	<b>Targeted weeding</b> - continued bush regeneration targeting re-occurring exotic species and managing abundant exotics.  Weed control should work from the areas of low density weeds towards boundaries of other zones with a higher abundance of weeds. Exotic vines should be targeted, followed by woody weeds and smothering ground covers.  <b>Control of dominant natives</b> – target native ground covers including <i>Commelina cyanea</i> to encourage recruitment of the native seedbank.  <b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.  <b>Retention of logs</b> – any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.	Minimum of 6 times a year with a minimum of 3 visits in spring/summer.	<5%	Zone maintained at <5% weed cover.  Recruitment of native seedbank in areas previously dominated by <i>Ehrharta erecta</i> and <i>Commelina cyanea</i> .  Planting survival rate of infill planting if required >80% 6 months after planting.	Trained bush regenerators.
<b>Remnant T1 South</b>	High	Consists of the transitional zone of the bushland remnant between the good areas of the remnant and the high density weed zones outside the remnant (Buffer 4 and 5). There is some encroachment of <i>Ipomoea indica</i> and <i>Senna pendula</i> var. <i>glabrata</i> in this zone.	<b>Targeted weeding</b> – trained bush regenerator to target exotic vines and woody weeds working from the boundary of this zone towards the poorer condition Buffer 5.  <b>Infill planting</b> – along the edges would assist the expansion of the remnant, particularly if no natural recruitment along edges is noted after weed removal.	Minimum of 6 times a year with a minimum of 3 visits in Spring/summer.	5-30%	<10% weed cover by end of 2021 – 2022 FY.  <5% weed cover by end of 2022 – 2023 FY.  Maintain at <5% weed cover ongoing.	Trained bush regenerators.
<b>Remnant T1 Western Edge</b>	High	This zone consists of the western edge of the T1 remnant core and has suffered edge effects from the clearing and planting of buffer planting. Weed species in this zone include <i>Acetosa sagittata</i> , <i>Anredera cordifolia</i> , <i>Solanum nigrum</i> and <i>Ricinus</i>	<b>Targeted Weeding</b> – trained bush regenerator to target exotic vines as a priority working from the areas of low weed density outwards.  <b>Infill planting</b> – along the edges would assist the expansion of the remnant, particularly if no	Minimum of 6 times a year with a minimum of 3 visits in Spring/summer.	30-70%	<5% weed cover in by end of 2021 – 2022 FY.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Tamarama Marine Drive</b>							
		<i>communis</i> . Buffer plantings have developed well in this area.	natural recruitment along edges is noted after weed removal.				
<b>Buffer 4</b>	High	<p>This zone was previously marked for buffer revegetation which is currently underway. The vegetation in this zone has been cleared including Coral Trees and the site has had some terracing completed to prepare for planting.</p> <p>Some weed species are starting to occur as a result of the clearing, which include: <i>Ricinus communis</i>, <i>Ipomoea indica</i> and <i>Bidens pilosa</i>. Stormwater from a neighbouring property was observed running directly into this zone, and runoff will need to be addressed in order to ensure the survival of the buffer plantings.</p>	<p><b>Control runoff</b> – address stormwater issue from adjacent property prior to planting. If stormwater is not contained and continues to enter the site it should be addressed using check dams made of coir logs to disperse the water flow and prevent erosion.</p> <p><b>Buffer planting</b> - install terracing or coir logs and leaf much along the length of the slope. Allow initial flush of exotics seeds to germinate, treat and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views. Water in and maintain to establish.</p> <p>Ensure a gap is maintained between buffer 4 and remnant vegetation to allow for the expansion of the remnant. This could be assisted by infill planting along the remnant edge.</p> <p><b>Targeted weeding</b> - address the current flush of weeds and monitor Coral Tree debris for reshooting.</p>	<p>Weed treatment and preparation for planting to begin as soon as possible.</p> <p>Stormwater issue to be addressed prior to planting.</p>	30-70%	<p>&lt;5% weed cover by end of 2021 – 2022 FY.</p> <p>Planting completed by end of 2021 – 2022 FY.</p> <p>Installation of terracing or coir logs after clearing weeds.</p> <p>Establishment of buffer plantings</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p> <p>Substitute planting if required.</p>	Parks staff or trained bush regenerators.
<b>Buffer 1</b>	High	Planted buffer zone north of the core remnant, mostly free of weed species.	<b>Maintenance weeding</b> – resilience of this zone is high and therefore a key priority is to target re-occurring weed species, vines and wood weeds.	4 times a year with a minimum of 2 visits in spring/summer.	>5%	Zone maintained at <5% weed cover.	Parks staff or trained bush regenerators.
<b>Buffer 3</b>	High	Planted buffer zone has developed well and provides a layer of dense native shrubs with a low weed presence. Some weed species were identified in this zone including <i>Anredera cordifolia</i> , <i>Ipomoea indica</i> and <i>Bidens pilosa</i> .	<p><b>Targeted weeding</b> – resilience of this zone is high and therefore a high priority to address weed recruitment particularly <i>Anredera cordifolia</i> and <i>Ipomoea indica</i>.</p> <p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as</p>	4 times a year with a minimum of 2 visits in spring/summer.	5-30%	<p>&lt;5% weed cover by end of 2021 – 2022 FY.</p> <p>Maintained at &lt;5% weed cover ongoing.</p>	Parks staff or trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Tamarama Marine Drive</b>							
			these provide basking opportunities and habitat for a number of reptile species.  <b>Retention of logs</b> – any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.				
<b>Remnant T1 North</b>	High	Consists of the poorer bushland north of the T1 core remnant. Intrusion of weed species amongst the areas of good condition remnant including <i>Ipomoea indica</i> and <i>Bidens pilosa</i> .	<b>Targeted weeding</b> – to prevent weed species encroaching on the surrounding areas of good condition remnant, targeted weed control should address vine species is a priority, followed by the treatment of woody weeds and smothering ground covers.	4 times a year with a minimum of 2 visits in spring/summer.	30-70%	<20% weed cover by end of 2021 – 2022 FY.  <5% weed cover by end of 2022 – 2023 FY.  Maintain at <5% weed cover ongoing.	Trained bush regenerators.
<b>Remnant T1 Eastern Edge</b>	Medium	This zone acts as a buffer from edge effects for the core of the remnant from Tamarama Marine Drive. These edges contain mostly <i>Ehrharta erecta</i> , herbaceous and perennial weeds. Some <i>Asparagus aethiopicus</i> is present.	<b>Targeted weeding</b> – trained bush regeneration to target exotic vines and <i>Asparagus aethiopicus</i> . Continue bush regeneration tasks outlined for T1 Core.	Minimum of 4 times a year with a minimum of 2 visits in spring/summer.	>70%	<50% weed cover by end of 2023 – 2024 FY.  <30% weed cover by end of 2024 – 2025 FY.  <10% weed cover by end of 2025 – 2026 FY.  Maintained at <10% weed cover ongoing.	Trained bush regenerators.
<b>Buffer 5</b>	Low	Buffer 5 consists of high density weeds which have smothered native species. <i>Ipomoea indica</i> , <i>Lantana camara</i> and <i>Senna pendula</i> var. <i>glabrata</i> dominate this zone. <i>Lagunaria patersonia</i> dominates the canopy. <i>Banksia integrifolia</i> are also present in this zone but are smothered by <i>Ipomoea indica</i> . There are occurrences of <i>Tropaeolum</i> spp. and <i>Hydrocotyle bonariensis</i> in this area. Resilience of this zone is low and the seed bank is likely depleted of native species.	<b>Targeted weeding</b> – bush regeneration to target vines, woody weeds and herbaceous annuals before seeding to control germination.  Target vine species smothering natives.  <b>Buffer planting</b> – install terracing or coir logs and leaf mulch along the length of the slope. Allow initial flush of exotics seeds to germinate, treat and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views. Water in and maintain to establish.  <b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as	Start 3-4 years after planting is completed in Zone F. Zone F should be well established prior to cleared high density weeds from Zone E.  Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the	>70%	Installation of terracing or coir logs after clearing weeds.  Establishment of buffer plantings.  Planting survival rate of >80% 6 months after planting.  Substitute planting if required.	Parks staff or trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Tamarama Marine Drive</b>							
			these provide basking opportunities and habitat for a number of reptile species.	establishment phase (6 weeks) and then as required.			
<b>Buffer 2</b>	Low	This zone forms a buffer to the remnant bushland and is mostly made up of planted <i>Lophostemon confertus</i> and herbaceous weeds.	<b>Targeted weeding</b> – continue targeted weeding as described for T1. Weed control works should work from the boundary of T1 Core and areas of low density weeds towards the northern edges of this zone.	Minimum of 3 site visits per year.	30-70%	<10% weed cover by end of 2021 – 2022 FY. <5% weed cover by end of 2022 – 2023 FY. Maintain at <5% weed cover ongoing.	Parks staff or trained bush regenerators.
<b>All Zones</b>	Required	Ecological monitoring across all zones.	Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"> <li>Establish one fixed photo monitoring point within each remnant and buffer zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> Provide annual reports summarising findings to Waverley Council.	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.

12 CALGA RESERVE & BRONTE CUTTING



Figure 12-1. Vegetation at the north of Calga Reserve

The Calga Reserve and Bronte Cutting exhibits scattered remnant vegetation along the sandstone cliff-tops between Bronte Baths in the north and Calga Reserve in the south. The site is made up of four separate remnant patches of Sea-cliff Heath and Sea-cliff Grassland which are largely isolated to thin strips along the cliff edge.

The site is of local heritage significance, as it is listed for its outstanding sandstone cliffs and rock shelving of both natural and scenic value. The site provides a vantage point for spectacular views of the headlands to the north and south and views of Waverley Cemetery.

12.1 FLORA

Four remnant patches remain at this site. One small 2m<sup>2</sup> patch was previously mapped within Calga Reserve, however was not discernible at the time of the survey. This patch has previously been recorded as the only vegetation in the LGA to contain the Lemon Flax Lily (*Thelionema umbellatum*). The northern most remnant patch of Sea-cliff Grassland is located on a sandstone shelf above the Bronte Baths. The vegetation community typically consists of characteristic species *Paspalum vaginatum*, *Sporobolus virginicus* and *Zoysia macrantha*, occurring within 10m of sea-cliffs on skeletal sand to sand lenses on sandstone, and can often include areas of impeded drainage. This patch displays moderate density of weeds including *Asparagus spp.* It is bound to the west by a strip of buffer plantings (SBRC 2020).

Two patches of Sea-cliff Heath stretch along the cliff edge. Sea-cliff Heath vegetation typically exists within 50m of sea-cliffs on skeletal sands to sand lenses on sandstone and drainage is often impeded. Characteristic species are *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*.

All patches display low weed density, however are suffering from low floristic diversity due to pressures from urbanisation and fragmentation. Future bush regeneration works are to focus on the buffer areas to contain weed plumes and prevent the encroachment and further loss of the remnant vegetation.

Table 12-1 – Calga Reserve and Bronte Cutting Bushland Remnants Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Gleichenia rupestris</i>	Coral Fern
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Isolepis cernua</i>	Nodding Club-rush
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Lachnagrostis billardiarei</i>	Coast Blown-grass
<i>Atriplex semibaccata</i>	Creeping Saltbush	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Leptospermum laevigatum</i>	Coast Teatree
<i>Carex pumila</i>		<i>Lobelia anceps</i>	Angled Lobelia
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Cyperus polystachyos</i>	Bunchy Sedge	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Deyeuxia quadriseta</i>	Reed Bent-grass	<i>Paspalum vaginatum</i>	Salt-water Couch



July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Scientific Name	Common Name
<i>Dianella congesta</i>	Beach Flax-lily	<i>Psilotum nudum</i>	Skeleton Fork-Fern
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Thelionema umbellatum</i>	Lemon Flax Lily
<i>Eragrostis brownii</i>	Brown's Lovegrass	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Xanthosia pilosa</i>	Woolly Xanthosia
<i>Gleichenia dicarpa</i>	Pouched Coral Fern		

## 12.2 FAUNA

The Clifftop is exposed to a high degree of strong, salty winds. Therefore, the Sea-cliff Heath and buffer plantings provide important sheltering habitat for reptiles and small birds. The open rock platforms provide an abundance of basking and foraging areas for native skinks including the Dark-flecked Garden Sunskink (*Lampropholis delicata*). The flowering shrubs attract numerous nectarivorous birds including the Red Wattlebird (*Anthochaera carunculata*) and the New Holland Honeyeater (*Phylidonyris novaehollandiae*) and provides habitat for species that require the dense shrub including the Variegated Fairy-wren (*Malurus lamberti*) and Silvereye (*Zosterops lateralis*).

The cliff line itself is likely to be used by nesting swallows and martins which are social species foraging on insects in large flocks. Overhangs and crevices are also likely to be utilised by roosting microbats which also utilise man-made structures such as culverts and bridges.

## 12.3 MANAGEMENT ACTIONS

### 12.3.1 Previous works

Weed control in Calga Reserve is well advanced and plantings are well established, and serve for providing pockets of microhabitat for fauna and increasing the species diversity of the vegetation (SBRC 2018). Weed works are necessary to maintain the integrity of the vegetation and to maintain the edges of the buffer plantings. Targeted weeding of *Asparagus aethiopicus* and *Gazania tomentosa* has been successfully undertaken at the Bronte cutting. However, both species are still present amongst remnant native vegetation on cliff ledges that require rope access.

### 12.3.2 Key management actions

Management priority of this site is high, as it comprises a site with multiple remnant patches that are vulnerable to being lost. Due to the small size of several of the patches (B8, B7, Z19),

the management of the surrounding buffers are a priority in order to preserve the remnant patches. Key management actions generally include:

- **Maintenance weeding:** Elimination of *Asparagus aethiopicus* and *Erythrina crista-galli*. Targeting herbaceous weeds and vines across most of the site.
- **Rope works:** Target *Asparagus aethiopicus* and *Gazania tomentosa* amongst the remnant native vegetation on cliff ledges that require rope access in B1 and B2.
- **Infill planting:** to be used in buffers where dominant natives are controlled. Additional mulch would assist in preventing weed recruitment.
- **Preserve rocky areas** – There is a large number of rocky sandstone areas across this site. It is important that these are maintained as they provide basking opportunities and habitat for a number of reptile species. Weeds should be prevented from overgrowing rocky outcrops and platforms.
- **Prevent public access** – Remnants B1 and B2 and buffers 3.1 and 3.2 are along the cliff edge above the cutting and provide a good lookout spot of the ocean. As a result vegetation in these areas is vulnerable to trampling by tourists. Fencing should be installed to prevent access along with educational signage advising of the importance of the remnant vegetation within the Waverley LGA. Fencing should incorporate remnants B1 and B2 and Buffers 3.1 and 3.2.
- **Ecological monitoring:** Using photo points and species counts. Ecological monitoring will be reported at regular intervals and provide data to support the meeting of goals.

Alternative methods including sandstone capping or soil seedbank translocation could be used at Calga Reserve for the proposed Buffer 7. If using sandstone capping both direct seeding and planting could be utilised. See Appendix A.

The weed densities and management actions for the different areas are shown in Map 12-1 and Map 12-2 and provided in Table 12-2. Detailed methodologies for the recommended management actions are provided in Appendix A for more details on the implementation of soil seedbank translocation and sandstone capping.

## 12.4 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The management at this site would preserve the existing good condition remnant vegetation (B2) and would further assist in preserving the small remnant patches (B8, B7, Z19). The remnant patches B2 and B8 can likely be maintained in 'good' condition by 2040. Additionally, with adequate weeding and management of the associated buffers, it is possible that

*July 2021**Total Earth Care Pty Ltd*

remnant patch B1, Z19 and B7 could also reach 'good' condition. For each of these remnant patches, management of the surrounding buffer is an important action as the patches themselves have low diversity and are too small to adequately manage alone. This requires maintenance weeding and ecological monitoring.

The management of the remnant patch B1 is of high priority to ensure the remediation of the large patch which provides important connectivity within the site. The management of the associated buffer (3.2) will support the improvement of remnant patch B1.

The improvement of Buffer 1 and Buffer 2 would support the expansion of the connectivity corridor in the northern section of the site. The planting in these buffers would encourage complexity in the vegetation and provide better habitat for fauna.



**Title: Weeds & Manag. Actions**



Map No: 12-1

Site: Calga Reserve &  
Bronte Cutting (North)





Client: Waverley Council

Date: January 2021





Author: G Barron

-  Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover 2020**

-  <5%  
 5% - 30%  
 30% - 70%  
 >70%

**Management Actions**

-  Connectivity Planting  
 Infill Planting  
 Primary Weed Works  
 Targeted Weed Control



Data Source:  
Total Earth Care  
Nearmap





**Title: Weeds & Manag. Actions**



Map No: 12-2

Site: Calga Reserve &  
Bronte Cutting (South)




Client: Waverley Council

Date: May 2021





Author: G Barron

-  Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover 2020**

-  <5%  
 5% - 30%  
 >70%

**Management Actions**

-  Buffer Planting  
 Primary Weed Works  
 Targeted Weed Control  
 Create Delineation



0 5 10 20 Meters



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 12-2 – CALGA RESERVE &amp; BRONTE CUTTING MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Calga Reserve and Bronte Cutting</b>							
<b>Remnant B2</b>	High	Consists of a 1018m <sup>2</sup> patch of Sea-cliff Heath fringing the rock platform between the cliffs and Calga Place.	<p><b>Maintenance Weeding</b> – elimination of <i>Asparagus aethiopicus</i> and <i>Ehrharta erecta</i>. Target herbaceous weeds and exotic vines.</p> <p><b>Rope works</b> – <i>Asparagus aethiopicus</i> and <i>Gazania tomentosa</i> are under control across accessible rock ledges but are still present amongst remnant native vegetation on cliff ledges which require rope access.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p> <p><b>Prevent public access</b> – this remnant is at a good lookout spot of the ocean and is vulnerable to trampling by tourists. Fencing should be installed to prevent access along with educational signage advising of the importance of the remnant vegetation within the Waverley LGA. Fencing should incorporate remnants B1 and B2 and Buffers 3.1 and 3.2.</p>	<p>Ropes works 4 times per year.</p> <p>Minimum of 8 site visits per year.</p>	<5%	Maintain at <5% weed density.	Trained bush regenerators.
<b>Remnant B1</b>	High	Consists of a 91m <sup>2</sup> patch of Sea-cliff Heath fringing the rock platform between the cliffs and Calga Place.	<p><b>Targeted weeding</b> – control of <i>Hydrocotyle bonariensis</i> and exotic vines.</p> <p><b>Ropes work</b> – <i>Asparagus aethiopicus</i> and <i>Gazania tomentosa</i> are under control across accessible rock ledges but are still present amongst remnant native vegetation on cliff ledges which require rope access.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p> <p><b>Prevent public access</b> – this remnant is at a good lookout spot of the ocean and is vulnerable to trampling by tourists. Fencing should be installed to prevent access along with educational signage advising of the importance of the remnant vegetation within the Waverley LGA. Fencing should incorporate remnants B1 and B2 and Buffers 3.1 and 3.2.</p>	<p>Ropes work twice per year.</p> <p>Minimum of 6 site visits per year.</p>	<5%	Maintain at <5% weed density.	Trained bush regenerators.
<b>Buffer 3.2</b>	High	Consists of buffer plantings between the B1 remnant and Calga Reserve.	<p><b>Maintenance Weeding</b> – maintain good condition, targeting annual weeds through hand weeding techniques and spot spraying.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p> <p><b>Prevent public access</b> – this buffer planting area is at a good lookout spot of the ocean and is vulnerable to trampling by tourists. Fencing should be</p>	<p>8 visits per year with a minimum of 5 in spring/summer.</p>	<5%	Maintain at <5% weed density.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Calga Reserve and Bronte Cutting</b>							
			installed to prevent access along with educational signage advising of the importance of the remnant vegetation within the Waverley LGA. Fencing should incorporate remnants B1 and B2 and Buffers 3.1 and 3.2.				
<b>Buffer 2</b>	Medium	This buffer is directly adjacent to the remnant B8 vegetation and consists of native and exotic plantings along Calga Place.	<p><b>Control of dominant natives (High priority)</b> – target planted <i>Wollastonia uniflora</i>, particularly in the southern end of the zone, which has become dominant and is now smothering other natives. The control and eradication of this species will result in the increased germination and diversity of natives. Replace with small shrub species. See Appendix F for recommended species.</p> <p><b>Infill planting</b> – where dominant natives have been control. Mulch will also assist in reducing weed recruitment in these areas.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p> <p><b>Maintenance weed works</b> – control herbaceous weeds within the previously burnt area and to target any germination of <i>Erythrina crista-galli</i>.</p> <p><b>Targeted weeding</b> – target annual weeds before seeding to prevent germination. Continuation of thinning of <i>Strelitzia nicolai</i>.</p> <p><b>Connectivity planting</b> – future buffer and infill planting where required. Suggestion of coir logging and jute matting to assist with erosion control, over the existing terracing methodology that has previously been used. Buffer 2 should be extended north to connect to buffer 1. This will improve fauna habitat connectivity.</p> <p>Eliminate pedestrian access through plantings in order to prevent the trampling of natives and the spread of weed propagules.</p> <p><b>Ropes work (low priority)</b> – control <i>Lantana camara</i> and <i>Asparagus aethiopicus</i> on cliff edges. Care should be taken when treating woody weeds along the cliff edge as these may be providing stabilisation and preventing erosion. Removal should be staged.</p>	<p>Minimum of 12 site visits per year.</p> <p>Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.</p>	>70%	<p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Recruitment of native seedbank.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.
<b>Buffer 1</b>	Medium	The buffer vegetation is north of the B8 remnant made up of landscape plantings fringing the public pathways along Calga Place.	<p><b>Targeted weeding</b> – target annual weeds before seeding to prevent germination. Continuation of thinning of <i>Strelitzia nicolai</i>. Targeted weeding to eradicate <i>Hydrocotyle bonariensis</i>.</p>	<p>Minimum of 8 visits per year.</p> <p>Plantings are best planted during growing season</p>	30-70%	<p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p>	Parks staff.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Calga Reserve and Bronte Cutting</b>							
				(Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.		<10% weed cover by end of 2025 – 2026 FY. Maintained at <10% weed cover ongoing. Planting survival rate of >80% 6 months after planting.	
<b>Buffer 8</b>	Medium	Consists of a highly weed infested patch of vegetation north of the C2 remnant. Works to contain weeds (retain some as habitat) and reduce the risk of encroachment into the remnant.	<b>Containment (High priority)</b> – bush regeneration to contain weed infestations.  <b>Ropes work</b> – target infestations of <i>Coprosma repens</i> for containment as habitat and stabilization. Work towards eradicating <i>Asparagus aethiopicus</i> on the cliff edge.  <b>Buffer planting</b> – potential for buffer planting to increase diversity, aesthetics and stability.	>70%	Minimum of 8 visits per year.  Ropes work 4 times per year.	Recruitment of native seedbank.  <50% weed cover by the end of 2023 – 2024 FY.  <30% weed cover by the end of 2024 – 2025 FY.  <10% weed cover by the end of 2025 – 2026 FY. Maintained at <10% weed cover ongoing. Planting survival rate of >80% 6 months after planting.	Trained bush regenerators.
<b>Remnant B8</b>	Medium	Consists of a 75m <sup>2</sup> patch of Sea-cliff grassland fringing the rock shelf above Bronte Baths.	<b>Ropes work (low priority)</b> – <i>Asparagus aethiopicus</i> and <i>Gazania tomentosa</i> are under control across accessible rock ledges but are still present amongst remnant native vegetation on cliff ledges which require rope access.  <b>Maintenance Weeding</b> – control of <i>Asparagus aethiopicus</i> , <i>Acetosa sagittata</i> and other herbaceous weeds within native remnants on cliff ledges has been successful to date and only requires maintenance.  <b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.	Ropes works twice per year.  Minimum of 8 visits per year.	5-30%	Reduce weed density to <20% within first year of weed treatment, <10% within the first 2 years and <5% within the first 3 years. Maintain at <5% ongoing.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Calga Reserve and Bronte Cutting</b>							
			<b>Prevent public access</b> – this remnant is at a good lookout spot of the ocean and is vulnerable to trampling by tourists. Fencing should be installed to prevent access along with educational signage advising of the importance of the remnant vegetation within the Waverley LGA.				
<b>Buffer 3.1</b>	Medium	Consists of weedy thickets of vegetation between the remnants B1 and B2 on the cliff line.	<p><b>Targeted weeding</b> – control and contain to ensure no encroachment on remnant vegetation patch.</p> <p><b>Prevent public access</b> – this buffer planting area is at a good lookout spot of the ocean and is vulnerable to trampling by tourists. Fencing should be installed to prevent access along with educational signage advising of the importance of the remnant vegetation within the Waverley LGA. Fencing should incorporate remnants B1 and B2 and Buffers 3.1 and 3.2.</p>	Minimum of 6 visits per year.	70%	<p>&lt;50% weed cover by end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p>	Trained bush regenerators.
<b>Buffer 4</b>	Medium	Consists of buffer plantings immediately west of the public walkway as well as an isolated area of buffer planting within Calga Reserve.	<p><b>Create delineation</b> - create a buffer between the turf and areas of buffer planting to reduce and control the encroachment of grasses. Mulch edge, spray edge or a combination with permanent edging is recommended. For spray edge create a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand. Permanent delineation is beneficial for preventing pedestrian access.</p> <p><b>Maintenance Weeding</b> – maintain condition, targeting annual weeds through hand weeding techniques and spot spraying.</p> <p><b>Control of dominant natives (High priority)</b> – target planted <i>Wollastonia uniflora</i>, particularly in the southern end of the zone, which has become dominant and is now smothering other natives. The control and eradication of this species will result in the increased germination and diversity of natives. Replace with small shrub species. See Appendix F for recommended species.</p>	Minimum of 8 visits per year.	5-30%	Reduce weed density to <20% by the end of 2021 – 2022 FY, <10% by the end of 2022 – 2023 FY and <5% by the end of 2023 – 2024 FY. Maintain at <5% ongoing.	Trained bush regenerators.
<b>Buffer 5</b>	Medium	Consists of a large planted buffer around B7 remnant. The vegetation is largely low heath with some semi-mature <i>Banksia integrifolia</i> present.	<b>Create delineation</b> – create a buffer between the turf and areas of buffer planting to reduce and control the encroachment of grasses. Spray edge or a combination with permanent edging is recommended. For spray edge create a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand. Permanent delineation is beneficial for preventing pedestrian access.	Minimum of 8 visits per year.	<5%	Maintain at < 5% weed density.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Calga Reserve and Bronte Cutting</b>							
			<b>Maintenance weeding</b> – weeding to target and control herbaceous weeds and <i>Hydrocotyle bonariensis</i> . No woody weeds are present.  <b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.				
<b>Buffer 6</b>	Medium	Located north-west of the Calga Reserve between Calga Place, consisting of a small strip of <i>Gleichenia dicarpa</i> growing on intermittently moist sandstone.	<b>Targeted weeding</b> – target annual weeds before seeding to prevent germination. Hand weeding to target <i>Ageratina adenophora</i> and <i>Asparagus aethiopicus</i> . Spot spraying of grass weeds. The control and eradication of these invasive species should result in the increased germination of natives.	Minimum of 8 visits per year.	>70%	Maintenance of buffer edge.  <20% weed cover by the end of 2021 – 2022 FY.  <5% weed cover by the end of 2022 – 2023 FY.  Maintain at <5% weed cover ongoing.	Trained bush regenerators to manage areas adjacent to the remnant. Parks staff to manage areas further upslope.
<b>Buffer 7</b>	Medium	New buffer planting areas to be installed by Council along Calga Avenue and the southern boundary of Calga Reserve with Waverley Cemetery.	<b>Buffer planting</b> – future buffer and infill planting where required. Suggestion of coir logging and jute matting to assist with erosion control. Mulching?  <b>Create delineation</b> – create and maintain delineation between new buffer plantings and turf. Spray edge or a combination with permanent edging for example plastic edging or wooden sleepers. For spray edge create a buffer area of approximately 50 – 200cm sprayed around the buffer patches with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand.  *Consider using alternative methods such as sandstone capping and soil seedbank translocation if a suitable donor site is available.	Minimum of 8 visits per year.  Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.	-	Maintenance of buffer edge.  Planting survival rate of >80% 6 months after planting.	Parks staff.
<b>Remnant B7</b>	Low	Consists of a small 2m <sup>2</sup> remnant patch of Sea-cliff Sedgeland. However, has been described as “Too disturbed to discern” (SBRC 2020).	<b>Monitoring</b> – as this remnant is completely isolated and displays very low diversity, monitoring to occur during works within the surrounding buffer to ensure no loss of remnant.  The remnant vegetation will benefit from weed control in the surrounding buffer vegetation.	Monitoring to occur during Buffer 5 site visits.	<5%	No net loss of remnant vegetation.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>Calga Reserve and Bronte Cutting</b>							
<b>Remnant Z19</b>	Low	Located north-west of the Calga Reserve between Calga Place, consisting of a small strip of <i>Gleichenia dicarpa</i> growing on intermittently moist sandstone.	<b>Targeted weeding</b> – target annual weeds before seeding to prevent germination. Hand weeding to target <i>Ageratina adenophora</i> and <i>Asparagus aethiopicus</i> . Spot spraying of grass weeds. The control and eradication of these invasive species will result in the increased germination of natives.	Minimum of 8 times a year with a minimum of 2 visits in spring/summer.	>70%	Maintenance of buffer edge.  <20% weed cover by the end of 2021 – 2022 FY.  <5% weed cover by the end of 2022 – 2023 FY.  Maintain at <5% weed cover ongoing.	Trained bush regenerators.
<b>All Zones</b>	Required	Ecological monitoring across all zones.	Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"> <li>Establish one fixed photo monitoring point within each remnant and buffer zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> Provide annual reports summarising findings to Waverley Council.	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A		Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

### 13 WAVERLEY CEMETERY CLIFFS



Figure 13-1. Remnant vegetation below Waverley Cemetery

The Waverley Cemetery Cliffs consists of five patches of remnant vegetation along the sandstone cliff-tops to the east of the Waverley Cemetery. The vegetation comprises three communities including: Sea-Cliffs Sedgeland, Sea-cliff Heath and Sea-cliff Herbland (SBRC 2020). The Sea-cliff Herbland is diverse for a small location. These patches are isolated from others along the coastline.

Waverley Cemetery Cliffs are within an area of local and State heritage significance, as a unique Victorian-era cemetery which demonstrates the historic and contemporary social character of Sydney against a dramatic natural landscape.

### 13.1 FLORA

A good condition patch of Sea-cliff Heath is located at the north of the site. This community is an open to closed low growing community within 50m of sea cliffs on skeletal sand to sand lenses on sandstone with impeded drainage. Typical remnant species including *Baeckea imbricata*, *Banksia ericifolia*, *Melaleuca armillaris*, *Melaleuca nodosa* and *Westringia fruticosa*. This patch is protected by a long section of buffering vegetation below the boardwalk.

A small patch of Sea-cliff Herbland is positioned under the boardwalk near the north of the site which is of 'fair' condition.

The remaining three patches comprise of Sea-cliff Sedgeland. This community is dominant with *Ficinia nodosa* and *Baumea juncea* and is located within 20m of the sea cliffs. It is an open canopy growing on skeletal sand to sand lenses on sandstone, often on modified soils (SBRC 2020). These patches are in poor condition due to the infestations of *Ipomoea cairica* and *Asparagus aethiopicus*.

Table 13-1 – Waverley Cemetery Cliffs Bushland Remnants Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Adiantum aethiopicum</i>	Common Maidenhair	<i>Lachnagrostis filiformis</i>	Blown Grass
<i>Atriplex semibaccata</i>	Creeping Saltbush	<i>Lobelia anceps</i>	Angled Lobelia
<i>Baeckea imbricata</i>	Heath Myrtle	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Baumea juncea</i>	Bare Twig-rush	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Carpobrotus glaucescens</i>	Pigface	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Paspalum vaginatum</i>	Salt-water Couch
<i>Cyperus polystachyos</i>	Bunchy Sedge	<i>Samolus repens</i>	Creeping Brookweed
<i>Dianella congesta</i>	Beach Flax-lily	<i>Schoenus brevifolius</i>	Zig-zag Bog-rush
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Sonchus hydrophilus</i>	Native Sowthistle
<i>Drosera pygmaea</i>	Pygmy Sundew	<i>Sporobolus virginicus</i>	Sand Couch
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Tetragonia tetragonioides</i>	New Zealand Spinach
<i>Isolepis cernua</i>	Nodding Club-rush	<i>Triglochin striata</i>	Streaked Arrowgrass
<i>Juncus kraussii</i>	Sea Rush	<i>Westringia fruticosa</i>	Coastal Rosemary
<i>Juncus pallidus</i>	Pale Rush	<i>Zoysia macrantha</i>	Prickly Couch
<i>Lachnagrostis billardiarei</i>	Coast Blown-grass		

July 2021

Total Earth Care Pty Ltd

## 13.2 FAUNA

Numerous shorebirds and seabirds have been observed along the cliff-line at this site, including the Cape Gannet (*Morus capensis*), Pied Cormorant (*Phalacrocorax varius*) and Great Cormorant (*Phalacrocorax carbo*). The rocky outcrops provided basking and foraging habitat for reptiles such as Water Skinks (*Eulamprus quoyii*) (ALA 2020) and also pool with freshwater in high rainfall events providing habitat for Amphibians. Frogs such as the Common Eastern Toadlet (*Crinia signifera*) have been noted here and would utilise the ephemeral creekline in the north of the site and damp sedges for breeding. Amphibians species have only been noted at four other sites, thus Waverly Cemetery is significant for this feature.

The dense native and exotic shrub layers, particularly in the Sea-cliff Heath and the buffer planting, provide foraging and sheltering habitat for small reptile and bird species including the Superb Fairy-wren (*Malurus cyaneus*). Flowering native plants such as the *Baeckea* spp., *Melaleuca* spp., and *Banksia* spp. attract pollinators and provide abundant foraging resources for many nectarivorous and insectivorous species including the New Holland Honeyeater (*Phylidonyris novaehollandiae*) and the Grey-headed Flying-fox (*Pteropus poliocephalus*) (Vulnerable under the BC Act and EPBC Act) which have been recently recorded at the site.

## 13.3 MANAGEMENT ACTIONS

### 13.3.1 Previous works

Recent management has proved effective at this site in the reduction of annuals such as *Acetosa sagittata* and *Parietaria judaica* and invasive vines such as *Ipomoea indica* around native shrubs (Apunga 2019c). The significant infestation of *Hydrocotyle bonariensis* remains the primary management issue. Small areas of *Hydrocotyle* have been reduced using slow hand removal techniques, however these methods have proven inefficient against the large main infestations (Apunga 2019c). The use of herbicide to manage the *Hydrocotyle* would be ideal, however research into appropriate herbicides to use in a delicate remnant wetland has been unsuccessful to date (Apunga 2019c).

### 13.3.2 Key management actions

This site is of moderate management priority. Key management actions generally include:

- **Targeted weeding:** Target annual weeds before seeding to prevent germination. Target species including *Ipomoea indica*, *Parietaria judaica*, *Acetosa sagittata*, *Hydrocotyle bonariensis* and *Wollastonia uniflora*.

- **Ropes work:** Target infestations of *Asparagus aethiopicus* and *Coprosma repens* on the cliff edge. Ropes work is required due to inaccessibility and the hazard on the cliff edge.
- **Primary weeding:** Primary weed management in Buffer 5 to remove the *Lantana camara*, *Asparagus aethiopicus*, *Ipomoea indica* and *Coprosma repens*. This is required to manage the C1b remnant which is at risk of being lost.
- **Habitat creation** – plant additional macrophytes in drainage areas to provide additional habitat for frogs. Prioritise weed management in areas of frog habitat. It is recommended that a diversity of at least 20 species if achieved from a variety of grasses and nectar providing species. Introduce sandstone boulders and retain fallen logs and branches. This would also assist in slope stability.
- **Preserve and introduction of rocky areas** – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species. Rocky areas also increase pooling of water increasing the habitat availability for amphibians.
- **Ecological monitoring:** using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

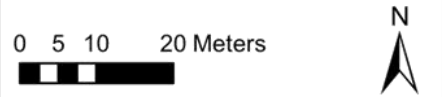
The management of *Hydrocotyle bonariensis* at this site has been an ongoing issues. Alternative treatment methods including application of iron-sulphate, crunch spraying and methodical handweeding should be trialled in plots. See Appendix A.

The weed densities and management actions for the different areas are shown in Map 13-1 and Map 13-2 and provided in Table 13-2. Detailed methodologies for the recommended management actions are provided in Appendix A for more detail on these methods.




**Title:** Weeds & Manag. Actions  
**Map No:** 13-1  
**Site:** Waverley Cemetery Cliffs (North)  
**Client:** Waverley Council  
**Date:** January 2021  
**Author:** G Barron

-  Bushland Remnant  
 Previous Buffer Planting
- Weed % Cover 2020**
-  <5%
  -  5% - 30%
  -  30% - 70%
  -  >70%
- Management Actions**
-  Targeted Weed Control



Data Source:  
Total Earth Care  
Nearmap



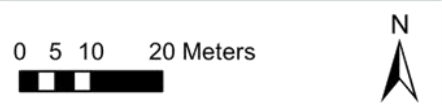
total earth care






**Title: Weeds & Manag. Actions**  
Map No: 13-2  
Site: Waverley Cemetery Cliffs (South)  
Client: Waverley Council  
Date: May 2021  
Author: G Barron

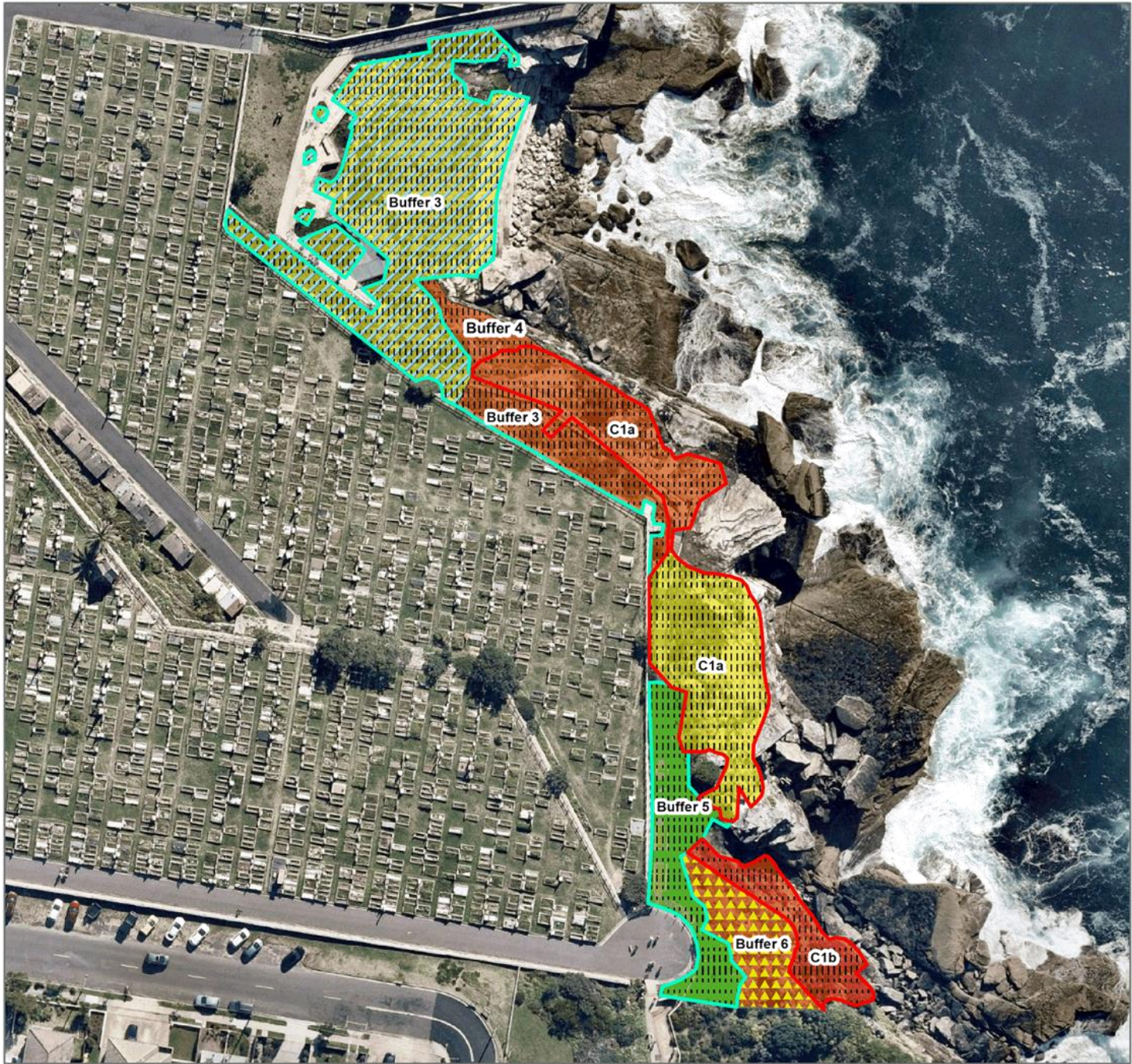
-  Bushland Remnant
-  Previous Buffer Planting
- Weed % Cover 2020**
-  <5%
-  5% - 30%
-  30% - 70%
-  >70%
- Management Actions**
-  Buffer Planting
-  Primary Weed Works
-  Targeted Weed Control



Data Source:  
Total Earth Care  
Nearmap



total earth care





July 2021

Total Earth Care Pty Ltd

TABLE 13-2 – WAVERLEY CEMETERY CLIFFS MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Weed Density 2020	Timing	Key Performance Indicators (KPIs)	Role
<b>Waverley Cemetery Cliffs</b>							
<b>Remnant C1a</b>	High	This zone has remained reasonably stable throughout the past year, comprising predominantly of patches of <i>Ficinia nodosa</i> and <i>Baumea juncea</i> .	<p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination. Target vines (<i>Ipomoea indica</i>) to prevent reestablishment.</p> <p><b>Targeted weeding</b> – focus on controlling <i>Hydrocotyle bonariensis</i> within native areas (<i>Baumea juncea</i>) as it outcompetes native species. Hand removal around natives is preferred.</p> <p><b>Ropes work</b> - target infestations of <i>Asparagus aethiopicus</i>, and <i>Coprosma repens</i> on the cliff edge.</p> <p><b>Direct seeding</b> – after treatment of <i>Hydrocotyle bonariensis</i> if no natural regeneration and to increase diversity.</p>	30-70%	<p>12 visits per year with a minimum of 6 in spring/summer.</p> <p>Ropes work 4 times per year.</p>	<p>Reduce weed density to &lt;20% by the end of 2021 – 2022 FY, &lt;10% by the end of 2022 – 2023 FY and &lt;5% by the end of 2023 – 2024 FY. Maintain at &lt;5% ongoing.</p> <p>Recruitment of native seedbank.</p> <p>Reduction and containment of <i>Hydrocotyle bonariensis</i>.</p> <p>No reduction in remnant.</p>	Trained bush regenerators.
<b>Remnant C2a</b>	High	<p>This zone covers a large proportion of the Sea-cliff heathland and currently suffers from a significant infestation of <i>Hydrocotyle bonariensis</i> and <i>Asparagus aethiopicus</i> on the cliff line.</p> <p>Infestations of <i>Ipomoea indica</i> and <i>Parietaria judaica</i> have previously been controlled.</p>	<p><b>Targeted weeding</b> - target annual weeds before seeding to prevent germination.</p> <p>Continue to targeted vines (<i>Ipomoea indica</i>) and hand removal of <i>Parietaria judaica</i> and <i>Acetosa sagittata</i>.</p> <p>Eradication of <i>Wollastonia uniflora</i> which has been seen to be highly invasive within the buffer plantings and could be detrimental to the remnant vegetation. Replace with small shrub species. See Appendix F for recommended species.</p> <p>Control and further research into successful and viable treatment methods of <i>Hydrocotyle bonariensis</i>. Suggestion for spot spraying and containment larger infestations. Hand removal and hand application of herbicide where root zones are accessible and minimal soil disturbance can be achieved.</p> <p><b>Ropes work</b> - target infestations of <i>Asparagus aethiopicus</i> on the cliff edge.</p>	5-30%	<p>12 visits per year with a minimum of 6 in spring/summer.</p> <p>Ropes work 4 times per year.</p>	<p>Reduce weed density to &lt;5% by the end of 2021 – 2022 FY.</p> <p>Maintain at &lt;5% ongoing.</p> <p>Eradication of <i>Wollastonia uniflora</i>.</p> <p>Reduction and containment of <i>Hydrocotyle bonariensis</i>.</p> <p>Recruitment of native seedbank.</p>	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Weed Density 2020	Timing	Key Performance Indicators (KPIs)	Role
<b>Waverley Cemetery Cliffs</b>							
			Containment of <i>Coprosma repens</i> north of the remnant patch to ensure there is no encroachment into the remnant patch.				
<b>Remnant C2b</b>	High	This zone is south of C2a containing Sea-cliff Sedgeland dominant in <i>Baumea juncea</i> . This zone also contains a significant infestation of <i>Hydrocotyle bonariensis</i> .	<p><b>Targeted weeding</b> - target annual weeds before seeding to prevent germination.</p> <p>Control and contain <i>Hydrocotyle bonariensis</i>. Suggestion for spot spraying and containment of larger infestations. Hand removal and hand application of herbicide where root zones are accessible and minimal soil disturbance can be achieved.</p> <p><b>Ropes work</b> - target infestations of <i>Asparagus aethiopicus</i> on the cliff edge.</p>	5-30%	<p>Minimum of 12 visits per year with a minimum of 6 in spring/summer.</p> <p>Ropes work 2 times per year.</p>	<p>Reduce weed density to &lt;20% by the end of 2021 – 2022 FY, &lt;10% by the end of 2022 – 2023 FY and &lt;5% by the end of 2023 – 2024 FY. Maintain at &lt;5% ongoing.</p> <p>Reduction and containment of <i>Hydrocotyle bonariensis</i>.</p> <p>Recruitment of native seedbank.</p>	Trained bush regenerators.
<b>Buffer 4 and southern part of buffer 3 (adjacent to Remnant C1a)</b>	High	Areas of weeds adjacent to Remnant C1a.	<p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination. Target vines (<i>Ipomoea indica</i>) to prevent reestablishment.</p> <p><b>Targeted weeding</b> – focus on controlling <i>Hydrocotyle bonariensis</i> remnant boundaries as it outcompetes native species. Hand removal around natives is preferred.</p> <p><b>Ropes work</b> - target infestations of <i>Asparagus aethiopicus</i>, and contain <i>Coprosma repens</i> for stabilisation and habitat on the cliff edge.</p> <p><b>Direct seeding</b> – after treatment of <i>Hydrocotyle bonariensis</i>, if no natural regeneration occurs and to increase diversity.</p>	30-70%	<p>12 visits per year with a minimum of 6 in spring/summer.</p> <p>Ropes work 4 times per year.</p>	<p>Reduce weed density to &lt;20% by the end of 2021 – 2022 FY, &lt;10% by the end of 2022 – 2023 FY and &lt;5% by the end of 2023 – 2024 FY. Maintain at &lt;5% ongoing.</p> <p>Recruitment of native seedbank.</p> <p>Reduction and containment of <i>Hydrocotyle bonariensis</i>.</p>	Trained bush regenerators.
<b>Buffer 5</b>	High	This area located at the southern end of the site near the bowling club. The buffer plantings are well established. However, the planted <i>Wollastonia uniflora</i> is	<b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination targeting annual weeds. Target vines ( <i>Ipomoea indica</i> ) to prevent reestablishment.	<5%	<p>Minimum of 8 visits per year with a minimum of 4 in spring/summer.</p>	<p>Maintain &lt;5% weed density.</p> <p>Eradication of <i>Wollastonia uniflora</i>.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Weed Density 2020	Timing	Key Performance Indicators (KPIs)	Role
<b>Waverley Cemetery Cliffs</b>							
		becoming dominant and has required regular management. This species should be completely removed to reduce maintenance and ensure no biodiversity loss.	<p><b>Control of dominant natives</b> - target and remove <i>Wollastonia uniflora</i> as it is dominant and smothering other natives, resulting in decreased diversity and requiring too much up keep to control. Infill planting and mulching should occur where these are removed. Replace with small shrub species. See Appendix F for recommended species.</p> <p><b>Retention of logs</b> – any fallen logs are to be retained as these provide habitat for insects and lizards, which in turn provide food for a number of bird species.</p> <p><b>Preserve and introduction of rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species. Rocky areas also increase pooling of water increasing the habitat availability for amphibians.</p>			Recruitment of native seedbank.	
<b>Buffer 6</b>	Medium	A patch of high density weeds are located above the C1b remnant. If this zone is not targeted, the C1b remnant is likely to be lost all together.	<p><b>Primary Weeding</b> – primary weeding to slowly target infestations of <i>Lantana camara</i>, <i>Asparagus aethiopicus</i>, <i>Ipomoea indica</i> and <i>Coprosma repens</i>.</p> <p><b>Buffer planting</b> – buffer planting to extend east of Buffer 4 to replace habitat lost during primary weed works. Plantings of suitable sedges, rushes and Clifftop heath species. This will protect and enhance the remnant below C1b and ensure that this is not lost. Recommendation of coir logging and jute matting.</p> <p><b>Habitat creation</b> – It is recommended that a diversity of at least 20 species if achieved from a variety of grasses and nectar providing species. Introduce sandstone boulders and retain fallen logs and branches. This would also assist in slope stability.</p> <p><b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination. Target any reshooting <i>Lantana camara</i>, <i>Asparagus aethiopicus</i>, <i>Ipomoea indica</i> and <i>Coprosma repens</i>.</p>	>70%	<p>Minimum of 12 visits per year with a minimum of 6 in spring/summer.</p> <p>Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.</p>	<p>&lt;50% weed cover by the end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by the end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by the end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Establishment of buffer plantings.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Weed Density 2020	Timing	Key Performance Indicators (KPIs)	Role
<b>Waverley Cemetery Cliffs</b>							
<b>Buffer 3</b>	Medium	This zone consists of established and young buffer plantings north and west of remnant C1a. Young plantings will be monitored to ensure success and infill planting will be conducted where survival rates are compromised.	<p><b>Targeted weeding</b> – control and contain <i>Hydrocotyle bonariensis</i> and <i>Asparagus aethiopicus</i>. Trial alternative methods for <i>Hydrocotyle bonariensis</i> treatment. See Appendix A.</p> <p><b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination, through the areas of young buffer planting.</p> <p><b>Buffer/infill planting</b> – additional buffer planting of suitable sedges and rushes below the boardwalk, north of the sea wall. Infill planting required where establishment and low diversity.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p>	5-30%	<p>Minimum of 12 visits per year with a minimum of 6 in spring/summer</p> <p>Plantings are best planted during growing season (Autumn/Spring) to maximise plant survival rates. Water regularly after installation, which is to be increased in hot and/or windy conditions during the establishment phase (6 weeks) and then as required.</p>	<p>Reduce and maintain at &lt;5% weed density.</p> <p>Recruitment of native seedbank.</p> <p>Establishment of buffer plantings.</p>	<p>Areas south of the board walk and isolated patches west of the landslip are managed by Parks staff.</p> <p>Trained bush regenerators to manage landslip area.</p>
<b>Remnant C1b</b>	Medium	This is the southernmost zone which has not recently been targeted for regeneration works due to access. The remnant vegetation is classified as Sea-cliff Sedgeland dominant in <i>Baumea juncea</i> .	<p><b>Targeted Weeding</b> – Primary weeding to slowly target infestations of once Buffer 5 is contained. Weeding to target <i>Lantana camara</i>, <i>Asparagus aethiopicus</i>, <i>Ipomoea indica</i> and <i>Coprosma repens</i>. Woody weeds only to be targeted if slope stability allows. Root balls must be left <i>in situ</i>.</p> <p><b>Ropes work</b> – Clearing of weed plumes targeted around areas of native shrubs.</p>	>70%	Ropes work 4 times per year.	<p>Protection and no loss of remnant.</p> <p>&lt;50% weed cover by the end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by the end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by the end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Recruitment of native seedbank.</p>	Trained bush regenerators.
<b>Buffer 1</b>	Medium	Consists of a highly weed infested patch of vegetation north of the C2 remnant. Priority weeds include <i>Coprosma repens</i> .	<p><b>Containment (High priority)</b> – bush regeneration to contain weed infestations.</p> <p><b>Targeted weeding</b> – removal and containment of <i>Coprosma repens</i> north of the remnant patch to ensure</p>	>70%	<p>Minimum of 8 visits per year.</p> <p>Ropes work 4 times per year.</p>	Recruitment of native seedbank.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Weed Density 2020	Timing	Key Performance Indicators (KPIs)	Role
<b>Waverley Cemetery Cliffs</b>							
		Works to contain weeds and reduce the risk of encroachment into the remnant.	<p>there is no encroachment into the remnant patch. Mosaic removal prevents complete loss of habitat.</p> <p>Hand removal of <i>Watsonia meriana</i> and <i>Canna x generalis</i>.</p> <p><b>Ropes work</b> – target infestations of <i>Coprosma repens</i> and <i>Asparagus aethiopicus</i> on the cliff edge.</p> <p><b>Buffer planting</b> – potential for buffer planting to increase diversity, aesthetics and stability.</p>			<p>&lt;50% weed cover by the end of 2023 – 2024 FY.</p> <p>&lt;30% weed cover by the end of 2024 – 2025 FY.</p> <p>&lt;10% weed cover by the end of 2025 – 2026 FY.</p> <p>Maintained at &lt;10% weed cover ongoing.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	
<b>Buffer 2</b>	Medium	Consists of a planted buffer along the Waverley Cemetery public boardwalk to the west of remnant zones C2a and C2b. The plantings are well established and resilient, with a low weed density. Fewer hours are needed in this area to maintain the condition.	<p><b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.</p> <p>Trial alternative methods for <i>Hydrocotyle bonariensis</i> treatment. See Appendix A.</p> <p><b>Control of dominant natives</b> – eradication of the <i>Wollastonia uniflora</i> as it is becoming dominant, smothering other natives, decreasing diversity and is requiring too much pruning up keep to control the species.</p> <p><b>Buffer planting</b> – infill planting if necessary if natural germination of natives is not successful after the removal of <i>Wollastonia uniflora</i>. Replace with small shrub species. See Appendix F for recommended species.</p> <p><b>Preserve rocky areas</b> – prevent weeds overgrowing rocky outcrops and platforms as these provide basking opportunities and habitat for a number of reptile species.</p> <p><b>Protect and enhance frog habitat</b> – through planting of macrophyte species and prioritizing weed management in drainage areas.</p>	<5%	Minimum of 8 visits per year.	<p>Maintain &lt;5% weed density.</p> <p>Eradication of <i>Wollastonia uniflora</i>.</p> <p>Recruitment of native seedbank.</p> <p>Increased diversity through buffer planting.</p> <p>Planting survival rate of &gt;80% 6 months after planting.</p>	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

Zone	Priority	Description of Management Zone	Management Actions	Weed Density 2020	Timing	Key Performance Indicators (KPIs)	Role
<b>Waverley Cemetery Cliffs</b>							
<b>Remnant C2c</b>	Medium	This remnant is a small patch (44m <sup>2</sup> ) of Sea-cliff Herbland dominant in <i>Dianella congesta</i> . This zone remains in a fairly stable condition.	<b>Maintenance weeding</b> – target annual weeds before seeding to prevent germination.  Target vines ( <i>Ipomoea indica</i> ) to prevent reestablishment.  Trial alternative methods for <i>Hydrocotyle bonariensis</i> treatment. See Appendix A.	<5%	Minimum of 6 visits per year.	Maintain <5% weed density.	Trained bush regenerators.
<b>All Zones</b>	Required	Ecological monitoring across all zones.	Undertake regular monitoring which can be incorporated into site visits to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"> <li>Establish one fixed photo monitoring point within each remnant and two within each buffer zone.</li> <li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li> </ul> Provide annual reports summarising findings to Waverley Council.	N/A	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	Submission of annual reports to Council.	Trained bush regenerators.

July 2021

Total Earth Care Pty Ltd

## 14 YORK ROAD BUSHLAND



Figure 14-1. Remnant vegetation adjacent to York Road

The York Road Bushland comprises Eastern Suburbs Banksia Scrub which is listed as a Critically Endangered Ecological Community (CEEC) under the BC Act and an Endangered Ecological Community (EEC) under the federal EPBC Act (SBRC 2020). The patch managed under this Action Plan (about 521m<sup>2</sup>) is Council owned verge and forms part of a larger area (over 11,000m<sup>2</sup>) in Queens Park which is the largest area of Eastern Suburbs Banksia Scrub in the LGA. Although small, this patch comprises the only example of remnant Eastern Suburbs Banksia Scrub managed under this Action Plan.

## 14.1 FLORA

The Eastern Suburbs Banksia Scrub is typically an open to closed canopy with species including *Acacia longifolia*, *Banksia serrata*, *Leptospermum laevigatum* and *Monotoca elliptica* on aeolian sands (SBRC 2020). The condition of the vegetation is of good quality with less than 5% weeds present (BHRC 2019). Although, this patch is small and it is separated from the larger area by a chain mail fence, the management of the patch provides an important buffer to protect the larger area from edge effects including weed invasion.

Table 14-1 – York Road Bushland Remnants Native Flora Species (SBRC 2020)

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acacia longifolia</i>	Coastal Wattle	<i>Eragrostis brownii</i>	Brown's Lovegrass
<i>Acacia suaveolens</i>	Sweet Wattle	<i>Ficinia nodosa</i>	Knobby Club-rush
<i>Acacia ulicifolia</i>	Prickly Moses	<i>Kunzea ambigua</i>	Tick Bush
<i>Astroloma pinifolium</i>	Pine Heath	<i>Leptospermum laevigatum</i>	Coast Teatree
<i>Austrostipa mollis</i>	Soft Speargrass	<i>Leucopogon ericoides</i>	Pink Beard-heath
<i>Banksia serrata</i>	Old-man Banksia	<i>Leucopogon juniperinus</i>	Prickly Beard-heath
<i>Bossiaea heterophylla</i>	Variable Bossiaea	<i>Lomandra glauca</i>	Pale Mat-rush
<i>Bossiaea scolopendria</i>	Plank Plant	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
<i>Brachyloma daphnoides</i>	Daphne Heath	<i>Micranthemum ericoides</i>	Micranthemum ericoides
<i>Commelina cyanea</i>	Native Wandering Jew	<i>Microlaena stipoides</i>	Weeping Grass
<i>Dianella caerulea</i>	Blue Flax-lily	<i>Monotoca elliptica</i>	Tree Broom-heath
<i>Dianella congesta</i>	Beach Flax-lily	<i>Persoonia lanceolata</i>	Lance Leaf Geebung
<i>Dianella revoluta</i>	Blueberry Lily	<i>Schoenus ericetorum</i>	Heath Bog-rush
<i>Dichelachne crinita</i>	Longhair Plumegrass	<i>Wahlenbergia gracilis</i>	Australian Bluebell
<i>Dichondra repens</i>	Kidney Weed	<i>Xanthosia pilosa</i>	Woolly Xanthosia
<i>Dillwynia glaberrima</i>	Smooth Parrot-pea	<i>Xanthosia tridentata</i>	Rock Xanthosia
<i>Dillwynia retorta</i>	Heathy Parrot-pea		



July 2021

Total Earth Care Pty Ltd

## 14.2 FAUNA

The small patch itself provides little foraging and sheltering resources for birds, reptiles and frogs, however has connectivity to the larger area of adjacent Eastern Suburbs Banksia Scrub. As the fence is chain mail, it will not impede passage for small mammals, birds and reptiles, whilst excluding foxes from the large area to the east. In the adjacent area, there are recent records of the Powerful Owl (*Ninox strenua*) (Vulnerable under the BC Act) and Grey-headed Flying-fox (*Pteropus poliocephalus*) (Vulnerable under the BC Act and EPBC Act) (DPIE 2020). Due to the small size of the patch and given that it is within the road verge, opportunities for fauna habitat creation at this site are limited.

### 14.2.1 Previous works

The condition of the patch of Eastern Suburbs Banksia Scrub has improved in recent years. It has slightly extended to the north and is improving in species diversity. There is a low weed density present, with only a weed sweep required to be conducted monthly as part of management works (BHRC 2018a, 2019a). Replanting, which has been undertaken in the buffer to restore diversity, has had limited success due to soil quality and the dominance of *Acacia binervia*. The plantings of Wallaby Grass have been reasonably successful and the species is increasing in numbers (BHRC 2018b, 2019b).

### 14.2.2 Key management actions

Management priority of this site is high as it is the only example of Eastern Suburbs Banksia Scrub managed under this plan. This site can be maintained at good condition with effective and consistent management. Key management actions generally include:

- **Maintenance weeding:** Target annual weeds before seeding to prevent germination. This is high priority in remnant Y2 as this edge acts as a buffer for the core of the remnant vegetation which is managed by Centennial Park and Moore Park Trust. As the patch is adjacent to York Road, it is likely that weed seeds will be transported by vehicles and pedestrians and so maintenance weeding will require to be ongoing.
- **Delineation:** Maintenance of the delineated edges of the buffer. The current sediment fence is working well to exclude exotic grasses and herbaceous weeds. This will need to be maintained and repaired.
- **Promote native regeneration:** Scarification of the soil and flame weeding in the remnant should be trialled to test the resilience of the seedbank and promote native regeneration.
- **Ecological monitoring:** Conducted using photo points and species counts. Ecological monitoring will be reported annually and provide data to support the meeting of goals.

The weed densities and management actions for the different areas are shown in Map 14-1 and provided in Table 14-2. Detailed methodologies for the recommended management actions are provided in Appendix A.

## 14.3 PREDICTIONS AND RECOMMENDATIONS FOR ACHIEVING EAP4 OBJECTIVES

The management at this site will preserve the existing good condition vegetation of the Eastern Suburbs Banksia Scrub (Y2) and the buffer planting.

The remnant patch (Y2) can be maintained in 'good' condition by 2040. The weed density across the whole site (Y2 and Buffer) can likely be kept below 5%.

The remnant has expanded in the last 2 or 3 years and there is a few meters of verge to the east that could allow for more expansion in the future. However, the maintenance of this remnant patch (Y2) is important as it provides a buffer to edge effects for the larger area of Eastern Suburbs Banksia Scrub to the east. Due to the low densities of weeds present at this site, bush regeneration by hand is an acceptable technique.



**Title: Weeds & Manag. Actions**



Map No: 14-1

Site: York Road Bushland

Client: Waverley Council

Date: January 2021



Author: G Barron

-  Bushland Remnant  
 Previous Buffer Planting

**Weed % Cover 2020**

-  <5%

**Management Actions**

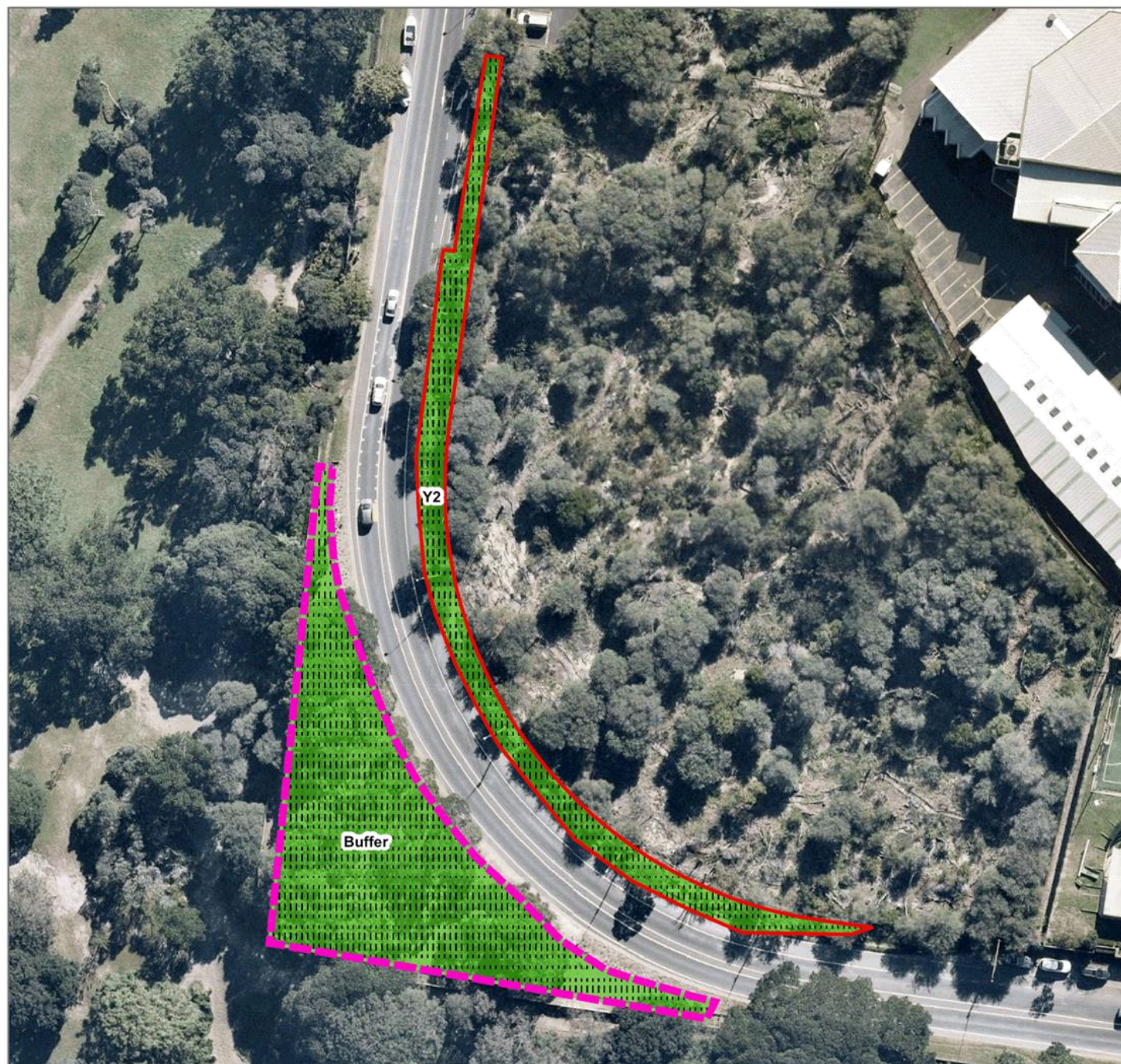
-  Targeted Weed Control  
 Maintain Delineation



0 5 10 20 Meters



Data Source:  
Total Earth Care  
Nearmap





July 2021

Total Earth Care Pty Ltd

TABLE 14-2 – YORK ROAD MANAGEMENT ZONES AND ACTIONS

Zone	Priority	Description of Management Zone	Management Actions	Timing	Weed Density 2020	Key Performance Indicators (KPIs)	Role
<b>York Road Bushland</b>							
<b>Remnant Y2</b>	High	Remnant vegetation consisting of Eastern Suburbs Banksia Scrub.  This vegetation is regularly maintained and displays low weed densities, however is subject to edge effects.	<b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.  High priority as this edge acts a buffer for the core of the remnant vegetation to the east, which is managed by Centennial Park and Moore Park Trust.  *Trial scarification and flame weeding.  <b>Maintenance of fences</b> – signs of feral species have been observed damaging / digging under the fence. Fence needs to be maintain in working order at all times to prevent future damage in the Eastern Suburbs Banksia Scrub EEC, within the managed park.	Minimum of 4 visits per year.	<5%	Maintain weed density at <5%.	<b>Maintenance weeding</b> – trained bush regenerators.  <b>Maintenance of fences</b> – Botanic Gardens and Centennial Parklands.
<b>Buffer</b>	Medium	Buffer plantings located on the western side of York Road.	<b>Maintenance weeding</b> - target annual weeds before seeding to prevent germination.  Maintenance of buffer plantings and conduct infill planting where required to ensure success of buffer and to create habitat complexity.  <b>Maintain delineation</b> – maintain existing delineation and install sediment fencing where necessary. Permanent delineation could be installed in the long-term, for example wooden sleepers, to create a more visually aesthetic landscape. However, care must be taken to ensure that delineation used does not prevent a trip hazard to pedestrians.  <b>Buffer planting</b> – if required to enhance resilience, visuals and habitat complexity.	Minimum of 6 site visits per year.	<5%	Maintain weed density at <5%.	<b>Maintenance weeding and buffer planting</b> – trained bush regenerators.  <b>Maintain delineation</b> – parks staff.
<b>All Zones</b>	Required	Ecological monitoring across all zones.	Undertake regular monitoring which can be incorporated into site visits, to ensure bush regeneration works are progressing within the scope of this action plan and EAP4 objectives.  Monitoring actions include: <ul style="list-style-type: none"><li>Establish two fixed photo monitoring point within the remnant and two within the buffer zone.</li><li>Establish one fixed quadrat or transect survey location to assess species composition, weed density and abundance and native regeneration.</li></ul> Provide annual reports summarising findings to Waverley Council.	Monitoring events to occur at regular intervals throughout the works with annual reports provided to Waverley Council.	N/A	Submission of annual reports to Council.	Trained bush regenerators.



July 2021

Total Earth Care Pty Ltd

## 15 PRIORITY ACTIONS ACROSS THE WAVERLEY COUNCIL LGA

Maintenance weeding should be conducted across all zones and all years, including those with high weed densities, to ensure that none deteriorate beyond their current condition. In particular herbaceous weeds should be treated prior to seeding. The following table provides the priority actions for each site to improve remnant conditions, expand areas of revegetation and strengthen existing habitat corridors, thereby addressing the Waverley Council Environmental Action Plan Version 4 2018-2030 (EAP4) biodiversity targets.

**Table 15-1. 2021 to 2026 Priority actions within each site and year within the Waverley Council LGA**

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>North Clifftop Remnants</b>	<p>Creation of a permanent edge between mown lawn and Buffers 1, 2 and 3 to reduce maintenance weeding of exotic grass encroachment.</p> <p>Targeted weeding of Buffer 2.</p> <p>Buffer 2 – Once established begin buffer planting of low growing shrub, sedge and rush species. Species list can be found in Appendix F.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Targeted weeding of Buffer 2.</p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer 2. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Maintenance of buffer planting edge.</p> <p>Trial sandstone capping halos at Bay St. Continue into following years with additional planting and halos if successful.</p>	<p>Begin targeted weeding of Z1 remnant. Ropes work to target infestations of <i>Asparagus aethiopicus</i>, and <i>Coprosma repens</i> on the cliff edge.</p> <p>Sandstone capping and planting of Buffer 3 at Clarke Reserve.</p> <p>Installation of buffer plantings adjacent to D1a remnant. Buffer planting of low growing shrub, sedge and rush species. Species list can be found in Appendix F.</p> <p>Create and maintain a permanent edge between mown lawn and newly installed buffer plantings.</p> <p>Continue maintenance weeding across all buffer zones.</p>	<p>Maintenance and monitoring of establishing buffer plantings adjacent to D1a. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Begin targeted weeding of D1a remnant. Ropes work to target infestations of <i>Asparagus aethiopicus</i>, and <i>Coprosma repens</i> on the cliff edge.</p> <p>Continue targeted weeding within Z1.</p> <p>Continue maintenance weeding across all buffer zones.</p>	<p>Targeted weeding within remnant Z5 to ensure no net-loss. Ropes work may be required due to access.</p> <p>Continue targeted weeding within Z1 and D1a.</p> <p>Continue maintenance weeding across all buffer zones.</p>

July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>Diamond Bay Reserve</b>	<p>Prioritise weed treatment in D1b beginning in the D1b core which exhibits higher resilience and lower weed density.</p> <p>Extend targeted weeding to the east of the D1b remnant.</p> <p>Targeted weeding within Buffer 2.1, Buffer 3, Buffer 4.2, D3c and D2b to reduce and maintain at &lt;5% weed density.</p> <p>Targeted weeding to stay on top of dominant weeds in D3b.</p> <p>Prioritise targeted weeding in Buffer 2.2. Monitor for native regeneration.</p> <p>Retain and create habitat in D1b, D2b and D3b. Contain weeds as habitat in buffers until their staged removal.</p> <p>Control dominant native in Buffer 2.1 and 3.1.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Continue targeted weeding within Buffer 2.2, Buffer 3, D1b core and D2b to reduce and maintain at &lt;5% weed density.</p> <p>Buffer planting in Buffer 2.2 if natural regeneration is low. Extend Buffer 2.2 to the south to connect with Buffer 3.1. Plant low growing shrub and sedge species. Species list can be found in Appendix F.</p> <p>Maintain permanent delineation between buffer plantings and turf.</p> <p>Ropes work in D1b and D2b to target <i>Asparagus aethiopicus</i> and woody weeds on cliff edge.</p> <p>Begin targeted weeding in Buffer 1.1. Install buffer planting create a buffer between the turf and the D1b remnant. Once controlled begin buffer planting of low growing shrub and sedge species. Species list can be found in Appendix F.</p> <p>Retain and create habitat in D1b, D2b and D3b. Contain weeds as habitat in buffers until their staged removal.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 1.1 and 2.2.</p> <p>Ropes work in D1b to target <i>Asparagus aethiopicus</i> and woody weeds on cliff edge.</p> <p>Continue maintenance weeding within Buffer 2, Buffer 3, D1b, D2a and D2b to maintain at &lt;5% weed density.</p> <p>Create planted buffer along northern edge of Buffer 1 and D1b. Create and maintain delineation between buffer and turf.</p> <p>Retain and create habitat in D1b, D2b and D3b.</p> <p>Control dominant native in Buffer 3.2.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 2.2 and 3.1.</p> <p>Begin mosaic clearing (primary works) in Buffer 4.3. Continue targeted weeding in this zone and previously cleared areas. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views.</p> <p>Targeted weeding to stay on top of dominant weeds in Buffer 3.2, D2a, D3a and D3b, and any sites needing rope access such as west D1b. Containment and staged removal of any woody weeds that are providing habitat. Buffer planting to establish and replace habitat gradually.</p> <p>Maintenance weeding across all low weed density zones.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 4.3.</p> <p>Install buffer plantings between the north and south patches of Buffer 4.2 to join the two. Plant low growing shrub and sedge species. Species list can be found in Appendix F.</p> <p>Maintenance weeding across all low weed density zones.</p>

July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>Eastern Reserve</b>	<p>Create and maintain permanent delineation between buffer plantings and turf to reduce future maintenance weeding.</p> <p>Targeted weeding within Ea, Buffer 2, Buffer 4, northern section of Eb, southern section of Ec and core of Ed to reduce and maintain at &lt;5% weed density. Ropes work where necessary.</p> <p>Maintain and repair sediment fence in Buffer 5 creating delineation between high density weeds remnant Ec.</p> <p>Preserve rocky areas as habitat by removing invasive vines and weeds.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Continue targeted weeding within Ea, Buffer 2, Buffer 4, northern section of Eb, southern section of Ec and Ed to reduce and maintain at &lt;5% weed density. Ropes work where necessary.</p> <p>Begin targeted weeding in Buffer 6.</p> <p>Continue to preserve rocky areas as habitat by removing invasive vines and weeds. Retain logs as habitat particularly in Buffer 6.</p> <p>Consider in fill planting for remnant Eb if natural regeneration not occurring following weed removal.</p>	<p>Maintenance weeding across all low weed density zones.</p> <p>Continue targeted weeding in Buffer 6 and monitor for natural native regeneration.</p> <p>Begin targeted weeding in Ec, Eb and eastern edge of Ed starting around stands of higher quality vegetation.</p> <p>Continue to preserve rocky areas as habitat by removing invasive vines and weeds. Retain logs as habitat particularly in Buffer 6.</p> <p>Monitor and repair sediment fence between Buffer 5 and remnant Ec.</p>	<p>Continue targeted weeding in Buffer 6 and monitor for natural native regeneration. Infill buffer planting where required if low success of natural regeneration. Install buffer planting in south of zone. Low growing shrubs should be installed along the upper slope to maintain residents' views.</p> <p>Continue targeted weeding in Ec, Eb and eastern edge of Ed pushing out from higher quality and upslope vegetation.</p> <p>Maintenance weeding across all low weed density zones. Ropes work where necessary.</p> <p>Continue to preserve rocky areas as habitat by removing invasive vines and weeds.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 6.</p> <p>Continue targeted weeding in Ec, Eb and eastern edge of Ed pushing out from higher quality and upslope vegetation. Ropes work where necessary.</p> <p>Maintenance weeding across all low weed density zones. Ropes work where necessary.</p> <p>Continue to preserve rocky areas as habitat by removing invasive vines and weeds. Retain logs as habitat particularly in remnant Ed and Buffer 6.</p> <p>Monitor and repair sediment fence between Buffer 5 and remnant Ec.</p>
<b>Caffyn Park</b>	<p>Create and maintain permanent delineation between native vegetation and turf to reduce future maintenance weeding.</p> <p>Establish a No Mow Zone within Buffer 1 and F6 and monitor for native regeneration.</p> <p>Targeted weeding within Buffer 1 and F6 to reduce and maintain at &lt;5% weed density.</p> <p>Maintenance weeding across all other zones to maintain &lt;5% weed density.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p> <p>Trim ferns along walkway for pedestrian access (F5).</p>	<p>Infill planting of low shrubs and ground covers to increase diversity within the western zone of F1.</p> <p>Continue targeted weeding within Buffer 1 and F6 to reduce and maintain at &lt;5% weed density.</p> <p>Maintenance weeding across all other zones to maintain &lt;5% weed density.</p>	<p>Maintenance and monitoring of establishing buffer plantings in F1.</p> <p>Maintenance weeding across all zones.</p> <p>Control dominant natives in F1 and F5.</p>	<p>Infill planting in Buffer 1 of ground cover species if little native regeneration.</p> <p>Maintenance weeding across all zones.</p> <p>Trial flame weeding.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 1.</p> <p>Maintenance weeding across all zones.</p>



July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>Raleigh, Rodney and Weonga Reserves</b>	<p>Create and/or maintain permanent delineation between buffer vegetation zones and turf to reduce future maintenance weeding.</p> <p>Begin targeted weeding in Buffer 1.1, targeting woody weeds and vines. (Cut and paint, and scrape and paint method).</p> <p>Begin targeted weeding in Buffer 4.1, Buffer 5, R1 and R3 to reduce and maintain at &lt;5% weed density.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p> <p>Maintain and create delineation of buffers and remnants.</p>	<p>Continue targeted weeding in Buffer 1.1 to reduce and maintain at &lt;5% weed density.</p> <p>Begin targeted weeding in remnant Z6. Contain weeds in Buffer 3.</p> <p>Continue targeted weeding in Buffer 4.1, Buffer 5, R1 and R3 to reduce and maintain at &lt;5% weed density. Ropes work where necessary.</p> <p>Begin targeted weeding in Buffer 4.2 starting at higher quality vegetation in the adjacent Buffer 4.1 working towards remnant R2.</p> <p>Maintenance weeding across all low weed density zones. Maintenance of delineation with turf.</p>	<p>Continue targeted weeding in Buffer 4.2 working towards remnants R2 and R7.</p> <p>Begin targeted weeding in remnant R2. Ropes work where necessary.</p> <p>Continue targeted weeding in Buffer 4.1, Buffer 5, R1 and R3 to reduce and maintain at &lt;5% weed density. Ropes work where necessary.</p> <p>Maintenance weeding across all low weed density zones. Maintenance of delineation between turfed areas and remnants and buffers.</p>	<p>Continue targeted weeding in Buffer 4.2 working towards remnant R2 and R7 to reduce and maintain at &lt;5% weed density.</p> <p>Buffer planting in Buffer 4.2 extending east from Buffer 4.1. Install coir log or terracing, mulch along the length of the slope. Allow initial flush of exotics and install native plant species.</p> <p>Continue targeted weeding in remnant R2. Ropes work where necessary.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 4.2.</p> <p>Begin buffer planting of low growing shrubs and sedges, west and north of R3 to create a buffer for the remnant and create connectivity.</p> <p>Create and maintain delineation between buffer plantings and turf.</p> <p>Continue targeted weeding in Buffer 4.2 working towards remnant R2 and R7 to reduce and maintain at &lt;5% weed density. Infill planting where required to fulfil 80% survival rate KPI.</p>
<b>Loombah Road Cliffs</b>	<p>Control of storm water runoff across L1b and Buffer 1. Replace and maintain sediment fencing and remove excess debris within channel to prevent overland flooding.</p> <p>Begin targeted weeding in L1b and Buffer 1 to reduce and maintain at &lt;5% weed density. Repeated weeding is recommended to exhaust the seed bank, particularly of perennial herbaceous weeds.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Thinning of mesic canopy species, and ground covers where necessary to increase recruitment of <i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i> seedlings.</p> <p>Begin targeted weeding in Buffer 2 starting from the higher quality vegetation in Buffer 1.</p> <p>Gain access to previously inaccessible remnants such as L18, L16 and L14. Assessment and biannual targeted weeding.</p> <p>Maintenance weeding across Buffer 1 and L1b.</p>	<p>Continue targeted weeding in Buffer 2 to reduce and maintain at &lt;5% weed density.</p> <p>Begin targeted weeding in L1a, L25a and L27a. Ropes work where necessary.</p> <p>Maintenance weeding across Buffer 1, L1b, L25b and L27b. Thinning of mesic canopy species, and ground covers where necessary.</p> <p>Continue targeted weeding in L16 and L14 if access is possible.</p>	<p>Continue targeted weeding in Buffer 2 to reduce and maintain at &lt;5% weed density.</p> <p>Buffer planting in Buffer 2 extending north east from Buffer 1 to connect L1c remnant patch.</p> <p>Install coir log or terracing, mulch along the length of the slope. Allow initial flush of exotics and install native plant species.</p> <p>Maintenance weeding across Buffer 1, and L1b</p> <p>Continue targeted weeding in L18, L16 and L14 if access possible. Ropes work where necessary.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 2. Infill planting if required to attain survival rate of &gt;80% KPI.</p> <p>Maintenance and targeted weeding across all zones. Thinning of mesic canopy species, and ground covers where necessary to increase recruitment of <i>Acacia terminalis</i> subsp. <i>Eastern Sydney</i> seedlings.</p>

July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>Hugh Bamford Reserve</b>	<p>Prioritise targeted weeding across zones H1a, H1b, H1c and Buffer 5 to reduce and maintain weed density at &lt;5%.</p> <p>Infill planting in H1c and control of dominant <i>Leptospermum laevigatum</i>.</p> <p>Ropes work within H1a and H1b will be required to continue the treatment of <i>Chrysanthemoides monilifera</i> along the edge of the cliff.</p> <p>Maintain delineation with turf and native vegetation.</p> <p>Installation of a sediment fence between Buffer 2 and Buffer 3 to contain high density weeds in Buffer 3.</p> <p>Targeted weeding in H2a and Buffer 2.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Maintenance and monitoring of establishing infill planting in H1c.</p> <p>Continue targeted and maintenance weeding across zones H1a, H1b, H1c and to reduce and maintain weed density at &lt;5%. Ropes work where necessary.</p> <p>Continue targeted weeding in Buffer 2 and Buffer 9.</p> <p>Begin primary weeding in Buffer 3. Works should start and focus around patches of higher quality vegetation and buffer plantings and expand around these areas.</p>	<p>Continue primary weeding in Buffer 3.</p> <p>Begin buffer planting in cleared areas of Buffer 3. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species.</p> <p>Continue primary weeding in Buffer 9, expanding east from the playing field, to reduce and maintain vegetation at &lt;5% weed density in the core.</p> <p>Continue maintenance weeding across H1 and H2a remnants. Ropes work where necessary.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 3.</p> <p>Once plants have established in Buffer 3 enough to prevent erosion and provide habitat, begin primary weeding of Buffer 4 and follow with planting after a few flushes of weeds.</p> <p>Continue primary weeding in Buffer 9 expanding east from the playing field to reduce and maintain vegetation at &lt;5% weed density in the core. Ropes work within Buffer 9 will be required to continue the treatment of <i>Chrysanthemoides monilifera</i> along the edge of the cliff.</p>	<p>Continue buffer planting in newly cleared areas of Buffer 4. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species.</p> <p>Continue targeted and maintenance weeding in all low density zones (H2, Buffer 2, H1, Buffer 1 and Buffer 5) to maintain at &lt;5% weed density. Ropes work where necessary.</p>
<b>Bondi Golf Course &amp; Williams Park</b>	<p>Prioritise targeted weeding in G2 to reduce and maintain at &lt;5% weed density.</p> <p>Create and maintain delineation in G2 and G3.</p> <p>Begin targeted weeding in G3 to reduce and maintain at &lt;10% weed density.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Continue maintenance weeding in G2 to maintain at &lt;5% weed density and maintain delineation.</p> <p>Continue targeted weeding in G3 to reduce and maintain at &lt;10% weed density.</p> <p>Install low growing shrub and sedge species in the southern section of G3. Create and maintain permanent delineation with turf to prevent encroachment and reduce maintenance.</p> <p>Create new planted buffer (Buffer 1).</p>	<p>Maintenance and monitoring of establishing infill plantings in G3. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Continue maintenance weeding across G2 and G3 to maintain at &lt;5% weed density.</p> <p>Begin targeted weeding in G1 and G4, targeting woody weeds and vines where accessible to reduce biomass. Maintain delineation with turfed areas.</p>	<p>Continue targeted weeding in G1 and G4 to control reoccurring species and exotic ground covers.</p> <p>Begin buffer planting in G1 of low growing shrub and sedge species. Create permanent delineation between the buffer plantings and turf.</p> <p>Continue maintenance weeding across G2 and G3 to maintain at &lt;5% weed density.</p> <p>Maintain delineation with turf across all zones.</p>	<p>Maintenance and monitoring of establishing infill plantings in G1. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Begin buffer planting in G4 of low growing shrub and sedge species. Create permanent delineation between the buffer plantings and turf.</p> <p>Continue maintenance weeding across G2 and G3 to maintain at &lt;5% weed density.</p>

July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
South Clifftop Remnants	<p>Prioritise targeted weeding in remnants and buffers with &lt;30% weed density to reduce and maintain weed density to &lt;5%.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Create and maintain buffer edge around native vegetation (spraying) in Buffer 3.1 and 3.2. Permanent delineation to stop future encroachment of exotic grasses into buffer plantings and reduce maintenance. Control dominant natives <i>Acacia longifolia</i> to allow for regeneration of ground cover species. Targeted weeding to reduce and maintain at &lt;5% weed density. Monitor for native regeneration.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Install and maintain sediment fence in Buffer 5, above remnant Z13a to contain high density weeds upslope.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Continue targeted weeding in remnants with &lt;30% weed density to reduce and maintain weed density to &lt;5%.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Continue targeted weeding in Buffer 3.1 and 3.2 and in Z12a and Z12f to reduce and maintain at &lt;5% weed density. Install infill planting in Buffer 3 where native regeneration is lacking to increase resilience and habitat complexity. Continue controlling dominant natives.</p> <p>Extend targeted weeding above Z12c and prepare for planting.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Begin targeted weeding in Buffer 8 to reduce and maintain weed density at &lt;5%. Prioritise weeding in Z14a - Z14c to control infestations of <i>Coprosma repens</i>, <i>Gazania tomentosa</i> and exotic grasses.</p>	<p>Maintenance weeding across all low weed density zones.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Maintenance and monitoring of establishing buffer plantings in Buffers 3.1, 3.2, 6 and 7.</p> <p>Continue targeted weeding in Z12a and Z12f to reduce and maintain at &lt;5% weed density.</p> <p>Install buffer plantings above remnant Z12c. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and plant low lying native heath.</p> <p>Extend targeted weeding north and south of Z11c and prepare for planting.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Begin primary weeding in previously unworked zones in Buffer 6 and Buffer 7. Target woody weeds such as <i>Coprosma repens</i>. Prepare for planting. Install coir logs and jute matting along the length of the slope. Allow initial flush of exotics and plant low lying native heath.</p> <p>Continue targeted weeding in Buffer 8 to reduce and maintain weed density at &lt;5%. Monitor for native regeneration. Install buffer plantings where areas of native regeneration is low. Install coir logs and jute matting. Planting low growing shrubs to maintain residents' views.</p> <p>Continue weeding in Z14a to reduce and maintain weed density at &lt;5%.</p>	<p>Maintenance weeding across all low weed density zones.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer above Z12c.</p> <p>Install buffer plantings above remnant Z11c. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and plant low lying native heath.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Continue primary weeding in previously unworked zones in Buffer 6 and Buffer 7. Target woody weeds such as <i>Coprosma repens</i>. Prepare for planting. Install coir logs and jute matting along the length of the slope. Allow initial flush of exotics and plant low lying native heath.</p> <p>Continue targeted weeding in Buffer 8 to reduce and maintain weed density at &lt;5%. Continue buffer planting along the slope to connect the corridor.</p> <p>Continue weeding in Z14a to reduce and maintain weed density at &lt;5%.</p>	<p>Maintenance weeding across all low weed density zones.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Maintenance and monitoring of establishing buffer plantings in adjacent to Z11c.</p> <p>Begin targeted works in Z11a and Z11b beginning in previously worked zones of Z11c. Ropes work where necessary.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Begin primary and targeted weed works in Buffer 5 starting at higher quality vegetation or upslope vegetation. Monitor for natural regeneration.</p> <p>Maintenance and monitoring in recently revegetation zones.</p> <p>Contain runoff in Buffer 4 and install sediment fencing to control weed propagule dispersion. Once controlled begin targeted weeding.</p>



July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>Tamarama Marine Drive</b>	<p>Continue frequent targeted sweeps of the core of the T1 remnant and Buffers 1 and 3, targeting re-occurring exotic species.</p> <p>Continue targeted weeding in this zone and previously cleared areas. Once controlled begin buffer planting mesic species. Species list can be found in Appendix F.</p> <p>Prioritise weed treatment of the northern section of the T1 remnant as it contains high density weeds (&gt;70%), to ensure weed species do not encroach into the remnant.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Target and control edge effect from the road on the eastern edge of T1.</p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer 4. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Continue frequent targeted sweeps of the core of the T1 remnant and Buffers 1, 3 and 4.</p>	<p>Begin targeted weeding of Buffer 2 and continue to manage and target reoccurring weeds.</p> <p>Continue monitoring and bush regeneration of all zones.</p>	<p>Begin primary works in Buffer 5. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views.</p> <p>Continue maintenance weeding and watering.</p> <p>Continue monitoring and bush regeneration of all zones.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 5. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Continue monitoring and bush regeneration of all zones.</p>
<b>Calga Reserve &amp; Bronte Cutting</b>	<p>Prioritise targeted weeding in B2, B8, Buffer 3.2, Buffer 4 and Buffer 5 to reduce and maintain weed density at &lt;5%. Maintain or create delineation with turf.</p> <p>Begin targeted weeding in B1 focusing on controlling <i>Hydrocotyle bonariensis</i> and exotic vines. Ropes work to target <i>Asparagus aethiopicus</i> and <i>Gazania tomentosa</i> on cliff edge.</p> <p>Control or removal of <i>Wollastonia uniflora</i> in all buffer vegetation, particularly in the southern end of Buffer 2.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Continue maintenance weeding in B2, B8, Buffer 3.2, Buffer 4 and Buffer 5 to reduce and maintain weed density at &lt;5%.</p> <p>Continue targeted weeding in B1 focusing on controlling <i>Hydrocotyle bonariensis</i> and exotic vines. Hand removal of <i>Hydrocotyle bonariensis</i> around natives. Ropes work to target <i>Asparagus aethiopicus</i> and <i>Gazania tomentosa</i> on cliff edge. Containment of Buffer 3.1.</p> <p>Begin targeted weeding in Buffer 6.</p>	<p>Continue targeted weeding in B1 focusing on controlling <i>Hydrocotyle bonariensis</i> and exotic vines. Ropes work to target <i>Asparagus aethiopicus</i> and <i>Gazania tomentosa</i> on cliff edge. Containment of Buffer 3.1.</p> <p>Continue targeted weeding in Buffer 6 to reduce and maintain at &lt;5% weed density.</p> <p>Begin targeted weeding in Buffers 1 and 2 focusing around patches of higher quality vegetation with regeneration potential.</p>	<p>Continue targeted weeding in B1 to reduce and maintain weed density at &lt;5%. Ropes work where necessary.</p> <p>Continue targeted weeding in Buffer 1 to reduce and maintain at &lt;5% weed density.</p> <p>Continue targeted weeding in Buffer 2 focusing around patches of higher quality vegetation with regeneration potential.</p> <p>Install new sections of buffer planting in Buffer 1 to create connectivity through the whole zone. Coir logging and jute matting preferred. Installation of low lying shrub and sedge species to maintain residents' water views.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 1. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Continue to target weeding in Buffer 2, target areas for revegetation.</p> <p>Install new sections of buffer planting in Buffer 2 to create connectivity through the whole zone. Coir logging and jute matting preferred. Installation of low lying shrub and sedge species to maintain residence' water views.</p>

July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>Waverley Cemetery Cliffs</b>	<p>Prioritise targeted weeding in C1a, C2a, C2c and C2b to reduce and maintain weed density at &lt;5%.</p> <p>Target vines (<i>Ipomoea indica</i>) and hand removal of <i>Parietaria judaica</i> and <i>Acetosa sagittata</i>. Control of <i>Hydrocotyle bonariensis</i> by means of spot spraying and containment of larger infestations. Hand removal and hand application of herbicide where root zones are accessible and minimal soil disturbance can be achieved.</p> <p>Control or eradication of <i>Wollastonia uniflora</i> within buffer zones.</p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer 3.</p> <p>Continued installation of buffer plantings in previously cleared sections in the north of Buffer 3.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Continue targeted weeding in C1a, C2a, C2c and C2b to reduce and maintain weed density at &lt;5%.</p> <p>Begin ropes work to target infestations of <i>Asparagus aethiopicus</i> on the cliff edge in C2a and C2b.</p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer 3.</p> <p>Containment of weeds in Buffer 1.</p>	<p>Continue targeted weeding in C1a, C2a, C2b, C2c, Buffer 2, Buffer 3, and Buffer 4 to reduce and maintain weed density at &lt;5%.</p> <p>Continue ropes work to target infestations of <i>Asparagus aethiopicus</i> on the cliff edge in C2a and C2b.</p> <p>Begin primary weeding in Buffer 5. Works should start and focus around patches of higher quality vegetation in the north of the zone.</p>	<p>Continue primary weeding in Buffer 5. Control reoccurring species in previously worked areas.</p> <p>Begin buffer planting in Buffer 5 where previously cleared. Install coir log or terracing, mulch along the length of the slope. Allow initial flush of exotics and install native heath plant species.</p> <p>Begin targeted weeding in C1b, in areas now made accessible from works completed in Buffer 5.</p> <p>Begin targeted weeding in Buffer 1. Works should start and focus around patches of higher quality vegetation in the south of the zone of C2a. Target woody weeds such as <i>Coprosma repens</i>, <i>Watsonia meriana</i> and <i>Canna x generalis</i>.</p> <p>Maintenance weeding across all low weed density zones.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 5. Control reoccurring species in previously worked areas.</p> <p>Continue primary weeding and buffer planting in Buffer 5. Install coir logs or terracing, mulch along the length of the slope. Allow initial flush of exotics and install native heath plant species.</p> <p>Continue targeted weeding in C1b. Focus on woody weeds and vines around higher quality vegetation.</p> <p>Continue targeted weeding in Buffer 1. Works should start and focus around patches of higher quality vegetation. Ropes work to target infestations of <i>Coprosma repens</i> and <i>Asparagus aethiopicus</i> on the cliff edge.</p> <p>Maintenance weeding across all low weed density zones.</p>

July 2021

Total Earth Care Pty Ltd

Priority Actions					
Site	2021 – 2022 FY	2022 – 2023 FY	2023 – 2024 FY	2024 – 2025 FY	2025 – 2026 FY
<b>York Road Bushland</b>	<p>Repair and maintain fences in working order to prevent damage caused by feral species within the Eastern Suburbs Banksia Scrub.</p> <p>Maintenance weeding in Y2 and Buffer to maintain weed density at &lt;5%.</p> <p>Creation of permanent delineation, such as wooden sleepers in Buffer zone to reduce future maintenance.</p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer.</p> <p>Creation and retention of habitat should be ongoing every year in conjunction with bush regeneration work.</p>	<p>Infill planting in Buffer zone if natural recruitment is low. Plant low lying shrubs and groundcovers to enhance resilience, visuals and habitat complexity.</p> <p>Maintenance weeding in Y2 and Buffer to maintain weed density at &lt;5%.</p> <p>Maintenance of fence.</p>	<p>Maintenance and monitoring of establishing buffer plantings.</p> <p>Maintenance weeding in Y2 and Buffer to maintain weed density at &lt;5%.</p> <p>Maintenance of fence.</p>	<p>Continue monitoring and bush regeneration of all zones.</p>	<p>Continue monitoring and bush regeneration of all zones.</p>



July 2021

Total Earth Care Pty Ltd

Table 15-2. 2026 to 2030 Priority actions within each site and year within the Waverley Council LGA

Site	2026 – 2027 FY	2027 – 2028 FY	2028 – 2029 FY	2029 – 2030 FY
<b>North Clifftop Remnants</b>	Continue targeted weeding within Z1, D1a and Z5. Continue maintenance weeding across all buffer zones.	Continue targeted weeding within Z1, D1a and Z5. Continue maintenance weeding across all buffer zones.	Continue targeted weeding within Z1 D1a and Z5. Continue maintenance weeding across all buffer zones.	Continue targeted weeding within Z1 D1a and Z5. Continue maintenance weeding across all buffer zones.
<b>Diamond Bay Reserve</b>	Maintenance and monitoring of establishing buffer plantings in Buffer 4.2 and 4.3.  Continue mosaic clearing (primary works) in Buffer 4.3. Continue targeted weeding in this zone and previously cleared areas. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views.  Maintenance weeding across all low weed density zones.	Maintenance and monitoring of establishing buffer plantings in Buffer 4.2 and 4.3.  Targeted weeding to stay on top of dominant weeds in D3a and D3b, and any sites needing rope access such as west D1b.  Maintenance weeding across all low weed density zones.	Maintenance and monitoring of establishing buffer plantings in Buffer 4.3.  Continue mosaic clearing (primary works) in Buffer 4.3. Continue targeted weeding in this zone and previously cleared areas. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views.  Targeted weeding to stay on top of dominant weeds in D3a and D3b, and any sites needing rope access such as west D1b.  Maintenance weeding across all low weed density zones.	Maintenance and monitoring of establishing buffer plantings in Buffer 4.3.  Targeted weeding to stay on top of dominant weeds in D3a and D3b, and any sites needing rope access such as west D1b.  Maintenance weeding across all low weed density zones.
<b>Eastern Reserve</b>	Continue targeted weeding in Ec, Eb and Ed pushing out from higher quality and upslope vegetation. Ropes work where necessary.  Maintenance weeding across all low weed density zones. Ropes work where necessary.  Begin primary weed works within Buffer 5 pushing out from higher quality vegetation in Ec and Ed. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views.  Continue to preserve rocky areas as habitat by removing invasive vines and weeds.	Continue primary weed works in Buffer 5 and previously cleared areas. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species. Low growing shrubs should be installed along the upper slope to maintain residents' views.  Continue targeted and maintenance weeding across all low weed density zones. Ropes work where necessary.  Continue to preserve rocky areas as habitat by removing invasive vines and weeds.  Monitor and repair sediment fence between Buffer 5 and remnant Ec.	Maintenance and monitoring of establishing buffer plantings in Buffer 5.  Continue targeted and maintenance weeding across all low weed density zones. Ropes work where necessary.  Continue to preserve rocky areas as habitat by removing invasive vines and weeds.	Maintenance and monitoring of establishing buffer plantings in Buffer 5.  Continue targeted and maintenance weeding across all low weed density zones. Ropes work where necessary.  Continue to preserve rocky areas as habitat by removing invasive vines and weeds.

July 2021

Total Earth Care Pty Ltd

Site	2026 – 2027 FY	2027 – 2028 FY	2028 – 2029 FY	2029 – 2030 FY
<b>Caffyn Park</b>	Extension of No Now Zone in Buffer 1 to extend beyond the most western F6 remnant.  Create and maintain permanent delineation between native vegetation and turf to reduce future maintenance weeding.	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.
<b>Raleigh, Rodney and Weonga Reserves</b>	Maintenance and monitoring of establishing buffer plantings west of R2.  Continue targeted weeding in remnant R2. Ropes work where necessary.  Continue targeted and maintenance weeding across all zones to reduce and maintain at <5% weed density. Ropes work where necessary.  Maintenance weeding across all low weed density zones. Maintenance of delineation between turfed areas and remnants and buffers.  Create connectivity planting adjacent to R3 and connecting to Buffer 5.	Begin primary weeding in Buffer 3, starting at the higher quality vegetation in the north and previously worked vegetation in the south of Buffer 4.2. Allow initial flush of exotics and install native plant species.  Continue primary weeding in Buffer 3 extending out from previously worked vegetation. Allow initial flush of exotics and continue installing native plant species.  Continue targeted and maintenance weeding across all zones to reduce and maintain at <5% weed density. Ropes work where necessary.	Maintenance and monitoring of establishing buffer plantings in Buffer 3.  Continue primary weeding in Buffer 3 extending out from previously worked vegetation. Allow initial flush of exotics and continue installing native plant species.  Continue targeted and maintenance weeding across all zones to reduce and maintain at <5% weed density. Ropes work where necessary.  Maintenance weeding across all low weed density zones. Maintenance of delineation with turf.	Continue targeted and maintenance weeding across all zones to reduce and maintain at <5% weed density. Ropes work where necessary.  Maintenance weeding across all low weed density zones. Maintenance of delineation with turf.
<b>Loombah Road Cliffs</b>	Maintenance and targeted weeding across all zones. Thinning of mesic canopy species, and ground covers where necessary.  Ropes work where necessary.	Maintenance and targeted weeding across all zones. Thinning of mesic canopy species, and ground covers where necessary.  Ropes work where necessary.	Maintenance and targeted weeding across all zones. Thinning of mesic canopy species, and ground covers where necessary.  Ropes work where necessary.	Maintenance and targeted weeding across all zones. Thinning of mesic canopy species, and ground covers where necessary.  Ropes work where necessary.
<b>Hugh Bamford Reserve</b>	Maintenance and monitoring of establishing buffer plantings in Buffer 3 and 4. Once planting in Buffer 4 has established enough to prevent erosion and provide habitat begin primary works in Buffer 5 and follow with planting after a few flushes of weeds.  Continue targeted and maintenance weeding in all low density zones (H2, Buffer 2, H1, Buffer 1 and Buffer 9) to maintain at <5% weed density. Ropes work where necessary.	Continue buffer planting in newly cleared areas of Buffer 5. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species.  Continue targeted and maintenance weeding in all low density zones (H2, Buffer 2, H1, Buffer 1 and Buffer 9) to maintain at <5% weed density. Ropes work where necessary.	Maintenance and monitoring of establishing buffer plantings in Buffer 3, 4 and 5 has established enough to prevent erosion and provide habitat begin staged primary works in Buffer 6 and 7. Follow with planting after a few flushes of weeds. Continue targeted and maintenance weeding in all low density zones (H2, Buffer 2, H1, Buffer 1 and Buffer 9) to maintain at <5% weed density. Ropes work where necessary.	

July 2021

Total Earth Care Pty Ltd

Site	2026 – 2027 FY	2027 – 2028 FY	2028 – 2029 FY	2029 – 2030 FY
<b>Bondi Golf Course &amp; Williams Park</b>	<p>Maintenance and monitoring of establishing infill plantings in G1 and G4. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Continue targeted weeding in G1 and G4 to control reoccurring species and exotic ground covers. Begin ropes work to target <i>Chrysanthemoides monilifera</i> along the edge of the cliff.</p> <p>Continue maintenance weeding across G2 and G3 to maintain at &lt;5% weed density.</p>	<p>Continue targeted weeding in G1 and G4 to control reoccurring species and exotic ground covers. Ropes work where necessary.</p> <p>Continue maintenance weeding across G2, G3 and buffer planting to maintain at &lt;5% weed density.</p>	<p>Continue targeted weeding in G1 and G4 to control reoccurring species and exotic ground covers to reduce weed density to &lt;5%. Ropes work where necessary.</p> <p>Continue maintenance weeding across G2, G3 and buffer planting to maintain at &lt;5% weed density.</p>	<p>Continue targeted weeding in G1 and G4 to control reoccurring species and exotic ground covers to reduce weed density to &lt;5%. Ropes work where necessary.</p> <p>Continue maintenance weeding across G2, G3 and buffer planting to maintain at &lt;5% weed density.</p>
<b>South Clifftop Remnants</b>	<p>Maintenance weeding across all low weed density zones.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Continue targeted works in Z11a and Z11b to target reoccurring weeds. Ropes work where necessary.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Continue primary weeding Buffer 6 and Buffer 7. Continue buffer planting along the slope to connect the corridor.</p> <p>Continue primary and targeted weed works in Buffer 5 starting at higher quality vegetation or upslope vegetation. Monitor for natural regeneration. Install infill planting where natural regeneration is low. Install terracing or coir logs and mulch along the length of the slope. Allow initial flush of exotics and install native plant species.</p> <p>Continue targeted weeding in Buffer 4 and monitor for native regeneration. Infill planting where recruitment is low to maintain connectivity.</p>	<p>Maintenance weeding across all low weed density zones.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Continue targeted works in Z11a and Z11b to reduce and maintain at &lt;5% weed density. Ropes work where necessary.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Maintenance and monitoring of establishing buffer plantings in Buffers 4, 5, 6 and 7. Reduce and maintain at &lt;5% weed density.</p> <p>Continue primary and targeted weed works in Buffer 5, and extend revegetation where necessary.</p>	<p>Maintenance weeding across all low weed density zones.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Continue targeted works in Z11a and Z11b to reduce and maintain at &lt;5% weed density. Ropes work where necessary.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer 5.</p>	<p>Maintenance weeding across all low weed density zones.</p> <p><b>South Bondi (Map 10-2)</b></p> <p>Continue targeted works in Z11a and Z11b to reduce and maintain at &lt;5% weed density. Ropes work where necessary.</p> <p><b>Gaerloch to South Bondi (Map 10-3)</b></p> <p>Maintenance and monitoring of establishing buffer plantings in Buffer 5.</p>
<b>Tamarama Marine Drive</b>	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.



July 2021

Total Earth Care Pty Ltd

Site	2026 – 2027 FY	2027 – 2028 FY	2028 – 2029 FY	2029 – 2030 FY
<b>Calga Reserve &amp; Bronte Cutting</b>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 2. Infill planting where required to fulfil 80% survival rate KPI.</p> <p>Continue targeted weeding in Buffer 2, to reduce and maintain at &lt;5% weed density. Ropes work to control <i>Lantana camara</i> and <i>Asparagus aethiopicus</i> on cliff edges.</p>	<p>Maintenance and targeted weeding across all zones. Focus on controlling <i>Hydrocotyle bonariensis</i>.</p> <p>Ropes work where required to target reoccurring weeds on cliff edge.</p>	<p>Maintenance and targeted weeding across all zones. Focus on controlling <i>Hydrocotyle bonariensis</i>.</p> <p>Ropes work where required to target reoccurring weeds on cliff edge.</p>	<p>Maintenance and targeted weeding across all zones. Focus on controlling <i>Hydrocotyle bonariensis</i>.</p> <p>Ropes work where required to target reoccurring weeds on cliff edge.</p>
<b>Waverley Cemetery Cliffs</b>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 5. Control reoccurring species in previously worked areas.</p> <p>Finish primary weeding and buffer planting in Buffer 5. Installation of final buffer/infill planting where necessary in order to meet &gt;80% survival rate KPI.</p> <p>Continue targeted weeding in C1b. Focus on woody weeds and vines around higher quality vegetation. Begin ropes work to target woody weeds and vines on cliff edge.</p> <p>Continue targeted weeding in Buffer 1 to reduce and maintain at &lt;5% weed density. Ropes work to target infestations of <i>Coprosma repens</i> and <i>Asparagus aethiopicus</i> on the cliff edge.</p> <p>Maintenance weeding across all low weed density zones.</p>	<p>Maintenance and monitoring of establishing buffer plantings in Buffer 5. Control reoccurring species in previously worked areas.</p> <p>Continue targeted weeding in C1b. Focus on woody weeds and vines around higher quality vegetation. Begin ropes work to target woody weeds and vines on cliff edge. Reduce and maintain weed density at &lt;5%.</p> <p>Continue targeted weeding in Buffer 1 to reduce and maintain at &lt;5% weed density. Ropes work to target infestations of <i>Coprosma repens</i> and <i>Asparagus aethiopicus</i> on the cliff edge.</p> <p>Maintenance weeding across all low weed density zones.</p>	<p>Continue targeted weeding in C1b to reduce and maintain at &lt;5% weed density.</p> <p>Maintenance weeding across all low weed density zones.</p>	<p>Continue targeted weeding in C1b to reduce and maintain at &lt;5% weed density.</p> <p>Maintenance weeding across all low weed density zones.</p>
<b>York Road Bushland</b>	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.	Continue monitoring and bush regeneration of all zones.

July 2021

Total Earth Care Pty Ltd

## 16 REFERENCES

AABR (2020). Australian Association of Bush Regenerators, *Case Study: Norah Head Restoration and Rehabilitation*. Website: <https://www.aabr.org.au/case-study-nora-head/>, Viewed 8<sup>th</sup> May 2020.

Apunga (2017). Tamarama Gully and Carlisle St. Photo Points September 2017.

Apunga (2018a). Clifftop Remnants, Waverley Council Australia. June 2018.

Apunga (2018b). Diamond Bay, Waverley Council Australia. June 2018.

Apunga (2018c). Eastern Reserve Waverley Council Australia. June 2018.

Apunga (2018d). Hugh Bamford Waverley Council Australia. June 2018.

Apunga (2018e). Raleigh, Rodney & Weonga Annual Report Waverley Council Australia, June 2018.

Apunga (2018f). Tamarama Gully Restoration Annual Report Waverley Council, July 2018.

Apunga (2019a). Clarke Reserve Annual Report, Waverley Council Australia. June 2019.

Apunga (2019b). Cemetery Boardwalk Annual Report, Waverley Council Australia. June 2019.

Apunga (2019c). Clifftop Remnants, Waverley Council Australia. June 2019.

Apunga (2019d). Diamond Bay Annual Report, Waverley Council Australia. June 2019.

Apunga (2019e). Eastern Reserve, Waverley Council Australia. June 2019.

Apunga (2019f). Clarke Reserve Annual Report, Waverley Council Australia. June 2019.

Apunga (2019g). Hugh Bamford Annual Report, Waverley Council Australia. June 2019.

Apunga (2019h). Tamarama Gully and Carlisle St. Slope Photo Points for July 2019. Prepared for Waverley Council.

Apunga (2019i). Raleigh, Rodney & Weonga Annual Report, Waverley Council Australia. June 2019.

Apunga (2019j). Tamarama Gully Restoration Annual Report Waverley Council, July 2019.

Atlas of Living Australia (ALA) (2020). Open access to Australia's biodiversity data – Spatial Tool. Available at <https://spatial.ala.org.au/>

Australian Museum Business Services (AMBS) (2011). Biodiversity Study of the Waverley Local Government Area. Prepared for Waverley Council.

Ba, L., Facelli, E., & Facelli, J. (2018). Plant-mycorrhizal fungi feedbacks: potential accomplices of *Avena barbata*'s high invasiveness. *Plant Ecology*, 219(9), 1045-1052.

Bush Habitat Restoration Co-operative (2019). York Road ESBS.

DPIE (2020). BioNet Atlas Search [online]. Available at: [https://www.environment.nsw.gov.au/atlaspublicapp/UI\\_Modules/ATLAS\\_/AtlasSearch.aspx](https://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx).

DPIE. (2019). Sunshine Wattle - profile | NSW Environment, Energy and Science. [environment.nsw.gov.au](https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10028). Retrieved 28 July 2020, from <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10028>.

OEH (2016a). NSW Guide to Surveying Threatened Plants. Office of Environment and Heritage, Department of Premier and Cabinet, Sydney.

OEH (2016b). The Native Vegetation of the Sydney Metropolitan Area. Volume 1: Technical Report. Version 3.0. Office of Environment and Heritage, Department of Premier and Cabinet, Sydney.

OEH (2016c). The Native Vegetation of the Sydney Metropolitan Area. Volume 2: Vegetation Community Profiles. Version 3.1. Office of Environment and Heritage, Department of Premier and Cabinet, Sydney.

Marble, C., Neal, J., & Senesac, A. (2020). Use of Glyphosate and Herbicide Alternatives for Weed Control in Florida Landscape Planting Beds. *EDIS*, 2020(1). <https://doi.org/10.32473/edis-ep580-2020>.

Neal, J. & Senesac, A. (2018). Are there alternatives to Glyphosate for weed control in landscapes? Retrieved 7 August 2020, from: <https://content.ces.ncsu.edu/are-there-alternatives-to-glyphosate-for-weed-control-in-landscapes>.

PlantNET (2020). The NSW Plant Information Network System. <http://plantnet.rbg Syd.nsw.gov.au>

Richardson, F.J., Richardson, R.G. and Shepherd, R.C.H., (2016). Weeds of the south-east: an identification guide for Australia (No. Ed. 3). CSIRO.

Robinson L (2003). Field Guide to the Native Plants of Sydney. Kangaroo Press, Sydney.

Sydney Bush Regeneration Company (SBRC) (2010). Waverley Flora Survey Report 2010. Prepared for Waverley Council.

SBRC (2018a). Final Report 2017-18 Bronte Cutting Bushland Regeneration

SBRC (2018b). Final Report 2017-18 Caffyn Park Bushland Regeneration.

SBRC (2018c). Final Report 2017-18 Loombah Cliffs Bushland Regeneration.

SBRC (2018d). Final Report 2017-18 Bronte Gully Bushland Regeneration.

SBRC (2018e). Final Report 2017-18 Waverley Cemetery Boardwalk Bushland Regeneration.

*July 2021**Total Earth Care Pty Ltd*

SBRC (2018f). Final Report 2017-18 Tamarama Bushland Regeneration.

SBRC (2019a). Final Report 2018-19 Bronte Cutting Bushland Regeneration.

SBRC (2019b). Final Report 2018-19 Caffyn Park Bushland Regeneration.

SBRC (2019c). Final Report 2018-19 Loombah Cliffs Bushland Regeneration.

SBRC (2019d). Final Report 2018-19 Bronte Gully Bushland Regeneration.

SBRC (2020). Waverley Flora Survey Report 2020. Prepared for Waverley Council.

Southern Habitat (2019). July 2018 to June 2019, Tamarama Remnant – Bush Regeneration and Wolaroi Crescent extension.

Steele, D (2009). Waverley Aboriginal Heritage Study. Waverley Local Council in Association with the NSW Heritage Office and the NSW Department of Planning. Dominic Steele Consulting Archaeology.

Suding, K., Stanley Harpole, W., Fukami, T., Kulmatiski, A., MacDougall, A., Stein, C., & van der Putten, W. (2013). Consequences of plant-soil feedbacks in invasion. *Journal of Ecology*, 101(2), 298-308.

Total Earth Care (2014). Biodiversity Action Plans 2014 -2020. Prepared for Waverley Council.

Waverley Council (2012). Waverley Council Environmental Action Plan (Version 3) 2012 – 2020.

Waverley Council (2018). Waverley Council Environmental Action Plan (Version 4) 2018 – 2030.

Waverley Council (2019). Draft Williams Park and Hugh Bamford Reserve Plan of Management, November 2019.



July 2021

Total Earth Care Pty Ltd

## GLOSSARY

Term	Definition
<b>Best practice</b>	Industry standards or the best known approach.
<b>Bionet</b>	NSW Bionet Atlas is the repository for biodiversity data managed by DPIE. It contains records of species sightings including threatened species.
<b>Buffer planting</b>	As defined by SBRC within the Waverley Flora Survey 2020, buffer vegetation is considered as plantings consisting almost entirely of local native plant species, within 50 m of remnant vegetation, which occur in park settings on Council or Centennial Parklands managed land.
<b>Connectivity planting</b>	Revegetated areas or proposed revegetated areas that connect two or more areas of vegetation. Usually for the purposes of habitat connectivity.
<b>Cultivars</b>	A plant variety that has been produced in cultivation by selective breeding.
<b>Delineation</b>	Defining the physical border or boundary to show boundaries for management and control of weeds.
<b>Genetic integrity</b>	Maintenance of the genetic elements and variation of a species.
<b>Infill planting</b>	Planting into areas of existing native vegetation to increase diversity or prevent weeds establishment.
<b>Local provenance</b>	Plants, seeds or plant populations containing local genetic variation.
<b>Microhabitats</b>	A habitat of limited extent differing from the surrounding habitat usually with unique conditions.
<b>Monocot</b>	A plant species containing a single cotyledon. Typically referred to as grasses within this report
<b>Priority Weeds</b>	Weeds are defined as state or regional level priority weeds within the <i>Biosecurity Act 2015</i> and the <i>Greater Sydney Strategic Weed Management Plan 2017-2022</i> . Priority weeds are given specific requirements based on their priority under the Act.
<b>Regeneration</b>	The process of growing a plant naturally from the seedbank.
<b>Remnant vegetation</b>	As defined by SBRC within the Waverley Flora Survey 2020, remnant vegetation is considered as: <ul style="list-style-type: none"> <li>- the original (pre-1788) vegetation which has survived to this day. It includes both undisturbed and disturbed remnant vegetation.</li> <li>- including vegetation which has colonised disturbed areas, where there was no remnant vegetation for a period.</li> </ul>

Term	Definition
	<ul style="list-style-type: none"> <li>- vegetation that has survived and spread by natural processes, including seed dispersal and vegetative spread.</li> <li>- vegetation that does not include plantings of local species or plants originating from such plantings.</li> </ul>
<b>Soil seedbank</b>	The natural storage layer of seeds within the soil. Seeds within the seedbank. They are often dormant awaiting some sort of stimulation to promote regeneration.
<b>Vegetation community</b>	Assemblage of associated plant species within a designated geographical unit.

## ACRONYMS AND ABBREVIATIONS

Term	Definition
<b>BAP</b>	Biodiversity Action Plan
<b>BC Act</b>	NSW <i>Biodiversity Conservation Act 2016</i>
<b>CEEC</b>	Critically Endangered Ecological Community
<b>DPIE</b>	Department of Planning, Industry and Environment
<b>EAP4</b>	Environmental Action Plan Version 4 2018
<b>EEC</b>	Endangered Ecological Community
<b>EPBC Act</b>	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
<b>ESBS</b>	Eastern Suburbs Banksia Scrub
<b>FY</b>	Financial Year
<b>LGA</b>	Local Government Area
<b>PCT</b>	Plant Community Type
<b>PoD</b>	Prohibition on Dealings
<b>RRM</b>	Regional Recommended Measure
<b>SBRC</b>	Sydney Bush Regeneration Company
<b>TEC</b>	Total Earth Care
<b>WoNS</b>	Weeds of National Significance

## APPENDIX A – RECOMMENDED ACTION METHODOLOGIES

### ACHIEVING EAP4 OBJECTIVES

This BAP is a strategic working document to outline works required to achieve Council's EAP4 targets. Recommendations include targeted and prioritised weed control, erosion and stormwater controls, buffer planting of adjacent areas to the remnant vegetation, infill planting of remnant bushland, fauna habitat creation, delineation of remnant areas and restricted public access. These recommendations are aimed at protecting and improving the condition of existing remnant bushland, to work towards achieving no loss of remnant vegetation and improving remnant condition towards 40% of remnant vegetation being in good condition by 2040. This appendix details general methodologies for recommended actions.

All works should be subject to monitoring so that alternative strategies can be implemented if a methodology is displaying limited success. Ecological monitoring should be conducted on a yearly basis in order to determine if the Key Performance Indicators (KPIs) within this BAP are being met and whether the actions are on track to meet the EAP4 targets. In general monitoring actions include:

- The establishment of photo-points in each accessible zone;
- The establishment of fixed quadrats or transect survey locations to assess species composition, weed density and abundance and native regeneration; and
- Observations of fauna, appearance of new species to the site, loss of species, native recruitment, condition and change in extent of remnant vegetation.

### RESPONSIBILITIES

It is important to note that trained bush regenerators are required to conduct the recommended actions within remnant vegetation. However, Council Park's staff can be trained to undertake some tasks within buffers or connective planting. Responsible personnel have been defined within the actions table for each site.

### DELINEATION

The creation and maintenance of permanent delineation, either between buffer plantings or remnant vegetation and adjacent areas of turf, is of priority. This aims to reduce future maintenance of exotic grasses and ensures that exotic grasses such as *Stenotaphrum secundatum* (Buffalo Grass) do not outcompete native vegetation. Suitable delineation

techniques include the creation of spray edges, mulch edge or the installation of physical edges such as steel edging or timber sleepers. Physical delineation can also serve to deter the public from entering vegetated areas and hence reduce the transport of weed seeds and prevent trampling of vegetation. However, physical delineation can be costly and requires maintenance. Spray edging is a cheaper alternative. A buffer area of approximately 50 – 200cm should be sprayed around the remnant or buffer patches adjacent to turf with a monocot specific herbicide. Any other non-monocotyledonous weeds should be removed by hand. Alternatively a mulch edge can be established with a minimum of 300mm of mulch. It would need to be topped up annually or biannually. Any regrowth of native species, particularly those endemic to the adjacent vegetation community, should be retained in order to expand localised occurrences, particularly in areas that can provide connectivity between vegetation patches.

Delineation is of particular importance in marsh communities such as the remnant vegetation communities described as Sea-cliff Grassland and Sea-cliff Sedgeland which are dominated by coastal clifftop marsh species, including *Ficinia nodosa*. These communities typically display low diversity and are easily outcompeted by exotic grasses and groundcovers.

Delineation between the buffer planting and the remnant vegetation must be maintained. This is in order to encourage expansion of remnant vegetation where viable and allows for ease in tracking changes to the remnant, for example if natural regeneration is observed beyond the delineated remnant edge.

### PLANTING AND HABITAT CREATION

#### Buffer Planting

Buffer planting can be used to reduce the edge effects, including weed and turf encroachment into the remnant and expand fauna habitat. Dense plantings may also help reduce unauthorised public access to the remnant and delineate remnants from disturbed areas whilst also improving the aesthetics of the area.

Native buffer planting supports natural native regeneration processes by providing more inhabitable soil types through positive feedback mechanisms (Ba et al. 2018; Suding et al. 2013), increasing resilience of remnant vegetation and decreasing competition from weed species. Buffer planting also aims to provide habitat for native fauna through increasing available sheltering and foraging resources.

July 2021

Total Earth Care Pty Ltd

Previously, buffer plantings aimed to leave a gap between plantings and remnant vegetation in order to encourage natural expansion of remnant vegetation. However, in some circumstances, these gaps have facilitated further weed invasion, or the edges between the buffer planting and the remnant vegetation have been neglected. Methodology may need to be reconsidered to address this issue and look at filling in the gaps with suitable buffer plantings where regeneration is low. Where the native seedbank of the remnant vegetation is viable or recruitment from the adjacent remnant may have the ability to expand beyond the edges of the remnant, gaps can be incorporated into buffer plantings to allow space for natural regeneration and expansion of remnant vegetation. However, weed control should be rigorous in these gaps and along the edge of the remnant, in order to increase the likelihood of natural regeneration by making the conditions favourable for native growth. When installing buffer planting, species should be carefully selected to reduce the potential for dominant natives smothering remnant patches. For example, as previously discussed *Wollastonia uniflora* has not been a suitable choice of species.

If differentiation of the non-remnant plantings from the remnant is desired the buffer planting should include a low diversity of varying species to the remnant species. This will preserve the integrity of the remnant. This has been successful next to existing remnants where buffer plantings have included *Lomandra longifolia*, *Westringia fruticosa* and *Acacia longifolia* var. *sophorae* which are easily differentiated from the remnant. *Acacia longifolia* var. *sophorae* must only be planted with caution as it can form a monoculture and may die off within a few years. Most buffer planting species suited to the coastal environment of the Waverley LGA are low growing shrubs, sedges, rushes and ground cover species. However if a greater diversity of buffer planting species is used it may provide more resilience to climate change and generally improve local biodiversity. There is a higher chance that a more diverse buffer will integrate with the remnant and share genetics as there is a higher chance of planting a species that may also be present in the remnant. If local provenance stock is used in buffers this may assist in improving the resilience of the remnant.

Council Parks Staff could be trained to undertake maintenance of the buffer and connectivity planting areas which would reduce the need to engage bush regeneration contractors. Maintenance is likely to require general weed management and selective control of dominant natives. Where weeds or natives are removed a minimum layer of 100mm of mulch can be used to assist in the suppression of weeds. Infill planting with natives can assist this process. Maintenance of buffer edges may be required.

### Connectivity Planting

Connectivity planting serves to create a continuous habitat corridor throughout the LGA, by planting in order to connect patches of fragmented remnant vegetation and fauna passageways, supporting healthy gene flow. See Figure A-1 for recognised habitat and habitat corridors within the LGA. Native flora species planted in these areas should be selected based on their habitat potential as shelter and food sources for the local fauna. Habitat should also be created through the inclusion of features such as dead logs and sandstone rocks.

### Infill Planting

Infill or supplementary planting into a remnant is a less desirable option than natural regeneration, but may be required in areas where regeneration potential has been lost as a result of years of negative impacts, fragmentation and weed invasion.

Infill planting should only be used after 18 months of bush regeneration works have been undertaken. Infill planting must use remnant tube stock species propagated from local provenance material to protect the genetic integrity of the remnant, support local fauna and to provide character of place. Local provenance can be considered anything along the coast from the Northern Beaches LGA to the Sutherland Shire LGA. Similar to that of the distribution of Eastern Suburbs Banksia Scrub (ESBS). This would allow for some genetic diversity whilst still protecting genetic integrity.

It is often argued whether a remnant can still be considered remnant if it has received infill planting. It is ultimately a subjective matter however, based on the previous flora condition surveys if infill planting is conducted in remnants it may mean that the vegetation is no longer considered to be remnant and could impact EAP4 targets. However, in some cases it may be the only way to assist in preserving the remnant where the seedbank may be lacking diversity or is required to prevent weed incursion. Infill planting would improve the condition of the remnant and potentially its resilience, although based on previous flora condition surveys it is unlikely to contribute to EAP4 targets and may reduce the area of remnant vegetation according to the previous assessment methods. Therefore it is essential that infill planting only be used once other options have been exhausted and only local provenance species suitable to the site and the vegetation community present be used. Appendix F includes a list of species that can be used for planting at each site.



July 2021

Total Earth Care Pty Ltd

### Species Selection

The planting species list provided in Appendix F, has been generated from species characteristic of communities mapped within Waverley Council LGA remnant vegetation, or as occupying similar ecological niches based on *The Native Vegetation of the Sydney Metropolitan Area* (OEH 2016b, OEH 2016c). The vegetation communities as described by SBRC 2020 and the species currently present within the buffer planting zones were also taken into consideration.

Only local provenance stock must be planted and cultivars or popular horticultural plants must not be planted in buffer or connectivity planting or within remnants. The availability of local provenance species may affect species selection and ultimately dictate the diversity of the buffer or connectivity planting.

It was noted that in buffer plantings at some sites within the LGA, *Acacia longifolia* subsp. *sophorae* had become dominant and outcompeted other planted native species. The planting of this species has become problematic in some buffer plantings installed in 2016. In areas that this is likely to occur, it is recommended that no more than 20% of the trees and shrubs planted include *Acacia longifolia* subsp. *sophorae*. However, *Acacia longifolia* subsp. *sophorae* should not be excluded from plantings entirely as in some areas the quick establishment of *Acacia longifolia* subsp. *sophorae* can be useful where there is a requirement to quickly outcompete weeds or provide habitat. This may be the case for Bay Street. Where this approach is used it is important to follow up with thinning and replacement of *Acacia longifolia* subsp. *sophorae* individuals with other species to create diversity over time (approximately 18 – 24 months from planting) or once the plant, or area it is protecting has become more established.

### Habitat Creation and Retention

Due to the urban landscape that surrounds the bushland and native vegetation remnants of the Waverley LGA it is essential that fauna habitat is retained, expanded or created where possible to continue to support the native fauna of the area that also serve as important pollinators to our native vegetation.

Weed thickets such as Lantana are known to provide valuable habitat to small bird species and refuge for reptiles in the urban landscape. As such, the retention of these weeds can also be critically important for fauna where available habitat is limited. Rather than removing these they can be contained and managed as habitat. Where weed thickets are to be

removed they should be done in a staged manner to allow replacement habitat to be planted and establish before removing additional weed habitat.

It is important that other habitat features such as logs, dead branches, bush rock and hollows are retained where possible. These are all important habitat features that may provide shelter or nesting habitat for birds or shelter for reptiles. Logs and branches also contribute to the organic composition of the soil which can provide food for important invertebrates and plants. While bush rock and sandstone can provide microhabitats for invertebrates and reptiles.

It is important to manage weeds on sandstone cliffs or escarpments where feasible, as they may contain crevices suitable for microbat habitat. Ensuring that they remain clear of weeds, will allow access to any suitable crevices for roosting or breeding. The management of weeds over other rocky surfaces and drainage lines is important for maintaining habitat for reptiles and frogs. Reptiles require exposed rocks for basking in the sun while frogs need access to drainages lines and rocky pools for breeding, both of which can easily become overrun with weeds, particularly vines.

Habitat can also be created or expanded through the placement of additional logs, hollows or rocks in remnant or planted vegetation. Where trees are trimmed or removed in other parts of the LGA logs or hollows could be reused and placed in areas of retained vegetation.

Connectivity planting is another method of expanding but also connecting habitat as discussed above. It will create improved access for fauna to move between different patches of vegetation and improve gene flow. It may also assist in expanding suitable habitat for recruitment of the remnant vegetation. Species selection for connectivity planting is essential for fauna to ensure the structure is suitable habitat for local fauna species as well as providing suitable foraging resources.

July 2021

Total Earth Care Pty Ltd

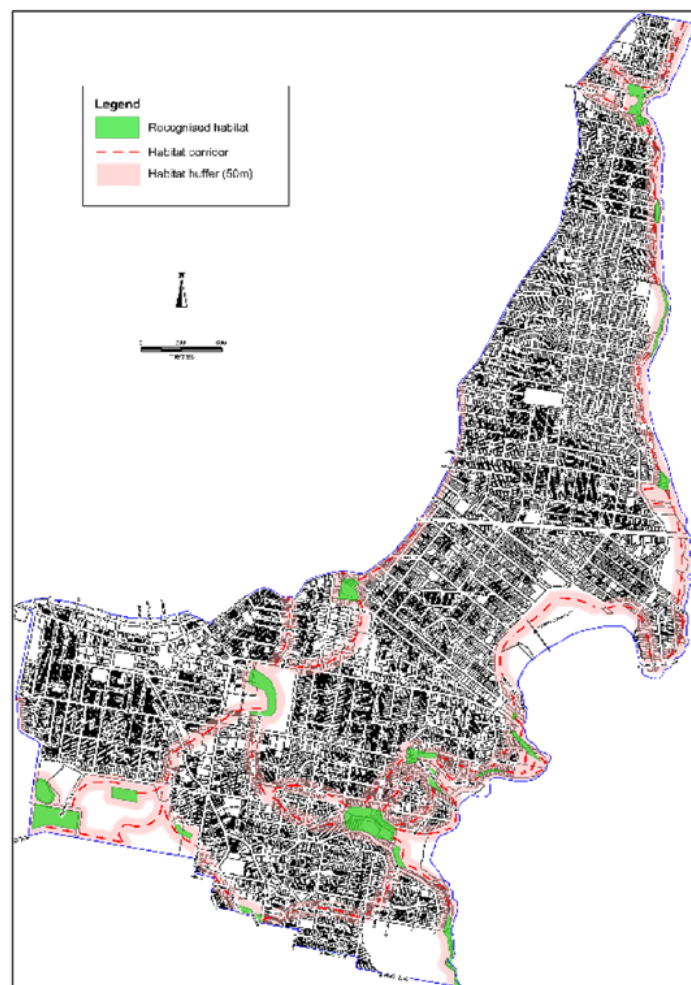


Figure A-1. Recognised habitat and habitat corridors within the Waverley Council LGA (Waverley Council, 2012)

## TARGETED SEASONAL AND MAINTENANCE WEEDING

Targeted weeding is a method that can also be employed where limited resources do not allow for control of every weed species on site. Targeted weeding is to be prioritised in zones which currently display low weed density (ie. less than 30% weed density). Targeted weeding should occur in both remnant vegetation and buffer plantings. The net aim is to reduce and maintain weed density in these zones to below 5% within the first two years. In some circumstances, ropes work is a priority to properly access root zones of persistent weed species and to reduce future establishment and encroachment. Sometimes targeted weeding may need to be restricted to the removal of propagules, such as seeds or aerial tubers from plants, rather than removal of the entire plant. The secondary target is to work within areas of high weed density, focusing on patches of native vegetation with higher resilience. Zones should also be identified which display potential for further rehabilitation to increase connectivity and promote natural regeneration.

The glyphosate ban implemented by Waverley Council has resulted in a requirement for more frequent site visits and a reduction in the area of weeds that can be treated in each of these visits, thus significantly increasing the cost of weed control. In general, across all sites bush regeneration should occur at least fortnightly by qualified and experienced bush regenerators. Follow up weed treatment will also need to be more frequent and carried out prior to seeding, aiming to exhaust the exotic seedbank in the soil.

Best practice treatment methods including herbicide options and rates (excluding Glyphosate) have been included in Appendix D for priority weeds and those identified as problem weeds within the LGA by Council

## Dominant Weeds

The dominant weed species recorded at the BAP sites during the 2020 site surveys are detailed Appendix C. Across the Waverley Council LGA, the persistent and dominant weeds are:

- *Acetosa sagittata* (Turkey Rhubarb);
- *Anredera cordifolia* (Madeira Vine);
- *Asparagus aethiopicus* (Asparagus Fern);
- *Coprosma repens* (Mirror Bush);
- *Gazania tomentosa* (Gazania);
- *Hydrocotyle bonariensis* (Large leaf Pennywort);
- *Ipomoea cairica* (Coast Morning Glory);

July 2021

Total Earth Care Pty Ltd

- *Ipomoea indica* (Morning Glory);
- *Lantana camara* (Lantana);
- *Parietaria judaica* (Pellitory); and
- *Stenotaphrum secundatum* (Buffalo Grass).

Additionally, *Salpichroa oranifolia* (Pampas Lily-of-the-valley) has historically been an issue to manage and has dominated plantings particularly at Rodney Reserve and Diamond Bay.

Weed treatments are site specific, however in general woody weeds are to be removed by cut and paint methodology to allow root systems to remain intact, preventing erosion. In cases where post-emergence herbicide alternatives are used, follow-up treatment will need to be more frequent. Where there are low densities of *Hydrocotyle bonariensis* and *Gazania tomentosa*, success has been seen in hand removal techniques where root systems are accessible, particularly around natives in ecologically sensitive areas. Although, where there are high densities of these species, particularly *Hydrocotyle bonariensis*, hand removal can cause the species to regrow more prolifically than before or dependent on the location of the roots, removal may impact adjacent native species. Treatment must be done on a site specific basis.

### Containment

Where zones are in extremely poor condition with more than 70% weed density, the priority is to contain these areas by means of sediment fencing to reduce weed propagule dispersion into areas of good condition. These areas are not a priority for weed treatment. Upon the removal of the weeds there is likely to be little native regeneration and these areas will likely provide valuable habitat for birds in cases where dense thickets such as of *Lantana camara* are present. These areas should be removed mosaically overtime and gradually planted in order to maintain habitat.

### Weed treatment methods

An integrated approach is considered best practice for managing weeds and improving remnant bushland condition. Weed management within remnants must be carried out by suitably qualified and experienced bush regenerators. Methods may include the following:

#### Manual Weed Treatment/Removal

Manual removal, or hand weeding, is an effective form of weed control for small areas when all viable parts of the plant are removed from the soil (roots, fruiting material and rhizomes) where practical, or treated in situ via cut and paint (with herbicide) technique.

All weeds removed by hand must be handled according to best practice bush regeneration techniques to prevent dispersal of propagules from the removed weeds. All reproductive material must be bagged and taken off site and discarded in a waste facility. If off-site disposal is not practicable hanging the plant in a tree will ensure the plant properly dries out.

This approach is preferred in areas where significant native plants exist as using herbicide may result in inadvertent poisoning of native species. Hand weeding is beneficial where a low impact on existing vegetation is a priority. This approach is most suitable for shallow rooted annuals, perennials and juvenile plants that can be removed by hand with minimal soil disturbance. In many cases this is the preferred method of weed removal in sensitive areas.

Digging out a weed uses similar approaches to hand pulling. This method involves removing the entire plant including the roots and underground bulbs. Some species like *Asparagus* have spreading roots systems with an underground woody rhizome which has regeneration potential, therefore the entirety of the rhizome crown must be dug out.

#### Herbicides Treatments

All herbicides should be used according to recommendations on the herbicide label.

Appropriate Personal Protective Equipment (PPE) should be worn and consideration given to time of day, likelihood of rainfall, wind direction and likely impact on native species as per guidelines on the label. Use of glyphosate will be appropriate for most species. Glyphosate is usually the preferred herbicide for use in environmentally sensitive areas as it is rapidly broken down by microbes in the soil so residue is short lived and will not affect remnant and planted native individuals in the long term following application. Alternative herbicides to glyphosate generally have long half-lives where residuals remain in the soil longer which is particularly not preferable in areas of sandy soils such as the Waverley LGA. Species specific alternative herbicides are included in Appendix D. These alternative herbicides are known to be more harmful to humans and fish than glyphosate. Organic herbicides generally consists of acids, such as Pelargonic acid, or botanical oils, have contact type activity, meaning the herbicide does not translocate to the roots of the plant. These herbicides only cause damage to the leaves and stems of the plant, but will not kill the entire plant and therefore are not viable for a long term solution for reducing the biomass of invasive weeds (Neal & Senesac, 2018; Marble et al., 2020).

It is important to note that there can be legal restrictions and permit requirements for use of specific herbicides for specific plants, and chemical labels and permit requirements always need to be researched prior to herbicide application.



July 2021

Total Earth Care Pty Ltd

Manual and mechanical removal will be an appropriate form of control for some species, and all chemical treatment should be carried out in accordance with best practice guidelines.

Best practice treatment methods including herbicide options and rates (excluding Glyphosate) have been included in Appendix D for priority weeds and those identified as problem weeds within the LGA by Council.

#### *Herbicide Spray*

Herbicide spray utilises herbicides to control weeds. The herbicide is absorbed through the leaves. Foliar application is best practiced in areas where exotic grasses and ground covers are dominant. Unlike hand weeding situations which require minimal impacts to surrounding vegetation foliar spraying is typically broader scale. Unwanted over spray often kills neighbouring native plants and reduces regeneration potential. When controlling exotic groundcovers adjacent to natives it may be beneficial to hand weed or pull back the weed to create an area of bare ground between the two. This will reduce accidental overspray and damage to natives, encouraging natives to colonise the bare ground.

#### *Cut and Paint*

This method involves cutting the stem or trunk of the weed just above ground level and immediately applying non-residual herbicide to the remaining stem or trunk. This is an effective herbicide application method for woody weeds. It is also practical in sensitive areas as only individual stems are treated. Cut and paint methods retain root structure which can be beneficial for soil stabilisation, which is imperative for the majority of the steep clifftop remnants in the Waverley LGA.

#### *Scrape and Paint*

The scrape and paint method involves scraping the trunk or stem of a weed and applying herbicide to the fresh wound. This method is most effective to remove exotic vines not easily eradicated using cut and paint or hand removal, as it allows for greater surface areas to be treated. It increases the amount of herbicide application which may be needed to kill aerial or ground tubers. Care it to be taken not to scrape too deep or the entire circumference of the stem otherwise a 'ring-barking' effect may result, and the weed may regrow beneath the ring-bark.

### ***Other herbicide free weed treatment methods***

#### *Flame Weeding*

Small or young annual weeds, particularly broad-leaved weeds can be controlled through the use of fire, which also encourages native regrowth. Small scale burning can be achieved using propane torch kits to flame weeds. Weeds are lit and rapidly extinguished. Flame weeding must be carried out in accordance with Work Health and Safety Guidelines and best practise guidelines. This could be a useful alternative around edges or buffer edge where they may be dominated by annual weeds.

#### *Ecological Pile Burns*

Many native Australian plant species require fire to germinate. If an area is not burnt for a long time some plant species may age and eventually die without reproducing. On the other hand if an area is burnt too frequently plants may not be able to reach reproductive maturity and so the seedbank will be depleted. Ecological burns are carried out to replicate the natural fire cycle, in line with the guidelines for the present vegetation community. They also aid weed control. It is important after a burn to conduct regular weed control to allow the native seed bank to regenerate.

Burning should be conducted as small pile burns within vegetation patches in accordance with the NSW RFS Standards for Pile Burning. As the patches are isolated, the entirety of a patch should not be burned as any fauna using the area may not be able to disperse into neighbouring vegetation.

Where ecological pile burns have been recommended they are to be planned, guided and implemented as per an approved Fire Management Plan prepared by a qualified and experienced Bushfire Consultant. In preparing a Fire Management Plan, Council can plan and implement ecological burns in a staged and safe manner with sufficient time to consult with the community, especially within the immediate vicinity of the vegetation to be burnt.

#### *Alternatives to Ecological Pile Burns*

The undertaking of ecological or hazard reduction burns can have the potential to illicit opposition from the community and in some cases can encounter delays during the approval process. In the case where it may not be possible to undertake an ecological burn other techniques can be used to stimulate the native seedbank and control weeds in a similar manner to what a burn may have achieved. These techniques include:

July 2021

Total Earth Care Pty Ltd

- Disturbance of the soil surface using raking or scarification to stimulate the native seedbank.
- Treatment of the soil using smoke water or the use of smoke tents. Smoke is known to be the trigger for native germination rather than the heat or flames for some species. It is best that this method is trialled and adapted where appropriate.
- Selective removal of over-mature or over abundant species which would usually be removed by fire. This will open up the canopy and will encourage germination from the native seedbank.
- Flame weeding will also provide heat to the soil and seedbank similar to a natural burn which is also known to encourage native regrowth.

The above mentioned techniques are best used in areas where a remnant seedbank is known or expected. Suitable sites include Hugh Bamford Reserve and the York Road Remnant.

### Biological Controls

The control of weeds through biological controls is to use predators, parasites or microbial pathogens to suppress pests. Biological controls have not been identified as suitable for these sites due to the lack of susceptible weed species. However, the CSIRO are often trialling biological controls. As new studies develop suitable biological controls may be available for the LGA.

### Change Soil pH

Soil pH can be altered to make the conditions less favourable for annual weed species, in turn reducing recruitment overtime. One way to achieve this is through the addition of sugar to the soil. This can be a successful method when treating large areas of *Bidens pilosa*.

### Alternative treatment methods for *Hydrocotyle bonariensis*

Management of *Hydrocotyle bonariensis* has been an ongoing issue at many sites within the Waverley LGA including Waverley Cemetery Cliffs and Diamond Bay. Often treatment is unsuccessful and the species continues to threaten remnant vegetation. Some hand weeding has encouraged more expansive and rigorous growth. A combination of methods may be required in some areas, particularly in sensitive areas such as drainage lines or frog habitat where the use of herbicide should be prevented. The following alternative methods should be trialled to treat *Hydrocotyle bonariensis* using plots, in order to assess the suitability to the specific site:

- **Methodical hand weeding:** involves careful systematic hand weeding in methodical patches. Hand weeding has been done at some sites but if not done correctly it can accelerate the problem. Hand weeding must be done with the utmost care as the species will regenerate from any broken vegetative parts left in the soil. Mattocks should not be used. Hand weeding should involve digging in front the plume of *Hydrocotyle* to find the start of the runners. The runners should be followed and dug back towards the plume. All snapped roots must be removed. This can be very time consuming and expensive. Hand weeding may still be required in combination with other methods or in sensitive areas of frog habitat where chemical use is not suitable.
- **Crunch spraying:** the leaves of the *Hydrocotyle* must be crunched by hand to break the cuticle of the leaf and sprayed with herbicide individually using a small spray bottle with herbicide. This method is also slow and can be costly.
- **Iron-sulphate application:** Iron-sulphate can be applied to the leaves. Broad-leaved plants typically absorb more iron-sulphate and burn off.

The methods should be trialled to assess the suitability at the specific sites. The trials must be monitored, assessed and adapted if necessary.

## OTHER BIODIVERSITY MANAGEMENT OPTIONS

### Control of Dominant Natives

Some remnants have become dominated by one or two native flora species due to lack of fire or lack of natural disturbance events. These dominant species can over crowd or over shadow areas preventing recruitment from the seedbank. At Loombah Road *Homalanthus populifolius* is starting to dominate the canopy and over shadow the ground layer while *Commelina cyanea* is dominating the ground layer and preventing recruitment which can prevent or deplete the diversity of the remnant. Therefore, it is necessary to thin the canopy of *Homalanthus populifolius* by selectively removing individual mature plants or saplings. The *Commelina cyanea* can be raked back in areas to expose the soil and encourage germination of the seedbank. Some of this is already occurring at this site and as a result is assisting the recruitment of *Acacia terminalis* subsp. *Eastern Sydney*.

Other sites may require management of young *Banksia integrifolias* to prevent overshadowing of the ground layer. Parts of Hugh Bamford Reserve could benefit from the management of *Kunzea ambigua* and *Leptospermum laevigatum* if an ecological burn cannot



July 2021

Total Earth Care Pty Ltd

be conducted. Many buffer planting areas throughout the LGA require the selective removal of *Acacia longifolia* and *Wollastonia uniflora* which have become dominant and are overcrowding areas of the buffer. At several sites throughout the LGA, *Wollastonia uniflora* had previously been planted within the buffer planting zones (Apunga 2019). This has exhibited invasive behaviours and is severely smothering natives reducing the overall diversity and resilience of the buffer vegetation. This species can be a “weedy native” in some locations, however it can be effectively used in areas that are not easily maintained and areas where other natives may have limited success (ie. clifftops or areas of poor soil quality).

Where the removal of species in the buffers creates a cleared area, infill planting of other species will most likely be required to prevent weed encroachment and as it is unlikely to contain a seedbank for natural recruitment if recently established.

### Sandstone Capping

Where areas are depleted of organic material and lack substrate to plant into, sandstone capping can be used to provide a substrate for direct seeding or planting. It is also a useful method to prevent weed recruitment in areas of high density weeds that are to be cleared.

Sandstone capping can be conducted by clearing areas entirely dominated by weeds where there is unlikely to be any native seedbank remaining. All weed biomass should be removed and then the surface should be graded and a flush of weeds allowed to come up and be treated prior to capping. A minimum of 300mm of crushed sandstone is required to suppress weeds. The addition of light layer (25mm) of native tree mulch can assist in the establishment of Mycorrhizal fungi but must be thin enough to avoid providing suitable habitat for weeds from neighbouring sources to establish. In areas without an adjacent weed source heavier mulch can be used. Sandstone capped areas can then be planted into or direct seeded.

Where sandstone capping is to occur on slopes or may be subject to significant wind erosion terracing, coir logs, jute matting or jute mesh may be required to ensure the retention of the sandstone capping.

Sandstone capping is recommended if planting is desired along cliff edges and rock shelves to protect small fragmented patches of remnant vegetation, particularly between Tamarama and Bronte beaches. Currently areas adjacent to the remnant patches consist of weed species that are encroaching on the remnants. These weeds have established in minimal substrate, typical of cliff line and rock shelf vegetation. These areas could be cleared of weeds and capped with sandstone. Due to the steep slopes and exposure to the ocean winds it would require a combination of jute mesh and coir logs to ensure the capping isn't weathered away.

The coir logs would need to be drilled into the rock shelf to stabilise them therefore stability of the rocks and the possible presence of Aboriginal heritage must be considered with any work along the cliffs or rock shelves. Due to the nature of the cliff line and rock shelf sites it is recommended that this method is first trialled as the harsh conditions of the site could impact its success.

Sandstone capping can also be used to cap soil contaminated with asbestos, such as Clarke Reserve. In these cases a marker layer usually consisting of geotextile fabric must be laid before a minimum layer of 300mm of crushed sandstone is added. This must only be planted into with small shrubs and grasses so that their roots do not penetrate the marker layer.

See the soil seedbank translocation case study for an example of sandstone capping application. Given the proposed sites within the Waverley LGA have unique conditions sandstone capping should be trialled at a small scale first.

### Soil Seedbank Translocation

Soil seedbank translocation is a process involving the removal and transfer of the O, A and B soil horizons from a donor site to a recipient site with a depth of approximately 500 mm. The soil horizons removed may vary depending on the soil type. By translocating these soil horizons, the aim is to capture the propagules of the native plant community so it can regenerate at the recipient site. Therefore, preserving a vegetation community that would have otherwise been lost to development. To generate growth from the soil seedbank usually some form of disturbance is required by either physical disturbance to the soil, fire, heat, smoke or other physical condition changes to the surrounding environment. Some species may initially establish from asexual reproduction of plant parts including rhizomes, roots and stems. Species present both in the donor site and the recipient site are likely to have a variety of adaptations to fire events and in general these adaptations are usually relied upon as means of translocating viable plant material during soil translocation. The physical nature of translocating soil is often enough to promote new growth from the seed bank, however some species will continue to remain dormant until a fire event.

This method could be utilised where an area of remnant vegetation is being cleared for development either within the LGA, neighbouring LGAs or elsewhere in Sydney. Sites within the Waverley LGA could potentially become recipient sites for a soil seedbank translocation for an Endangered or Critically Endangered Ecological Community such as Eastern Suburbs Banksia Scrub where clearing may occur in neighbouring LGAs such as Randwick.



July 2021

Total Earth Care Pty Ltd

Soil seedbank translocation is a costly endeavour at the start but long term can result in savings due to a reduced requirement for ongoing bush regeneration once the vegetation community is self-generating. However, it would not be suitable for the majority of coastline vegetation where it is highly exposed and likely to be subject to strong winds and erosion, resulting in a loss of the translocated soil. Sites that could be used as recipient sites within the Waverley LGA may include Tower Street Reserve and Jensen Avenue.

#### CASE STUDY – Soil Seedbank Translocation of Duffys Forest EEC

In 2010 Total Earth Care prepared a Soil Seedbank Translocation Plan and began to undertake the translocation of an area of Duffys Forest EEC that would have otherwise been lost to development in Belrose. The recipient site was previously a decommissioned works depot that was cleared of vegetation. The location, geology and close proximity to the donor site and to other areas of Duffy Forest EEC made it a perfect candidate as a recipient site.

Five years of monitoring was undertaken following the translocation to assess its success and collect information that could assist in future translocations. The monitoring showed clear changes in the structure and diversity of the community over time which is to be expected with successional changes in a regenerating community.

Approximately 50% (29 species) of the species noted on the donor site were found regenerating on the recipient site. An additional 33 species were found regenerating on the recipient site but not observed on the donor site. The emergence of species at the recipient site is most likely due to the biological traits of individual species including their required triggers for germination which can include fire and disturbance. The site is mostly free of weeds species and has been self-sustaining for approximately 14 years.

Additionally, a recipient site across the road from this underwent a soil seedbank translocation of Duffys Forest EEC a few years prior. It included the addition of crushed sandstone to cap areas of poor substrate and to suppress weeds. The site had a similar outcome and both sites are recognised as the best example of soil seedbank translocation in Sydney.



Figure A-2. Before (2010) on left and after (2020) translocation on right.

#### Direct Seeding

Direct seeding is utilised as an alternative to planting tubestock where native seed is directly spread around an area. The form of the regrowth is a more natural replication of a vegetation community. Areas to be direct seeded must first be prepared by spraying the weed species present. Weed seed must be allowed to germinate and then spraying to be repeated. If the soil is showing signs of compaction, the ground should then be disturbed for example via ripping and tilling to loosen the soil substrate. Mulch should then be installed at a depth of 300mm and then seed should be spread evenly across the area. Tubestock can be installed to supplement the direct seeding. An alternative to spreading seed is to hydro seed under jute mat, following the preparation of the site in the same manner.

Direct seeding in areas with slopes or on cliff lines will require jute mesh to prevent loss of seed or soil to erosion or wind otherwise seed will likely be lost prior to germination being possible. This method could be used along the Bronte to Tamarama cliff line in conjunction

July 2021

Total Earth Care Pty Ltd

with sandstone capping. This method again requires elevated costs at the start but should result in reduced maintenance requirements in the long term. It should also be noted that direct seeding often requires more maintenance and weeding than planting.

#### CASE STUDY – Norah Head Restoration and Rehabilitation Project

In 2011 work began on a 14 ha site at Norah Head Lighthouse. Initial works involved the primary treatment of Bitou Bush (*Chrysanthemoides monilifera* ssp. *rotundata*) and Lantana (*Lantana camara*). These were treated with foliar spray and hand weeding near natives. A few flushes of weeds from the seedbank were promoted and treated. Direct seeding of Weeping Grass (*Microleana stipoides*), Kangaroo Grass, (*Themeda triandra*), Beach Bean (*Canavalia rosea*), Coastal Wattle (*Acacia longifolia* var. *sophorae*), Pigface (*Carpobrotus glaucescens*), and Flax Lily (*Dianella caerulea*) was undertaken across 0.2 ha in the first 2 years. Coir logs were used for erosion control.

After two years the control of Bitou Bush (*Chrysanthemoides monilifera* ssp. *rotundata*) was substantial and the direct seeded ground covers had thrived. Other ground cover species, vines and shrubs were beginning to regenerate shortly after. (AABR 2020)



Figure A-3. Before and after weed treatment and direct seeding.



July 2021

Total Earth Care Pty Ltd

## APPENDIX B – METHODOLOGY USED FOR PREPARING THIS PLAN

### BACKGROUND RESEARCH

A review of the previous Biodiversity Action Plan (TEC 2014), existing Plans of Management, bush regenerator contractor works reports, previous mapping, relevant legislation and policy and Plans of Management was undertaken for incorporation into the Biodiversity Action Plan. This included;

- Review of the following relevant documentation:
  - Waverley Council Environmental Action Plan (Version 4) 2018 – 2030 (WC 2018);
  - Waverley Council Environmental Action Plan (Version 3) 2012 – 2020 (WC 2012);
  - Waverley Council Biodiversity Action Plan 2014-2020 (TEC 2014),
  - The Biodiversity Study of the Waverley Local Government Area (AMBS2011);
  - Waverley Flora Study Report 2020 (SBRC 2020) including associated data and mapping data;
  - Waverley Flora Study Report 2010 (SBRC 2010);
  - Draft Williams Park and Hugh Bamford Reserve Plan of Management, November 2019 (Waverley Council 2019);
  - Waverley Aboriginal Heritage Study, by Domini Steele Consulting Archaeology 2009;
  - Bush regenerator contractor works reports for most sites. (2017-2019);
  - Waverley Council's Biodiversity DCP Mapping; and
  - Any relevant / available Recovery Plans, Plans of Management and Local / State / Commonwealth Government Plans, Policies, Guidelines and Strategies.
- Consultation with Council Urban Ecology Team to clarify questions that arose from the background review, site visits and Council's specific targets and objectives expected of the Actions Plans produced.

### SITE ASSESSMENT

Site assessments were conducted by TEC's ecologists and senior restoration ecologist and divisional head of TEC's Bush Regeneration division on 9<sup>th</sup> April 2020 and 17<sup>th</sup> June 2020. One of Waverley Council's project staff attended some sites with TEC.

Specifically, field surveys involved:

- Verification of existing data with reference to species inventories and community / remnant mapping from The Waverley Flora Study Report (2020) (SBRC). Flora field

surveys also included targeted searches for plant species of conservation significance according to the "random meander" method of Cropper (1993);

- Plant species were identified according to *Field Guide to the Native Plants of Sydney* (Robinson, 2016), *Weeds of the South East, An Identification Guide for Australia* (Richardson et al, 2006), and PlantNET (Botanic Gardens Trust, 2008), with reference to recent taxonomic changes;
- Identification and recording of management issues and opportunities for the restoration of the identified vegetation remnants and surrounding landscape. This included weed sources and management, stormwater and erosion impacts and management, vandalism and un-authorised access management, fire, assisted regeneration techniques and other vegetation management measures; and
- Incidental fauna observations were recorded during the flora field survey effort.

### WEED DENSITY ASSESSMENT

Weed densities were assessed based on the National Trust of Australia (NSW) method. This is a rapid assessment that classifies areas into four categories. For this assessment and to assist with prioritising management actions the categories have included a weed percentage cover. Weed density maps of each site have been provided in this plan.

Weed density assessments were conducted on 9<sup>th</sup> April 2020 and 17<sup>th</sup> June 2020. Weed densities and generally vegetation condition are likely to vary depending on when weed management work has occurred on site in relation to the assessment timing, seasonal variations, rainfall and other climatic changes.

The weed density maps included in this plan are only current to the time they were produced. As the plan is implemented the weed density is likely to change with bush regeneration works, seasonal timing and conditions. However, they provide a good basis for the start of works and demonstrate how particular areas need to be prioritised.

### DATA ANALYSIS AND PLAN PREPARATION

In order to prepare the Biodiversity Action Plans the following processes were undertaken following completion of the site assessments;

- Consolidation of all field data and development of site specific Management Action Plans for each remnant vegetation. Consultation between TEC Ecological Consulting, Bush Regeneration and Environmental Rehabilitation and Construction management staff on recommended plans and appropriate restoration techniques.



July 2021

Total Earth Care Pty Ltd

- Preparation of Management Action Plans and Site Maps that clearly and concisely present the restoration programs, outlining bush regeneration and weed control areas, revegetation and rehabilitation areas, methods and techniques, opportunities for fauna

habitat creation, opportunities for expansion, restoration and conservation of habitat corridors, and protection of areas of high conservation significance.

DRAFT

July 2021

Total Earth Care Pty Ltd

## APPENDIX C – WEED SPECIES OF THE WAVERLEY LGA

Table C-1. Weed species present at each site (X – Observed on site, XX – Dominant weed on site, A – Observed by Council on site.)

Scientific Name	Common Name	WONS	State Priority	Regional Priority	Duties for Priority Weeds in Greater Sydney	Regional Concern/Value at Risk	Site												
							North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney and Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve and Bronte Cutting	Waverley Cemetery	York Road
<i>Acacia saligna</i>	Golden Wreath Wattle					Environment				X					X				
<i>Acetosa sagittata</i>	Rambling Dock					Environment	XX	X	X		X	XX	XX	X	X	XX	X		
<i>Agave spp.</i>	Agave spp.													X	XX				
<i>Ageratina adenophora</i>	Crofton Weed					Environment, Agriculture						X	X		X	X	X		
<i>Ageratina riparia</i>	Mistflower					Environment, Agriculture							X					X	
<i>Aloe spp.</i>	Aloe spp.						X								X				
<i>Ambrosia psilostachya</i>	Perennial Ragweed										X	XX			X				
<i>Anredera cordifolia</i>	Madeira Vine	Yes	Asset protection		PoD		XX	X			X	XX			X	XX	XX		
<i>Arundo donax</i>	Giant Reed			Asset protection	RRM										X				
<i>Asparagus aethiopicus</i>	Asparagus Fern	Yes	Asset protection		PoD		XX	XX	XX		X	X	XX	XX	XX	X	XX	XX	X
<i>Aster novi-belgii</i>	Michaelmas Daisy						X						X		X	X			
<i>Avena spp.</i>	Wild Oats						X											X	
<i>Bidens pilosa</i>	Cobbler's Pegs						X		X	X	X		X		X	X	X	X	X
<i>Brassica juncea</i>	Indian Mustard									X									
<i>Bryophyllum delagoense</i>	Mother of millions					Environment, Agriculture, Human health			X	X			XX		X				
<i>Canna x generalis</i>	Canna Lily						X	X	X		X		X		X			X	
<i>Celtis sinensis</i>	Chinese Elm					Environment, Agriculture				X					X				
<i>Cenchrus clandestinus</i>	Kikuyu Grass						X		X	X	X		X		X				

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	WONS	State Priority	Regional Priority	Duties for Priority Weeds in Greater Sydney	Regional Concern/Value at Risk	Site												
							North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney and Weonga Reserves	Lombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve and Bronte Cutting	Waverley Cemetery	York Road
<i>Centaurium tenuiflorum</i>	Branched Centaury																X		
<i>Cestrum parqui</i>	Green Cestrum			Asset protection	RRM							X	X		X				
<i>Chenopodium album</i>	Fat Hen							X											X
<i>Chlorophytum comosum</i>	Spider Plant						X	X											
<i>Chrysanthemoides monilifera subsp. rotunda</i>	Bitou Bush	Yes	Containment		PoD, B Zone; The Bitou Bush Biosecurity Zone is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the south.			X					XX	XX					
<i>Cirsium vulgare</i>	Spear Thistle						X												
<i>Colocasia esculenta</i>	Taro														X				
<i>Conyza spp.</i>	Fleabane						X				X	X				X	X	X	X
<i>Coprosma repens</i>	Mirror Bush					Environment	XX	XX	XX		X	X		XX	XX			XX	
<i>Cotoneaster glaucophyllus</i>	Cotoneaster glaucophyllus											XX							
<i>Cyperus alternifolius</i>	Umbrella papyrus														X				



July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	WONS	State Priority	Regional Priority	Duties for Priority Weeds in Greater Sydney	Regional Concern/Value at Risk	Site												
							North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney and Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve and Bronte Cutting	Waverley Cemetery	York Road
<i>Cyperus eragrostis</i>	Umbrella Sedge																X	X	
<i>Delairea odorata</i>	Cape Ivy					Environment									X		X	X	
<i>Digitaria spp.</i>	Couch						X		X		X			X	X				
<i>Ehrharta erecta</i>	Panic Veldtgrass						X		X	X	X		X	X	X	X	X	X	X
<i>Eleusine indica</i>	Crowsfoot Grass														X				
<i>Erythrina crista-galli</i>	Cockspur Coral Tree					Environment	X	X			X								
<i>Fumaria bastardi</i>	Bastards Fumitory						X												
<i>Gazania tomentosa</i>	Gazania						XX		XX		X		X	X	XX		XX		
<i>Hedera helix</i>	English Ivy											X	X				X		
<i>Hydrocotyle bonariensis</i>	Largeleaf Pennywort						XX	X	XX		XX		X		XX		XX	XX	
<i>Hypochaeris radicata</i>	Catsear														X		XX		
<i>Ipomoea cairica</i>	Coast Morning Glory					Environment	X	XX	XX		X	X	XX		XX		XX	XX	
<i>Ipomoea indica</i>	Morning Glory					Environment, Human health		XX	XX			XX	XX		XX	XX	X		
<i>Kalanchoe spp.</i>	Kalanchoe spp.						X												
<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus										X		X		X	X			
<i>Lantana camara</i>	Lantana	Yes	Asset protection		PoD		X	XX	X	X	X	X	XX	X	X	XX		X	
<i>Lobularia maritima</i>	Sweet Alyssum						X				X		X	X	X		X		
<i>Lolium perenne</i>	Perennial Ryegrass																		X
<i>Lonicera japonica</i>	Japanese Honeysuckle					Environment	X	X	X				XX						
<i>Lysimachia arvensis</i>	Scarlet Pimpernel													X				X	X
<i>Medicago polymorpha</i>	Burr Medic						X												
<i>Melinis repens</i>	Red Natal Grass																		XX

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	WONS	State Priority	Regional Priority	Duties for Priority Weeds in Greater Sydney	Regional Concern/Value at Risk	Site												
							North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney and Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve and Bronte Cutting	Waverley Cemetery	York Road
<i>Metrosideros excelsa</i>	New Zealand Christmas Bush						X	X											
<i>Modiola caroliniana</i>	Red-flowered Mallow																X		
<i>Monstera deliciosa</i>	Fruit Salad Plant						X	X				X							
<i>Narcissus jonquilla</i>	White daffodil						X											X	
<i>Nerium oleander</i>	Oleander											X							
<i>Nothoscordum borbonicum</i>	Onion Weed															X			
<i>Olea europaea subsp. cuspidata</i>	African Olive			Containment	RRM; An exclusion zone is established for all lands in Blue Mountains City Council and Central Coast local government areas. The remainder of the region is classified as the core infestation area.		XX				XX	XX	XX						
<i>Opuntia spp.</i>	Opuntia spp.		Asset protection		PoD: All Opuntia species except for <i>Opuntia ficus-indica</i> (Indian fig)														
<i>Opuntia stricta</i>	Common Prickly Pear		Asset protection		PoD		X	X									X		
<i>Osteospermum spp.</i>	South African daisy						X		X				X		X			X	
<i>Oxalis spp.</i>	Oxalis spp.						X			X		X			X		X	X	X

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	WONS	State Priority	Regional Priority	Duties for Priority Weeds in Greater Sydney	Regional Concern/Value at Risk	Site												
							North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney and Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve and Bronte Cutting	Waverley Cemetery	York Road
<i>Parietaria judaica</i>	Pellitory					Environment, Human health	XX	X	X		XX	X	XX		XX	X	X	XX	
<i>Passiflora spp.</i>	Passionfruit								XX				X						
<i>Pelargonium spp.</i>	Geranium						XX		X	X	X			X	X		X		
<i>Phoenix canariensis</i>	Canary Island Date Palm					Environment	X		X									X	
<i>Phytolacca octandra</i>	Inkweed															X			
<i>Plantago lanceolata</i>	Lamb's Tongues						X		X	X			X	X	X		X	X	X
<i>Rhaphiolepis indica</i>	Indian Hawthorn					Environment		X											
<i>Ricinus communis</i>	Castor Oil Plant															X			
<i>Rorippa nasturtium-aquaticum</i>	Watercress														X				
<i>Rubus fruticosus sp. agg.</i>	Blackberry complex	Yes	Asset protection					X				X							
<i>Salpichroa origanifolia</i>	Pampas Lily of the Valley					Environment		A			A								
<i>Senecio madagascariensis</i>	Fireweed	Yes	Asset protection		PoD									X					
<i>Senna pendula var. glabrata</i>	Senna					Environment		X				XX	X			XX			
<i>Silybum marianum</i>	Variegated Thistle						X		X					X	X		X		
<i>Solanum lycopersicum</i>	Tomato plant														X				
<i>Solanum nigrum</i>	Black-berry Nightshade						X	X	X		X				X	X	X	X	X
<i>Sonchus oleraceus</i>	Common Sowthistle						X							X	X		X		
<i>Sporobolus africanus</i>	Parramatta Grass																	X	X
<i>Sporobolus spp.</i>	Rat's Tail Couch						X												
<i>Stellaria media</i>	Common Chickweed								X		X				X				X
<i>Stenotaphrum secundatum</i>	Buffalo Grass						XX		XX		X			XX	XX			X	



July 2021

Total Earth Care Pty Ltd

							Site												
Scientific Name	Common Name	WONS	State Priority	Regional Priority	Duties for Priority Weeds in Greater Sydney	Regional Concern/Value at Risk	North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney and Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve and Bronte Cutting	Waverley Cemetery	York Road
<i>Strelitzia nicolai</i>	Giant Bird of Paradise						X	X		X					X		XX		
<i>Taraxacum officinale</i>	Dandelion						X						X	X	X		X	X	X
<i>Taraxacum spp.</i>	Dandelion						X		X						X		X	X	
<i>Tradescantia fluminensis</i>	Wandering Jew											X							
<i>Trifolium spp.</i>	Clover						X			X	X			X	X		X	X	X
<i>Tropaeolum spp.</i>	Nasturtium						X		X							X			
<i>Vicia sativa subsp. sativa</i>	Common Vetch								X					X				X	
<i>Watsonia meriana</i>	Wild Watsonia					Environment			X									X	
<i>Yucca spp.</i>	Yucca						X												

X – Observed on site

XX – Dominant weed on site

A – Observed by Council on site.

July 2021

Total Earth Care Pty Ltd

## APPENDIX D – WEED TREATMENT AND TIMING FOR PRIORITY WEEDS

Scientific Name	Common Name	Best Practice Treatment Methods	Herbicide and application rate	Treatment Timing
<i>Anredera cordifolia</i>	Madeira Vine	Individuals to be dug out, cut & paint with Vigilant II, foliar spray with Starane Advance or Off Label Permit 13914 for riparian zones spot spray with Grazon Extra	Picloram 44.7g/km or; Fluroxypyr 333 g/L at a rate of 300 to 600 ml per 100 L water or; Grazon Extra 400mL per 100 L of water	All year round
<i>Arundo donax</i>	Giant Reed	Individuals to be dug out by hand and mechanical removal of large specimens	NIL	All year round
<i>Asparagus aethiopicus</i>	Asparagus Fern	Small single specimens to be crowned or Sprayed with Glyphosate/metsulfuron methyl	Glyphosate 360g/L & Metsulfuron-Methyl 600 g/kg	All year round
<i>Cestrum parqui</i>	Green Cestrum	Cut and painted with Vigilant II or foliar spray with Grazon Extra or Garlon 600	Picloram 44.7g/km, Grazon Extra 500mL per 100 L of water or; Garlon 600 - Triclopyr 600 g/L – 500ml per 100L of water	Late spring to early autumn
<i>Chrysanthemoides monilifera subsp. monilifera</i>	Boneseed	Small single specimens hand pulled or larger shrubs cut and painted with Vigilant II. Foliar spray with Brush Off and Pulse	Picloram 44.7g/km or; Metsulfuron-methyl 600 g/kg at a rate of 1 g per 1 L water plus organosilicone penetrant	All year round
<i>Chrysanthemoides monilifera subsp. rotunda</i>	Bitou Bush	Small single specimens hand pulled or larger shrubs cut and painted with Vigilant II. Foliar spray with Brush Off and Pulse	Picloram 44.7g/km or; Metsulfuron-methyl 600 g/kg at a rate of 1 g per 1 L water plus organosilicone penetrant	All year round
<i>Hydrocotyle bonariensis</i>	Largeleaf Pennywort	Methodical hand removal from the soil over several seasons or leaf wipe with Vigilant II	Use "leaf wiping" application technique. Apply neat Vigilant II to at least 50% of the leaves of the plant by wiping the applicator along the middle of each leaf.	All year round
<i>Lantana camara</i>	Lantana	Hand pull small shoots. Cut and paint with Vigilant II or foliar sprayed with Grazon Extra or Starane Advance or Garlon 600	Grazon Extra 350 or 500 mL/100 L of water or; Fluroxypyr 333 g/L at a rate of 300 to 600 ml per 100 L water	Summer to autumn
<i>Olea europaea subsp. cuspidata</i>	African Olive	Cut & painted with Vigilant II	Picloram 44.7g/km	All year round
<i>Opuntia spp.</i>	Opuntia spp.	Removed by hand, Foliar spray with Grazon Extra or Garlon 600	Grazon Extra 500 mL/100 L of water	All year round

July 2021

Total Earth Care Pty Ltd

Scientific Name	Common Name	Best Practice Treatment Methods	Herbicide and application rate	Treatment Timing
<i>Rubus fruticosus sp. agg.</i>	Blackberry complex	Brush cut, crowned and scraped & painted with Vigilant II or Foliar spray with Grazon Extra	Garlon 600 Triclopyr 300g/L – 3 L per 100 L water  Picloram 44.7g/kg or; Grazon Extra 350 or 500 mL/100 L of water	Late spring to autumn
<i>Senecio madagascariensis</i>	Fireweed	Foliar spraying in accordance with off label permit 9907 & Grazon Extra Label, hand pulled or brush cut	Fluroxypyr 333 g/L at a rate of 300 to 600 ml per 100 L water or; Metsulfuron-methyl 600 g/kg at a rate of 10-20 g per 100 L water plus surfactant or; Grazon Extra 350mL per 100 L of water	All year round
<i>Salpichroa origanifolia</i>	Pampas lily of the valley	Seedlings can be removed by hand. Mature plants have horizontal roots up to 3m long and 1m deep. They can be removed by persistent digging over several seasons. Fruit should be cut and bagged.  Foliar spot spray in accordance with off label permit 9907.  Plants must be delineated from areas that may be slashed or mowed as this will encourage new vegetative growth.	Fluroxypyr 333 g/L at a rate of 300 to 600 ml per 100 L water or; Metsulfuron-methyl 600 g/kg at a rate of 10-20 g per 100 L water plus surfactant	All year round



July 2021

Total Earth Care Pty Ltd

## APPENDIX E – FAUNA SPECIES RECORDED IN THE WAVERLEY LGA SINCE 2010 (DPIE 2020 – BIONET &amp; AMBS 2011)

Class	Family	Scientific Name	Exotic	Common Name	BC Act Status	EPBC Act Status	Records	Source
Amphibia	Hylidae	<i>Litoria caerulea</i>		Green Tree Frog	P		1	Bionet
		<i>Litoria dentata</i>		Bleating Tree Frog	P		1	Bionet
		<i>Litoria fallax</i>		Eastern Dwarf Tree Frog	P		11	AMBS
	Myobatrachidae	<i>Crinia signifera</i>		Common Eastern Froglet	P		1	AMBS
		<i>Limnodynastes peronii</i>		Brown-striped Frog	P		1	Bionet
Aves	Acanthizidae	<i>Acanthiza chrysorrhoa</i>		Yellow-rumped Thornbill	P		1	Bionet
		<i>Sericornis frontalis</i>		White-browed Scrubwren	P		1	Bionet
	Accipitridae	<i>Accipiter novaehollandiae</i>		Grey Goshawk	P		1	Bionet
		<i>Accipiter sp.</i>		Unidentified goshawk	P		1	Bionet
	Alcedinidae	<i>Dacelo novaeguineae</i>		Laughing Kookaburra	P		59	Bionet
		<i>Todiramphus sanctus</i>		Sacred Kingfisher	P		12	Bionet
	Anatidae	<i>Anas castanea</i>		Chestnut Teal	P		1	AMBS
		<i>Anas superciliosa</i>		Pacific Black Duck	P		8	Bionet
		<i>Chenonetta jubata</i>		Australian Wood Duck	P		1	Bionet
		<i>Cygnus atratus</i>		Black Swan	P		7	Bionet
	Anhingidae	<i>Anhinga novaehollandiae</i>		Australasian Darter	P		2	Bionet
	Ardeidae	<i>Ardea ibis</i>		Cattle Egret	P		3	Bionet
		<i>Ardea pacifica</i>		White-necked Heron	P		3	Bionet
		<i>Egretta novaehollandiae</i>		White-faced Heron	P		1	Bionet
	Artamidae	<i>Cracticus nigrogularis</i>		Pied Butcherbird	P		1	Bionet
		<i>Cracticus tibicen</i>		Australian Magpie	P		173	Bionet
		<i>Cracticus torquatus</i>		Grey Butcherbird	P		6	Bionet
		<i>Strepera graculina</i>		Pied Currawong	P		78	Bionet
		<i>Strepera sp.</i>			P		11	Bionet

July 2021

Total Earth Care Pty Ltd

Class	Family	Scientific Name	Exotic	Common Name	BC Act Status	EPBC Act Status	Records	Source
	Cacatuidae	<i>Cacatua galerita</i>		Sulphur-crested Cockatoo	P		33	Bionet
		<i>Cacatua sanguinea</i>		Little Corella	P		9	Bionet
		<i>Eolophus roseicapillus</i>		Galah	P		3	Bionet
		<i>Nymphicus hollandicus</i>		Cockatiel	P		1	Bionet
	Campephagidae	<i>Coracina novaehollandiae</i>		Black-faced Cuckoo-shrike	P		2	Bionet
		<i>Lalage sueurii</i>		White-winged Triller	P		1	Bionet
	Charadriidae	<i>Vanellus miles</i>		Masked Lapwing	P		18	Bionet
	Columbidae	<i>Columba livia</i>	*	Rock Dove			60	Bionet
		<i>Ocyphaps lophotes</i>		Crested Pigeon	P		19	Bionet
		<i>Ptilinopus superbus</i>		Superb Fruit-Dove	V,P		1	Bionet
		<i>Streptopelia chinensis</i>	*	Spotted Turtle-Dove			15	Bionet
	Corvidae	<i>Corvus coronoides</i>		Australian Raven	P		44	Bionet
		<i>Corvus mellori</i>		Little Raven	P		4	Bionet
	Cuculidae	<i>Cacomantis flabelliformis</i>		Fan-tailed Cuckoo	P		2	Bionet
		<i>Chalcites basalis</i>		Horsfield's Bronze-Cuckoo	P		1	Bionet
		<i>Chalcites lucidus</i>		Shining Bronze-Cuckoo	P		2	Bionet
		<i>Eudynamys orientalis</i>		Eastern Koel	P		11	Bionet
		<i>Scythrops novaehollandiae</i>		Channel-billed Cuckoo	P		9	Bionet
	Falconidae	<i>Falco cenchroides</i>		Nankeen Kestrel	P		1	Bionet
		<i>Falco peregrinus</i>		Peregrine Falcon	P		6	Bionet
	Hirundinidae	<i>Hirundo neoxena</i>		Welcome Swallow	P		20	Bionet
		<i>Petrochelidon ariel</i>		Fairy Martin	P		1	Bionet
	Laridae	<i>Chroicocephalus novaehollandiae</i>		Silver Gull	P		21	Bionet
		<i>Thalasseus bergii</i>		Crested Tern	P	J	1	Bionet
	Maluridae	<i>Malurus cyaneus</i>		Superb Fairy-wren	P		8	Bionet
		<i>Malurus lamberti</i>		Variegated Fairy-wren	P		5	Bionet

July 2021

Total Earth Care Pty Ltd

Class	Family	Scientific Name	Exotic	Common Name	BC Act Status	EPBC Act Status	Records	Source
	Megapodiidae	<i>Alectura lathamii</i>		Australian Brush-turkey	P		1	Bionet
	Meliphagidae	<i>Acanthagenys rufogularis</i>		Spiny-cheeked Honeyeater	P		1	Bionet
		<i>Acanthorhynchus tenuirostris</i>		Eastern Spinebill	P		1	Bionet
		<i>Anthochaera carunculata</i>		Red Wattlebird	P		14	Bionet
		<i>Anthochaera chrysoptera</i>		Little Wattlebird	P		2	Bionet
		<i>Caligavis chrysops</i>		Yellow-faced Honeyeater	P		1	Bionet
		<i>Manorina melanocephala</i>		Noisy Miner	P		164	Bionet
		<i>Phylidonyris niger</i>		White-cheeked Honeyeater	P		3	Bionet
		<i>Phylidonyris novaehollandiae</i>		New Holland Honeyeater	P		9	Bionet
	Monarchidae	<i>Grallina cyanoleuca</i>		Magpie-lark	P		15	Bionet
		<i>Monarcha melanopsis</i>		Black-faced Monarch	P		1	Bionet
	Oceanitidae	<i>Pelagodroma marina</i>		White-faced Storm-Petrel	P		1	Bionet
	Oriolidae	<i>Oriolus sagittatus</i>		Olive-backed Oriole	P		3	Bionet
		<i>Sphecotheres vieilloti</i>		Australasian Figbird	P		34	Bionet
	Passeridae	<i>Passer domesticus</i>	*	House Sparrow			4	Bionet
	Pelecanidae	<i>Pelecanus conspicillatus</i>		Australian Pelican	P		1	Bionet
	Phalacrocoracidae	<i>Phalacrocorax carbo</i>		Great Cormorant	P		4	Bionet
		<i>Phalacrocorax varius</i>		Pied Cormorant	P		9	Bionet
	Phasianidae	<i>Coturnix sp.</i>		Unidentified Quail	P		2	Bionet
	Pittidae	<i>Pitta versicolor</i>		Noisy Pitta	P		1	Bionet
	Podargidae	<i>Podargus strigoides</i>		Tawny Frogmouth	P		6	Bionet
	Podicipedidae	<i>Tachybaptus novaehollandiae</i>		Australasian Grebe	P		1	Bionet
	Procellariidae	<i>Ardenna grisea</i>		Sooty Shearwater	P	J	1	Bionet
		<i>Ardenna pacifica</i>		Wedge-tailed Shearwater	P	J	1	Bionet
		<i>Ardenna tenuirostris</i>		Short-tailed Shearwater	P	C,J,K	5	Bionet
		<i>Pachyptila turtur</i>		Fairy Prion	P		1	Bionet



July 2021

Total Earth Care Pty Ltd

Class	Family	Scientific Name	Exotic	Common Name	BC Act Status	EPBC Act Status	Records	Source
	Psittacidae	<i>Puffinus gavia</i>		Fluttering Shearwater	P		1	Bionet
		<i>Calyptorhynchus funereus</i>		Yellow-tailed Black Cockatoo	P		5	AMBS
		<i>Platycercus elegans</i>		Crimson Rosella	P		2	Bionet
		<i>Platycercus eximius</i>		Eastern Rosella	P		1	Bionet
		<i>Trichoglossus chlorolepidotus</i>		Scaly-breasted Lorikeet	P		1	AMBS
		<i>Trichoglossus haematodus</i>		Rainbow Lorikeet	P		717	Bionet
	Ptilonorhynchidae	<i>Ptilonorhynchus violaceus</i>		Satin Bowerbird	P		1	Bionet
	Pycononotidae	<i>Pycnonotus jocosus</i>	*	Red-whiskered Bulbul			1	AMBS
	Rallidae	<i>Gallinula tenebrosa</i>		Dusky Moorhen	P		2	Bionet
	Rhipiduridae	<i>Rhipidura leucophrys</i>		Willie Wagtail	P		12	Bionet
	Spheniscidae	<i>Eudyptula minor</i>		Little Penguin	P		10	Bionet
	Strigidae	<i>Ninox strenua</i>		Powerful Owl	V,P,3		2	Bionet
	Sturnidae	<i>Sturnus tristis</i>	*	Common Myna			22	Bionet
		<i>Sturnus vulgaris</i>	*	Common Starling			9	Bionet
	Sulidae	<i>Morus capensis</i>		Cape Gannet	P		3	Bionet
		<i>Morus serrator</i>		Australasian Gannet	P		1	Bionet
	Threskiornithidae	<i>Threskiornis molucca</i>		Australian White Ibis	P		21	Bionet
	Timaliidae	<i>Zosterops lateralis</i>		Silvereye	P		8	Bionet
	Turdidae	<i>Turdus merula</i>	*	Eurasian Blackbird			1	Bionet
	Tytonidae	<i>Tyto novaehollandiae</i>		Masked Owl	V,P,3		1	Bionet
Mammalia	Canidae	<i>Canis lupus familiaris</i>	*	Dog			2	Bionet
		<i>Vulpes vulpes</i>	*	Fox			8	Bionet
	Cervidae	<i>Cervus sp.</i>	*	Unidentified Deer			1	Bionet
	Delphinidae	<i>Delphinus delphis</i>		Common Dolphin	P		1	Bionet
	Felidae	<i>Felis catus</i>	*	Cat			4	Bionet
	Leporidae	<i>Oryctolagus cuniculus</i>	*	Rabbit			2	Bionet

July 2021

Total Earth Care Pty Ltd

Class	Family	Scientific Name	Exotic	Common Name	BC Act Status	EPBC Act Status	Records	Source
	Macropodidae	<i>Macropus giganteus</i>		Eastern Grey Kangaroo	P		1	Bionet
		<i>Wallabia bicolor</i>		Swamp Wallaby	P		1	Bionet
	Molossidae	<i>Mormopterus sp.</i>		Eastern Freetail Bat	P		2	AMBS
	Muridae	<i>Mus musculus</i>	*	House Mouse			1	Bionet
		<i>Rattus fuscipes</i>		Bush Rat	P		2	Bionet
		<i>Rattus norvegicus</i>	*	Brown Rat			10	Bionet
		<i>Rattus rattus</i>	*	Black Rat			5	Bionet
	Otariidae	<i>Arctocephalus sp.</i>		Unidentified Fur-seal	P		2	Bionet
		<i>Seal sp.</i>		Unidentified Seal	P		11	Bionet
	Phalangeridae	<i>Trichosurus vulpecula</i>		Common Brushtail Possum	P		279	Bionet
	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>		Common Ringtail Possum	P		366	Bionet
	Pteropodidae	<i>Pteropus alecto</i>		Black Flying-fox	P		1	Bionet
		<i>Pteropus poliocephalus</i>		Grey-headed Flying-fox	V,P	V	79	Bionet
		<i>Pteropus sp.</i>		Flying-fox	P		39	Bionet
	Vespertilionidae	<i>Chalinolobus gouldii</i>		Gould's Wattled Bat	P		5	Bionet
Reptilia	Agamidae	<i>Intellagama lesueurii</i>		Eastern Water Dragon	P		3	Bionet
		<i>Pogona barbata</i>		Bearded Dragon	P		3	Bionet
	Chelidae	<i>Chelodina longicollis</i>		Eastern Snake-necked Turtle	P		7	Bionet
	Cheloniidae	<i>Caretta caretta</i>		Loggerhead Turtle	E1,P	E	4	Bionet
		<i>Cheloniidae sp.</i>		unidentified sea turtle	P		3	Bionet
	Colubridae	<i>Dendrelaphis punctulatus</i>		Common Tree Snake	P		1	Bionet
	Diplodactylidae	<i>Oedura lesueurii</i>		Lesueur's Velvet Gecko	P		1	Bionet
	Elapidae	<i>Cacophis squamulosus</i>		Golden-crowned Snake	P		1	Bionet
		<i>Pelamis platurus</i>		Yellow-bellied Seasnake	P		5	Bionet
		<i>Pseudechis porphyriacus</i>		Red-bellied Black Snake	P		4	Bionet
		<i>Pseudonaja textilis</i>		Eastern Brown Snake	P		2	Bionet

July 2021

Total Earth Care Pty Ltd

Class	Family	Scientific Name	Exotic	Common Name	BC Act Status	EPBC Act Status	Records	Source
	Gekkonidae	<i>Amalosia lesueurii</i>		Lesueur's Velvet Gecko	P		1	Bionet
		<i>Phyllurus platurus</i>		Broad-tailed Gecko	P		2	Bionet
	Scincidae	<i>Cryptoblepharus virgatus</i>		Cream-striped Shinning-skink	P		7	AMBS
		<i>Eulamprus quoyii</i>		Eastern Water-skink	P		7	Bionet
		<i>Lampropholis delicata</i>		Dark-flecked Garden Sunskink	P		7	Bionet
		<i>Lampropholis guichenoti</i>		Pale-flecked Garden Sunskink	P		3	Bionet
		<i>Lampropholis sp.</i>		unidentified grass skink	P		1	Bionet
		<i>Saiphos equalis</i>		Three-toed Skink	P		6	Bionet
		<i>Saproscinus spectabilis</i>		Pale-lipped Shadaskink	P		6	AMBS
		<i>Tiliqua rugosa</i>		Shingle-back	P		1	Bionet
		<i>Tiliqua scincoides</i>		Eastern Blue-tongue	P		27	Bionet
	Varanidae	<i>Varanus varius</i>		Lace Monitor	P		1	Bionet

\* – Exotic

BC Act Status – E1 – Endangered, V – Vulnerable, P – Projected, 3 – Category 3 Protected Species

EPBC Act Status – E – Endangered, C – Migratory (Camba), J – Migratory (Jamba), K – Migratory (Kamba), V – Vulnerable



July 2021

Total Earth Care Pty Ltd

## APPENDIX F – REVEGETATION SPECIES LIST

The following revegetation list includes recommended planting species for both buffer and remnant vegetation. The remnant planting species recommendations are included in the three communities under “Remnant Vegetation Community”, whilst the recommended species for buffer or connectivity planting are listed under each site. Please note that not all species are expected to be used in buffers or remnant vegetation. A broad list of suitable species options has been provided to allow for some flexibility in species choice and as some species may not always be available to source.

Family	Scientific Name	Common Name	Remnant Vegetation Community			Site												
			Coastal Headland Banksia Heath	Coastal Sandstone Foreshores Forest	Coastal Cliff-top Marsh	North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney & Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve & Bronte Cutting	Waverley Cemetery Cliffs	York Road Bushland
Aizoaceae	<i>Carpobrotus glaucescens</i>	Pigface			x	x	x	x		x			x	x		x	x	
	<i>Tetragonia tetragonioides</i>	New Zealand Spinach			x	x		x		x			x	x		x	x	
Apiaceae	<i>Actinotus helianthi</i>	Flannel Flower	x			x	x	x		x		x	x	x		x	x	
	<i>Actinotus minor</i>	Lesser Flannel Flower	x			x	x	x		x		x	x	x		x	x	
	<i>Centella asiatica</i>	Indian Pennywort		x					x			x						x
	<i>Platysace lanceolata</i>	Slender Rice Flower	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
	<i>Xanthosia pilosa</i>	Woolly Xanthosia	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Xanthosia tridentata</i>	Rock Xanthosia	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Commelina cyanea</i>	Scurvy Weed		x					x			x		x				x
Convolvulaceae	<i>Dichondra repens</i>	Kidney Weed			x	x	x	x		x		x	x	x		x	x	
Cyperaceae	<i>Baumea rubiginosa</i>				x	x		x		x			x	x		x	x	
	<i>Ficinia nodosa</i>	Knobby Club-rush	x		x	x	x	x		x	x	x	x	x	x	x	x	
	<i>Isolepis cernua</i>	Nodding Club-rush			x	x		x		x			x	x		x	x	
	<i>Machaerina juncea</i>	Bare Twig-rush	x		x	x	x	x		x		x	x	x		x	x	
	<i>Schoenus brevifolius</i>				x	x		x		x			x	x		x	x	
	<i>Schoenus maschalinus</i>				x	x		x		x			x	x		x	x	
Dilleniaceae	<i>Hibbertia fasciculata</i>			x					x		x	x			x			x

July 2021

Total Earth Care Pty Ltd

						Remnant Vegetation Community		Site										
Family	Scientific Name	Common Name	Coastal Headland Banksia Heath	Coastal Sandstone Foreshores Forest	Coastal Cliff-top Marsh	North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney & Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarama Marine Drive	Calga Reserve & Bronte Cutting	Waverley Cemetery Cliffs	York Road Bushland
Ericaceae	<i>Epacris longiflora</i>	Fuchsia Heath	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Leucopogon ericoides</i>	Pink Beard-heath	x			x	x	x	x	x		x	x	x		x	x	x
	<i>Leucopogon juniperinus</i>	Prickly Beard-heath		x					x		x	x			x			x
	<i>Leucopogon microphyllus</i>		x			x	x	x		x		x	x	x		x	x	x
	<i>Monotoca elliptica</i>	Tree Broom-heath	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Euphorbiaceae	<i>Breynia oblongifolia</i>	Coffee Bush		x					x		x	x			x			x
	<i>Homalanthus populifolius</i>	Bleeding Heart		x								x						
	<i>Phyllanthus hirtellus</i>			x					x		x	x						x
Fabaceae (Faboideae)	<i>Bossiaea heterophylla</i>	Variable Bossiaea	x			x	x			x		x	x	x		x	x	x
	<i>Dillwynia floribunda</i>		x			x	x	x		x	x	x	x	x		x	x	x
	<i>Dillwynia glaberrima</i>		x			x	x	x		x	x	x	x	x		x	x	x
	<i>Dillwynia retorta</i>		x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Pultenaea linophylla</i>		x			x		x		x		x	x	x		x	x	x
Fabaceae (Mimosoideae)	<i>Acacia longifolia</i>	Coastal Wattle	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Acacia suaveolens</i>	Sweet Wattle	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Acacia ulicifolia</i>	Prickly Moses	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
Goodeniaceae	<i>Dampiera stricta</i>		x			x	x	x		x	x	x	x	x		x	x	
Haloragaceae	<i>Gonocarpus teucrioides</i>	Raspwort	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
Juncaceae	<i>Juncus kraussii</i>	Sea Rush			x			x		x			x			x	x	
	<i>Juncus pallidus</i>				x			x		x			x			x	x	
	<i>Juncus usitatus</i>	Common Rush			x			x		x			x			x	x	
Lamiaceae	<i>Westringia fruticosa</i>	Coastal Rosemary	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x

July 2021

Total Earth Care Pty Ltd

			Remnant Vegetation Community			Site												
Family	Scientific Name	Common Name	Coastal Headland Banksia Heath	Coastal Sandstone Foreshores Forest	Coastal Cliff-top Marsh	North Cliff-top Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney & Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Cliff-top Remnants	Tamarana Marine Drive	Calga Reserve & Bronte Cutting	Waverley Cemetery Cliffs	York Road Bushland
Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	x	x		x	x	x	x	x	x	x	x	x	x	x	x	
Myrtaceae	<i>Baeckea imbricata</i>		x		x	x	x	x		x	x	x	x	x	x	x	x	x
	<i>Callistemon citrinus</i>	Crimson Bottlebrush	x				x	x	x	x	x	x	x					x
	<i>Callistemon linearis</i>		x				x	x	x	x	x	x	x					x
	<i>Darwinia fascicularis</i>		x			x	x	x		x		x	x	x		x	x	
	<i>Kunzea ambigua</i>	Tick Bush	x	x			x	x		x	x	x	x		x		x	x
	<i>Leptospermum laevigatum</i>	Coast Teatree	x				x	x	x	x		x	x				x	
	<i>Leptospermum polygalifolium</i>	Yellow Tea-tree	x	x			x	x	x	x		x	x				x	x
	<i>Leptospermum squarrosum</i>		x				x	x	x	x	x	x	x		x		x	
	<i>Melaleuca armillaris</i> subsp. <i>armillaris</i>	Bracelet Honey-myrtle	x					x	x	x	x	x	x		x		x	
	<i>Melaleuca nodosa</i>		x			x	x	x	x	x	x	x	x	x	x	x	x	
	<i>Dianella caerulea</i>	Blue Flax-lily		x		x	x		x	x	x	x		x	x	x	x	x
	<i>Dianella congesta</i>		x			x	x	x		x	x	x	x	x	x	x	x	x
	<i>Dianella revoluta</i>	Paroo Lily		x					x		x	x			x			x
Phyllanthaceae	<i>Glochidion ferdinandi</i>	Cheese Tree		x								x			x			
Poaceae	<i>Austrodanthonia setacea</i>					x		x		x			x	x		x	x	x
	<i>Austrostipa mollis</i>	Soft Speargrass				x		x		x	x		x	x	x	x	x	x
	<i>Dichelachne crinita</i>	Longhair Plumegrass			x	x	x	x		x	x		x	x	x	x	x	x
	<i>Entolasia marginata</i>	Bordered Panic	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Eragrostis brownii</i>	Brown's Lovegrass		x					x									x
	<i>Imperata cylindrica</i>	Blady Grass	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x



July 2021

Total Earth Care Pty Ltd

			Remnant Vegetation Community			Site												
Family	Scientific Name	Common Name	Coastal Headland Banksia Heath	Coastal Sandstone Foreshores Forest	Coastal Cliff-top Marsh	North Clifftop Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney & Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Clifftop Remnants	Tamarana Marine Drive	Calga Reserve & Bronte Cutting	Waverley Cemetery Cliffs	York Road Bushland
	<i>Microlaena stipoides</i>	Weeping Grass		x					x		x	x			x			x
	<i>Oplismenus aemulus</i>	Oplismenus		x					x			x						x
	<i>Paspalidium distans</i>			x					x		x				x			x
	<i>Paspalum vaginatum</i>	Salt-water Couch			x			x		x			x			x	x	
	<i>Spinifex sericeus</i>	Hairy Spinifex			x			x		x			x			x	x	
	<i>Sporobolus virginicus</i>	Sand Couch			x		x	x		x			x			x	x	
	<i>Themeda triandra</i>				x	x	x	x		x			x	x		x	x	x
	<i>Zoysia macrantha</i>	Prickly Couch			x	x		x		x			x	x		x	x	
<b>Proteaceae</b>	<i>Banksia ericifolia</i>	Heath-leaved Banksia	x			x	x	x	x	x	x	x	x	x	x	x	x	x
	<i>Banksia marginata</i>	Silver Banksia	x	x		x	x	x	x	x	x	x	x	x		x	x	x
	<i>Banksia serrata</i>	Old-man Banksia	x				x	x	x	x	x	x	x		x			
	<i>Grevillea speciosa</i>	Red Spider Flower	x			x	x	x		x	x	x	x	x		x	x	x
	<i>Hakea teretifolia</i>	Needlebush	x				x	x		x	x	x	x		x			
	<i>Lambertia formosa</i>	Mountain Devil	x			x	x	x	x	x		x	x	x		x	x	x
	<i>Lomatia silaifolia</i>	Crinkle Bush		x					x		x				x			x
<b>Scrophulariaceae</b>	<i>Veronica plebeia</i>	Trailing Speedwell		x					x		x				x			x
<b>Sterculiaceae</b>	<i>Lasiopetalum ferrugineum</i>		x			x	x	x	x	x		x	x	x		x	x	
<b>Thymelaeaceae</b>	<i>Pimelea linifolia</i>	Slender Rice Flower	x		x	x	x	x		x	x	x	x	x	x	x	x	

July 2021

Total Earth Care Pty Ltd

## APPENDIX G – DOMINANT PROBLEM NATIVE SPECIES BY SITE

The following table includes a list of dominant native flora species within remnant and buffer sites that may require management in the form of thinning or trimming to improve the species diversity of the remnant and the buffers.

			Site												
			North Clifftop Remnants	Diamond Bay Reserve	Eastern Reserve	Caffyn Park	Raleigh, Rodney and Weonga Reserves	Loombah Rd Cliffs	Hugh Bamford Reserve	Bondi Golf Course & Williams Park	South Clifftop Remnants	Tamarama Marine Drive	Calga Reserve and Bronte Cutting	Waverley Cemetery	York Road
Scientific Name	Common Name														
<i>Acacia longifolia subsp. sophorae</i>	Coastal Wattle								X		X				
<i>Commelina cyanea</i>	Native Wandering Jew							X				X			
<i>Glochidion ferdinandi</i>	Cheese Tree							X							
<i>Hibiscus tiliaceus</i>	Cottonwood Hibiscus					X									
<i>Homalanthus populifolius</i>	Bleeding Heart							X							
<i>Leptospermum laevigatum</i>	Coast Teatree								X						
<i>Wollastonia uniflora</i>	Sea Daisy	X	X				X		X		X		X	X	
<i>Microlaena stipoides</i>	Weeping Grass							X							
<i>Pittosporum undulatum</i>	Sweet Pittosporum							X							
<i>Stephania japonica</i>	Snake vine							X	X						

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<b>Support</b>		
1	Great idea for the site to be a seniors and community space but don't forget the existing facilities services almost 100% of people that will probably have a mobility parking permit and so will need parking. Biking in or walking won't be an option. Go and observe the existing rail patrons that go there daily. Ask them why they are there? Do they currently hold a mobility parking permit? If you take away much needed parking you'll only exacerbate the problem. Consider the need for a parking station with accessible access to the main reception. I would think there is only so much access that basement parking can provide. The site without its targeted audience of seniors being able to access the site independently will greatly affect the useage and therefore success of the site	1	<ul style="list-style-type: none"> <li>Support for retention and expansion of services on-site is noted.</li> <li>Comments relating to parking have been noted and will be considered when reviewing the site-specific DCP.</li> </ul>
2	I support the inclusion of housing for seniors	1	<ul style="list-style-type: none"> <li>Support for the inclusion of Seniors housing in the is noted.</li> </ul>
3	<p>I support the plans for the redevelopment of Edina Aged Care and War Memorial Hospital proposed by "Uniting", the welfare arm of the Uniting Church in Australia.</p> <p>It is in everybody's interest to enable older residents to stay in the area where they have lived, made friends and joined in the community. Edina has been doing this for more than 50 years and should be encouraged.</p>	1	<ul style="list-style-type: none"> <li>Support for future redevelopment of the site is noted.</li> </ul>
4	I fully support proposal by Uniting for the Waverley War Memorial Hospital: Campus Site Planning Proposal and Site- Specific DCP (reference SF21/2451). The Edina aged-care facility has provided high-quality care for residents for many years and the current proposal significantly upgrades and enhances the level of senior accommodation and care that Uniting can provide. At the same time, the proposal maintains the historical and environmental significance of the site. The projected increase in the aged population in Waverley and the Eastern Suburbs is well documented. As a consequence there is and will continue to be an increasing demand for senior housing and aged-care facilities. Edina already provides senior housing together with aged care, and this must continue. It is of inestimable value to the community that Uniting is able to provide senior housing and aged-care accommodation and do so on a not-for-profit basis.	1	<ul style="list-style-type: none"> <li>Support for both the Planning Proposal and Site-specific DCP is noted.</li> <li>Support for retention and expansion of services and housing on-site is noted.</li> </ul>
5	I am writing in support of Uniting's planning proposal for the redevelopment of Uniting Waverley, located at 125 Birrell Street, Waverley (reference number: SF21/2451).	1	<ul style="list-style-type: none"> <li>Support for the Planning Proposal and Masterplan is noted.</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>This is an important project that will ensure the local community continues to have access to high quality community services and accommodation well into the future. I strongly support the planning proposal's focus on enhancing the physical, emotional and social wellbeing of the residents and clients who will access the site. The proposal ensures the ecological sustainability of the present site and ensures that the community continues to be well-served with high quality geriatric healthcare.</p> <p>Uniting has been providing health and care services to the people of Waverley for over 100 years. Its commitment to building a purposefully designed, contemporary home for the extensive range of services it provides is clear. The new services it seeks to provide under the planning proposal, such as an early learning centre and a medical centre, will be of great benefit to our community.</p> <p>I strongly support Uniting's approach to respecting and conserving the heritage landscape spaces and buildings, through restoring them to serve the community into the next century. Its vision to reinvigorate Uniting Waverley and create a unique and special place for the people it serves, is to be commended.</p> <p>I am confident that the Uniting Waverley redevelopment will be delivered with diligence via a collaborative approach that has the community's best interests at heart.</p> <p>In conclusion, I fully support the planning proposal and master plan for the Uniting Waverley redevelopment. I look forward to learning of the approval of the plans in the coming weeks.</p> <p>Thank you for the opportunity to provide feedback on this important proposal.</p>		<ul style="list-style-type: none"> <li>• Support for the proposed conservation of heritage items on-site is noted.</li> <li>• Other general supportive comments are noted.</li> </ul>
	<b>Do not support/Undetermined</b>		
6	<p>Leave the site alone. Greed is dictating this development. A big resounding "NO" to any additional, further, redevelopments, new developments, replacement developments, buildings, housing, in any shape, form, or height, on any of the War Memorial campus, sites.</p>	1	<ul style="list-style-type: none"> <li>• Objection to any redevelopment on the site has been noted.</li> <li>• As has been discussed in the Planning Proposal report, which was exhibited as part of the</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>Planning Proposal, it has been identified that there will be a need for additional community health, aged care services and seniors residential facilities in the Waverley Local Government Area (LGA) as the population in Waverley continues to age. This Planning Proposal aims to increase the provision of co-located health services, aged care facilities and senior's residential development that is accessible to goods and services and community facilities and will help to achieve the projected needs for the area.</p>
7	<p>I appreciate the opportunity to make a submission. I have a few central considerations that I want to bring to the attention of the deciding counsellors.</p> <p>1. When a tree is older than me, it deserves my consideration for it's preservation. That goes for the large figs, pines and eucalyptus trees located on the site that are likely to have buildings on top of them in the very near future. I hope that they survive. And I hope that other people can apply the test of respect towards a natural creature that has had the awesome experience of watching over our city as it grows. Small trees can grow back or be replanted but these great beasts are my respected seniors. What kind of senior facility would be being created if the facility was not also designed to respect and honour the seniors that have been growing all along?</p>	1	<ul style="list-style-type: none"> <li>Comments relating to the conservation of mature trees, the Habitat Corridor, natural spring on-site, suggested building layouts and comments on proposed green space and landscaping have been noted and will be considered when</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>2. The green link between Waverley Park and Queens park that passes through this site is significantly decreased by the proposed building design. That means that any creature that might be passing through the site is about to have a really bad time as it tries to navigate our roads and houses. I don't believe anyone wants a possum living in their house. If we don't give them travelling paths, they will take any liberties they see fit in passing around the city. The birds can fly but the possums cannot.</p> <p>3. There's a natural water spring on the north westerly side of the centre of the existing lawn. Having read 500 pages of documentation so far, including the bore water investigation, it seems that this has been missed in all the expert research. If building A of the masterplan goes on top of this location it's going to have permanent damp and degradation problems. It's also going to impact the rest of the natural water course in the area. There is a reason that on the existing historic site, it was preserved as a lawn and it's not just because a lawn is a nice meeting place, it's a very intelligent design choice that's going to be wasted on the current shape of the redevelopment. ----- I hope that any of the people involved in the planning process takes their feet to the location of the green lawn to see for yourself the wet and soggy patch that is the grassy lawn. It's not being watered, it's naturally wet all the time. I see the site as one of great potential. I see an amazing opportunity to build amenity that integrates greenery, environmental and design in a well thought out and future proof design that is currently being disappointingly overrun by economic incentive. Yes we can build more apartments on the patch of land, but that does not mean that we should. Once we lose the green space, it doesn't come back. No one will ever reduce the building footprint of a development in the eastern suburbs. I hope that the site can become a beautiful location where aged care can be carried out in the greenery that it deserves. If building A could run east-west instead of north-south, some of the green link could be preserved. If the building could be integrated with plants, it might be possible that the old retiring folk can enjoy the natural environment for years to come. No one wants to be stuck in a concrete box while they die. Everyone wants to live out their days happily. Gardens are good for the soul. There isn't enough integration of greenery in the whole project. If the project is going to stand for the next hundred years or more, it's necessary to plan these features now! I hope the cruel irony of a wellness centre that has no natural environment integration is not lost on those involved in the project. We can't be well in a sterile environment. Life exists on earth, not in a box. A life</p>		<p>reviewing the site-specific DCP.</p> <ul style="list-style-type: none"> <li>• Other comments provided not relating to the above have also been noted.</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	preserving project will hopefully not cast a shadow on the environment. I'm not a crazy environmentalist, I believe in practicality and integration of impact on the environment. Thank you for your time.		
8	<p>Dear Council</p> <p>Resident at &lt;address removed&gt;</p> <p>With regards the redevelopment and concerns of existing residents about being relocated without right of return I make the following comments:</p> <ol style="list-style-type: none"> <li>1. Resident would have the first right of refusal with regards the new development and being able to come back to the Waverley site and not be relocated elsewhere. This would be most applicable to people who bought into the complex. All matters should be in line with any contracts of sale and clauses therein.</li> <li>2. In the absence of such clauses then a dialogue should be had with those residents to determine their requirements and give them a voice.</li> <li>3. In the context of a site specific DCP consideration should be given to making allocations to the existing residents within the masterplan and detailed design phase. As Uniting is a non for profit and would assume care of residents is paramount minor design changes to allow for existing residents can surely be made</li> <li>4. Original residents should not feel financially disadvantaged by not being able to "buy back in" to the site as it may be cost prohibitive. All measures should be taken to provide affordable housing in line with the principles of Affordable housing and/or the Affordable housing SEPP in particular to those who have financially invested in the site already.</li> </ol> <p>Thank you for your consideration of above</p>	1	<ul style="list-style-type: none"> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
9	<p>Hi &lt;name removed&gt;</p> <p>I went and had a look at the gates as I discussed with you earlier. I think a 4 meter set back on both streets from the corner is to small as there is a natural setback in the form of the edge of the original fencing which I goes around 6-8 metres from the gate on the corner. The setback area</p>	1	<ul style="list-style-type: none"> <li>Matter relates to site-specific DCP and will be considered in the review of the feedback provided on the site-specific DCP.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	could create a triangular shape inside the site. Could you please have a look and let me know what you think.		
10	<p>There are serious problems with the proposal which should be addressed in the DCP:</p> <ol style="list-style-type: none"> <li>1, The Conservation Management Plan submitted by Uniting on page 20 regards the five mature Moreton Bay Figs in the category of Exceptional Significance - more significant than the main hospital wing. The proposed development removes them! It is a fantasy that these might be replaced by similar mature trees. That is impossible. If these five trees of exceptional significance are to be removed, then their loss should be justified. The facilitation of a larger development is not adequate justification.</li> <li>2. I understand the reference point for the height of the new buildings will be the height of the tower of Edina. This will overpower that heritage item, and obscure the view of this landmark from Birrell St which is noted as important to preserve in the Conservation Management Plan.</li> <li>3. The Conservation Plan also highlights the value of establishing the original approach from the corner of Bronte and Birrell. What happened to that idea?</li> <li>4. With the height of the buildings as proposed the ecological corridor has been blocked. It has been ignored in this proposal, despite the odd glib reference.</li> <li>5. Independent living with a low age threshold is property development pure and simple. The bulk of this development is not about aged care. It shouldn't be given any concessions as if it was. If the independent living is scaled back a more appropriate development would be possible.</li> <li>6. The original bequest in 1919 and the inception of the hospital was about providing a restorative natural environment. Uniting is dispensing with that notion entirely with this proposal. This is not what the Vickery family intended for the site when they left it to the Methodist Church. It is not what people thought they were contributing to when members if the Church donated additional funds at that time. It may be legally defensible, but the legacy of the Vickery family and others is being spoiled here.</li> </ol>	1	<ul style="list-style-type: none"> <li>• Comments relating to the conservation of existing trees on site, Habitat Corridor and layout of buildings have been noted and will be considered in the future review of the site-specific DCP.</li> <li>• The height of buildings has been carefully considered throughout the planning proposal process. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest component of any building on site and there is a separation by a proposed through-site link and the landscaped area between the location of the</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>7. The planning NSW seniors living guidelines refer to an FSR of 0.5. This proposal is for 1.2. It is inconsistent with the preferred quality of a seniors living environment. The proposal is overbuilt to the detriment of its objectives.</p>		<p>proposed new buildings and the heritage items on the eastern part of the site. The relationship between any new buildings and the Heritage Items on-site is to be managed by the site-specific DCP. All feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.</p> <ul style="list-style-type: none"><li>• For the purposes of clarity, the discussion of the Floor Space Ratio (FSR) in the <i>Seniors Living Policy</i> referenced in the submission only refers to the FSR not exceeding 0.5:1 as part of 'development which cannot be refused consent' under the State Environmental Planning Policy. The document does not reference a maximum FSR.</li></ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<ul style="list-style-type: none"> <li>Other comments provided not relating to the above have been noted.</li> </ul>
11	<p>This situation is very distressing for all the residents of &lt;address removed&gt;, the age range being 68 and above. Some have physical and medical issues. The situation also is the cause of high levels of anxiety and even depression. It also does not acknowledge the financial stress it will cause the residents most of whom are on the pension. Most of us have been long term residents here and have established our lives in this district, where we have access to shopping, medical and hospital needs etc. We believed we had some long-term security here. To relocate or be relocation can negate our right to choice. And to anticipate going back into and commercial rental situation is untenable and unaffordable. It would be a major upheaval to relocate and would fragment the sense of community that exists among the residents. There is not other comparable facility like this in this area and I personally have no wish to relocate, having lived in the east for the majority of my life. My Physio and Medical Centre are at the Junction and my Phycologist and Chiro are at Edgecliff. More importantly I have had a number health issues over the years requiring hospitalisation. Here we have a medical alert system and a dedicated ambulance bay. For my needs this is essential as my health issues are ongoing. Here I am close to the POW Hospital. This proposal is about greed not the support for aged residents and definitely bad form for a "charity". None of the residents have any desire to move, fullstop. This proposal needs to be reconsidered.</p>	1	<ul style="list-style-type: none"> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
12	<p>After the two cemeteries this would have to be the most historically significant place in Waverley. Not just the buildings themselves but the trees, gardens and open space around them. This planning proposal is anathema to heritage conservation. It gobbles up precious open space and the heritage buildings will be towered over by the new buildings. The old buildings need space around them to be enjoyed and the gardens are an important part of the heritage value of the site. Bondi Junction is a high density area but Waverley is not. This proposal represents an unwelcome encroachment of high density into a predominantly low density area. Bondi Junction development standards should not be allowed to creep further south.</p> <p>The Uniting Church is a custodian of something very special. It should be far more sensitive to the historical significance of what it owns. I hope that Council has obtained a State Heritage listing for the buildings and the gardens to try and protect them from this type of development. I also object</p>	1	<ul style="list-style-type: none"> <li>Feedback relating to the relationship between any proposed development and heritage items on-site and the layout of buildings will be reviewed and considered, prior to finalising and reporting the site-specific DCP to Council for adoption.</li> <li>Council previously nominated the heritage</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>to the fact that this proposal has not been well communicated to the public. It should have been widely advertised. The documents are large and complex and I am sure most people wouldn't understand them. A series of public forums would have been appropriate for a site of such significance. It's too important to only let the people who live near it in on what's going on.</p>		<p>items listed in the Waverley LEP for inclusion on the State Heritage Register (SHR) in June 2020. The SHR Committee determined that it may meet the threshold for State heritage significance but was not a priority for SHR listing at this time. Heritage NSW also provided a submission relating to the Planning Proposal as part of the public exhibition period. It should be noted Heritage NSW does not oppose the proposed planning controls.</p> <ul style="list-style-type: none"><li>• Feedback relating to additional community engagement measures which should have been considered are noted. The documents, whilst substantial in nature were on exhibition for 45 days in total. The site-specific DCP will also be reexhibited at a later date and the community will</li></ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			have a further opportunity to provide feedback.
13	I am a Bronte resident and architect and have used the War Memorial Hospital numerous times as my father in law was a patient there. My overall thought is that the proposed FSR and height controls are slightly too high for the site and more landscaping/deep soil area needs to be preserved. I submit that the maximum height controls should be reduced 3 metres (one storey) from the proposed heights. I submit that the maximum FSR control should be reduced from the proposed 1.2:1 to 1.0:1. My reasons for the above controls are to keep the bulk and scale of any new developments broadly in line with surrounding development.	1	<ul style="list-style-type: none"> <li>Feedback regarding the proposed building heights is noted. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</li> <li>The feedback relating to the maximum FSR control and bulk and scale being reduced by 0.2:1 aligns with what any potential future development on-site would abide by, given the FSR illustrated in the Masterplan is associated with an FSR of 1.5:1 rather than the 1.2:1 proposed.</li> </ul>
14	I'm very concerned about this important Heritage site. The buildings are very beautiful and so are the large trees. I'm fearful that they are going to be dominated by new apartment buildings and	1	<ul style="list-style-type: none"> <li>Feedback relating to the length of public</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>I'm also concerned that a lot of terrace houses seem to be demolished in this project. There's a lot of documents and I haven't had a chance to look at them properly so I feel there should be a lot longer for public consultation. There should be some kind of information distributed to the public because most people don't know about it. Because the site is hidden away most people are not aware of it and even if they did know about it they wouldn't be able to read or understand those documents in the short amount of time that you've allowed for it. I strongly object to this going ahead without more time for public consultation.</p>		<p>consultation has been noted. The documents, whilst substantial in nature were on exhibition for 45 days in total. The site-specific DCP will also be reexhibited at a later date and the community will have a further opportunity to provide feedback.</p>
15	<p>I hope that this submission will be accepted although a little late.</p> <p>I would like to support the submission made by &lt;name removed&gt; on behalf of Bronte Beach Precinct against the proposed development of this site. &lt;name removed&gt; has made the case against this proposal extremely clear.</p> <p>It would show a complete disregard for Waverley's substantial heritage, and its stated preservation of century old heritage trees, were this proposal to be allowed to go ahead.</p>	1	<ul style="list-style-type: none"> <li>• Support for submission submitted by the Bronte Beach Precinct Committee listed as per submission number 19 is noted.</li> <li>• Objection to Planning Proposal noted.</li> </ul>
16	<p>I raise the following concerns regarding the WMH Planning Proposal (the Proposal):</p> <ol style="list-style-type: none"> <li>1. I object to the Proposal insofar as it seeks to exceed the floor space ratio and height restrictions imposed by the existing planning controls and thereby overdevelop the WMH site. As a nearby resident, I am concerned that this site-specific overdevelopment will sanction a trend or precedent of similar over developments or non-compliance with existing planning controls. This precedent of overdevelopment threatens the residential amenity of my neighbourhood, and allows a creeping effect of the commercial/retail area of Bondi Junction one step closer to the quiet pockets of residential conservation areas which adjoin it, and like the one I currently enjoy.</li> <li>2. The Proposal makes a mockery of existing planning controls. If allowed, it says - if you are a big enough entity who has the means to fight for such exemptions, you will be able to exceed the statutory planning and building controls. In this regard, allowing building restriction exemptions to</li> </ol>	1	<ul style="list-style-type: none"> <li>• Objection to the Planning Proposal has been noted.</li> <li>• In relation to the proposal being in excess of the height of building and floor space ratio in the <i>Waverley Local Environmental Plan</i>, the intention of the Planning Proposal is to create an Alternative Building Height map and Alternative Floor Space</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>some applicants, and not others, appears to be an arbitrary, or even discriminatory building code, favouring rich and powerful applicants.</p> <p>3. The Proposal's plan to create a further childcare facility and 257 independent living units (ILU) for those over 55 years of age is unnecessary in this neighbourhood which already has childcare facilities (for example Waterford in nearby Henrietta Street), and ample residential accommodation for those aged 55 and over, wishing to live independently. In a cynical light, it appears as though the childcare facility and the ILU aspects of the Proposal are ploys used by the applicant to mask the nature of this development as a community project (and thereby justify its attempt to bypass existing building and planning controls), whereas the true nature of this Proposal is purely a commercial redevelopment of the WMH site.</p> <p>4. The 257 ILU &amp; childcare facilities will further urbanise the residential pockets that surround the WMH site creating further burdens on the roads by increasing traffic and creating further parking issues. In this regard, it is noted that the Proposal allocates less than one car space per ILU.</p> <p>5. The WMH site is situated in a school hub (there are at least 6 schools and 1 childcare facility within walking distance). The traffic during morning drop offs and afternoon picks ups is already at a standstill along Bronte Road, Carrington Road and Birrell Street during these times. This Proposal will only exacerbate the existing traffic issues. It makes no sense to add further traffic to this highly congested area of Waverley by overdeveloping the WMH site.</p> <p>6. In preparing my submission, I have also had the opportunity of reading the submission prepared by &lt;name removed&gt; on behalf of the Bronte Beach Precinct dated 2 July 2021. I endorse all of the points made in that submission.</p> <p>Accordingly, I urge Council to reject the Proposal in its current form.</p>		<p>Ratio map for the site over and above what is currently permissible under the <i>Waverley Local Environmental Plan</i>. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</p> <ul style="list-style-type: none"> <li>As has been discussed in the Planning Proposal report which was exhibited as part of the Planning Proposal, it has been identified that there will be a need for additional community health, aged care services and seniors residential facilities in the Waverley Local Government Area (LGA) as the population in</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>Waverley continues to age. This Planning Proposal aims to increase the provision of co-located health services, aged care facilities and senior's residential development that is accessible to goods and services and community facilities, and will help to achieve the projected needs for the area. The inclusion of Centre-based Child Care has been proposed to better support staff and carers on site, as well as support the surrounding local community. Whilst there are other providers in the area, there is a strong demand, with many centres having existing extensive waitlists.</p> <ul style="list-style-type: none"><li>• In relation to concerns regarding potential traffic impacts which would result from any redevelopment of the site. The site is well serviced within 800m of the Bondi</li></ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>Junction Interchange with train services and 29 bus routes. There is also 10 bus stops within 400m of the site and it is well located within walking distance of Bondi Junction and Charring Cross. Any traffic and parking feedback provided will be further in the review and finalisation of the site-specific DCP.</p> <ul style="list-style-type: none"> <li>• Support for the submission listed as per submission number 19 in this document is noted.</li> </ul>
17	<p>The site Specific DCP is very disappointing as it does not take into real consideration the heritage importance of the site, its landscape and built heritage and approaches it ,in the same manner, that many in Sydney are complaining about ,a mere development site to infill with buildings, of dubious distinction rather than considering the intrinsic importance of this special place .It is one of the last and significant sites in Waverley and the public and those using it deserve more than what is proposed here.</p> <p>The conservation status of the property has barely been acknowledged and yet it is on State Heritage Inventory -both the house, Odina, and the site and it should be proposed for state heritage listing without delay. And plans for the site should acknowledge and respond to the real significance of this magnificent site and to the motives of the Vickery family who gave it to the Uniting church for the benefit of the public.</p>	1	<ul style="list-style-type: none"> <li>• Concerns regarding the heritage properties on-site have been noted. The 'War Memorial Hospital' was nominated by Council for inclusion on the SHR by Waverley Council in June 2020. The SHR Committee determined that it may meet the threshold for State heritage significance but was not a priority for SHR listing at this time.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>I would like to express my real concerns over the proposal to remove three to four (probably more) of the site's existing trees - those being three very mature Moreton Bay Figs and one mature Magnolia Grandiflora. All of them contribute significantly to the value of the site, all of them are very mature longstanding trees and all can be seen in a 1943 aerial shot of the site in various stages of development.</p> <p>At least one of the trees is significantly large in 1943 hence the arborist who we asked believed that it would probably be well over 100 years old in fact in the order of about 160 years old. The other two trees were, however, not seen to be nearly as large but were however, casting a shadow then in 1843. It is believed they would be approximately 80 years old. The claim that these removed trees could be replaced is preposterous - not in our lifetimes. And another proposal to move them - I don't think so, that is even more unbelievable.</p> <p>One of the important aspects of this site is also that it is in a wildlife corridor connecting the Queens Park with Waverley Park and therefore being the perfect stop off point for fauna as they fly through making their way to either parks.</p> <p>In addition by increasing the height of the buildings to 15/21 metres (particularly Building A ) allowed on the site to the height of the top of the tower on the roof of Edina will result in a blocking of the flightpath for the fauna as it will be harder for them to identify their route as they make their way around the suburb. The height of 15/21 metres is excessive</p> <p>In terms of living onsite - there is the proposed removal of Odina aged care beds of which there are 40 and their relocation is unclear. There is a question as to how much emphasis is really needed for Age Care in this Municipality - only recently Philip House In Bronte Rd. has indicated a change of use to backpacker accommodation. Presumably this move has resulted from a lack of need. So why more ?</p> <p>There appears to be an emphasis on independent living, which is for the over 55s - a provision which could really be called the provision of more flats/accommodation for those who could really live anywhere in Waverley. Why special provisions for that age group here?</p>		<p>Heritage NSW also provided a submission relating to the Planning Proposal as part of the public exhibition period. It should be noted Heritage NSW do not oppose the proposed planning controls. In addition The height of buildings has been carefully considered throughout the planning proposal process. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest component of any building on site and there is a separation by a proposed through-site link and the landscaped area between the location of the proposed new buildings and the heritage items on</p>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>There is an opportunity to produce a real Centre of Excellence on this remarkable site where the needs of the elderly could be met with a specially, sensitive treatment in the form of inspiring gardens set against a backdrop of magnificent trees -a special centre for those suffering from Dementia and Alzheimers ,a need now acknowledged in recent research on those suffering from these conditions.</p> <p>That is the treatment our elderly deserve not the lowest common denominator. And such treatment costs the community less in the long run.</p>		<p>the eastern part of the site. The relationship between any new buildings and the Heritage Items on-site is to be managed by the site-specific DCP.</p> <ul style="list-style-type: none"> <li>Concerns regarding the mature trees on site and the potential impacts any development could have on the habitat corridor are noted. Any traffic and parking feedback provided will be further in the review and finalisation of the site-specific DCP.</li> <li>The demand for residential aged care has been assessed and discussed in the Planning Proposal report which was placed on public exhibition. For the purposes of clarity, the Development Application at Philip Nursing Home (DA-94/2021) at 319-321 Bronte Road, Waverley intending to continue to provide housing for seniors and is proposing</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>'boarding housing that will operate as an aged care hostel'. It is noted that the 'boarding house' terminology relevant to the State Environmental Planning Policy (Affordable Rental Housing) 2009 does cause some confusion in the community.</p> <ul style="list-style-type: none"> <li>• Other general comments provided in the submission have been noted.</li> </ul>
18	<p>I wish to provide feedback on the proposal for the redevelopment of the War Memorial Hospital Site (SF21/2451)</p> <p>I've lived at &lt;address removed&gt; for nearly 12 years and recognise and generally approve of making the War Memorial Site a vibrant and active part of the community. However the current building designs combined with the elevated height of the overall site, will have a negative impact on the area and cause resentment from local residents.</p> <p>The increased height of the buildings, especially on the West side of the site, along Birrell Street, will significantly dominate the area, as they out of character with the buildings opposite on Birrell Street, and will overshadow my building due to the combination of their height and the increased elevation as Birrell Street rises towards Carrington Road.</p> <p>Also it seems that no consideration has been given to the wind tunnel effect that is likely to be caused by the location of buildings C, D and E (as shown on Figure 20 – Masterplan aerial view). Often when waiting at the crossing of Birrell Street and Bronte Road, the wind is significant - this is with the existing relatively open aspect of Birrell Street and its surrounding buildings. The airflow is</p>	1	<ul style="list-style-type: none"> <li>• In relation to the comments regarding the proposed building heights. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>compressed in the gap between the buildings C, D and E and this will blow directly onto my building. This issue needs to be seriously modelled and if necessary, offset with increased foliage or design elements to mitigate the wind speed and force. This will also need to be monitored post-construction should the plan go ahead.</p> <p>I feel that these problems could be avoided if the buildings were moved more towards the centre of the large site rather than being push to the periphery, making a dominant and foreboding corridor that will block out natural light and significantly affect the local area in a detrimental way.</p>		<ul style="list-style-type: none"> <li>• With regards to overshadowing, overshadowing diagrams have been provided as part of the masterplan and show the bulk of the overshadowing is demonstrated to occur within the site itself, as the stepped building heights, and retention of the Church Street heritage cottages act to minimise overshadowing to surrounding properties.</li> <li>• Regarding concerns about wind tunnelling, the stepped building heights and requirement for building articulation and mature tree planting around the periphery of the site, as well as within the site, are measures that will reduce potential wind tunnels. The detail of this is to be addressed via the site-specific DCP so the feedback provided relating to this matter and with regards to the layout of buildings will be</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			considered in the finalisation of the site-specific DCP.
19	<p>The following submission was received from the Bronte Beach Precinct Committee:</p> <p><b>Waverley War Memorial Hospital: Campus Site Planning Proposal and Site-Specific DCP</b></p> <p>This proposal fails to respect the heritage significance of the site, and in so doing misses an opportunity to create a better aged care and seniors living environment. The proposal can be simply improved to achieve both a better heritage outcome and a more effective aged care/seniors living campus.</p> <p><b>The proposal spoils a heritage site of State significance.</b></p> <p>As you would be away the building and grounds of the site appear separately on the State Heritage Inventory at a level of State Significance. On 5 May, 2020 Council resolved to apply for listing on the State Heritage Register. In August 2020 the SHR Committee resolved that although the site may meet the threshold for State heritage significance it was not a priority at the time and closed the nomination. But while the formal status does not yet apply, it would be negligent of Council to proceed as if it never will. It is reasonable to deal with this site as potentially being on the State Heritage Register at some point.</p> <p><b>Reconstruct the central garden for both heritage and functional reasons.</b></p> <p>The proposal does not respond to the significance of the site because it substantially compromises the setting of the heritage buildings by imposing Building A (Residential Aged Care, Clubhouse, Wellness Centre and Care Apartments) in the middle of the grounds. A consequence of this positioning is the destruction of three mature Moreton Bay Figs and a Magnolia Grandiflora all declared in most recent Conservation Management Plan (2017) as of Exceptional Significance (pg 20). The area where Building A is proposed was originally the central garden, an integral element of the spatial setting for Edina (aka the Vickery Building). It is currently an open car park. Those remaining significance trees create an opportunity to reconstruct the central garden as</p>	1	<ul style="list-style-type: none"> <li>Concerns regarding the heritage properties on-site have been noted. The 'War Memorial Hospital' was nominated by Council for inclusion on the SHR by Waverley Council in June 2020. The SHR Committee determined that it may meet the threshold for State heritage significance but was not a priority for SHR listing at this time. Heritage NSW also provided a submission relating to the Planning Proposal as part of the public exhibition period. It should be noted Heritage NSW do not oppose the proposed planning controls.</li> <li>As has been discussed in the Planning Proposal report, which was exhibited as part of the Planning Proposal, it has been identified that there</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>recommended in Policy 9 of the CMP (2017). It obviously can't be reconstructed is there is a building on it. The proposal is incoherent because it acknowledges the CMP and states the DCP will be modelled on the Opportunities and Policies therein, but the placement, and height, of Building A is in stark contradiction.</p> <p>The building on this open space at 21m also locks the ecological corridor from Waverley Oval to Queens Park.</p> <p>The reconstruction of the central garden however is not simply about heritage. There is much research on the importance of open spaces and gardens in providing appropriated environments for the ages. A consequence of dementia is that sensory perception, especially touch and smell, becomes more important. Gardens are a comfortable distraction. With the onset of dementia people are often unsettled in built environments and need safe places to move around. If outdoor stimulatory spaces are available for the aged there is also reduced need for sedation. An appropriate environment with outdoor spaces can slow the onset of dementia which is relevant to those in independent living as well. Coincidentally one of the geriatricians at the War Memorial Hospital, Dr Nick Brennen, has been interviewed on ABC radio on this subject (<a href="https://www.abc.net.au/radionational/programs/lifematters/unexpected-gardens-australian-gardenshow/5715404">https://www.abc.net.au/radionational/programs/lifematters/unexpected-gardens-australian-gardenshow/5715404</a>). Still water is also calming for those with dementia and so the reconstruction of the original central garden pool would be advantageous in this regard.</p> <p>Separate to the direct experience of a garden is the contribution to the aesthetic of the site from the perspective of the proposed modern senior living buildings. The NSW Architects Registration Board has a research publication on architecture for the aged, 'The New Architecture for a New Age (NANA)' by Guy Luscombe. A feature it recommends, 'Windows to the world', is about being able to look out on something with connection to an outside world. Clearly an inhabited garden is preferable to buildings. That publication also emphasis the need for outdoor spaces for people with dementia, and to support community connection.</p> <p>An alternative location for Building A is where buildings F, G and H are planned. That would substitute for three of the seven independent living buildings. Potentially buildings B and C could be made deeper to compensate.</p>		<p>will be a need for additional community health, aged care services and seniors residential facilities in the Waverley Local Government Area (LGA) as the population in Waverley continues to age. This need for the provision of housing for seniors is based on Waverley Council's Waverley Local Housing Strategy 2020-2036. The Planning Proposal aims to increase the provision of co-located health services, aged care facilities and senior's residential development that is accessible to goods and services and community facilities and will help to achieve the projected needs for the area.</p> <ul style="list-style-type: none"> <li>• Feedback regarding the removal of mature trees, the Habitat Corridor landscaping and building layouts have been noted. This feedback will be considered by as part of</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p><b>The scale is unjustified.</b></p> <p>In 2016 Council published a research report on the accommodation needs of older residents. On the supply of aged care in Waverley that report noted: 'With the development of the Loreto site and two facilities on the border of Waverley in the near future, the supply of residential aged care in the area is likely to be sufficient in the medium term.' Again in the conclusion, 'the supply of aged care places, both residential places and home care packages is considered reasonably sufficient at this time'. The proposal at 3.2.1, purports to quote from that report, although the figures presented cannot be traced to it. In contrast to the 2016 report the proposal creates an impression of increasing shortages of both aged care places and independent living. This seems dubious without proper reference.</p> <p>What is unequivocal is that the proposal removes the 40 aged care beds from the existing Edina nursing home, which will be demolished to develop independent living units. It is not clear how many of those aged care beds are available in the only one of eight new buildings to address aged care. It is not clear that the proposal will significantly increase the provision of aged care beds from that starting deficit.</p> <p>It is misleading to assert a shortage of independent living accommodation because it overlaps significantly with general accommodation in the community. The independent living units will likely be accessible by anyone over the age of 55. There is ample accommodation elsewhere for those people, and so the proposed intensity of the ILU build is unjustified. Much of the bulk of the proposal is from ILU.</p> <p><b>How high?</b></p> <p>The Conservation Management Plan (2005) states in section 9.2.4 that a level of three storeys is appropriate for new buildings. 'This is of the scale of the Morgan building that is a good fit in terms of scale, site presence and heritage impact. Buildings on the western half of the site towards Bronte Rd, might justify another storey (buildings C,B,D,E and F). But the recommendation of the CMP should stand for the eastern half of the site. The proposal of 15m/21m is excessive and</p>		<p>the further review of the site-specific DCP prior to finalisation and reporting to Council.</p> <ul style="list-style-type: none"> <li>• With regards to the proposed height and relationship with existing heritage on site. The height of buildings has been carefully considered throughout the planning proposal process. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest component of any building on site and there is a separation by a proposed through-site link and the landscaped area between the location of the proposed new buildings and the heritage items on the eastern part of the</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>inconsistent with the CMP. It is essentially to facilitate residential development for over 55's and is unjustified.</p> <p>The proposed 21m building in the middle of the site (Building A) would substantially block the ecological corridor from Waverley Oval to Queens Park and this is untenable.</p> <p><b>Summary</b></p> <p>The proposal fails to respect the heritage of the site and falls short of contemporary architectural standards for the aged. These problems stem from its excessive scale which is unjustified. The proposal is incoherent as it refers to, but effectively ignores the Conservation Management Plans of 2005 and 2017. The reconstruction of the central garden has heritage, architectural and functional merit. It would result in an outstanding community asset. It would also avoid destruction of existing trees of exceptional significance and preserve the ecological corridor.</p>		<p>site. The relationship between any new buildings and the Heritage Items on-site is to be managed by the site-specific DCP. All feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.</p> <ul style="list-style-type: none"> <li>• Other comments regarding the importance of sensory perception and surrounds in relation to natural features such as gardens and bodies of water has been noted.</li> <li>• It is also noted a number of other submissions wrote in support of this submission.</li> </ul>
20	<p>The following submission is a Motion from the Bronte Beach Precinct Meeting held 23 June 2021.</p> <p>The BB Precinct requests that Council change the proposed site specific DCP for the Edina Estate (War Memorial) to achieve the opportunities highlighted in the 2005 Conservation Management Plan, in particular the restoration of the lower garden. This recognizes the State Significance of the Heritage listing for those grounds. There should be no building at all on this site.</p>	1	<ul style="list-style-type: none"> <li>• The request to change the site-specific DCP has been noted, this feedback will be considered in the further review of the site-specific DCP.</li> </ul>
21	<p>We represent the Charing Cross Precinct Village. This Planning Proposal falls within our Precinct Area and on behalf of concerned residents I wish to bring some issues to your attention</p>	1	<ul style="list-style-type: none"> <li>• Concerns about future living arrangements for</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p><b>1. REMOVAL OF CURRENT RESIDENTS WHO LIVE IN THE WAR MEMORIAL GROUNDS</b></p> <p><b>PART 3/SECTION C - ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACT (DPIE)</b>  3.9 <i>Has the planning proposal adequately addressed any social and economic effects?</i> (p103)  3.9.1 Social  The proponent states : “The increase in social infrastructure provision on the site...allows residents to be able to age in place, in a community that they are familiar with, which has been shown to greatly increase the quality of life into older age”. A recent update letter (29 Jan 2021) also mentions "supporting people to age in place".</p> <p>Why are existing residents not being allowed to age in their existing homes? Many have lived in their Uniting Church retirement homes for over 5 years and have many friends in the area and have links with the local community. Some residents have been there for longer. Yet they are being forced to move outside of the local area to another community that they will need to establish themselves in, and they are already of advanced age.</p> <p><b>We would therefore ask Waverley Council to make it a condition of any approval of this planning proposal that all current residents must be given the choice remain on site to continue with their lives, if they so wish. This may include temporary relocations on site as the building work progresses, or retention of the existing recently renovated (in 2016) Conrad Beard Court.</b></p> <p><b>2. The Needs of Locals residing in neighbouring properties</b></p> <p>The provision of aged care, seniors living and affordable housing options is important to our area, however, the expansion of these services must take into account the amenity of the local area and needs of those residing in neighbouring properties.  Our concerns are listed below:-</p> <p><b>Street Frontages</b></p>		<p>current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</p> <ul style="list-style-type: none"> <li>• Feedback regarding the proposed building heights is noted. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</li> <li>• In relation to the concerns regarding potential loss of sunlight and overshadowing. Overshadowing diagrams have been provided as part of the masterplan and show the bulk of the overshadowing is</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>The existing street frontages of this site are either in keeping with the local, historical appearance of the Waverley area, or largely unseen due to the well-established trees and set-back from the roadway.</p> <p>We suggest retention of current building heights and adequate setbacks from the street to maintain this appearance. Opening up the original access to the estate with the original gates at the corner of Birrell St and Bronte Rd, the historic spine should lead towards the Edina residence. As a pedestrian walkway, this could help to recognise the history of the site. Buildings should be sited to give generous entry space inside the gates, and designed to address the driveway as a principle internal spine rather than presenting it with unresolved end elevations. Some adjustments to the alignment of the driveway spine could be made around Conrad Beard Court.</p> <p><b>Proposed Heights</b></p> <p>Any new buildings and associated height increase (even with partial or stepped set-back) will significantly and permanently alter the character of locality. Any increased building heights would result in them being significantly taller than existing and neighbouring buildings and as such, be out of character with this area.</p> <p>In effect the proposal for high rise on this site will draw the character of Bondi Junction further down Bronte Rd towards Charing Cross, which is already under pressure to increase its height limits as demonstrated by the "Charing Square" Spot Rezoning Proposal currently about to go to Public Exhibition.</p> <p>Development to date has largely been in keeping with the historic streetscape and unobtrusive. The Precinct would suggest retention of current height limits in Waverley LEP alongside Bronte Rd and Birrell St. If any increase in heights are to be considered these could be located towards the centre of the site, depending on heritage constraints where the impact on neighbours is limited.</p> <p>The massive scale of horizontal slab buildings conflicts directly with the patterns of development and rhythm of smaller subdivisions in this historic neighbourhood. The modern horizontal monolith also results in a poor relationship with sloping ground and presents an overly elevated</p>		<p>demonstrated to occur within the site itself, as the stepped building heights, and retention of the Church Street heritage cottages act to minimise overshadowing to surrounding properties.</p> <ul style="list-style-type: none"> <li>• In relation to the concerns about increased potential for wind tunnels. The stepped building heights and requirement for building articulation and mature tree planting around the periphery of the site, as well as within the site, are measures that will reduce potential wind tunnels. The detail of this is to be addressed via the site-specific DCP so the feedback provided relating to this matter will be considered in the finalisation of the site-specific DCP.</li> <li>• Other feedback relating to concerns regarding the Habitat Corridor, potential loss of mature trees on site, building layouts and</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>low end. In order to achieve a better fit, we suggest stepping buildings down the sloping Birrell Street frontage from east to west reflecting a more traditional terrace approach to design. Even a fairly large terrace building series would respond better to landform and would create more discrete groups of accommodation, reducing the institutional stigma and improving health care outcomes. Along Bronte Road, smaller, less bulky building modules with gaps between them could reduce issues of overshadowing and overlooking of neighbouring properties as well as loss of sunlight which is so important to community wellbeing. As proposed, buildings are too massive and, already set on higher ground, are likely to overshadow properties set along the western, low side, of Bronte Road. Alternatively, has any consideration been given to adaptive re-use of any of the existing buildings on this frontage, as a more sustainable approach to re-development?</p> <p><b>Habitat Corridor and trees</b></p> <p>The existing Habitat Corridor running through the site and identified in the WLEP must be maintained and improved. Much of the vegetation is well established and essential to local wildlife. Several magnificent old fig trees (<i>Ficus</i> sp) which possibly date from laying out of the estate grounds are essential visual features and have created habitat hot spots. These should be identified for retention and be designed as features on the site to be enjoyed into the future, along with the important Norfolk Island Pine landmarks. Removal is not an option.</p> <p><b>Pedestrian Corridor</b></p> <p>Bronte Road is a well utilised and important pedestrian corridor. Any changes to buildings alongside the street should be set back to improve pedestrian amenity, provide space for canopies of significant avenue trees planted on the footpath, and maintain shelter from the wind tunnel effect plaguing Bondi Junction. The precinct recommends recording of existing wind conditions and speeds at selected locations between Birrell Street and Church Street along Bronte Road, to set targets to reduce or as a minimum remain comparable to current wind conditions should development occur on the site.</p> <p>An increase of on-site residential units could potentially still be achieved through the development of a greater number of smaller two and three storey building “pods” positioned across the site.</p>		<p>street frontages will be considered in the further review of the site-specific DCP, in which these matters relate to.</p> <ul style="list-style-type: none"> <li>• Other comments provided which are more general in nature have been noted.</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>This would help to match buildings with the garden setting and utilize the sloping ground to give units better access to sunlight, diminish the extent of overlooking each other and / or neighbouring properties, and optimise district skyline views towards Centennial Parklands and the Sydney CBD. Such structures could be positioned around existing mature trees and historical features of the Edina estate, avoiding the necessity to raise the existing height controls.</p> <p><b>Summary</b></p> <p>1. Any development proposal needs to include continued existing resident care and accommodation as essential. Recent renovations to Conrad Beard Court must be considered both in the context of resident comfort in their own units, and of sustainability. Embodied energy should not be wasted. People living within the site must be provided with an option to remain there, if they wish, and not be displaced out of the locality in their late years. Many have long term local connections and have invested carefully in their living arrangements.</p> <p>2. Site design: the starting point for any development on this site should be a proper analysis of existing site features, based on an accurate land survey, the CMP and other studies, and fieldwork; existing features should be located (historic buildings, landscape works, garden features, all existing trees, existing (non-heritage) buildings, footpaths, driveways, carparks, gates and steps etc. Some buildings and trees may be assessed for removal and some buildings may be identified for recycling into any new scheme.</p> <p>3. Photos of the surrounding streets do nothing if the messages of scale, rhythm and style are not translated into designing for the site. This does not imply historicism. Rather it requires a careful translation into modern buildings for affordable aged living or ageing in place and aged care homes.</p> <p>4. In regards to trees a qualified arborists report is required to identify and rank the significance and age of all the trees on the site relating to their health, longevity, historical significance and habitat value.</p>		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>5. Contemporary forms of high rise or large, horizontal building slabs are not necessarily suitable for this site. Bondi Junction's heights and FSRs should not be drawn further south. Throughout post-european history there has been a "rural" gap between Bondi Junction and Charing Cross Village (the original commercial centre of Waverley), and this should be clearly respected. Increased heights and FSRs should not creep towards the Charing Cross Village.</p> <p><b>Conclusion</b></p> <p>The precinct believes that a more intelligent and considerate approach to designing infill developments for this historic site is needed, taking into account the slopes, surrounding streets and the setting in an historically dense suburban environment</p>		
22	<p>I would like to raise the following issues regarding the PP for the War Memorial Hospital Site.</p> <p><b>Issue1: Traffic</b></p> <p>Use of the Church Street entry/exit point should be minimised. This is a small local street which is already impossible to find a park on during the week and gets severely banked up during school pickup and dropoff hours.</p> <p>If additional traffic along Church Street is anticipated, Council should:</p> <ul style="list-style-type: none"> <li>• widen the bottom of Church Street to allow for a left and right hand turning lane to reduce banking up of traffic</li> <li>• make Short Street one way (accessible from Bronte Road)</li> </ul> <p><b>Issue 2: Height</b></p> <p>The heights proposed are all 1-2 storeys too high. They will dominate the heritage grounds and are inconsistent with existing and future heights of buildings in the area. It doesn't make sense that development along Bronte Road towards Bondi Junction is only allowed for 4/5 storeys but 7 storeys is supported on the site.</p> <p><b>Issue 3: Design Excellence</b></p>	1	<ul style="list-style-type: none"> <li>• Suggestions relating to traffic and the interface of future developments with the existing streetscapes have been noted and will be considered as part of the further review of the site-specific DCP prior to finalisation and reporting to Council.</li> <li>• Feedback regarding the proposed building heights is noted. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>If buildings are going to be built to the heights proposed in the Masterplan they better look good. I would like to see some sort of Design Excellence control / design competition that the applicants must comply with to achieve the proposed heights. This is critical given the heritage nature of the site and its interface with low scale residential areas.</p> <p><b>Issue 4: Local Street Interface</b></p> <p>I support the retention of the two houses at the bottom of Church Street. Any future development along Church Street needs to acknowledge the streetscape and its heritage conservation zone status. This should never be the primary frontage for the Hospital and if possible I would like to see the DCP controls strengthened to ensure this.</p>		<p>of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</p> <ul style="list-style-type: none"> <li>• The suggestion regarding Design Excellence is noted, the Planning Proposal already has a proposed clause that any development on the site would be subject to Clause 6.9 Design Excellence of the <i>Waverley Local Environmental Plan</i>.</li> </ul>
23	<p>We are opposed to many aspects of the proposed development to this very important heritage site in Waverley as we believe it is an overdevelopment of this precious site that was bequeathed by the Vickery family in 1919 to the Trustees of the Methodist Church for "<i>hospital purposes</i>".</p> <p>We cannot understand why Uniting has not even tried to keep within the scope of its own <i>Conservation Management Plan</i>, especially with respect to</p> <ul style="list-style-type: none"> <li>• not developing the site for new uses</li> <li>• maintaining "<i>its aesthetic and historical qualities as a substantially intact Victorian estate</i>" and</li> <li>• preserving items of <i>Exceptional Significance</i>, including the large old trees.</li> </ul> <p>In the <i>Planning Proposal</i>, we <b>oppose</b> the suggested amendments to the <i>Waverley Local Environmental Plan 2012</i> (WLEP2012), namely</p>	1	<ul style="list-style-type: none"> <li>• The height of buildings has been carefully considered throughout the planning proposal process. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<ul style="list-style-type: none"> <li>the Additional Permitted Uses to the SP2 zoned land - Seniors housing; Community facilities; and Centre-based childcare facility</li> <li>a new Alternative Height of Buildings Map to show an alternate height of 15m and 21m from the current 9.5m and 12.5m, thus increasing permissible number of storeys from 4 to 7</li> <li>a new Alternative Floor Space Ratio Map to show an alternate maximum FSR of 1.2:1 from the current maximum of 0.9:1.</li> </ul> <p>These proposed substantial increases to height and density are totally inappropriate for the site and, as the model drawings show, would overwhelm the site.</p> <p>In the <i>Draft Site-specific DCP</i>, we oppose</p> <ul style="list-style-type: none"> <li>the proposed new centrally located residential aged care and community hub in almost the centre of the site. With its inappropriate location, height and size, it would totally change the nature and fabric of this Victorian estate.</li> <li>provision of new seniors living, as it is not a “health use”</li> <li>the substantial increase in heights of 15 and 21m that do not comply with the Draft DCP control:</li> </ul> <p><i>The scale of new buildings must not challenge or overwhelm the heritage buildings, Victorian streetscape, or landscape.</i></p> <ul style="list-style-type: none"> <li>proposed new buildings dwarfing the original gates on the corner of Birrell St and Bronte Rd</li> <li>the capacity to remove the trees of Exceptional Significance identified in the Conservation Management Plan for new buildings. All mature trees of Exceptional Significance must be preserved.</li> </ul>		<p>component of any building on site and there is a separation by a proposed through-site link and the landscaped area between the location of the proposed new buildings and the heritage items on the eastern part of the site. The relationship between any new buildings and the Heritage Items on-site is to be managed by the site-specific DCP. All feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.</p> <ul style="list-style-type: none"> <li>In relation to the proposed additional permitted uses, seniors Housing and Community-based facilities already exist on site. These uses already occur within this zone and would be able to be provided under existing use rights, as such amending the permitted</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>We can see the need to restore some of the older buildings and possibly replace and extend the existing aged care facility along Bronte Rd but any development of this significant site should not interfere with the heritage buildings, gates and landscape and must only be for its original purpose as a health facility.</p>		<p>uses on-site is simply seeking to legitimise these uses and provide abundant clarity by amending the WLEP to reflect these uses. The inclusion of Centre-based Child Care has been proposed to better support staff and carers on site, as well as support the surrounding local community. In addition 'Seniors living' would fall under 'Seniors housing' as a permitted use.</p> <ul style="list-style-type: none"> <li>• Concern over the removal of mature trees on-site, as well as feedback relating to the layout of buildings and other relevant suggestions to the site-specific DCP has been noted. All feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.</li> </ul>
24	<p>The below submission was received twice both via email and through Council's Have Your Say Page. It has been treated as one submission.</p>	1	<ul style="list-style-type: none"> <li>• Concerns regarding any on-site parking (in</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>Further to Waverley Council (WC) correspondence of 20 May 2021. Accordingly, we wish to raise the following comments and seek both WC and Uniting Waverley's (UW) response upon same.</p> <p><b>Redevelopment Impact – Overview</b></p> <p>As alluded to in our several prior discussions with various members of the UW team, as a community member, I appreciate the need for regeneration of the site. However, based upon information contained in the previous UW Package Booklet and as provided in the recent Planning Proposal of May 2021, it appears I and my neighbours directly opposite the development site No's 3,5 and 7 Church Street, will all be highly impacted neighbours. As a result, we have numerous concerns. As UW own No's 2,4,6 and 8 Church Street, the houses on the other side of the street – No's 1,3,5 and 7 Church Street are all owned and occupied privately by the current residents of the street – thus, as a residential community, out the 4 Houses of 8 Houses – 100% of the non-UW owned properties will be significantly affected by the development and all have similar concerns.</p> <p><b>Existing Issues :</b></p> <p><b>Parking</b></p> <p>Now almost non-existent and whilst not the full responsibility of WMH, users associated with the WMH and others (covered in further detail within this document) all impact upon Church Street Residents (CSR) significantly along with those listed below under Traffic.</p> <p>As an example, for the last two (2) days, I have waited in my car for 35 and 27 minutes respectively for a Park anywhere in the street – this has now become the norm.</p> <p><b>Traffic</b></p> <p>High traffic flow especially from 7.30am to 9.00am because of 5 users (4 schools and 1 Day Care); largely all day for Methadone Centre; all day for Waverley Court House and Police Station. Day usage by WHM Patients and Staff.</p>		<p>particular any underground car parks), traffic impacts, building setbacks and potential removal of mature trees on site have been noted. Feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.</p> <ul style="list-style-type: none"> <li>• A number of issues raised relate to existing issues on-site or issues which may arise during the Development Application stage and during or post construction of any approved Development. These include matters such as the design of any proposed building and issues which relate to a Plan of Management for the site/particular buildings as well as a Waste Management Plan regarding waste management and collection. These matters would be assessed and</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>Further, Waverley Police are very aware of the increasing level of illegal entry into Church Street (a 1 Way Street – entry via Carrington Road only) via Bronte Road is increasingly creating more danger for students, elderly, and residents. In most cases, the offending parties are Court Attendees and Methadone Clinic patients.</p> <p><b>Noise</b></p> <p>As discussed at the UW community day, currently the CSR experience 6 days out of 7, wherein the WMH's garbage collection service is undertaken at 5.30am everyday with the exception of Sunday. This has been going since we bought in the street in May 2010 and even longer based on feedback from No's 5 &amp; 7 Church Street. The noise awakens all residents, 6 days a week. As the WMH might appreciate, this impacts upon your neighbours' attitude towards the hospital.</p> <p><b>Proposed Development</b></p> <p><b>Aesthetics</b></p> <p>Tree Removal &amp; Regenerating and "Greening" of Site Based upon initial plans provided at the Community day (2017 ?) and again in the May 2021 Proposal, it was detailed that several of what the community understood to be, "Protected" trees are to be removed. As a resident – we find this to be totally unacceptable when considering what has been "drafted" to replace these trees. Residents will go from 12-15 Metre green colour and canopy to an excavation, scaffolding and ultimately, 5 floors of brutal concrete and glass. How is the building design and layout to be repatriated to even resemble the magnificent tree scape currently in place ? What is UW's solution to same and what has been WC response - as from what we the residents are hearing from numerous locals post the UW Community Day in 2017 and subsequent of the real concern of this proposal, there is a growing swell of strong objection to this ? Going from Green to Concrete – What is WC and UW's detailed and "committed to" plan to restore the natural "greenscape" of the WMH site ?</p> <p><b>Building Design/Layout/Height etc</b></p>		<p>considered at the Development Application stage and if a future Development Application is lodged, the respondent is encouraged to review any relevant documents and provide feedback on those matters.</p> <ul style="list-style-type: none"> <li>• In addition, questions regarding primary points of contact during any development unfortunately can not be addressed as the Planning Proposal and site-specific DCP only relate to the planning controls and not specific proposed development itself.</li> <li>• The proponent (Uniting) will also be referred to consider the feedback provided relating to the concerns raised regarding existing activities on the site (for example current waste management arrangements).</li> <li>• Other comments of a general nature have been noted.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>At the Community Day in 2017 around what the building might look like – assurances were provided to the local community by UW that “we do not build institutional like monoliths – it will be very sympathetic to the surroundings and for neighbours to look upon”.</p> <p>On initial and now subsequent documents provided of the proposed building that will sit opposite 1,3,5 and 7 Church Street, we seek assurances and community buy-in as to how this will be achieved as based upon initial design, it looks very monolith, very institutionalised and not sympathetic.</p> <p>In particular, real concerns with regards the height, aesthetics and importantly to us, the set back from the street needs to be reviewed. An imposing statement of concrete and glass says nothing of being sympathetic.</p> <p>Regeneration of flora and privacy – what honest and committed steps will be made to remedy the unconscionable destruction of the 100+ year old trees in the grounds of WMH which have provided the CSR much privacy but also, aesthetic cover from the WMH – How and what will it be related with and will UW be held to account in ensuring it will be done ?</p> <p>One of the biggest concerns – largely faced by 1 &amp; 3 Church Street is the proposed underground carpark for visitors, residents and services. We have are extremely uneasy with regards the driveway up/down angle of access with respect to noise but most critically, headlights into our direct residences – bedrooms and living area pre/post development – In fact we seek assurances and evidence based modelling of same from WC and UW around this – this is not a request, it is in fact a demand. We state clearly, these extraordinarily strong objections to UW’s proposal.</p> <p><b>Noise</b></p> <p><b>Pre – Construction</b></p> <p>As mentioned, prior WMH service activities (Waste etc) currently cause negative impact for the CSR.</p> <p>What remedy can/will UW and WMH bring about on these items ?</p>		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p><b>Construction</b></p> <p>What will be WC and UW's committed Action Plan and process to the minimisation of Construction noise, refuse and traffic for the CSR ?</p> <p>Given the current almost non-existent parking for residents and traffic issues, what will WC and UW implement that will ensure the CSR are not further impacted by building, trade and workers taking up the scarce, minimal parking and traffic freedom that the CSR currently have ? *</p> <p>We recently had a block of 13 apartments built over 3 years at 182 Bronte Road – over the course of the three years we had virtually no parking due to the building workers taking street parking and increasing traffic. Further, another 4 apartments were built in Short Street in the last 2 years – again, identical issues with diminished parking for residents.</p> <p>What measures will be in place for CSR along with UW's patients, carers, visitors who will no longer be able to park within the WMH precinct during the construction stage ? Will these too just overflow onto Church Street and also take our scarce available Resident Parking ?</p> <p>What will WC undertake to do to address the totally illegal parking by many non-residents of vehicles in Church Street presently and how will they manage/police illegal parking during construction by workers who will without doubt take Resident Only Parking – limited to 2 Hour only ?</p> <p>Will WC as a result of UW's proposal and disruption to residents, amend the current level of unlimited parking to reduce same and increase Resident/Permit Parking only to protect residents ?</p> <p><b>Post Construction</b></p> <p>What are the UW's projections and management plans around the post construction stage (completion) traffic and noise impact on Church Street ?</p> <p><b>Parking – Multiple users of Church Street</b></p>		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>Currently, the CSR are impacted majorly by the following users of Church Street. Individually, they cause problems with parking and traffic flow but collectively, they make it almost impossible to gain any form of parking across each day.</p> <p>What will UW and WC do to address this given the significant construction phase and post completion given the uplift in users of the newly developed WMH ?</p> <p>The current parking restrictions allow for a limited number of 2 Hour Monday-Saturday 8.00am to 6.00pm and "Resident Only" parking spaces.</p> <p>There are a much larger number of un-restricted parking spaces – however, these must service a huge catchment of residents across the combined Church Street, Bronte Road, Carrington Road area. At present, these un-restricted spaces are being used by home mechanics who also service a large number of 4WD vehicles and other vehicles; dumped cars (4 at present). There are simply not enough controls in place by WC to manage and monitor and this coupled with Waverley Police and Council trying to remove dumped and abandoned vehicles, means numerous car spaces are "locked up" for months.</p> <p>Our question to UW and WC is – what can and most importantly will each of you do to alleviate this for the CSR ?</p> <p>Perhaps change the current "2 Hour/ Resident Parking" to "30 Minutes/Residents Parking" and then change the Un-Restricted to "2 Hour/Residents"...? Open to UW and WC detailed response.</p> <p><b>Hospital Staff</b></p> <p>Staff park regularly in the currently non-restricted bays through-out the street – as is their right. However, many park in the 2 Hour/Residents parking for more than the 2 hours (acknowledging they run the risk of a Parking fine) taking up in-valuable residents parking regardless.</p> <p>How will UW address this (with WC) during construction and post development?</p>		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p><b>Hospital Visitors</b></p> <p>As above with Hospital Staff.            How will WC with UW address this during construction and post development ?            St Claire's Girls School            Peak drop Off /Pick up hours of 7.30am to 9.00am and then 3.00pm to 4.15pm.            Significant pedestrian Traffic, motor vehicle traffic – and danger to school students and families.</p> <p>How will WC with UW mitigate this during construction and post development ?            Waverley College</p> <p>Peak drop Off /Pick up hours of 7.30am to 9.00am and then 3.00pm to 4.15pm.</p> <p>Significant pedestrian Traffic, motor vehicle traffic – and danger to school students and families.            How will WC with UW mitigate this during construction and post development?</p> <p><b>St Charles Primary</b></p> <p>Peak drop Off /Pick up hours of 7.30am to 9.00am and then 3.00pm to 4.15pm. Significant pedestrian Traffic, motor vehicle traffic – and danger to school students and families.</p> <p>How will WC with UW mitigate this during construction and post development ?</p> <p><b>Waverley Public</b></p> <p>Peak drop Off /Pick up hours of 7.30am to 9.00am and then 3.00pm to 4.15pm.            Significant pedestrian Traffic, motor vehicle traffic – and danger to school students and families.            How will WC with UW mitigate this during construction and post development ?</p> <p><b>Methadone Centre</b></p> <p>Open from 8.00am till Midday and then 3.00pm to 6.00pm</p>		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>Significant pedestrian traffic, motor vehicle traffic – and danger to school students and families. Regrettably, numerous of these people are poor drivers coupled with an unwillingness to park legally during their visit – regularly parking across driveways, double parking and even parking across gutters and lawns.</p> <p>How will WC with UW mitigate this during construction and post development ?</p> <p>Waverley Police Station</p> <p>Police vehicles have the priority as they should be. However large visitor traffic to the Police Station means heavy vehicle and pedestrian traffic.</p> <p>How will WC with UW mitigate this during construction and post development ?</p> <p><b>Waverley Court House</b></p> <p>As above. However because of the Court House, it is a regular occurrence for Court attendees as a result of being late for court to then drive up Church Street in the wrong direction – despite it being a 1 Way Street and it being directly opposite the Police Station and then park for numerous hours on end to attend court.</p> <p>Additionally, due to the many “profile” celebrity court appearances, the street now becomes a “circus” of TV Media vans, paparazzi and limousines awaiting the arrival and exit at court. As a result, the street is even more congested.</p> <p>How will WC with UW mitigate this during construction and post development ?</p> <p><b>Traffic</b></p> <p>As above – however factoring in the construction stage, how will UW and WC mitigate noise, waste and traffic for safety and comfort of all users of Church Street ?</p> <p>From my review of the May 2021 proposal, many of these specific and detailed issues above are devoid of mention or perhaps even consideration. Only as being a resident – in our case of 11 years, &lt;address removed&gt; 4 years and &lt;address removed&gt; some 50 &amp; 60 years would you be fully</p>		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>aware or versed in these ongoing issues that will now only be even further exacerbated by your proposal.</p> <p><b>Recourse Points through-out Development</b></p> <p>Who will be our primary contact points through-out this process ?</p> <p>What are their contact details and preferred method for contact ?</p> <p>We look forward to your earliest detailed consideration on behalf of very concerned residents on this matter.</p>		
25	<p>I am a resident of &lt;address removed&gt;.</p> <p>This Village is scheduled for demolition and residents will be moved to another Village, where we do not know.</p> <p><u>This is an enormously distressing situation as when I moved in almost 6 years ago now, I was convinced that I would not move again at this stage of my life. There was not, then, any hint that demolition and building of residential areas on this site would occur.</u></p> <p>As we all are aware the huge importance of housing for older people is paramount.</p> <p>Many of the Proposals for this very beautiful War Memorial Hospital site are not people-friendly for those of us working and living on the Edina Estate.</p> <p>We do have Bondi Junction a short bus ride away or a good healthy walk for some, to shop etc.</p> <p>My apartment is situated overlooking a large tennis court which is used frequently. I have the joy of space and walking through the grounds - a blessed experience in garden areas, all very well maintained, and some very beautiful OLD trees.</p>	1	<ul style="list-style-type: none"> <li>Concerns from resident on-site about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> <li>Feedback relating to open space on-site is noted. Council has sought a minimum of 30% Deep Soil landscaped area on the site, in order to ensure adequate open space. Feedback relating to provision of green space and landscaping is noted and will be considered in</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>These areas are in constant use by residents, ambulant patients from the Hospital and gym attendees from rehab. exercising safely using the tennis court.</p> <p>I could continue but my point is: Please reconsider proposals to demolish and re-house happy residents of &lt;address removed&gt;.</p>		<p>the further review of the site-specific DCP.</p>
26	<p>The following submission was received from the Queens Park Precinct Committee:</p> <p>The Committee has considered the Planning Proposal and Draft Site-specific DCP for the War Memorial Hospital site and has major concerns about the impact on this important historic site should these plans be adopted in their current form.</p> <p>We believe this to be one of the most important remaining sites of heritage value in Waverley and it would be devastating to see this site end up overdeveloped and ruined like many other areas of Waverley, especially Bondi Junction.</p> <p>The Vickery family bequest in 1919 to the Trustees of the Methodist Church was for "<i>hospital purposes</i>". This Uniting proposal appears to include commercial development not at all in keeping with the original bequest or indeed the site.</p> <p>We understand the need to restore some of the older buildings and possibly replace and extend the newer aged care facility along Bronte Rd but believe the need to preserve the heritage of this site is paramount. This includes the trees and gardens as well as the heritage buildings and gates.</p> <p>As the <i>Conservation Management Plan</i> submitted by Uniting themselves for the site states:</p> <p><i>The main tangible aspects of the significance of the Waverley War Memorial Hospital are its aesthetic and historical qualities as a substantially intact Victorian estate. Therefore the conservation approach adopted for these policies relies on the spatial integrity of the place and its aesthetic qualities.</i></p> <p><u>Planning Proposal</u></p>	1	<ul style="list-style-type: none"> <li>• Stated objection to the Planning Proposal is noted.</li> <li>• In relation to the concerns regarding the proposed height of building controls. The height of buildings has been carefully considered throughout the planning proposal process. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest component of any building on site and there is a separation by a proposed through-site link and the landscaped area between</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>The <b>Queens Park Precinct</b> <u>does not support</u> the following suggested amendments in the <i>Planning Proposal</i> to the <i>Waverley Local Environmental Plan 2012</i> (WLEP2012):</p> <ul style="list-style-type: none"> <li>allowing the following Additional Permitted Uses to apply to the SP2 zoned land - Seniors housing; Community facilities; and Centre-based childcare facility</li> </ul> <p>As the applicant's <i>Conservation Management Plan</i> states: <i>In this case, the site has the potential to be developed further in order to accommodate the continuing historic <u>health care</u> use. However, it would be <b>less</b> preferable to develop the site for different <u>new uses</u>.</i></p> <ul style="list-style-type: none"> <li>creating a new Alternative Height of Buildings Map and identifying the site to show an alternate height of 15m and 21m from the current 9.5m and 12.5m, thus increasing permissible number of storeys from 4 to 7</li> <li>creating a new Alternative Floor Space Ratio Map and identifying the site to show an alternate maximum FSR of 1.2:1 from the current maximum of 0.9:1.</li> </ul> <p>These proposed substantial increases to height and density are totally inappropriate for the site and would dominate and even destroy the existing fabric of the site that the applicant's <i>Conservation Management Plan</i> references and is cited earlier.</p> <p><u>Draft Site-specific DCP</u></p> <p>Overall, Council's <i>Draft DCP</i> appears to be written in order to facilitate United's <i>Planning Proposal</i> and does not heed many of the policies recommended in United's <i>Conservation Management Plan</i> for the site, especially in relation to spatial integrity and aesthetic qualities of the historic buildings and gardens.</p> <p>In the Draft DCP, we do <u>not</u> support</p> <ol style="list-style-type: none"> <li><i>establishment of a new centrally located residential aged care and community hub as an active "heart" for residents, patients and the broader community.</i></li> </ol>		<p>the location of the proposed new buildings and the heritage items on the eastern part of the site. The relationship between any new buildings and the Heritage Items on-site is to be managed by the site-specific DCP. All feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.</p> <ul style="list-style-type: none"> <li>In relation to the proposed additional permitted uses. Seniors Housing and Community-based facilities already exist on site. These uses already occur within this zone and would be able to be provided under existing use rights, as such amending the permitted uses on-site is simply seeking to legitimise these uses and provide abundant clarity by amending the WLEP to</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>This proposed building in almost the centre of the site is totally inappropriate in its location, size and height for this Victorian estate.</p> <p>2. <i>provision of new seniors living</i>, a use that is not currently permitted under <i>WLEP 2012</i> and would be of a height also not currently permitted under <i>WLEP 2012</i>. There are numerous seniors living establishments in the eastern suburbs and so the statistics used to predict need seem dubious. Have they been validated or has Council accepted the applicant's figures at face value? Seniors living cannot be classified as a "health use". Furthermore, it would present as a massive structure along Birrell St where there are currently small houses.</p> <p>3. the substantial increase in heights of 15 and 21m as shown in Figure 3, well above those currently permitted under <i>WLEP 2012</i>. These increases in height, the number of storeys shown for each proposed building and the proposed new centrally located building cited above, are at odds with the Draft DCP's following controls:</p> <ul style="list-style-type: none"> <li>- <i>The scale of new buildings must not challenge or overwhelm the heritage buildings, Victorian streetscape, or landscape.</i></li> <li>- <i>Where possible, provide vistas throughout the site to the western facade of the Vickery (Edina) Building and tower.</i></li> </ul> <p>4. proposed new buildings dwarfing the original gates on the corner of Birrell St and Bronte Rd. In Figure 3, the proposed new buildings do not appear to be set back from the gates much at all, despite the Draft DCP having the following objective:</p> <p><i>With the original gates re-engaged with the unified estate and new built form setback from the corner, its landscape and heritage character are reinforced.</i></p> <p>5. the ambiguity in the DCP's following control relating to the need to preserve the trees of Exceptional Significance as identified by the Conservation Management Plan:</p>		<p>reflect these uses. The inclusion of Centre-based Child Care has been proposed to better support staff and carers on site, as well as support the surrounding local community.</p> <ul style="list-style-type: none"> <li>• Concern over the removal of mature trees on-site, as well as feedback relating to the layout of buildings, setbacks, street frontages and other relevant suggestions to the site-specific DCP has been noted. As this matter relates to the site-specific DCP and all feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission		Number of individual submissions	Response
	<p><i>Preserve and maintain the existing mature trees on the site. Where a tree cannot be maintained due to the location of a new building, this tree is to be relocated or replaced with a comparable size and species in a more suitable location on the site to support the habitat corridor.</i></p> <p>This appears to say that a tree of Exceptional Significance can be removed if it interferes with a new building. We do not support the removal of any of the trees of Exceptional Significance. How can a huge old tree be relocated? Replacing with a comparable size tree is absurd.</p> <p>We do support the following controls for Built Form but at the <u>existing permitted height levels for the site</u>:</p> <ul style="list-style-type: none"><li>• New buildings fronting Bronte Road and Birrell Street are to be modulated and articulated to break up long facades to the streetscape</li><li>• Buildings are to be setback from the street frontage to provide privacy and opportunities for landscaping, including where appropriate, mature tree planting</li><li>• New buildings are to provide appropriate architectural modulation and articulation that reflects the cadastre and built form of the adjacent heritage conservation areas.</li></ul> <p>In summary, we believe that the proposed development of this significant site should be substantially modified so as not to interfere with the heritage buildings and landscape and to maintain the site for its original purpose as a health facility.</p> <p>We do not support changes to the WLEP2012 in relation to heights, FSR and additional permitted uses.</p>			
27	Responded submitted providing the same submission as per No.28 and has also submitted the following submission in conjunction:		1	<ul style="list-style-type: none"><li>• It is noted this submission has provided very substantial detail and information on a variety of points across a number of documents exhibited as part of the Planning</li></ul>
	Page	Description	Response for submission	

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
	P14	<i>The Waverley Development Control Plan 2012 identifies a Habitat Corridor that runs through the site, and the Significant Tree Register identifies at present four significant trees on the site, in addition to the two Norfolk Pines that form part of the heritage listing. The site has <b>outstanding environmental features, including many significant trees and shrubs, as well as landscaped areas that contribute to a leafy and natural feel as well as an important Habitat Corridor.</b> Council's Significant Tree Register is currently being reviewed and is subject to change within the duration of this Proposal.</i>	Suggest a greater review of the entire site with regards to impact on Australian native wildlife given the close proximity to Queens Park, Blenheim Gully, Waverley Park, Centennial Park, Tamarama and Bronte Gullies and Royal Botanical Gardens.		Proposal and site-specific DCP. <ul style="list-style-type: none"> <li>With regards to overshadowing, overshadowing diagrams have been provided as part of the masterplan and show the bulk of the overshadowing is demonstrated to occur within the site itself, as the stepped building heights, and retention of the Church Street heritage cottages act to minimise overshadowing to surrounding properties. In relation to the request for additional shadow diagrams to be provided, shadow diagrams would also need to be submitted and assessed as part of any future Development Application. The proposed heights were also assessed against Planning Principle 'A Planning principle for public domain views'. The assessment noted the primary view to the War</li> </ul>
	P19	<i>Description of site d. Surrounding Context 'The site must consider the four 'contexts' or 'streetscapes.' These are Bronte Rd - Mixed Use Street</i>  <i>The built form on both the eastern and western sides of the road have <b>moderate to significant setbacks which has allowed for mature tree growth and a sense of space for pedestrians on the footpath.</b> The distance between buildings allows for ample light to filter onto the road and creates a pleasant streetscape.</i>	Photos taken of Bronte Rd and Birrell St close to current Winter Solstice with both sides visible, demonstrate current sunlight and lack of overshadowing. Proposed height levels would result in significant overshadowing and affect quality of life. Moderate to significant setbacks of the proposed built form, on the eastern side of Bronte Road, are required to allow mature tree growth and maintain the current sense of space for pedestrians		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
			on the footpath. Distances between the proposed built forms should allow for ample light to filter onto the road and maintain its pleasant streetscape. See P20-21: Figure 11 Bronte Rd streetscape (a),(b) and (c)		Memorial Hospital site being from Queens Park and Centennial Park, consistent of a skyline set by dwellings and tree canopy with the notable protrusion of the two significant Norfolk Island Pines on the site which will be retained. The assessment determined that the increase in maximum building heights on the site would not challenge views of the Norfolk Pines from Queens Park and Centennial Park, as well as Bronte Road or Birrell Street.
	P23	<i>The northern side of Birrell Street is the commencement of the Botany Street Heritage Conservation Area (refer to Figure 5). The Statement of Significance as outlined in the inventory sheet for the area is: The urban form of the Botany Street Heritage Conservation Area is the result of late 19th and early 20<sup>th</sup> Century subdivision of remaining open lands to the eastern periphery of Bondi Junction. The building streetscape is diverse and although buildings are not consistent to adjoining developments, they form a cohesive streetscape combining a variety of styles, materials and distribution of buildings along the street. The range and compatible residential types from 1890's to 1940's records the consolidation of open lands about Bondi Junction following the establishment of regular tram services. The conservation area includes representative examples of</i>	Maintain current building heights of 9.5 m and 12.5m, instead of the proposed increased building heights [except in the centre of the site] to retain district views of significant buildings and trees within the site, and to avoid the blocking of district and local views of the greater neighbourhood, which is also acknowledged as significant.		<ul style="list-style-type: none"> <li>Issues relevant to overlooking would also be likely to be considered during detailed design and Development Application stages in the context of position of balconies, glass doors and windows in any proposed development.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission		Number of individual submissions	Response
		<i>varied styles from Victorian filigree through the Inter War Art Deco. The area retains notable streetscapes, characterised by the width of road easements and the quality of residential groupings</i>		<ul style="list-style-type: none"> <li>Feedback regarding the proposed building heights is noted. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest component of any building on site and there is a</li> </ul>
	Section 3.2 p 40	<i>Planning proposal will 'Maintain the unique heritage and environmental significance of the site by: ...Providing an appropriate maximum height of building so as not to overwhelm the individual heritage items on the site'</i>	<p>The views along Birrell street shown on Pages 58-59 show that the bulky form of the proposed 15m buildings fronting Birrell Street and the 21m buildings towards the centre of the site will overwhelm the individual heritage items on the site.</p> <p>The current height restrictions of 9.5m and 12.5m (except right in the centre of the site) need to be maintained to avoid overwhelming the individual heritage items on the site, including the historical heritage gates at the corner of Birrell St and Bronte Rd which is surrounded by mature trees and greenery</p>	

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
			providing shelter for Australian wildlife. The heritage gates lead to the centre of the historical site along a pathway of mature trees and greenery. The mature tree canopy needs to be maintained for their environmental significance of the site.		separation by a proposed through-site link and the landscaped area between the location of the proposed new buildings and the heritage items on the eastern part of the site. The relationship between any new buildings and the Heritage Items on-site is to be managed by the site-specific DCP. All feedback provided will be reviewed and considered in this context, prior to finalising and reporting the site-specific DCP to Council for adoption.
	P42	<i>Waverley War Memorial Hospital Conservation Management Plan and Development Strategy (2005)</i> <i>The 2005 CMP report concludes that "the Waverley War Memorial Hospital is a place of very high cultural significance and one that should be conserved."</i>	Maintaining the current height restrictions of 9.5m and 12.5m will ensure that the War Memorial Hospital and its very high cultural significance and heritage buildings will not be overwhelmed by the bulky form of the proposed buildings. It is important to not overwhelm the individual heritage items on the site. (see views along Birrell street shown on Pages 58-59)		<ul style="list-style-type: none"> <li>Regarding concerns about wind tunnelling, the stepped building heights and requirement for building articulation and mature tree planting around the periphery of the site, as well as within the site, are measures that will reduce potential wind tunnels. The detail of this is to be addressed via the site-specific DCP. This</li> </ul>
	P53	<b>3.2.4 Height</b> <i>An incentivised increase to the maximum permissible height is proposed, from 9.5m and 12.5m, to 15m to the periphery of the site and across the eastern portion of the site with the</i>	The current maximum permissible height of 9.5m and 12.5m is more in keeping with the		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission		Number of individual submissions	Response
		<i>individual heritage items, and 21m to the central portion of the site (see Figure 19). ....and present a <b>more appropriate four-storey street frontage</b> to the surrounding built form, which is a mix of 1-2 storey dwellings, 3-4 storey flats</i>	surrounding built form/streetscape, and maintaining the highly cultural significance of the heritage buildings and items on the site.	<p>feedback as well as feedback provided in relation to building setbacks, Habitat Corridor street frontages, greenery and landscaping will be considered in the finalisation of the site-specific DCP.</p> <ul style="list-style-type: none"> <li>Other comments provided of a general nature have also been noted.</li> </ul>
	P54	<p><i>Impact on neighbourhood character and streetscape</i></p> <p><i>In determining the impact of the Proposal, consideration has been given to a number of planning principles derived from the Land and Environment Court including 'compatibility in the urban environment,' 'principle for public domain views' and 'assessment of height and bulk', as well as consideration of the description of the surrounds from above and consideration of different viewpoints surrounding the site.</i></p> <p><i>The appropriateness of the proposed heights has been assessed with regard to the planning principle 'compatibility in the urban environment' derived from Project Venture Developments v Pittwater Council [2005]. The question of whether the proposed standards are compatible with the surrounding urban environment – and hence consistent with the existing neighbourhood character and streetscape – should have regard to the Proposal's physical and visual impact. The following questions are relevant:</i></p> <p><i>1. Are the proposal's physical impacts on surrounding</i></p>	<p>Moderate and significant setbacks are required depending on the position of the proposed buildings within the current site. The buildings opposite the WMH proposal are in keeping with the R3 residential code of maximum 9.5m and 12.5m height, whereas the proposal is higher at 15m which is out of keeping with the surrounding neighbourhood, with accompanying issues of overshadowing (loss of sunlight), overlooking (loss of privacy), creation of 'wind tunnels' and greater noise issues due to noise bouncing off the hard surfaces of the proposed buildings.</p>	

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p><i>development acceptable? The physical impacts include <b>noise, overlooking, overshadowing</b> and constraining development potential. This is addressed below under 'Amenity Impacts' section. 2. Is the proposal's appearance in harmony with the buildings around it and the character of the street?</i></p> <p><i>For a new development to be visually compatible with its context, it should contain, or at least respond to, the essential elements that make up the character of the surrounding urban environment. The key contributor to urban character is the relationship of built form to surrounding space, a relationship that is created by building height, setbacks and landscaping. To retain the character of the streets that form part of a Heritage Conservation Area, <b>the tallest height should be focused within the site, away from the edges, to reduce the perceived bulk and scale.</b> An assessment of the interface with the streetscape is detailed below.</i></p> <p><i>Are the proposal's physical impacts on surrounding development acceptable? 15m – Yes, with setbacks imposed through a Site Specific DCP.</i></p> <p><i>Is the proposal's appearance in harmony with the buildings around it and the character of the street? 15m - Yes, with setbacks imposed through a Site Specific DCP.</i></p>		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p><i>The existing WLEP2012 maximum building height control establishes a height plane of 9.5m to 12.5m to the southern side of Birrell Street. The northern side of Birrell Street marks the edge of the Botany Street HCA, which is characterised by 2-3 storey detached houses, terraces and apartments. The character of this streetscape is mixed, however moderate setbacks and planting exist along the northern side of the street.</i></p> <p><i>Similar to Bronte Road, the increased height to 15m is proposed along this frontage with <b>appropriate setbacks to be identified in the site specific DCP</b> to ensure planting contributes to the streetscape, and to ameliorate the impacts of the future built form.</i></p>		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>P58 and 59</p> <p>P58: Figure 23 – Aerial view of massing from north east corner - Birrell Street &amp; Carrington Road, and Figure 24 – Aerial view of massing from north west corner - Birrell Street &amp; Bronte Road;</p> <p>P59: Figure 25 – Aerial view of massing from north – Birrell Street, and Figure 26 –View along the corner of Birrell Street &amp; Bronte Road, looking south-east</p>		
	<p>P63</p> <p>Figure 38 – Elevated perspective looking along Birrell Street (near Centennial Park).</p>	<p>It is not clear that the Norfolk pine views</p>	

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission		Number of individual submissions	Response
			will be maintained as the Elevation shown is not at eye height. What is the view of the Norfolk pine views from eye height at the lowest point of Birrell St near Centennial Park? Suggest Figure 34 be re-done to show whether the Norfolk pine views are maintained at eye height at street level at its lowest point near Centennial Park.	
	P64	The Waverley LSPS identifies Bronte Road as a key corridor for placemaking improvements, which this site should be able to contribute greatly towards. <b>The 15m height limit is proposed to permit four storeys to the Bronte Road street frontage.</b> The 15m is justified due to the need to accommodate generous floor to ceiling heights that are required to service the additional needs of various seniors housing uses such as residential aged care facilities. To the western side of Bronte Road, the buildings are generally 3-4 storeys, and are set back from the footpath. This streetscape forms part of the Blenheim Street/Bronte Road Landscape Heritage Conservation Area (C24). <b>To respond to this condition to the east of Bronte Road, the maximum height of 15m (limited to four storeys) with a setback</b>	Suggest current maximum height levels are retained. 'Setback provided to the street' is mentioned to maintain and provide for significant planting - this is are to but not specified in the Site Specific DCP – what is the actual setback?	

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
		<b>provided to the street for significant planting to contribute to the Bronte Road Streetscape is proposed.</b> Whilst the fourstorey condition is then continued along Bronte Road to the north, the trees and setbacks will serve to reduce the impact on the streetscape and maintain a walkable street and Planning Proposal – Waverley War Memorial Hospital 65 significant distance between building faces.			
	P65	The street frontage setback (to be controlled in the site specific DCP) is intended to achieve the same envelope plane as a 12.5 m building that is built to the boundary, and hence <b>permit the same amount of visual impact and sunlight to the street as currently permitted, whilst providing additional opportunities for planting to soften the built form.</b>	To ensure this is achieved, there is a need to maintain current maximum height limits and current street frontage setback so that the same amount of visual impact is maintained and to maintain the current sunlight to the street.		
	P67	Table 11 - Planning principle for public domain views <b>Test:</b> The third step is to identify the extent of the obstruction at each relevant location. Council comment: <b>The proposed 21m and 15m heights could partially obscure views to the site, but only from locations nearby the site, such as surrounding streets.</b>	Current views to the heritage Ellerslie building (fronting Birrell St near the corner of Carrington Rd) and row of historical terrace houses opposite Ellerslie and across the green tree canopy of the site will be obstructed from the western side of Bronte Road, so the current maximum height		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
			restrictions need to be maintained.		
	P68	Table 11 - Planning principle for public domain views. Other factors to be considered in undertaking a qualitative assessment of a public domain view impact include: items c) Is the present view regarded as desirable and would the change make it less so (and why)? Council comment: <b>c) The present view is desirable and any changes resulting from increase built form would diminish the view as it further intrudes upon the naturalistic height limit established by the mature tree canopy</b> and h) If the change to the view is its alteration by the insertion of some new element(s), how does that alter the nature of the present view? Council comment <b>h) The potential insertion of a 21m building on the site could result in another commanding built form element to the Waverley ridgeline landscape. Accordingly additional controls to modulate the built form are required via the Site Specific DCP to minimise disruption to the significant mature tree canopy.</b>	Factors c) and h) highlight the present view is desirable and increasing built form would obstruct the views from the western side of Bronte Road, hence the need for the current maximum height restrictions need to be maintained.		
	P69	Does the area have a predominant existing character and are the planning controls likely to maintain it? Does the proposal fit into the existing character of the area? The Proposal is considered to fit into the existing character of the area, by presenting a four-storey street frontage to Birrell Street and Bronte Road and to mediate the additional height of six and seven storeys either setback from the street or within the centre of the site. Setbacks are proposed in the Draft Site Specific DCP to ensure there is	Need to maintain the current building height restrictions as the proposal is taller than all of the buildings on the opposite side of Bronte Rd and therefore does not fit into the existing character of the area.		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>ample room for landscaping and mature tree canopy to ameliorate the impacts of any built form to the street.</p> <p>Does the proposal look appropriate in its context? Yes, the proposal provides ample room for mature planting which is important in this location, as the area can be seen from Centennial Park, and the canopy is the defining feature of the hillside, with extrusions from key natural and manmade landmarks including the two Norfolk Pines and the Vickery Tower. The updated masterplan provided by the applicant demonstrates that the landmarks will not be challenged.</p> <p><b>Amenity:</b> The Proposal seeks to increase the site's height and FSR to permit four storey buildings to the periphery of the site and the 6-7 storey components of development to the centre of the site are intended to minimise the impact on the amenity of neighbouring properties, particularly in regards to overshadowing and overlooking impacts</p> <p><b>Privacy:</b> It is possible that the redevelopment of the site will lead to increased overlooking to the neighbouring properties to the north, west and south. The Proponent has indicated that they intend to acquire the sites to the north, along Birrell Street, and this is addressed through the Planning Proposal for 99-117 Birrell Street, and the Masterplan and Draft Site Specific DCP identify the overall vision for redevelopment on the site.</p>	<p>Additionally as the development site is sloped upwards, the 4-5 storeys proposed are perceived as even greater in height therefore diminishing the character of the street and engulfing the scale of the original heritage listed gates and disturbing the mature tree canopy which is a habitat for Australian wildlife.</p> <p>Need to maintain the current building height restrictions as the proposal is taller than all of the buildings on the opposite side of Bronte Rd and therefore does not fit into the existing character of the area. Additionally as the development site is sloped upwards the 4-5 storeys proposed are perceived as even greater in height therefore diminishing the</p>	

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>character of the street and engulfing the scale of the original heritage listed gates and affecting the mature planting (tree canopy) which is a habitat for Australian wildlife.</p> <p>Need to maintain current building height restrictions to maintain amenity of the neighbouring properties. This is because the proposed building D is too bulky and too close to the corner of Birrell St and Bronte Rd thereby diminishing the significance and access to the original heritage listed gates which are supposed to provide a clear pathway through to the other heritage items in the centre of the site, as well as having a significant effect on the amenity of neighbours via overlooking (lack of privacy), overshadowing (lack of sunlight</p>		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>necessary for the quality of life of neighbouring properties) and noise impacts from traffic at that intersection.</p> <p>Need to maintain current maximum height restrictions as the proposal will definitely lead to increased overlooking (lack of privacy). This lack of privacy will especially occur with the proposed building 'D' (corner of Birrell St and Bronte Rd) overlooking the neighbouring properties to the west of Bronte Road. The elevation diagram of Building D exceeds even the proposed maximum height closest to the corner of Birrell St and Bronte Rd, thereby diminishing the significance and scale of the heritage listed gates on that corner.</p>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<div></div> <div>P69; then view P70-72 for Figures 35 (9am Winter</div> <div> <b>Overshadowing:</b> The <b>potential overshadowing typically does not extend into the private open space of surrounding development or overshadow surrounding properties for long enough to gain concern.</b> The potential overshadowing within </div>		<div> <p>Therefore the current maximum height from street level must be maintained for Building D at the corner of Birrell St and Bronte Rd. A significant setback should be maintained to reduce the diminishing of the significance and scale of the heritage listed gates on that corner and allow for generous and clear access from the gates through to the centre of site to maintain the connection with the other heritage items. This will then ensure overlooking (lack of privacy) can be avoided and maintain or increase sunlight to the neighbouring properties on the western side of Bronte Rd and the northern side of Birrell St.</p> </div> <div> <p>A revised demonstration is required of accurate shadows for all hours on 21 June to ensure no overshadowing to</p> </div>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
	solstice impacts 21 June); Figure 36 (12pm impacts, 21 June) and Figure 37 (3pm impacts, 21 June)	the site is addressed in the Draft Site Specific DCP to ensure that buildings within the site have appropriate solar access, that open spaces receive a reasonable amount of direct sun, and that building placement and design reduces wind tunnels. In addition, the layout demonstrated in the masterplan do not pose any adverse overshadowing impacts on the open space throughout the site. See Figures 35 37 (Pp70-72) for the 9am, 12noon and 3pm Winter solstice (21 June) impacts	building 129-131 Bronte Rd, Waverley by proposed building D. Please also show side elevation shadows for all hours on 21 June to demonstrate effect of shadowing on multistorey buildings on the the western side of Bronte Road for quality of life.		
	Site Specific Development Proposal Responses				
	P6, P11, P12	<i>Figure 3: Site Layout and New Building Zones.</i> This site layout also relates to P11 6.5 PUBLIC DOMAIN AND OPEN SPACE Controls: (c) Provide primary and secondary through site links for pedestrians to increase permeability across the site, as identified in Figure 5. (located on P12 Figure 5: Site plan identifying through site links)	Need to maintain current maximum height restrictions. In Figure 3, the setback which appears to be 4m between the edge of Building D and boundary on Bronte Road is too narrow to be a <i>Secondary through site link</i> to the heritage listed gates (corner Birrell St & Bronte Rd) as per P12 Figure 5: Site plan identifying through site links. This setback needs to be wider than 4m e.g. 6m minimum for		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
			clear and more direct public access from the significant heritage listed gates through to the other heritage items on the site.		
	P7	<i>6.3 BUILT FORM: (f) Buildings are to be setback from the street frontage to provide privacy and opportunities for landscaping, including where appropriate, mature tree planting.</i>	Agree moderate setbacks from the street frontage are beneficial with landscaping and maintaining the current mature tree planting i.e. mature trees on corner of Birrell St and Bronte Rd, which form a canopy used by Australian wildlife flying in from Centennial Park and other nearby parks. Building D needs to be well setback from that corner with current mature tree canopy maintained and to be restricted to the current maximum height to avoid bulky overlooking/overshadowing of neighbouring properties on the western side of Bronte Rd		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
			and northern side of Birrell St.		
	P8	<i>6.4.1 Significant Fabric, Views, Spaces and Spatial Relationships (a) The significant fabric and spatial relationships as identified in Figure 2 are to be conserved and enhanced. They are: .....vi. Existing views of the Ellerslie, Banksia and Wychazel houses along Birrell Street,</i>	Existing views of heritage Ellerslie House from the western side of Bronte Road will be lost with the new proposal. Maintaining existing heights would retain these views with moderate setbacks. Otherwise, moderate setbacks are required and limiting to a maximum height of 2 storey buildings along Birrell St.		
	P62	<i>1.1 East West Section Through Edina (Site and Elevations)</i>	Current maximum height restrictions need to be maintained, especially on the eastern side of Bronte Rd and on Birrell St (including Building D where the site slopes upwards) with moderate setbacks to reduce overshadowing and overlooking, and maintain the significance of the heritage listed gates at that corner and current mature tree		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission			Number of individual submissions	Response
			canopy which is home to Australian wildlife.		
	P66	<i>1.4 Birrell St Indicative Elevation and Section</i>	Current maximum height restrictions need to be maintained, especially on the eastern side of Bronte Rd and on Birrell St (including Building D where the site slopes upwards) with moderate setbacks to reduce overshadowing and overlooking, and maintain the significance of the heritage listed gates at that corner and current mature tree canopy which is home to Australian wildlife.		
	P67	<i>1.5 Bronte Rd Indicative Elevation and Section</i>	Views obstructed to western side of Bronte Road with the proposed Building D <b>so current maximum height restrictions need to be maintained.</b> Additionally the section drawing does not indicate that the development site is actually sloping upwards with the lowest section fronting Bronte		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>Road [see Planning Proposal P26 : (g) 'View of part of the heritage listed fence at the intersection of Bronte Rd and Birrell St' - note the height of the heritage fence in the image is lowest at the corner of Bronte Rd &amp; Birrell St], then increases in height as it moves east along Birrell St towards Carrington Road]. Proposed bulky form of Building D would sit even higher, affecting the neighbourhood character of the street as well as diminishing the relationship to the original gates. So current maximum height restrictions need to be maintained for Building D. What are the setbacks imposed as building D diminishes the relationship of the current site with the original gates?</p>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
P71	<p><i>View from Birrell Street/Bronte Road Corner: 'With the original gates re-engaged with the unified estate and new built form setback from the corner, its landscape and heritage character are reinforced'</i></p> <p><i>View from Birrell St and Bronte Road: 'In response to the proposed built form height directly opposite, the corner built form is reduced in width and presented as five stories. This strategy allows for a more civic expression to the urban corner and enhances its relationship with the original gates.'</i></p>		<p><b>The current maximum height restrictions should apply to Building D.</b> Corner view shows 5 storey building D proposed where there is an existing carpark (see P2, Figure 1 Edina Estate for current view). <b>The increase in bulk and scale from zero to 5 storeys will affect the neighbourhood character of the street as well as diminishing the relationship to the original gates.</b></p> <p>Current maximum building restrictions should apply. The built form on the corner directly across Bronte Rd, opposite the proposed 5 storey Building D, is a single storey building, and the built form on the corner across Birrell St directly opposite the proposed 5 storey Building D is also</p>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate


No.	Submission			Number of individual submissions	Response
			a single storey building. The current site is a carpark so the increase in bulk and scale from zero level to 5 storeys of Building D will affect the neighbourhood character of the street as well as diminishing the relationship to the original gates so current height controls of 9.5m should be retained.		
	Attachment 1 – Traffic Transport Impact Assessment				
P8		Bronte Road: operates as the RMS Main Road (MR 340) to the north of Victoria Street and as a local road to the south. It generally runs in a north-south direction, between Ebley Street to the north and Leichhardt Street to the south. In the vicinity of the site, it is subject to a 50 km/h speed zoning (40km/h during the school start/end times) and <b>provides two lanes of traffic in both directions with on-street parking provided on either side;</b>	Please note that Bronte Road provides <b>only one lane of traffic in both directions</b> as on-street parking is provided on either side. It does not have two traffic lanes in both directions as stated in the document e.g. for consistency of reporting, it is noted on the same page that Birrell Street 'provides one lane of traffic in each direction and unrestricted kerbside parking permitted along both approaches'.		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>Overall: suggest maximum height for buildings with street-frontages to Bronte R and Birrell Street be maintained at current height levels to avoid creating overcrowding, overshadowing and overlooking of the surrounding streets. Moderate setbacks are required from the street frontages, with trees, greenery and landscaping to maintain public enjoyment and amenity. This will also reduce "wind tunnel" effects as are currently experienced in the nearby Bondi Junction streets which have high-rise developments.</p> <p>The following images were also submitted with the submission:</p> 		

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>Image 1 – 'View from western side Bronte Rd towards WMH site'</p>  <p>Image 2 – 'View of Bronte Rd looking south from corner of Birrell St'</p>		
28	<p>I refer to the Campus Site Planning Proposal and Site-Specific DCP for the Waverley War Memorial Hospital (SF 21/2451).</p> <p>Waverley and Queens Park are areas of unique heritage and environmental significance and the War Memorial Hospital site is an important historic site within our neighbourhood.</p>	6	<ul style="list-style-type: none"> <li>Feedback relating to the street frontages, building layouts and existing mature trees on site have been noted and will be</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>The provision of aged care, seniors living and affordable housing options is important to our area, however, the expansion of these services must take into account the amenity of the local area and needs of those residing in neighbouring properties. As such, I respectfully request the following be considered as part of such proposals and any application to change the existing site controls:</p> <ul style="list-style-type: none"> <li>• The existing street frontages of this site are either in keeping with the local, historical appearance of the Waverley area, or largely unseen due to the well established trees and set-back from the roadway. Suggest retention of current building heights and adequate setbacks from the street to maintain this appearance. Opening up the original access to the estate from the corner of Birrell St and Bronte Rd up towards the Edina residence should be encouraged to recognise the history of the site rather than building immediately adjacent to it.</li> <li>• Any new buildings and associated height increase (even with partial or stepped set-back) will significantly and permanently alter the character of Waverley. Any increased building heights would result in them being significantly taller than existing and neighbouring buildings and as such, be out of character of this area. Development to date has largely been in keeping with the historic streetscape and unobtrusive. Suggest retention of current height limits alongside Bronte Rd and Birrell St with any increase in heights to occur towards the centre of the site where the impact to neighbours is limited.</li> <li>• Suggest stepping the overall height across the site up from west to east in line with the slope rather than building up the western side of the site to the height of the eastern side. This would reduce issues of overshadowing and overlooking of neighbouring properties as well as reduce loss of sunlight which is so important to the wellbeing of people. The proposals as they stand are likely to overshadow my residence as well as those of my neighbours.</li> <li>• The existing Habitat Corridor that running through the site should be reviewed with consideration given to wildlife interaction and well established vegetation across the entire site.</li> <li>• Bronte Rd is a well utilised pedestrian corridor. A significant change to buildings alongside the street-frontage is likely to significantly reduce the amenity of the area and potentially introduce wind tunnels as seen within Bondi Junction.</li> </ul>		<p>further considered in the review of the site-specific DCP.</p> <ul style="list-style-type: none"> <li>• Feedback regarding the proposed building heights is noted. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</li> <li>• With regard to overshadowing concerns. Overshadowing diagrams have been provided as part of the masterplan and show the bulk of the overshadowing is demonstrated to occur within the site itself, as the stepped building heights, and retention of the Church Street heritage</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<ul style="list-style-type: none"> <li>An increase of on-site residential units could potentially still be achieved through the development of a greater number of smaller two and three storey buildings positioned across the site. This would enable the areas between to be landscaped whilst the natural incline of the site from west to east would allow these individual buildings access to light, limit the extent to which they overlook each other or neighbouring properties, but make the most of district views towards Centennial Parklands and the Sydney CBD. These could be positioned around existing mature trees and historical features of the Edina estate and avoid the necessity to raise the existing height controls.</li> </ul>		<p>cottages act to minimise overshadowing to surrounding properties. Issues relevant to overlooking would also be likely to be considered during detailed design and Development Application stages in the context of the position of balconies, glass doors and windows in any proposed development.</p> <ul style="list-style-type: none"> <li>In relation to concerns over potential wind tunnelling affects. The stepped building heights and requirement for building articulation and mature tree planting around the periphery of the site, as well as within the site, are measures that will reduce potential wind tunnels. This matter alongside feedback regarding the habitat corridor and the positioning of buildings on-site relate to the site-specific DCP. This feedback will be</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			considered in the further review and finalisation of the site-specific DCP.
29	<p>Submission included same information as in submission No.28, also inclusive of the following:</p> <ul style="list-style-type: none"> <li>On-road parking on this section of Bronte Road already services visitors/workers of the Waverley Court House, Waverley police station and Waverley Public School; on-road sign posted parking (Bronte Rd and Church St) for police vehicles; and a signposted Go Get parking space. Parking is very difficult and sometimes impossible for residents--most without off road car parking--and their visitors, even with the signposted two-hour parking restriction. Suggest an assessment of the parking to fully accommodate workers/visitors/residents to this site be determined within these plan now rather than in the future.</li> <li>Traffic flow already on this section of Bronte Road is very heavy, especially during morning and evening weekday peak hours, as well as the weekend; it can resemble a car park than a road during these times. In addition, there will be less bus services in this area shortly. The redevelopment will substantially increase the number of people needing to transport to and from the area. I raise this as a concern as to how Bronte Road--a road with one lane of traffic in each direction--will cope with more traffic and less buses with a significant increase in people regularly travelling to and from this area.</li> <li>This area of Waverley is mainly low rise buildings: residential, government and commercial. I feel our community, especially those who could be living directly across from or bordering this potential high density complex of 15-21m high buildings, would be significantly negatively impacted. The aesthetics of the area as well as the value of our properties need to be acknowledged and considered.</li> </ul>	1	<ul style="list-style-type: none"> <li>Concerns relating to parking on-site and traffic implications associated with movement from any future development has been noted and will be considered in the context of the further review of the site-specific DCP.</li> <li>Feedback regarding the proposed building heights is noted. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
30	<p>Submissions contained a portion of the same submission as No.28 as follows:</p> <p>I write in reference to the Proposal for the Waverley War Memorial Hospital (SF 21/2451).</p> <p>I ask the following be considered as part of such proposals and any application to change the existing site controls:</p> <ul style="list-style-type: none"> <li>• The existing street frontages of this site are low rise and largely unseen due to the well established trees and set-back from the roadway. .</li> <li>• Suggest stepping the overall height across the site up from west to east in line with the slope rather than building up the western side of the site to the height of the eastern side. This would reduce issues of overshadowing and overlooking of neighbouring properties as well as reduce loss of sunlight which is so important to the wellbeing of people. The proposals as they stand are likely to overshadow my residence as well as those of my neighbours.</li> <li>• An increase of on-site residential units could potentially still be achieved through the development of a greater number of smaller two and three storey buildings positioned across the site. Such structures could be positioned around existing mature trees and historical features of the Edina estate thus avoiding the necessity to raise the existing height controls.</li> </ul> <p>Thank you for your consideration</p>	2	<ul style="list-style-type: none"> <li>• Feedback relating to the street frontages, building layouts have been noted and will be further considered in the review of the site-specific DCP.</li> <li>• Feedback regarding the proposed building heights is noted. The height of buildings has been carefully considered throughout the planning proposal process and Officers have considered the proposed height controls against a number of Planning Principles relevant to the integration with local character and compatibility with the surrounding urban environment as discussed in the Council report.</li> <li>• With regards to concerns of overshadowing. Overshadowing diagrams have been provided as part of the masterplan and show the bulk of the overshadowing is demonstrated to occur within the site itself, as</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>the stepped building heights, and retention of the Church Street heritage cottages act to minimise overshadowing to surrounding properties. Issues relevant to overlooking would also be likely to be considered during detailed design and Development Application stages in the context of the position of balconies, glass doors and windows in any proposed development.</p>
31	<p>Submission contained the same body of text as submission No.28 with the insertion of the following text for the second paragraph:</p> <p>I am not against the proposal. I think that the suggested building positions and the building heights should be modified. Waverley and the War Memorial Hospital site is an important historic site within our neighbourhood.</p>	1	<ul style="list-style-type: none"> <li>The height of buildings has been carefully considered throughout the planning proposal process. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>component of any building on site and there is a separation by a proposed through-site link and the landscaped area between the location of the proposed new buildings and the heritage items on the eastern part of the site.</p> <ul style="list-style-type: none"> <li>Feedback relating to the building layouts have been noted and will be further considered in the review of the site-specific DCP</li> </ul>
32	<p><b>Objection to Waverley's War Memorial Hospital DA. June 18<sup>th</sup>, 2021.</b></p> <p>I have looked at the plans for redevelopment of the Hospital site and wish to record my objection, based on two major considerations. The plans violate the height of buildings both in that vicinity and the height of buildings subject to Waverley Council's own Development Plan. Even if the count for a six-storey building supposedly begins at subgrade, it surely ends up too high for anything surrounding what is referred to as the Hospital Campus. To allow this is to establish an unfortunate precedent for this area of Bronte Road, Church Street, and Carrington Road. The result would be an urbanscape similar to that of Bondi Junction's commercial heartland, one deleterious for most of humankind. This projected development is clearly in defiance of what the citizenry of Waverley require.</p> <p>The second issue is the removal of mature trees. This area is mostly green currently with its plants, bushes, lawns, and trees. This extant state is supportive of Waverley Council's concerns for increasing green cover within its area, a strategy designed to combat increasingly hot neighbourhoods and ensure these environments remain livable. I recall being told that this</p>	1	<ul style="list-style-type: none"> <li>The objection to the redevelopment of the site has been noted.</li> <li>In relation to the proposal being in excess of the height of buildings in the <i>Waverley Local Environmental Plan</i>, the Planning Proposals intention is create an Alternative Building Height map for the site over and above what is currently permissible under the <i>Waverley Local Environmental Plan</i>. The</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>campus area forms part of the 'green corridor' for animals and birds. This will surely vanish. The notion that mature trees, perhaps as old as one hundred, can be 'replaced' by planting saplings is utterly specious, though sometimes used by developers as if the young trees were panaceas or a salve to local conscience. It would be decades before such replacements offered any kind of substitution for what currently exists.</p> <p>This DA looks to me like overdevelopment – the sizes of too many facilities are to be increased beyond what is sensible and entails much destruction. One might concede that the number of beds for potential patients may need to be upped a little, but the current vast sprawl of Prince of Wales Hospital's latest expansion just a few kilometres down the road and already being built makes the need for the War Memorial's expansion and its flouting of Council's own DCP both doubtful and possibly irrelevant.</p> <p>A third perhaps smaller matter: looking at the plans I have the distinct impression that FSR guidelines for places for older persons must surely be breached. Did you check carefully?</p> <p>Hence one has to conclude that this DA is motivated by needless overreach, even greed, of owner and developer where the common thread is along the lines of: 'pack in more money-making facilities for our mutual financial benefit ... and to hell with local considerations or common-sense'.</p> <p>Therefore, I urge Waverley Council to demand more accountability of the owner/developer. Deny this DA application and (if necessary) wait for an application regarding this site which is closer to the needs of Waverley's residents.</p>		<p>height of buildings has been carefully considered throughout the planning proposal process. When considering the proposed building heights and the natural slope of the site from east to west, the proposed maximum building heights are the same height as the parapet of the Vickery/Edina building tower. Setbacks are required for the tallest component of any building on site and there is a separation by a proposed through-site link and the landscaped area between the location of the proposed new buildings and the heritage items on the eastern part of the site.</p> <ul style="list-style-type: none"> <li>• The concerns raised in relation to the mature trees on-site and the habitat corridor have been noted and will be considered as part of the</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>further review of the site-specific DCP.</p> <ul style="list-style-type: none"><li>• It is also noted this submission may have perceived the proposal as a Development Application (DA). It is important to differentiate the Planning Proposal and site-specific DCP are proposing new controls for the site by amending the <i>Waverley Local Environmental Plan</i> and creating a new section in the <i>Waverley Development Control Plan</i> for the site-specific DCP. These new controls would be the basis of any future Development Application. It is noted there may have been some confusion in the community that what was on exhibition was seen as a DA, Officers will ensure in the future that communicating the nature of amending planning controls is communicated more comprehensively.</li></ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<ul style="list-style-type: none"> <li>Other general comments provided in the submission have been noted.</li> </ul>
33	<p>I am a resident of &lt;address removed&gt;, the Retirement Village which is on the WMH site, and operated by Uniting.</p> <p>I am concerned about permanent removal of current residents from the site. There are 27 residents in &lt;address removed&gt;, most of whom are renters, and another 22 or so renters in the low-cost housing Bushell &amp; Johnson Building, a total of less than 50. Most of us are elderly.</p> <p>I am one of about 6 people who bought in to &lt;address removed&gt; in the past 5-6 years (joining another 2 or 3 'owners'). I arrived in 2016. At that time there was the possibility of a redevelopment of the Nursing Home, with no mention of that affecting the Village; indeed our solicitors severally did not pick up any such risk.</p> <p>After a year in residence we were told that we would have to be moved somewhere else in order to facilitate the development. As everyone knows, moving house is extremely stressful, in fact this was one of the worst days of my life and I am not anxious to repeat it. So we all had been very relieved to think that this was our last move - sadly, that is not the case. We are all in our 70s, 80s and 90s, with various physical problems, and are not looking forward to another move, especially as we do not know where we are to go, and without our former ability to research a new home and its surrounding facilities.</p> <p>I chose Uniting because I felt that they were a socially responsible organisation. I spent 4 years or so researching where to spend the rest of my life, taking into account easy access to shops, transport, medical facilities, etc.</p> <p>It is unfortunate that we were allowed - indeed encouraged - to buy in to this Village, while this development was apparently being planned. Uniting has not satisfactorily explained how it was that we were allowed to do this. If I had known I would not have come here.</p>	1	<ul style="list-style-type: none"> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>The development will accommodate over 200 ILUs, and we have been told that there will be no place for us on-site. Indeed, the new prices will apparently be prohibitive. On the contrary, I know of other developments. (eg Stockland in Ashfield, Anglicare in Woollahra, and LendLease in Belrose) where the Village operators were willing and able to rehouse their residents on-site, and involving far greater numbers than the 27 in our Village. It makes us feel disrespected and dispensable.</p> <p>Uniting's Planning Proposal itself raises some interesting questions:</p> <p>PLANNING PROPOSAL - WAR MEMORIAL HOSPITAL CAMPUS SITE  <b>PART 3 - JUSTIFICATION (P38)</b>  <b>SECTION C - ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACT:</b>  <i>3.9 Has the planning proposal adequately addressed any social and economic effects? (p103)</i>  3.9.1 Social</p> <p>Uniting states: "The increase in social infrastructure provision on the site....allows residents to be able to age in place, in a community that they are familiar with, which has been shown to greatly increase the quality of life into older age".</p> <p>A recent update letter (29 Jan 2021) also mentions "supporting people to age in place".</p> <p>Why are <i>we</i> - existing residents who bought in in good faith - not being allowed to age in place?</p> <p><b>Attachment B: Response to request for additional information (from DPIE)</b>  1.1 Built form - <i>Response</i> (pp2-4)</p> <p><i>"Allow the expansion of existing aged care and seniors living uses</i>  Uniting states: "...one of the primary objectives of the planning proposal is to increase the provision of seniors' housing....including a mix of traditional residential aged care accommodation and independent living units. The colocation of seniors housing and health services facilities will also provide opportunities for 'ageing in place' by enabling residents to access services close to home."</p>		



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>If seniors' housing is so important, why are we seniors being moved? and unable to age in place?</p> <p>An update we received in May 2021 states, "We want to invigorate Uniting Waverley to create a special and unique place for you and the wider community". How is this so, if we won't be there?</p> <p>As I said, there are about 50 residents currently living on-site, most of whom are renters. Leaving aside the issue of the renters' rights, there would be only 7 or 8 of us 'owners' to rehouse - surely not too many to accommodate within the masterplan. However, we have formed a close Village community, so it would be preferable to retain that connection and consider the future of the renters too.</p> <p>I would therefore ask Waverley Council to make it a condition of the approval of this Planning Proposal that all current residents be given the option of returning to the site, or moving residents to purpose-built accommodation on-site. Or, could our building, which has a recently fully refurbished Common Room and several refurbished units, instead of being demolished, be incorporated into the final plan?</p> <p>One has to wonder what our benefactor, Conrad Beard, would think about our Village's demolition.</p> <p>I would also like to ask that residents be given reasonable choice in any accommodation on-site, as some small compensation for the significant disruption to our lives.</p> <p>Is it too much to hope that Uniting's Property Division will reconsider, restore the original concept of UnitingCare, and find a place for us on site after all? We would be vastly relieved if this could be achieved.</p>		
34	<p>I am a resident of &lt;address removed&gt; which is on the War Memorial Hospital site.</p> <p>Our Village is to be demolished and we are to be moved elsewhere, to facilitate the provision of over 200 new ILUs. We have been told that there will be no place for us on-site.</p>	16	<ul style="list-style-type: none"> <li>Concerns about future living arrangements for current residents is noted. Council will feed back</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p>The Proposal promotes the importance of housing for older people, and also the importance of ageing in place, yet we are prevented from benefitting from this.</p> <p>I would like to remain on this site. I hope Uniting Planning will find a way for us to stay here.</p>		<p>concerns raised by residents in the public exhibition to the proponent.</p>
35	<p>I have enjoyed immensely my 7 years living here at &lt;addressed removed&gt;. I fear having to move and present my vote to stay here. In the event of Uniting realising the demolition of this site then I hope compassion will be shown in finding a suitable unit for me to remain on a pension for my last years.</p>		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 34 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
36	<p>Regarding the above I was born at the War Memorial Hospital and have lived in the area all my life finally living for the last 16 years in &lt;address removed&gt; in the War Memorial complex very happily. Having now reached 93 I feel very frightened at this possible upheaval (as I am very happy here). Your help would be more in keeping with your previous good name of UnitingCare.</p>		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 34 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
37	I am an old lady and moving would prove a lot of discomfort and unpleasantness.		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 34 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
38	Any consent given to the Development or over Development of this site must include provision for the current residents of Conrad Beard to be housed into the new I.L.U complex.		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 34 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
39	My husband and I moved into <address removed> in 2009 and loved living here. Tragically my wonderful husband passed away 5 years ago. I don't think I could have survived without the support and friendship of my wonderful neighbours. I will be absolutely mortified If I have to be located.		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 35 and has</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			<p>also submitted the listed submission in conjunction.</p> <ul style="list-style-type: none"> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
40	<p>I object to the whole Planning Proposal for Uniting Waverley as it appears a gross overdevelopment which would destroy the atmosphere of both “Retirement” i.e. a quiet and spacious area and ‘Rehabilitation’. Additional there is a congenial community of retirees already well-established here, which we treasure, and wish to retain. It is presume that a peaceful environment be paramount for retirees.</p>		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 35 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
41	<p>I have recently moved into &lt;address removed&gt;. I have outlaid close to \$10,000.00 for this move as my furniture would not fit through the extremely narrow entry door so I had to purchase new furniture- some of which I am still waiting on. Prior to moving in I left messages at Uniting I laid out what was happening re closure of nursing home and how this would affect my pending residency – if at all. No one ever came back to me. It was extremely distressing for me to make the move here to what I thought would be my “forever home”. I have lived in the Eastern Suburbs since I arrived in 1973 and the past 36 years in Waverley and do not want to leave either the unit or the area. The thought of uprooting again is extremely distressing.</p>		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 35 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
			concerns raised by residents in the public exhibition to the proponent.
42	When I moved into here, I was not advised that the building was to be demolished and that we would have to move offsite. Highrise buildings which are being built in every street will create more dangerous wind tunnels including here.	1	<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 34 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
43	Residents in Independent Care need more clarity, their anxiety about the “unknown” will impact their health in coming months.		<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 34 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>

Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
44	It is very important, and fair, that a condition is included in the Proposal providing a right for a resident to return to site as desired by said resident.	1	<ul style="list-style-type: none"> <li>Submitted the same introductory submission as per number 34 and has also submitted the listed submission in conjunction.</li> <li>Concerns about future living arrangements for current residents is noted. Council will feed back concerns raised by residents in the public exhibition to the proponent.</li> </ul>
45	<p>Proposed changes for the following submission are listed in italics:</p> <p>Updates from the Sustainability Team re: War Memorial Hospital Site Specific DCP</p> <p>6.7 Objectives</p> <p>a) To ensure a high level of sustainability and resilience across all elements of the estate.</p> <p>6.7.1 Energy Use and Production</p> <p>b) Adequate external shading and/or performance glass is to be provided on the western and north-western building facades to minimise the cooling load required in mid-summer.</p> <p>c) Any on-site renewable energy sources should be coupled with battery storage.</p> <p>d) No changes</p> <p>e) <i>Commercial buildings shall achieve a 5-star NABERS Energy Commitment Agreement and a 4.5-star NABERS Water Commitment Agreement.</i></p> <p>f) <i>In accordance with Part B2-2.5 of the Waverley Development Control Plan, any mixed-use development with cost of works of more than \$3 million, must provide an Energy Assessment Report which recommends design solutions to reduce the predicted operational</i></p>		<ul style="list-style-type: none"> <li>Proposed change to NABERS Energy Commitment Agreement target relates to amendments to WLEP. Amendments have been incorporated into the Council report.</li> <li>All other matters relate to site-specific DCP and will be considered further in the review and finalisation.</li> </ul>



Submissions made to the public exhibition of PP-1/2017 125 Birrell Street, Waverley and site-specific Development Control Plan - Part E5 Edina Estate

No.	Submission	Number of individual submissions	Response
	<p><i>energy demand and greenhouse gas emissions of the proposed development by 30% less than a reference building (ie. BCA, Section J compliant only).</i></p> <p>6.7.2 Urban Heat Island</p> <p>No changes.</p> <p>6.7.3 Water</p> <p>g) WSUD elements should use the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) and refer to WaterNSW's '<a href="#">Using MUSIC in Sydney Drinking Water Catchment</a>' document (2019). Design submissions should be accompanied with a summary MUSIC report, which includes parameters used, the file and maintenance schedule.</p> <p>For water quality control measures, the development must achieve a minimum of:</p> <ol style="list-style-type: none"> <li>I. 90% reduction in the post development mean annual load of total gross pollutants (greater than 5 mm)</li> <li>II. 80% reduction in the post development mean annual load of total suspended solids (SS)</li> <li>III. 55% reduction in the post development mean annual load of total phosphorus (TP)</li> <li>IV. 40% reduction in the post development mean annual load of total nitrogen (TN)</li> </ol> <p>h.) A maintenance schedule shall be provided to Council and a "Positive Covenant" and "Restriction on the Use of Land" must be created to ensure the on-going future maintenance of WSUD elements. Waverley Council must be nominated as the authority to vary or modify any restriction and positive covenant.</p>		
46	<p>A submission was received via Have Your Say with no attachments and the only comments as:</p> <p>n/a</p>		<p>The only comments provided were 'n/a' however the submission is noted as being received.</p>

15 June 2021

Our Ref: 192249

**General Manager**

Waverley Council  
PO Box 9, Bondi Junction, NSW 1355  
[info@waverley.nsw.gov.au](mailto:info@waverley.nsw.gov.au)

**RE: Planning Proposal PP-2020-447 (SF21/2451) + 125 Birrell Street Waverley**

Thank you for notifying Sydney Water of the planning proposal listed above which proposes to amend Waverley LEP 2012 to enable redevelopment of the War Memorial Hospital and immediate surrounds, including applying new additional permitted uses, increasing the maximum building heights and floor space ratios shown for the land, and new site specific provisions. We have reviewed the application based on the information supplied and provide the following comments for your information to assist in planning the servicing needs of the proposed development.

**Water Servicing**

- Potable water servicing should be available via a 100mm DICL watermain (laid in 2003) on Church Street and Carrington Road and also via a 150mm CIDL watermain (laid in 1916) on Birrell Street
- Amplifications, adjustments and extensions may be required.

**Wastewater Servicing**

- Wastewater servicing should be available via 225 SGW watermain (laid in 1890) on Bronte Road and Church Street
- Amplifications, adjustments and extensions may be required.

**Trade Wastewater requirement**

- If this proposed development is going to generate trade wastewater, the developer must submit an application requesting permission to discharge trade wastewater to Sydney Water's wastewater system. Applicant must wait for approval and issue of a permit before any business activities can commence. Further information can be found in attachment 1.
- The permit application can be made on Sydney Water's web page through Sydney Water Tap In. <http://www.sydneywater.com.au/tapin/index.htm>

This advice is not a formal approval of our servicing requirements. Detailed requirements, including any potential extensions or amplifications, will be provided once the development is referred to Sydney Water for a Section 73 application. More information about the Section 73 application process is available on our web page in the [Land Development Manual](#).

The development servicing advice provided by Sydney Water is based on the best available information at the time of referral (eg. planning proposal) but will vary over time with development and changes in the local systems. This is particularly important in systems with limited capacity (such as Priority Sewerage Program scheme areas) and it is best to approach Sydney Water for an updated capacity assessment (especially where an approval letter is more than 12 months old).



If you require any further information, please contact the Growth Planning and Development Team at [urbangrowth@sydneywater.com.au](mailto:urbangrowth@sydneywater.com.au).

Yours sincerely,

A handwritten signature in black ink, appearing to read "K. Leitch", with a large, sweeping flourish extending to the right.

**Kristine Leitch**

Commercial Growth Manager

City Growth and Development, Business Development Group

Sydney Water, 1 Smith Street, Parramatta NSW 2150



## Attachment 1

### Requirements for Business Customers for Commercial and Industrial Property Developments.

#### Trade Wastewater Requirements

If this development is going to generate trade wastewater, the property owner must submit an application requesting permission to discharge trade wastewater to Sydney Water's sewerage system. You must obtain Sydney Water approval for this permit before any business activities can commence. It is illegal to discharge Trade Wastewater into the Sydney Water sewerage system without permission.

The permit application should be emailed to Sydney Water's Business Customer Services at [businesscustomers@sydneywater.com.au](mailto:businesscustomers@sydneywater.com.au)

A Boundary Trap is required for all developments that discharge trade wastewater where arrestors and special units are installed for trade wastewater pre-treatment.

If the property development is for Industrial operations, the wastewater may discharge into a sewerage area that is subject to wastewater reuse. Find out from Business Customer Services if this is applicable to your development.

#### Backflow Prevention Requirements

Backflow is when there is unintentional flow of water in the wrong direction from a potentially polluted source into the drinking water supply.

All properties connected to Sydney Water's supply must install a testable Backflow Prevention Containment Device appropriate to the property's hazard rating. Property with a high or medium hazard rating must have the backflow prevention containment device tested annually. Properties identified as having a low hazard rating must install a non-testable device, as a minimum.

Separate hydrant and sprinkler fire services on non-residential properties, require the installation of a testable double check detector assembly. The device is to be located at the boundary of the property.

Before you install a backflow prevention device:

1. Get your hydraulic consultant or plumber to check the available water pressure versus the property's required pressure and flow requirements.
2. Conduct a site assessment to confirm the hazard rating of the property and its services. Contact PIAS at NSW Fair Trading on 1300 889 099.

For installation you will need to engage a licensed plumber with backflow accreditation who can be found on the Sydney Water website:

<http://www.sydneywater.com.au/Plumbing/BackflowPrevention/>

#### Water Efficiency Recommendations

Water is our most precious resource and every customer can play a role in its conservation. By working together with Sydney Water, business customers are able to reduce their water consumption. This will help your business save money, improve productivity and protect the environment.

Some water efficiency measures that can be easily implemented in your business are:

- Install water efficiency fixtures to help increase your water efficiency, refer to WELS (Water Efficiency Labelling and Standards (WELS) Scheme, <http://www.waterrating.gov.au/>
- Consider installing rainwater tanks to capture rainwater runoff, and reusing it, where cost effective. Refer to <http://www.sydneywater.com.au/Water4Life/InYourBusiness/RWTCalculator.cfm>
- Install water-monitoring devices on your meter to identify water usage patterns and leaks.
- Develop a water efficiency plan for your business.

It is cheaper to install water efficiency appliances while you are developing than retrofitting them later.

### Contingency Plan Recommendations

Under Sydney Water's [customer contract](#) Sydney Water aims to provide Business Customers with a continuous supply of clean water at a minimum pressure of 15meters head at the main tap. This is equivalent to 146.8kpa or 21.29psi to meet reasonable business usage needs.

Sometimes Sydney Water may need to interrupt, postpone or limit the supply of water services to your property for maintenance or other reasons. These interruptions can be planned or unplanned.

Water supply is critical to some businesses and Sydney Water will treat vulnerable customers, such as hospitals, as a high priority.

Have you thought about a contingency plan for your business? Your Business Customer Representative will help you to develop a plan that is tailored to your business and minimises productivity losses in the event of a water service disruption.

For further information please visit the Sydney Water website at: <http://www.sydneywater.com.au/OurSystemsandOperations/TradeWaste/> or contact Business Customer Services on 1300 985 227 or [businesscustomers@sydneywater.com.au](mailto:businesscustomers@sydneywater.com.au).



Our ref: DOC21/420087-10

Ms Emily Scott  
General Manager  
Waverley Council  
PO Box 9  
BONDI JUNCTION NSW 1355

Attention: Mr Patrick Hay (Strategic Planner)  
patrick.hay@waverley.nsw.gov.au

### **Planning Proposal – War Memorial Hospital, Waverley**

Dear Ms Scott

Thank you for the opportunity to comment on the planning proposal for War Memorial Hospital, Waverley under *Waverley Local Environmental Plan 2012*. The proposal seeks to:

1. Allow the following 'Additional Permitted Uses' to apply to the SP2 zoned land:
    - Seniors housing
    - Community facilities
    - Centre-based child care facility
  2. Include the site on the Key Sites Map to refer to a site-specific incentive provision.
  3. Create a new Alternative Height of Buildings Map and identify the site to show an alternate height of 15m and 21m.
  4. Create a new Alternative Floor Space Ratio Map and identify the site to show an alternate maximum FSR of 1.2:1.
  5. Create a new site-specific provision that:
    - (a) Provides objectives for the redevelopment of the site
    - (b) Applies Clause 6.9 Design Excellence to the site.
    - (c) Sets out the requirements of a Site Specific DCP for the site.
    - (d) Provides for an incentive provision that sets out requirements for:
      - Deep soil provision
      - High performance building standards
- In order to achieve the development standards of:
- Maximum building height of 15m and 21m
  - Maximum Floor Space Ratio of 1.2:1

Based on the information provided, we have reviewed the planning proposal against our records. The State Heritage Register (SHR) item "St Mary's Anglican Church and Pipe Organ" (SHR 00160) is within 40m of the subject site. However, we believe that there are no identified impacts on this SHR item or on any other items listed on the SHR.

It is noted that the proposal has the potential to impact on local heritage including the subject site, itself a local heritage item "War Memorial Hospital, Late Victorian Buildings and former stables" (Item No. 449). It is also within the immediate vicinity of several other local heritage items, two Heritage

Level 6, 10 Valentine Ave Parramatta NSW 2150 ■ Locked Bag 5020 Parramatta NSW 2124  
P: 02 9873 8500 ■ E: [heritagemailbox@environment.nsw.gov.au](mailto:heritagemailbox@environment.nsw.gov.au)



Conservation Areas (HCA) and a Landscape Conservation Area (LCA) listed under Council's LEP. As these local heritage items are listed under your LEP, Council is the consent authority, and the assessment and consideration of any impacts on these items rests with Council.

In relation to historic archaeology, if the proponent has not already undertaken their own investigation to assess the likelihood of 'relics' and any subsequent management required under the *Heritage Act 1977*, they should do so.

Prior to finalisation of the proposal, Council should be satisfied that all necessary due diligence and heritage assessments have been undertaken and that any impacts have been sufficiently addressed. Council's assessment should include, but not be limited to, a search of the State Heritage Inventory (<https://www.heritage.nsw.gov.au/search-for-heritage/search-for-nsw-heritage/>).

If you have any questions please contact Andreana Kennedy, Senior Heritage Policy Office, Strategic Relationships & Planning at Heritage NSW, Department of Premier and Cabinet by phone on 02 8289 6692 or via email at [andreana.kennedy@environment.nsw.gov.au](mailto:andreana.kennedy@environment.nsw.gov.au).

Yours sincerely



**Rochelle Johnston**  
**Manager, Heritage Act Programs**  
**Heritage NSW**

**As delegate of the Heritage Council of NSW**

16 June 2021



Our ref: DOC21/420087-12

Ms Emily Scott  
General Manager  
Waverley Council  
PO Box 9  
BONDI JUNCTION NSW 1355

Attention: Mr Patrick Hay, Strategic Planner  
[patrick.hay@waverley.nsw.gov.au](mailto:patrick.hay@waverley.nsw.gov.au)

### Planning Proposal – War Memorial Hospital, Waverley

Dear Ms Scott

Thank you for the opportunity to comment on the planning proposal for War Memorial Hospital, Waverley under *Waverley Local Environmental Plan 2012*. The proposal seeks to:

1. Allow the following 'Additional Permitted Uses' to apply to the SP2 zoned land:
    - Seniors housing
    - Community facilities
    - Centre-based child care facility
  2. Include the site on the Key Sites Map to refer to a site-specific incentive provision.
  3. Create a new Alternative Height of Buildings Map and identify the site to show an alternate height of 15m and 21m.
  4. Create a new Alternative Floor Space Ratio Map and identify the site to show an alternate maximum FSR of 1.2:1.
  5. Create a new site-specific provision that:
    - (a) Provides objectives for the redevelopment of the site
    - (b) Applies Clause 6.9 Design Excellence to the site.
    - (c) Sets out the requirements of a Site Specific DCP for the site.
    - (d) Provides for an incentive provision that sets out requirements for:
      - Deep soil provision
      - High performance building standards
- In order to achieve the development standards of:
- Maximum building height of 15m and 21m
  - Maximum Floor Space Ratio of 1.2:1

Based on the information provided, we have reviewed the planning proposal against our records. The State Heritage Register (SHR) item 'St Mary's Anglican Church and Pipe Organ' (SHR 00160) is within 40m of the subject site. However, we believe that there are no identified impacts on this SHR item or on any other items listed on the SHR.

Level 6, 10 Valentine Ave Parramatta NSW 2150 ■ Locked Bag 5020 Parramatta NSW 2124  
P: 02 9873 8500 ■ E: [heritagemailbox@environment.nsw.gov.au](mailto:heritagemailbox@environment.nsw.gov.au)

It is noted that the proposal has the potential to impact on local heritage including the subject site, itself composed of several local heritage items:

- 'War Memorial Hospital, Late Victorian buildings and former stable' (Item no. I499)
- 'War Memorial Hospital – landscape' (Item no. I519)
- 'Federation style detached residences' (Item no. I473)

The subject site is also within the immediate vicinity of several other local heritage items, two Heritage Conservation Areas (HCA) and a Landscape Conservation Area (LCA) listed under Council's LEP.

The 'War Memorial Hospital' was nominated for inclusion on the SHR by Waverley Council in June 2020. The SHR Committee determined that it may meet the threshold for State heritage significance but was not a priority for SHR listing at this time.

As the Council is the consent authority, the assessment and consideration of any impacts on these items rests with Council. While we are not opposed to the planning proposal, we provide the following advice for your consideration:

- In comparison to the proponent lodged planning proposal, the revised planning proposal as exhibited demonstrates a marked reduction of potential adverse impacts on the local heritage items on the site and those in the immediate vicinity.
- In particular, the reduction in height on the eastern side of the site from 21m to 15m will minimise impacts on the heritage significance of the 'War Memorial Hospital, Late Victorian buildings and former stable' and 'War Memorial Hospital—landscape'.
- The supporting masterplan illustrates proposed building heights maximised to 4 storeys on each of the road frontages. This reduction in height will accommodate a better interface with the neighbouring streetscapes which include local heritage items and heritage conservation areas.
- Further work is encouraged at the detailed design stage to ensure appropriate interface with local heritage items on the site and in the immediate vicinity, the character of the area is retained, and the significance of the heritage items is not compromised.

In relation to historic archaeology, if the proponent has not already undertaken their own investigation to assess the likelihood of 'relics' and any subsequent management required under the *Heritage Act 1977*, they should do so.

Prior to finalisation of the proposal, Council should be satisfied that all necessary due diligence and heritage assessments have been undertaken and that any impacts have been sufficiently addressed. Council's assessment should include, but not be limited to, a search of the State Heritage Inventory (<https://www.heritage.nsw.gov.au/search-for-heritage/search-for-nsw-heritage/>).

If you have any questions please contact Andreana Kennedy, Senior Heritage Policy Officer, Strategic Relationships and Planning at Heritage NSW, Department of Premier and Cabinet by phone on 02 8289 6692 or via email at [andreana.kennedy@environment.nsw.gov.au](mailto:andreana.kennedy@environment.nsw.gov.au).

Yours sincerely



**Rochelle Johnston**  
**Acting Director, Heritage Strategy and Policy**  
**Heritage NSW**  
As delegate of the Heritage Council of NSW

2 July 2021



Hi Patrick,

Design submission must comply with relevant Ausgrid Network Standards and SafeWork NSW Codes of Practice for construction works near existing electrical assets.

The “as constructed” minimum clearances to Ausgrid’s infrastructure must not be encroached by the building development. It also remains the responsibility of the developer and relevant contractors to verify and maintain these clearances onsite.

Assesses the capacity of existing services and utilities and identify any upgrades required to facilitate the development.

Regards,

Asset Protection Officer | Transmission Mains



Level 1( Building 2), 25-27 Pomeroy Street, Homebush NSW 2140

Please consider the environment before printing this email.



Transport  
for NSW

22 July 2021

TfNSW Reference: Syd21/00618  
Council ref: SF21/2451

Emily Scott  
General Manager  
Waverley Council  
PO Box 9, Bondi Junction, NSW 1355

Attention: Patrick Hay

Dear Ms Scott,

**PLANNING PROPOSAL FOR WAR MEMORIAL HOSPITAL CAMPUS SITE, 125  
BIRRELL STREET WAVERLEY AND DRAFT DEVELOPMENT CONTROL PLAN**

We appreciate the opportunity to provide comment on the above proposal as referred to Transport for NSW (TfNSW) in Council's correspondence dated 20 May 2021.

TfNSW has reviewed the submitted documentation and notes that the planning proposal for 125 Birrell Street Waverley seeks to amend Waverley LEP as follows:

1. The following Additional Permitted Uses to apply to the SP2 zoned land:
  - Seniors housing
  - Community facilities
  - Centre-based child care facility
2. Include the site on the Key Sites Map to refer to a site-specific incentive provision.
3. Create a new Alternative Height of Buildings Map and identify the site to show an alternate height of 15m and 21m.
4. Create a new Alternative Floor Space Ratio Map and identify the site to show an alternate maximum FSR of 1.2:1.
5. Create a new site-specific provision that:
  - (a) Provides objectives for the redevelopment of the site
  - (b) Applies Clause 6.9 Design Excellence to the site.
  - (c) Sets out the requirements of a Site Specific DCP for the site.
  - (d) Provides for an incentive provision that sets out requirements for:
    - i. Deep soil provision
    - ii. High performance building standardsIn order to achieve the development standards of:
    - i. Maximum building height of 15m and 21
    - ii. Maximum Floor Space Ratio of 1.2:1

It is noted that a site-specific Development Control Plan has been prepared that encompasses the entire block bounded by Birrell Street, Carrington Road, Church Street and Bronte Road, known as the Edina Estate. It is further noted that the sites at 99-117 Birrell Street Waverley (known as the Birrell Street site) is the subject of a separate

**Transport for NSW**

27-31 Argyle Street, Parramatta NSW 2150 | PO Box 973, Parramatta CBD NSW 2124  
P 131782 | W [transport.nsw.gov.au](http://transport.nsw.gov.au) | ABN 18 804 239 602

planning proposal currently being reviewed by DPIE which is to be exhibited at a later date.

Comments on the proposal are provided at **Attachment A** for Council's consideration prior to the making of the plan.

TfNSW reserves the right to provide more detailed comments on the development proposal at the Part 4 Development Application stage.

Thank you for the opportunity to provide advice on the subject planning proposal. Should you have any questions or further enquiries in relation to this matter, Tricia Zapanta would be pleased to receive email via [development.sydney@transport.nsw.gov.au](mailto:development.sydney@transport.nsw.gov.au).

Yours sincerely



James Hall  
**A/ Senior Manager – Strategic Land Use**  
**Land use, Network & Place Planning, Greater Sydney**



**ATTACHMENT A: COMMENTS ON THE PLANNING PROPOSAL FOR WAR  
MEMORIAL HOSPITAL CAMPUS SITE, 125 BIRRELL STREET WAVERLEY AND  
DRAFT DEVELOPMENT CONTROL PLAN**

(July 2021)

1. TfNSW notes that as part of the development proposal, the proponent proposes to relocate existing bus stops on Bronte Road. Prior to the lodgement of a future master plan development application, the proponent should consult TfNSW on the feasibility and assessment requirements for any relocation of a bus stop, which can only be implemented under a TfNSW 'Works Instruction'.
2. It is noted on Page 33 of the TIA that a new left in / left out vehicular access point is proposed on the eastern side of Bronte Road, just north of the Church Street intersection. It is unclear if the existing vehicular access point south of the Bronte Road/Birrell Street intersection will be replaced by this new access point upon redevelopment or this is an additional access point required to service the site. Bronte Road is now subject to substantial peak traffic volumes which are periodically impacted by the drive in / drive out arrangement at Waverley Public School which leads to blockages caused by cars queuing (in both directions) to turn into the school grounds. Furthermore, Bronte Road is critical for bus access to/from Bondi Junction as multiple services from various suburbs to the South and South East use this north-south transport corridor. In view of the significance of Bronte Road for transit movement, there should be strong justification for a new access point noting that it has the potential to add cumulative delay to the timetabled transport system. Whilst it is acknowledged that an additional vehicular access on Bronte Road would be of benefit to the site, this should be balanced against the need to retain effective and timely bus operations on Bronte Road especially during peak times.
3. The TIA has also recommended the potential investigation of an additional pedestrian crossing on Bronte Road to link the east-west through site link to pedestrian desire lines on the western side of Bronte Road. This proposal should be discussed further with Council and TfNSW at the Development Application (DA) stage. Subject to design and safety standards, it presents an opportunity to slow down traffic and space vehicles on approach to the intersection of Bronte Road and Birrell Street, assisting vehicles attempting to exit Church Street heading north towards Birrell Street.
4. TfNSW notes that bicycle parking and end of trip facilities (including showers and lockers) are to be provided in accordance with the rates as set out in Waverley Council DCP.





architectus™

Appendix - DCP Supplementary Info

Uniting Waverley

Prepared for: Client  
Date: February 19, 2021



Architectus Australia Holdings Pty Ltd.  
ABN 90 131 245 684

Nominated Architect  
Managing Director  
Ray Brown  
NSWARB 6359


Adelaide  
Lower Ground Floor  
57 Wyatt Street  
Adelaide SA 5000  
Australia  
T +61 8 8427 7300  
adelaide@architectus.com.au

Melbourne  
Level 25, 385 Bourke Street  
Melbourne VIC 3000  
Australia  
T +61 3 9429 5733  
F +61 3 9429 8480  
melbourne@architectus.com.au

Perth  
QV1 Upper Plaza West  
250 St. Georges Terrace  
Perth WA 6000  
Australia  
T +61 8 9412 8355  
perth@architectus.com.au

Sydney  
Level 18, MLC Centre  
19 Martin Place  
Sydney NSW 2000  
Australia  
T +61 2 8252 8400  
F +61 2 8252 8600  
sydney@architectus.com.au

architectus.com.au

Project and report	Uniting Waverley	
Date	February 19, 2021	
Client	Uniting	
Document no.	Insert filepath	
	Issue A - 16/02/21 Issue B - 19/02/21	Approved by: Farhad Haidiri
Report contact	Farhad Haidiri Principal	
This report is considered a draft unless signed by a Director or Principal	Approved by: Farhad Haidiri 	



# Contents

1	<b>Sections and Elevations</b>	<b>5</b>
1.1	East West Section Through Edina	6
1.2	East West Section Through Chapel	7
1.3	North South Section Through Seniors Garden	8
1.4	Birrell St Indicative Elevation and Section	10
1.5	Bronte Rd Indicative Elevation and Section	11
2	<b>3D perspectives</b>	<b>13</b>
2.1	Aerial Views	14
2.2	Street Views	16







architectus™

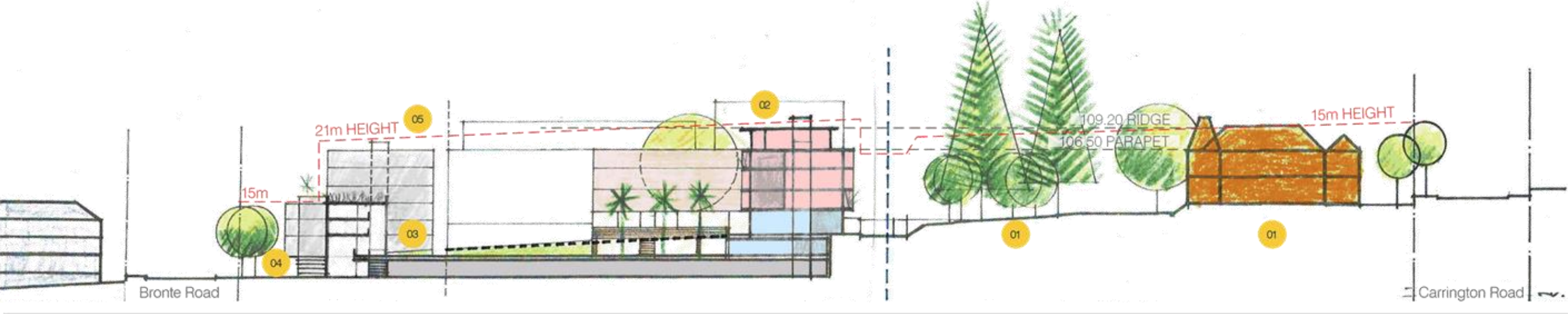


# 1 Sections and Elevations



Sections and Elevations

1.1 East West Section Through Edina

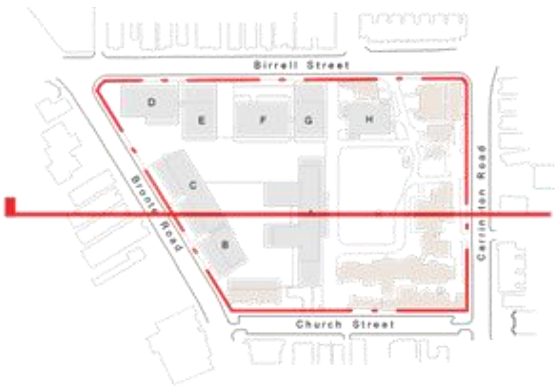


Section

- 01 Existing mansion Edina and Victorian garden to be restored
- 02 New built form to not exceed height of Edina
- 03 Entry lobby to maximise physical and visual links to lower garden
- 04 Entry lobby to maximise physical and visual links to Bronte Road
- 05 Stepped built form to comply with LEP height requirements

Images

- 01 Channel 9 Site Masterplan, by CHROFI
- 02 Landscaped layers, by Miguel Urquijo
- 03 Existing heritage garden showing Edina and War Memorial Hospital

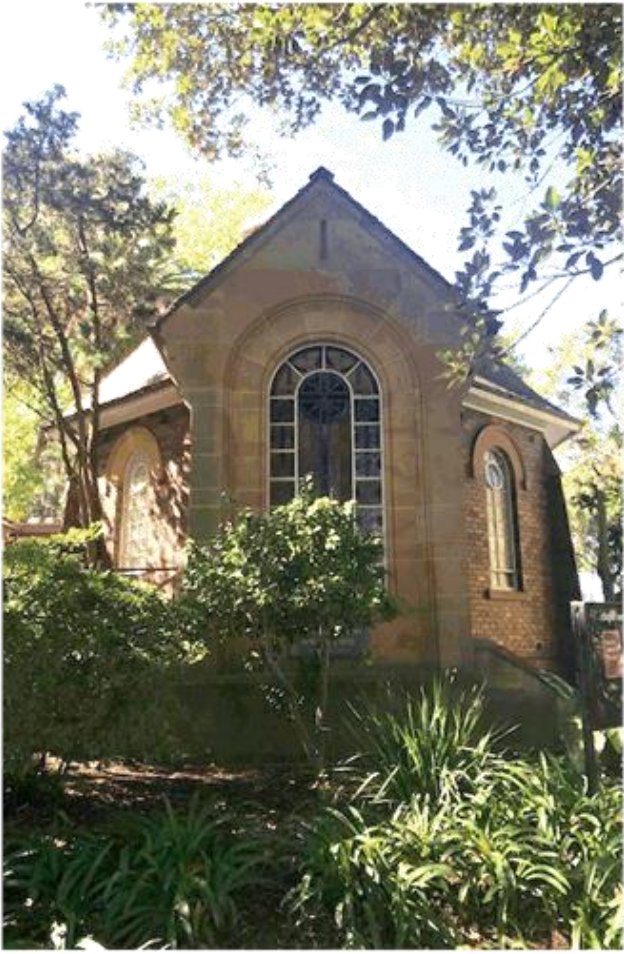
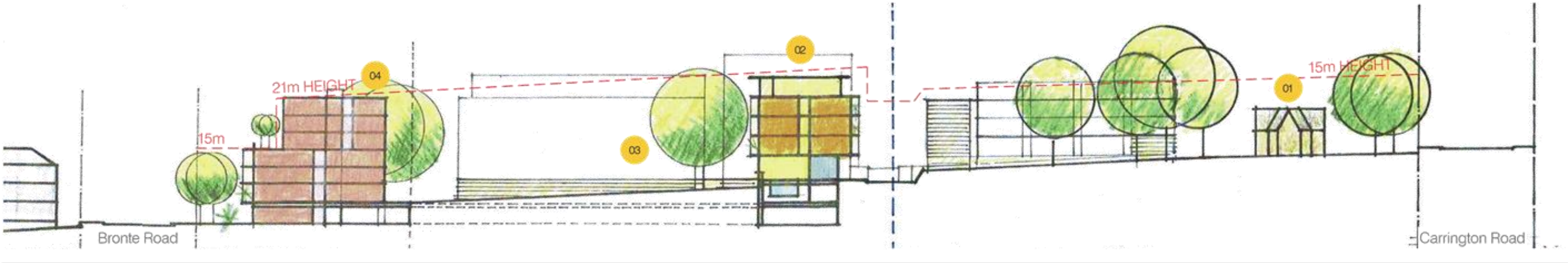


Indicative Only

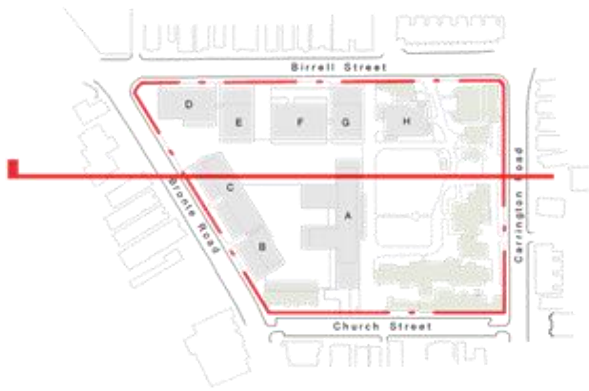


Sections and Elevations

1.2 East West Section Through Chapel



- Section**
- 01 Existing chapel to be restored
  - 02 New built form to not exceed height of Edina
  - 03 Lower garden to incorporate large trees and clearly defined passive and active spaces
  - 04 Stepped built form to maintain 4 storey street scale and comply with LEP height requirements
- Images**
- 01 Channel 9 Site Masterplan, by CHROFI
  - 02 Stepped Landscape
  - 03 Existing chapel

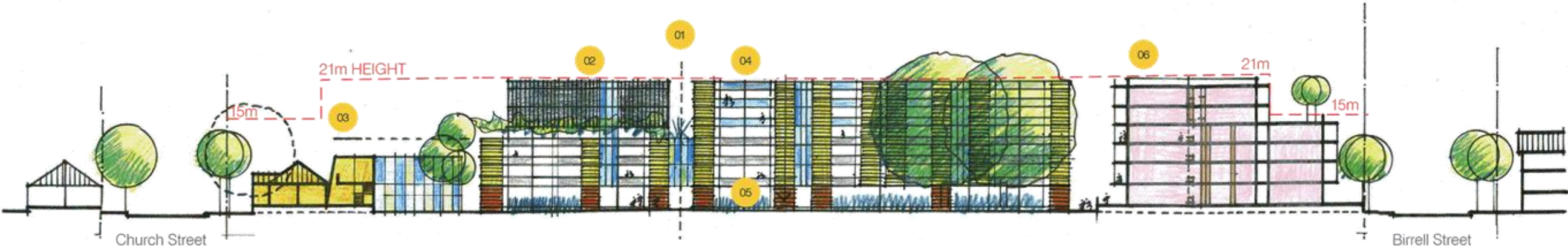


Indicative Only



Sections and Elevations

1.3 North South Section Through Seniors Garden



Indicative Only



Reference Only



Reference Only

Section

- 01 Relocated entry better aligns with RAC courtyard
- 02 Upper levels south of entry to incorporate a change in material to reinforce lower height of Bronte Road facing built form
- 03 Four storey datum to Bronte Road becomes three storeys to courtyard
- 04 Six level massing articulated vertically by glazed lobbies (could be full height brick)
- 05 Courtyard level units to incorporate terraces, landscaped to align expansive glazing
- 06 Stepped built form to comply with LEP height requirements

Images

- 01 Existing cottages, corner of Bronte Road and Church Street
- 02 Landscaped paths, Heide Museum, by Openwork
- 03 Apartment gardens, Eve, by 360 Degrees



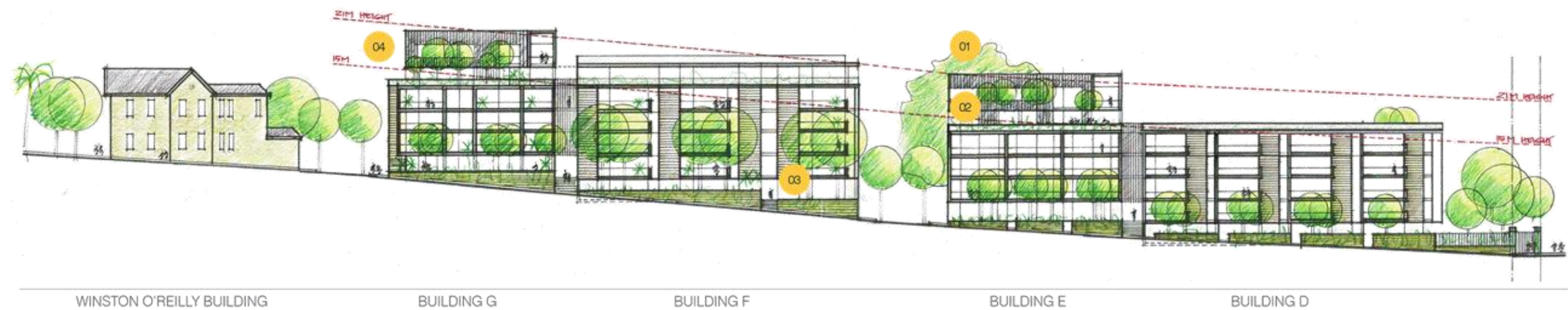






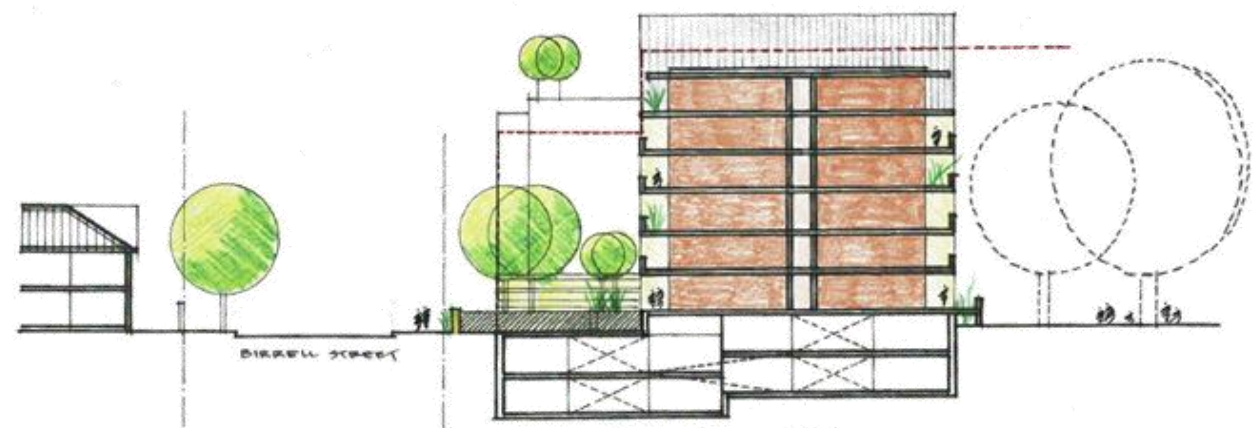
Sections and Elevations

1.4 Birrell St Indicative Elevation and Section

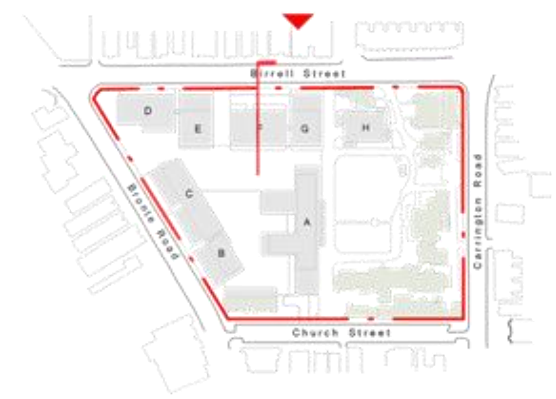


Indicative sketch elevations illustrate indicative scale and character of the Birrell Street frontage and the likely interface between existing heritage buildings and new built form. To address its dramatic topography, stepping sandstone walls and landscaped gardens complement the articulated seniors living buildings, which descend towards the original gates.

- 01 As per LEP requirements, stepped built form maintains 4 storey street scale with upper levels setback 15m
- 02 4 storey street height responds to existing scale and character of existing heritage buildings
- 03 Stepped gardens provide activated streetscape and enhance its landscape character
- 04 Articulation of built form reduces apparent scale and responds to discrete built form opposite



BUILDING F SECTION

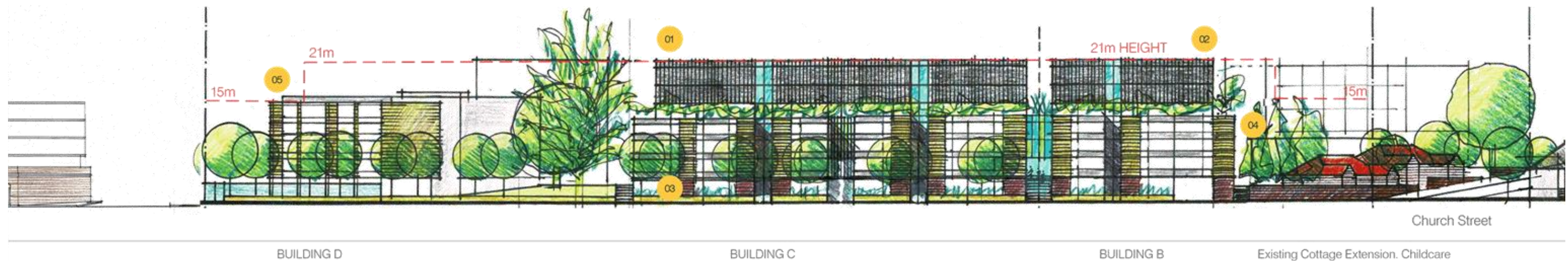


Indicative Only



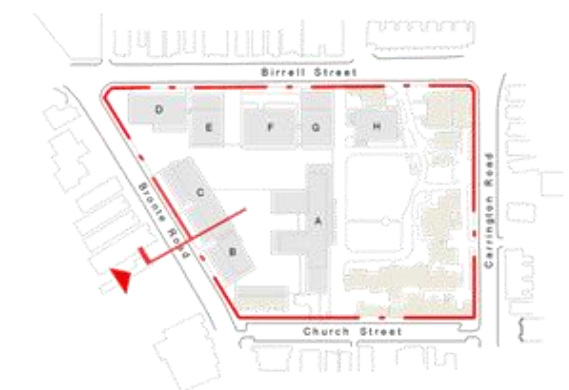
## Sections and Elevations

### 1.5 Bronte Rd Indicative Elevation and Section



Indicative sketch elevations illustrate indicative scale and character of the Bronte Road frontage and the likely interface between existing cottages and new built form. With setback higher levels, an articulated four storey built form addresses the street. To respond to new built form opposite and to recognise the significance of the original gates, the Bronte Road corner is increased to five levels.

- 01 As per LEP requirements, stepped built form maintains 4 storey street scale with upper levels setback 15m
- 02 Setback upper levels respond to existing scale and character of adapted existing cottages
- 03 Continuous private gardens provide activation and enhanced landscape character
- 04 Articulation of built form reduces apparent scale and responds to discrete built form opposite
- 05 Corner built form matches height opposite, allows for new landscape and adaption of original gates



Indicative Only







architectus™



## 2 3D perspectives



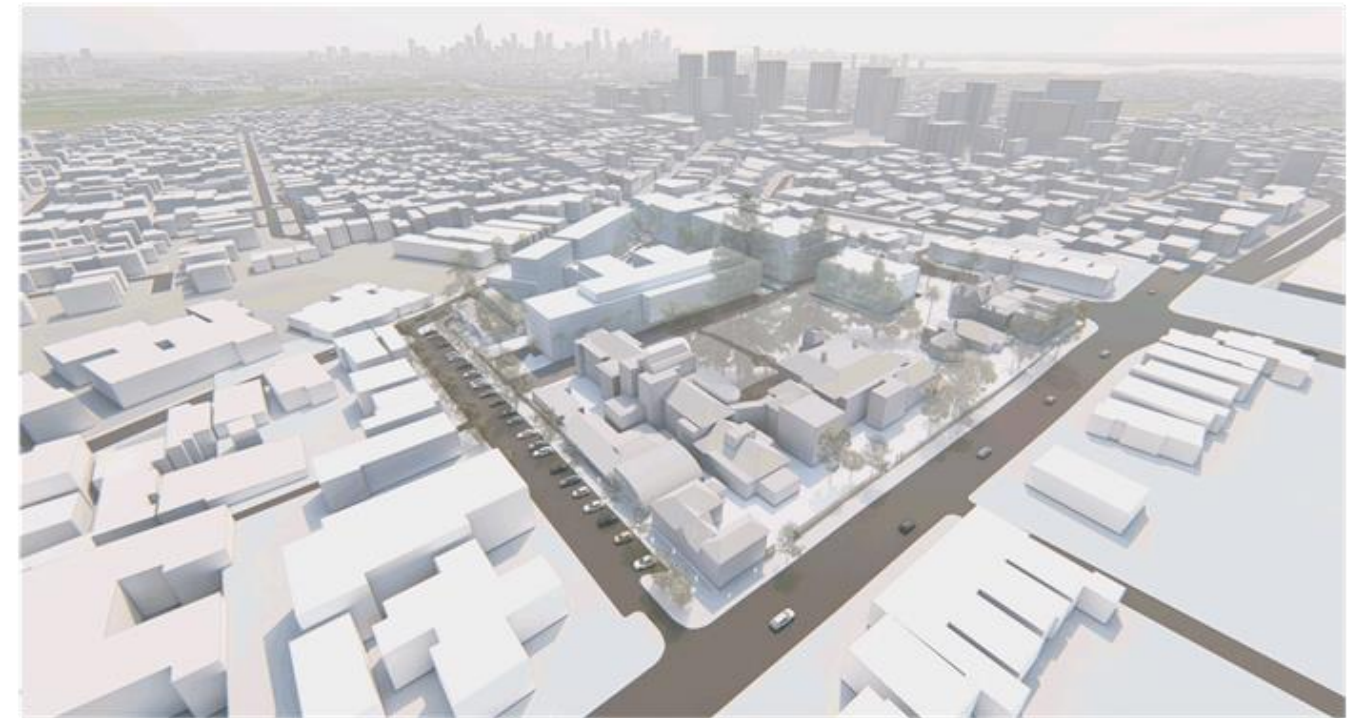
## 3D perspectives

### 2.1 Aerial Views



**Aerial View from South West -  
Bronte Road & Church Street**

- Built form to perimeter of the estate creates large lower garden
- Perimeter built form stepped to maintain 4 storey streetscape scale



**Aerial View from South East Corner -  
Carrington Road and Church Street**

- Heritage buildings and Victorian garden to be restored
- Existing cottages retained to maintain Church Street scale and character

*Disclaimer: The 3D massing depicted in these images are composed of 2 different 3d models. The context outside of the subject site is on a flat topography, while the subject site has been modelled with 3d contours as per the survey. Bringing together the two geometries introduces some misalignment's which may be visible but do not impact the subject site.*

**Indicative Only**



## 3D perspectives



**Aerial View from North East Corner -  
Birrell Street and Carrington Road**

- Higher built form setback 15m from boundary to maintain 4 storey streetscape scale
- Articulated built form responds to existing heritage buildings



**Aerial View from North West Corner -  
Birrell Street and Bronte Road**

- Continuous stepped landscaped gardens enhance Birrell Street interface
- Landscaped gardens and large open spaces enhance Bronte Road's street interface

*Disclaimer: The 3D massing depicted in these images are composed of 2 different 3d models. The context outside of the subject site is on a flat topography, while the subject site has been modelled with 3d contours as per the survey. Bringing together the two geometries introduces some misalignment's which may be visible but do not impact the subject site.*

**Indicative Only**

15

3D perspectives

2.2 Street Views



View from Birrell Street / Bronte Road Corner

With the original gates re-engaged with the unified estate and new built form setback from the corner, its landscape and heritage character are reinforced.



View from Birrell Street & Bronte Road

In response to the proposed built form height directly opposite, the corner built form is reduced in width and presented as five stories. This strategy allows for a more civic expression to the urban corner and enhances its relationship with the original gates.



*Disclaimer: The 3D massing depicted in these images are composed of 2 different 3d models. The context outside of the subject site is on a flat topography, while the subject site has been modelled with 3d contours as per the survey. Bringing together the two geometries introduces some misalignment's which may be visible but do not impact the subject site.*

Indicative Only

architectus™