OPERATIONS AND COMMUNITY SERVICES COMMITTEE MEETING

A meeting of the OPERATIONS AND COMMUNITY SERVICES COMMITTEE will be held at Waverley Council Chambers, Cnr Paul Street and Bondi Road, Bondi Junction at:

7.00PM, TUESDAY 9 OCTOBER 2018

Ross McLeod
General Manager

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

Delegations of the Waverley Operations and Community Services Committee

On 10 October 2017, Waverley Council delegated to the Waverley Operations and Community Services Committee the authority to determine any matter **other than**:

1. Those activities designated under s 377(1) of the *Local Government Act* which are as follows:

    (a) The appointment of a general manager.
    (b) The making of a rate.
    (c) A determination under section 549 as to the levying of a rate.
    (d) The making of a charge.
    (e) The fixing of a fee
    (f) The borrowing of money.
    (g) The voting of money for expenditure on its works, services or operations.
    (h) The compulsory acquisition, purchase, sale, exchange or surrender of any land or other property (but not including the sale of items of plant or equipment).
    (i) The acceptance of tenders to provide services currently provided by members of staff of the council.
    (j) The adoption of an operational plan under section 405.
    (k) The adoption of a financial statement included in an annual financial report.
    (l) A decision to classify or reclassify public land under Division 1 of Part 2 of Chapter 6.
    (m) The fixing of an amount or rate for the carrying out by the council of work on private land.
    (n) The decision to carry out work on private land for an amount that is less than the amount or rate fixed by the council for the carrying out of any such work.
    (o) The review of a determination made by the council, and not by a delegate of the council, of an application for approval or an application that may be reviewed under section 82A of the *Environmental Planning and Assessment Act 1979*.
    (p) The power of the council to authorise the use of reasonable force for the purpose of gaining entry to premises under section 194.
    (q) A decision under section 356 to contribute money or otherwise grant financial assistance to persons,
    (r) A decision under section 234 to grant leave of absence to the holder of a civic office.
    (s) The making of an application, or the giving of a notice, to the Governor or Minister.
    (t) This power of delegation.
    (u) Any function under this or any other Act that is expressly required to be exercised by resolution of the council.

2. The adoption of a Community Strategic Plan, Resourcing Strategy and Delivery Program as defined under sections 402, 403, and 404 of the *Local Government Act*.

Live Streaming of Meetings

This meeting is streamed live via the internet and an audio visual recording of the meeting will be publicly available on Council's website.

By attending this meeting you consent to your image and/or voice being live streamed and publicly available.

AGENDA

PRAYER AND ACKNOWLEDGEMENT OF INDIGENOUS HERITAGE

The Chair will read the following Opening Prayer and Acknowledgement of Indigenous Heritage:

"God, we pray for wisdom to govern with justice and equity. That we may see clearly and speak the truth and that we work together in harmony and mutual respect. May our actions demonstrate courage and leadership so that in all our works thy will be done. Amen.

Waverley Council respectfully acknowledges our Indigenous heritage and recognises the ongoing Aboriginal traditional custodianship of the land which forms our Local Government Area".

1. Apologies/Leaves of Absence

2. Declarations of Pecuniary and Non-Pecuniary Interests

3. Addresses by Members of the Public

4. Confirmation of Minutes

5. Reports

6. Urgent Business

7. Meeting Closure

CONFIRMATION OF MINUTES
OC/4.1/18.10

Subject: **Confirmation of Minutes - Operations and Community Services Committee Meeting - 4 September 2018**

TRIM No.: SF18/245

Author: Natalie Kirkup, Governance and Internal Ombudsman Officer

RECOMMENDATION:

That the minutes of the Operations and Community Services Committee meeting held on 4 September 2018 be received and noted, and that such minutes be confirmed as a true record of the proceedings of that meeting.

Introduction/Background

The minutes of the Operations and Community Services Committee meeting must be submitted to Operations and Community Services Committee for confirmation, in accordance with clause 266 of the *Local Government (General) Regulation 2005*.

Attachments

1. Operations and Community Services Committee Meeting Minutes - 4 September 2018 .

MINUTES OF THE OPERATIONS AND COMMUNITY SERVICES COMMITTEE MEETING HELD AT WAVERLEY COUNCIL CHAMBERS, CNR PAUL STREET AND BONDI ROAD, BONDI JUNCTION ON TUESDAY, 4 SEPTEMBER 2018

Present:

Councillor George Copeland (Chair)	Waverley Ward
Councillor John Wakefield (Mayor)	Bondi Ward
Councillor Dominic Wy Kanak (Deputy Mayor)	Bondi Ward
Councillor Leon Goltsman	Bondi Ward
Councillor Elaine Keenan	Lawson Ward
Councillor Steven Lewis	Hunter Ward
Councillor Paula Masselos	Lawson Ward
Councillor Marjorie O'Neill	Waverley Ward

Staff in attendance:

Ross McLeod	General Manager
Rachel Jenkin	Acting Director, Waverley Life
Peter Monks	Director, Waverley Futures
Emily Scott	Director, Waverley Renewal
Jane Worthy	Internal Ombudsman

At the commencement of proceedings at 7.00 pm, those present were as listed above, with the exception of Cr Keenan, who arrived at 7.04 pm.

PRAYER AND ACKNOWLEDGEMENT OF INDIGENOUS HERITAGE

The Chair read the following Opening Prayer and Acknowledgement of Indigenous Heritage:

God, we pray for wisdom to govern with justice and equity. That we may see clearly and speak the truth and that we work together in harmony and mutual respect. May our actions demonstrate courage and leadership so that in all our works thy will be done. Amen.

Waverley Council respectfully acknowledges our Indigenous heritage and recognises the ongoing Aboriginal traditional custodianship of the land which forms our Local Government Area.

1. Apologies/Leaves of Absence

Apologies were received and accepted from Crs Betts, Kay and Nemesh.

Cr Burrill was previously granted leave of absence by Council for this meeting.

2. Declarations of Pecuniary and Non-Pecuniary Interests

The Chair called for declarations of interest and none were received.

3. Addresses by Members of the Public

There were no addresses by members of the public.

4. Confirmation of Minutes

OC/4.1/18.09 Confirmation of Minutes - Operations and Community Services Committee Meeting - 7 August 2018 (SF18/245)

MOTION / UNANIMOUS DECISION

Mover: Cr Copeland
Seconder: Cr Wakefield

That the minutes of the Operations and Community Services Committee meeting held on 7 August 2018 be received and noted, and that such minutes be confirmed as a true record of the proceedings of that meeting.

5. Reports

OC/5.1/18.09 Acquisition and Deaccessioning Guidelines - Waverley Council Art Collection (A05/0416)

MOTION / UNANIMOUS DECISION

Mover: Cr Masselos
Seconder: Cr O'Neill

That Council endorses the Acquisition and Deaccessioning Guidelines attached to this report for the management of the Waverley Council Art Collection.

OC/5.2/18.09 Waverley Public Art Committee Meeting - Minutes - 30 April 2018 and 9 July 2018 (A18/0141)

MOTION / UNANIMOUS DECISION

Mover: Cr Masselos
Seconder: Cr Keenan

That Council:

1. Receives and notes the minutes of the Waverley Public Art Committee meetings held on 30 April 2018 and 9 July 2018

2. Notes that the minutes will be made available to the public via Council's website.

OC/5.3/18.09 Waverley Garden Awards 2018 (SF18/3244)

MOTION / UNANIMOUS DECISION

Mover: Cr Wakefield
Seconder: Cr Wy Kanak

That Council appoints Councillors Wakefield and Goltsman to participate on the judging panel for the triennial Waverley Garden Awards 2018.

OC/5.4/18.09 Alexandria Integrated Facility (AIF) - Lease to Telstra (A15/0160)

MOTION / UNANIMOUS DECISION

Mover: Cr Wakefield
Seconder: Cr Wy Kanak

That Council defers this item for a report to come back to Council detailing staff consultation that has occurred and a risk assessment of the potential installation of this facility.

OC/5.5/18.09 Tender Evaluation - Pre-Qualification for Civil Minor Works, Landscaping and Open Space Works and Maintenance (SF18/2916)

MOTION / UNANIMOUS DECISION

Mover: Cr Wakefield
Seconder: Cr Wy Kanak

That Council:

1. Treats the Tender Summary Scoresheets attached to this report as confidential in accordance with section 11(3) of the *Local Government Act 1993*, as they relate to a matter specified in section 10A(2)(c) of the *Local Government Act 1993*. The scoresheets contain information that would, if disclosed, confer a commercial advantage on a person with whom the Council is conducting (or proposes to conduct) business.

2. Under clause 178(1)(a) of the *Local Government (General) Regulation 2005*, accepts:

   (a) The following tenderers as the preferred tenderers for the supply of civil minor works:

      (i) State Civil Pty Ltd.

      (ii) KK Consultants Pty Ltd.

      (iii) Mack Civil Pty Ltd.

      (iv) Civeco Pty Ltd.

      (v) Kelbon Project Services Pty Ltd.

      (vi) Sam the Paving Man Pty Ltd.

      (vii) Stateline Asphalt Pty Ltd.

   (b) The following tenderers as the preferred tenderers for the supply of landscaping and open space construction.

      (i) Regal Innovations Pty Ltd.

      (ii) Hibernian Contracting Pty Ltd.

3. Authorises the General Manager, or delegated representative, to enter into contract on behalf of Council with the above tenderers for three years with two additional one-year optional extensions.

4. Notifies unsuccessful tenderers of the decision in accordance with clause 179 of the *Local Government (General) Regulation 2005*.

OC/5.6/18.09 Tender Evaluation - Insurance Broking, Claims Management and Risk Management Services (A18/0446)

MOTION / UNANIMOUS DECISION

Mover: Cr Wakefield
Seconder: Cr Wy Kanak

That Council:

1. Treats the Tender Evaluation Matrix attached to this report as confidential in accordance with section 11(3) of the *Local Government Act 1993*, as it relates to a matter specified in section 10A(2)(c) of the *Local Government Act 1993*. The report contains information that would, if disclosed, confer a commercial advantage on a person with whom the Council is conducting (or proposes to conduct) business.

2. Under clause 178(1)(a) of the *Local Government (General) Regulation 2005*, accepts Jardine Lloyd Thompson as the preferred tenderer for the supply of insurance broking, claims management and risk management services, and authorises Jardine Lloyd Thompson, in consultation with the General Manager or delegated representative to enter into insurance placements on Council's behalf, all for the estimated sum of $775,117.35 (excluding GST).

3. Authorises the General Manager, or delegated representative, to enter into the contract on behalf of Council with Jardine Lloyd Thompson for five years, noting that the actual value of the contract will be varied by the General Manager each year with overall budget provision in respect of the actual cost of insurance placements based on Council's claims history, external market pricing and Council's risk profile.

6. Urgent Business

There were no items of urgent business.

7. Meeting Closure

THE MEETING CLOSED AT 7.17 PM.

.....
SIGNED AND CONFIRMED
CHAIR
9 OCTOBER 2018

REPORT
OC/5.1/18.10

Subject: **Bondi Park Lighting and Electrical Masterplan**

TRIM No: A17/0485

Author: Carl Nugent, Senior Landscape Architect

Director: Dan Joannides, Acting Director, Waverley Renewal

RECOMMENDATION:

That Council:

1. Adopts the Bondi Park Lighting and Electrical Masterplan attached to this report to guide future park capital works and lighting and electrical infrastructure renewal projects associated with the Bondi Park, Beach and Pavilion Plan of Management.

2. Accommodates funding requirements for the works envisaged in the Masterplan within the Public Domain Infrastructure Budget category in the Long Term Financial Plan, after due consideration of various project priorities.

1. Executive Summary

Bondi Park (the Park) is a highly valued community green space supporting a variety of recreational, social, cultural and environmental needs and values. Waverley Council Strategic Plan 2018–2029 highlighted the communities' values around greenspace, recreation and the environment and the desire for our beaches and parks to be maintained to a standard commensurate with their international standing.

To meet community expectations, Council must ensure that our public domains are well planned, designed, managed and maintained. The adopted Bondi Park, Beach and Pavilion Plan of Management 2014–2024 (Bondi PoM) sets out the vision and direction for upgrades at the Park. A key action of the PoM was to develop a sustainable lighting strategy to improve night time safety and access to the Park.

In recent years several of the existing park high mast floodlights have failed or reached the end of their serviceable life with some light columns requiring removal due to structural stability and other lights experiencing outages due to aging electrical wiring. A comprehensive plan is required to guide the upgrade of public lighting assets and future proof the electrical system to allow adaptability and meet electrical power requirements for the Park in the future.

The Bondi Park Lighting and Electrical Masterplan has been developed to guide future Capital Works projects ensuring integrated lighting design outcomes are achieved across the Park. The Masterplan aims to improve night time safety, respond to park user requirements for access at dawn and in the evening, improve the atmosphere and experience of the park at night and ensure ongoing efficiencies in managing and maintaining the park lighting and electrical assets. The Masterplan presents an opportunity to lift the standard of park infrastructure to meet community expectations and lift the prestige of the Park to match its iconic status.

2. Introduction/Background

This is largely an operational matter but staff have determined that some of the design elements mean it is useful to seek Council endorsement.

Bondi Park does not currently have an overarching strategy to specifically guide public lighting upgrades to ensure a consistent and appropriate application of lighting in the park.

This gap is identified in the Bondi Park, Beach and Pavilion Plan of Management 2014–2024 (Bondi PoM), adopted by Council in November 2014, which identifies the need for an overarching public lighting in the Pom's Action Plan as follows:

Bondi PoM Action No. C3.6:

Develop a sustainable lighting strategy for the whole Park including pedestrian lighting to improve safety and enhancement. To be coordinated with Action No. F3.1: Lighting at the rear of the Pavilion and through the courtyard. Architectural lighting around the Pavilion.

Bondi PoM Action Outcome:

- *Safe access to the Park during activity hours.*
- *Improved lighting and safety during night times.*

The Bondi PoM includes a Master Plan and Action Plan to guide management, maintenance and capital works and stages works over the 10-year life of the PoM. As areas of the park are sequentially upgraded a more prescriptive plan is required to guide public lighting and electrical upgrades at each stage to ensure a consistent lighting outcome is achieved across each upgrade of the park and its facilities and avoid the cost and disturbance to the public of retrospective works to implement lighting and electrical upgrades post park improvement works.

In addition to the Bondi PoM, the Draft Waverley Council Creative Lighting Strategy (Draft CLS) provides guidance on the application of public lighting at the Park. The Draft CLS effectively provides Council with an LGA wide *Public Lighting Strategy* to guide the implementation of public lighting upgrades across Waverley's public domain. By following the guidelines, principles, objectives and key directions of the Draft CLS, the Masterplan provides continuity to the approach to public lighting in Waverley and responds to feedback received during the Draft CLS's public consultation feedback.

A key element of Council's vision and direction articulated in the Waverley Council Strategic Plan 2018-2029 is to be a leader and innovator in open space and recreational facilities that support a healthy, happy and connected community.

The Waverley Community Survey 2018 results identified that local residents want improved focus on maintenance of Council assets and infrastructure, improved presentation and amenity within the public domain and increased access to our parks, open spaces, sporting and recreational facilities.

To meet community expectations, Council must ensure that our public domains are well planned, designed, managed and maintained.

Public lighting is an integral component of any public domain upgrade and must be considered during the planning and design phase of a project to ensure a well-considered, well designed and seamlessly integrated solution. With the various capital works projects underway at Bondi Park, the need for a site specific overarching Master Plan for all lighting and electrical upgrades is required.

3. Relevant Council Resolutions

Council or Committee Meeting and Date	Minute No.	Decision
Council 18 November 2014	CM/7.6/14.11	That: 1. Receives and notes this report 2. Notes the findings from the Public Exhibition period (refer Attachment 1). 3. Adopts the Bondi Park, Beach and Pavilion plan of Management 2014-2024 (refer Attachment 3). 4. Notes that Council will receive a separate report identifying details of upcoming projects identified in the Bondi Beach, Park and Pavilion Plan of Management.

4. Discussion

Masterplan report structure

The Masterplan Report has been broken down into a simple structure as follows:

1. The Bondi Park Precinct – where the plan applies.
2. Scope of Works – purpose of the plan.
3. Site Assessment – audit of existing infrastructure condition, functionality, and future improvements against standards, best practice and project objectives.
4. Lighting Upgrades – recommendations for lighting upgrades based on the tiered lighting approach and principles as guided by the Draft Waverley Creative Lighting Strategy.
5. Electrical Upgrades – recommended upgrades required to the electrical reticulation system to support current and future requirements.
6. Masterplan Implementation – staged approach to capital works with high level costing to guide funding allocation in the Long Term Financial Plan and underpin future Business Cases as part of the annual Capital Works project approval process.

The Bondi Park Precinct

The Masterplan study area is wholly contained within the boundaries of Bondi Park and Biddigal Reserve and includes the park, footpaths, promenade, carparks, amenities buildings, carpark areas on Ramsgate Avenue and Scarborough Hill.

Campbell Parade, Notts Avenue and Ramsgate Avenue street lighting have been considered in terms of how ambient light spill affects and supplements lighting in the park.

The Masterplan report excludes internal and façade lighting of the Bondi Pavilion building, which is currently a separate project, and Surf Club buildings which are under separate lease arrangements. Lighting and electrical upgrades would form part of a separate Architectural brief for these buildings at the time of upgrades.

Future park upgrades as outlined in the Bondi PoM have been considered in terms of projects lighting and electrical requirements.

Masterplan scope of works

The Masterplan provides a full site assessment with recommendations for lighting and electrical reticulation system upgrades based on existing site requirements and future proposed park upgrades.

The Bondi Park Lighting and Electrical Master Plan aims to achieve the following:

- Improve night time safety, legibility and access for park users.
- Support the health and wellbeing of the community through improved night time access to the park and its facilities.
- Support night time activities at the Bondi Pavilion and two Surf Clubs by improving safety and legibility of footpaths, car parks and lighting around buildings.
- Activate the Bondi precinct through public lighting interventions that create a vibrant, welcoming and safe night time destination that supports the area's growing night time local economy.
- Integrate sustainable and energy efficient lighting and electrical fittings and systems into future park upgrades.
- Upgrade lighting to lift the prestige of the Park to match its iconic status.

Site assessment

The Masterplan report includes a site audit of all lighting and electrical systems in the Park to:

- Understand the existing asset conditions.
- Assess the quantity and quality of light.
- Review infrastructure against current Australian Standards and best industry practice.
- Review current and future demands based on existing conditions and future Park upgrades proposed in the Bondi PoM.

The audit established the health of the system, limitations of lifespan and made recommendations to improve the system to meet standards, improve functionality, safety, legibility and efficiency and lift the prestige of the Park to meet its current iconic status.

The audit found the Park's lighting and electrical recirculation system is reaching the end of its serviceable life, with the exception of recent lighting upgrades undertaken in 2015 south of the Pavilion. Several high mast floodlights have had to be removed due to their age and structural stability, internal wiring and conduit runs have had to be replaced on several others to maintain operation and aging luminaires have been replaced with energy efficient LEDs in an effort to prolong life and improve environmental performance.

With the expectation of lighting installed in 2015, the majority of the park is reliant on largely spaced high mast floodlighting. With several high mast floodlights missing this leaves areas of the park under light to current standards. An audit of lighting levels in the park highlighted several areas of the park are inadequately light and do not meet the current Australian Standards for pedestrian and car park area use.

The style of high mast floodlighting creates glare issues, which blocks views of the night time sky and causes residential amenity issues. The colour rendering of bright white floodlight also creates a sterile and uninviting impression of the area. The current 'blanket' approach to lighting the park from high mast floodlighting is an unsympathetic approach to lighting adding little to the atmosphere or prestige of one of Australia's most iconic destinations.

The current lighting control system is based on a simple light sensor turning the system on at dusk and off at dawn meaning the park is light all night regardless of volume or type of night time use. Greater

efficiencies could be achieved with a modern control system allowing lights to be turn off or dimmed during lower pedestrian activity times.

The Park electrical system is serviced by four Main Switch Boards. The switch boards are also reaching the end of their lifecycle and need to be upgraded to meeting current wiring code and modern equipment standards. One of the switch boards that controls park lighting is located with the Pavilion switch board. It is desirable to separate out park electrical system requirements from Pavilion requirements in the near future to ensure the park lighting is not affected by the Pavilion upgrade works.

With lighting and electrical systems in the Park reaching the end of their serviceable life an opportunity exists to replace these assets to meet current Australian Standards and best practice for public lighting while greatly improving functionality, safety, environmental efficiency and aesthetic outcomes and well as the ongoing management and maintenance of the assets.

Lighting upgrades

The development of the Masterplan has been guided by the public lighting strategies, guidelines and objectives as outlined in Council's draft Creative Lighting Strategy and feedback received during the strategies public consultation.

The draft Waverley Creative Lighting Strategy (Draft CLS) effectively provides an LGA-wide Public Lighting Strategy.

The front of the strategy provides a very useful guide on the approach to public lighting upgrades setting out the vision and guiding principles for the application of light in the public domain. The rear of the report effectively providing case studies demonstrating how to apply the strategies principles with a summary of objectives and ideas for the application of public lighting in three specific precincts (Bondi Junction, Bondi Beach and Coastal Walk).

Recommendations in the Masterplan have been structured to reflect the three tiers of lighting principle in the Draft CLS as follows:

1. **Tier 1 - Base Lighting**

   Tier 1 provides base levels of light for functional movement in Bondi Park. This includes the Pathway and Carpark areas. Tier 1 provides the basic level of lighting for functional use of a space and where possible the lighting should meet compliance with relevant Australian Standards.

2. **Tier 2 - Amenity Lighting**

   Tier 2 lighting involves using lighting to create layered elements. This provides both functional and experience lighting in addition to Tier 1 lighting. Tier 2 lighting aims to enhance the pedestrian experience e.g. pedestrian scale lighting, promenade lighting, bus stops, tree lighting and building lighting. Tier 2 provides highlight lighting to create visual interest in a space and supports Tier 1 lighting in meeting Australian Standards.

3. **Tier 3 - Lighting Interventions**

   Tier 3 level of lighting involves site specific installations at key locations that celebrate a unique sense of place or character. They assist in activating a space or wayfinding as well as creating visual interest. Tier 3 provides for creative lighting installations.

The tiered system effectively provides a way to categorise different lighting types into one of the three light categories. The application of these lighting categories can then be given a hierarchy of importance when

considering lighting upgrades to a space. Base lighting is given the highest priority of importance to achieve before other layers of lighting are applied to a site. However, each tier of lighting adds to the overall lighting levels, experience and perception of the space and need to be considered together at the design phase to achieve the right balance of outcomes.

The Bondi Park Lighting and Electrical Masterplan adopts the Draft CLS's vision and applies the lighting principles and site specific key strategies for Bondi Beach. The Masterplan drills down to the next layer demonstrating exactly how the three tier lighting strategy will be applied on the ground at Bondi Park.

The Masterplan looks at each tier of lighting and proposes:

- Lighting locations – schematic design nominating approximate location of proposed lights and lighting types.
- Lighting effect – desired extent of lit areas and examples of lighting affect.

Electrical upgrades

To address the current needs and future uses of the Park, work will need to be undertaken to rectify the current issues with the existing electrical reticulation and switchboards as well as improving the locations at which power is available with the park precinct.

The Masterplan provides recommendations on electrical reticulation system upgrades to ensure the system is future proofed to meet current and future electrical loads. These are operational matters that are being reported to Council for information.

A number of potential items will have an impact on the future electrical load on switchboards within the park. These items have been identified and accounted for in the Masterplan including:

- Public lighting.
- Feature lighting.
- Events bollards.
- Vendor licensed areas.
- Skate park sports lighting (subject to future consultation and design).
- Playground feature lighting (subject to future consultation and design).
- Amenities buildings x 4 (2 x subject to future consultation and design).
- Electric vehicle charging stations.
- Public Wi-Fi system.

Master Plan implementation

To undertake lighting and electrical upgrades on the scale of Bondi Park is an expensive and disruptive exercise requiring large areas of the park to be trenched to remove and replace infrastructure.

The Masterplan recommends that upgrade works be implemented in stages with the majority of upgrades included with major landscape upgrades planned for the park in the coming years. This approach will reduce the cost of infrastructure implementation and reduce impact to park users by coupling projects together. ther projects will form standalone upgrades, for example to complete works undertaken in the central park in 2015.

The Masterplan includes a Staging Plan over a five-year-plus period, with the majority of park works completed in the first five years.

Some proposed works have been noted as being subject to detailed design and consultation such as the skate park, playgrounds and amenities buildings as the final design of these elements is unknown requiring a separate design and consultation process to inform the outcomes.

Some works are more difficult to implement due to the age of associated infrastructure that lighting would be connected to. For example pole top lighting the promenade from the retaining walls along QED. Further structural investigations and design solutions will be required for these works which will form part of a detailed scope of works for each project.

The stage implementation plan is accompanied by a high-level costing to guide funding allocation in the Long Term Financial Plan and underpin future business cases as part of the annual capital works project approval process.

5. Financial impact statement/Timeframe/Consultation

Public lighting is an integral component of any public domain upgrade and must be considered during the planning and design phase of a project to ensure a well-considered, well-designed and seamlessly integrated solution.

As such, the staging plan has been developed to coordinate lighting and electrical upgrades with major upgrade projects planned within the park over a five-year-plus period. This will reduce project costs, limit construction impacts on park users as all works can be completed together and avoid retrospective works to implement lighting at a later stage.

Each park upgrade follows Council's internal capital works process providing multiple opportunities for further internal stakeholder consultation to inform the scope of the projects prior to commencement of design.

There will be further opportunities for community consultation on each park upgrade project, including lighting, as part of Council's commitment to community engagement on all projects.

Total cost to implement the plan is as follows:

Short-term (1–2 year time frame)	$ 940,000 (+ GST)
Short- to medium-term (1–3 year time frame)	$1,180,000 (+ GST)
Medium-term (3–4 year time frame)	$2,160,000 (+ GST)
Long-term (5 years +)	$2,300,000 (+ GST)

6. Conclusion

To undertake lighting and electrical upgrades on the scale of Bondi Park is an expensive and disruptive exercise requiring large areas of the park to be trenched to remove and replace infrastructure.

It is recommended that the Bondi Park Lighting and Electrical Masterplan is implemented in stages with the majority of upgrades included with major landscape upgrades planned for the park in the coming years. This approach will reduce the upfront cost of infrastructure implementation and reduce impacts to park users by coupling projects together. Other projects will form standalone upgrades; for example, to complete works undertaken in the central park in 2015.

The Masterplan sets out a clear vision for how, where and when lighting and electrical upgrades can be achieved in the park with associated costings to guide long term funding to underpin capital works projects. By coupling upgrades with other park projects the community will be given additional opportunities to have their say on how the Park is developed and upgraded.

With lighting and electrical systems in the Park reaching the end of their serviceable life an opportunity exists to replace these assets to meet current Australian Standards and best practice for public lighting while greatly improving functionality, safety, environmental efficiency and aesthetic outcomes and well as the ongoing management and maintenance of the assets. Investment in infrastructure improvements at the Park will continue to support the communities use, access and enjoyment of the Park and the ongoing health and wellbeing of our community for many years to come. Much needed lighting upgrades will lift the safety, night time experience and prestige of the Park to match its iconic status.

It is recommended that Council adopts the Bondi Park Lighting and Electrical Masterplan as a guide for future lighting and electrical upgrade at Bondi Park.

7. Attachments

1. Bondi Park Lighting and Electrical Masterplan ⇩ .

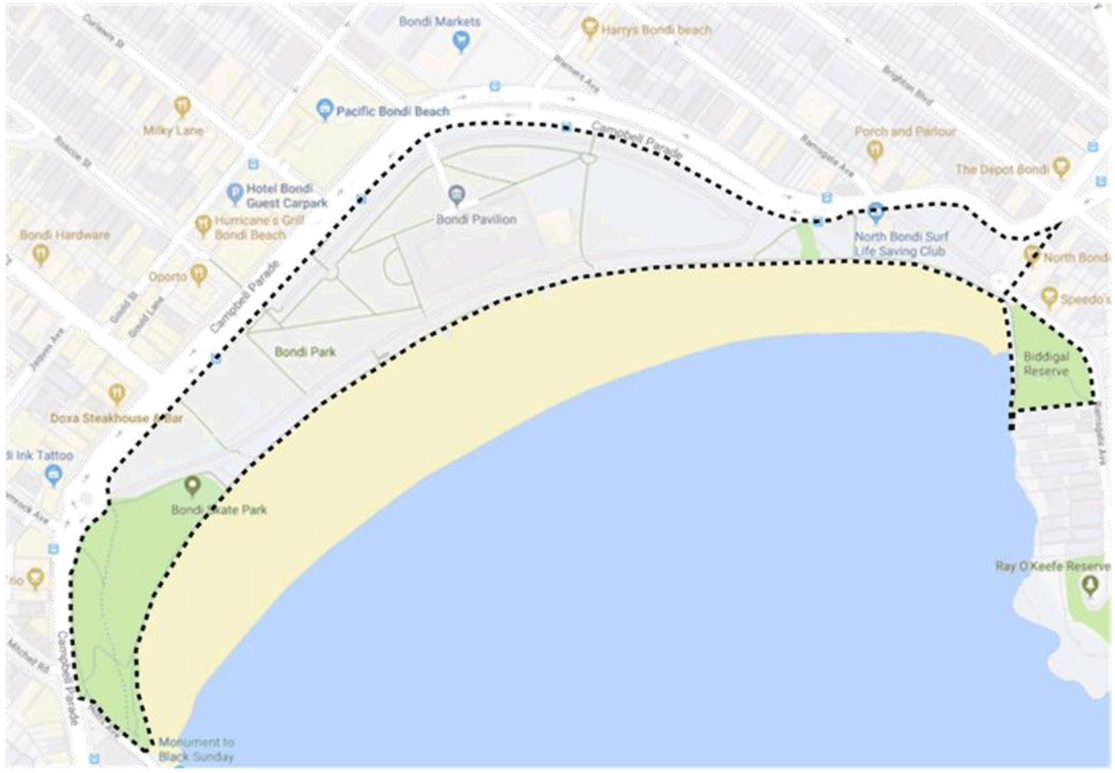
LAS

WAVERLEY COUNCIL

CONTENTS

2

THE BONDI PARK PRECINCT



Lighting, Art & Science have been engaged by Waverley Council to prepare a lighting and electrical masterplan for Bondi Park with an aim to provide a clear strategy for future development and modifications.

The scope area includes a combination of public spaces parklands, primary pathways, beach front promenade, amenities buildings, carparks and access roads.

This masterplan document will provide an outline and detailed strategy of the proposed lighting and electrical upgrade for Bondi Park. It aims to form part of a sustainable lighting strategy for the park, as well as improve safety and enhancement for the user experience.

The Bondi Park Lighting and Electrical Masterplan aims to achieve the following:

- Improve night time safety, legibility and access for park users.
- Support the health and wellbeing of the community through improved night time access to the park and its facilities.
- Support night time activities at the Bondi Pavilion and two Surf Clubs by improving safety and legibility of footpaths, car parks and lighting around buildings.
- Activate the Bondi precinct through public lighting interventions that create a vibrant, welcoming and safe night time destination that supports the area's growing night time local economy.
- Integrate sustainable and energy efficient lighting, electrical fittings and systems into future park upgrades.
- Upgrade lighting to lift the prestige of Bondi Park to match its iconic status.

SCOPE OF WORKS

This masterplan document provides an outline of the existing infrastructure currently located within the Bondi Park areas – as well as recommendations and approach involved in the lighting and electrical upgrade to the scope area.

The development of the Masterplan has been guided by the public lighting strategies, guidelines and objectives as outlined in Waverley Council's DRAFT Creative Lighting Strategy.

The Pavilion building and both Bondi and North Bondi Surf Life Saving Club buildings (including the interior of these buildings) have been excluded from the scope of assessment and masterplan.

The scope of works has been outlined in the map shown. The zoning map has been developed to break the park down into areas of similar lighting applications i.e. parkland areas, promenade, carparks and building surrounds. Where possible, Council will deliver lighting upgrades with other park upgrades in each zone. This will be in line with Council's adopted Bondi Park Plan of Management and Capital Works program.

BONDI SITE PALN

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

SITE ASSESSMENT - EXISTING LIGHTING

A site assessment was undertaken to determine the extent and condition of existing lighting and electrical infrastructure in the park, review its compliance against Australian Standards and best practice and consider if lighting was meeting both functional and aesthetic objectives for the park. The following sections summarise the findings of this assessment.

EXISTING LIGHTING INFRASTRUCTURE

Existing Lighting

The existing lighting throughout Bondi Park consist of the following:

- High mast lighting throughout the park and parkway areas
- Bauble post top lighting along the Pavilion frontage
- Pavilion building lighting
- Lighting on and under the pedestrian bridge
- Lighting on Parks Drive carpark and footpaths along Campbell Parade are supplemented by roadway lighting – some of which have pedestrian backlighting towards the park.

The existing lighting also encompasses Stage 1 works which have been recently undertaken.

- Post top LED lighting
- In-ground LED feature lighting
- In-ground LED artwork lighting

The existing lighting locations have been shown on page 6 of this document.

High Mast Lighting

Pavilion Building Lighting

Stage 1 Pathway Lighting

Bauble Post Top Lighting

Stage 1 In-ground Feature Lighting

Existing Lighting Effect

The majority of Bondi Park is currently illuminated via a flood lighting effect. There are numerous high wattage (250W-350W) fixtures placed sporadically within the park providing an overall blanket of light across the space. This does not take into account the specific uses of each area – nor does it take into account the visual experience of the night time occupants.

Due to the flood lighting effect, the lighting levels are generally consistent across the pathway and parkland areas. From a short distance away, this results in the space blending into one.

This blanket approach to lighting the park does not add any value to the prestige or nighttime aesthetic of the park.

It provides no clear delineation between the pathway and parkland areas to define clear routes of travel or provide any visual interest highlighting unique or interesting features within the park – **achieved by the use of lighting during the night.**

Existing Lighting Controls

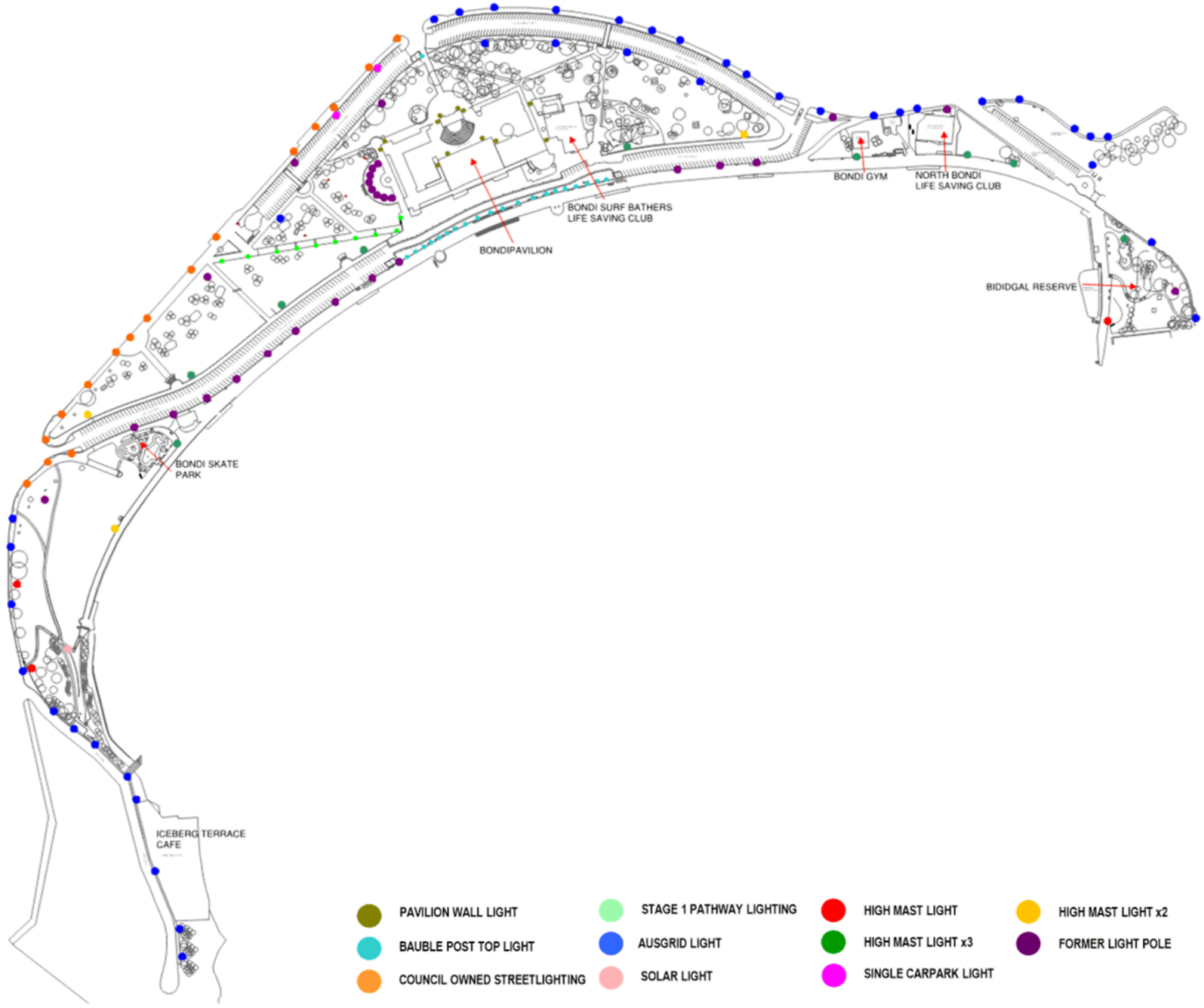
The existing lighting controls are via sunset switch. The sunset switch is a sensor that is located at the switchboard. It detects the natural lighting levels at dusk and turns the lights on (once levels drop below a certain pre-set figure). It then turns the lights off at dawn (once detected levels of light are greater than the pre-set amount).

This is a simple on or off system controlled by the amount of sunlight. This control system does not allow for any modification to the lighting to accommodate different zones or different modes of light throughout the night.

The advantage of a flexible lighting control system allows for the ability to modify the amount of light in each area based on uses and pedestrian traffic. It allows the lighting to compliment the space and for a mixed use approach to take into account the various modes throughout the night. For example, switch lights off in parts of the park to conserve energy and actively discourage use of the park during certain night time hours or conversely increase lighting to certain areas of the park to encourage use.

SITE ASSESSMENT - EXISTING LIGHTING LOCATIONS

6



BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

SITE ASSESSMENT - EXISTING LIGHTING LEVELS

Existing Lighting Levels
A lighting audit was conducted and the existing lighting levels were assessed. The roadway lighting along Campbell Parade and Ramsgate Avenue was included in the lighting assessment.

The two lighting categories appropriate for this assessment are AS/NZS1158.3.1, Category P2 and also P11b.

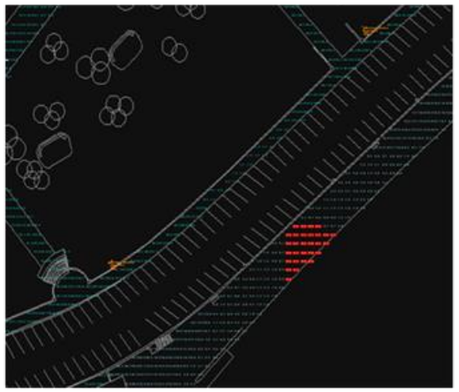
Category P2 lighting covers a pedestrian or cycle orientated pathway – including park paths (table 2.2 of AS/NZS1158.3.1). It is associated with a high level of pedestrian activity, a medium risk of crime and a high need to enhance prestige. It is the category of light used for cycleways and most pedestrian pathways, providing both horizontal and vertical (facial recognition) lighting.

The Category P11 range covers carpark spaces, aisles and circulation roadways (table 2.5 of AS/NZS1158.3.1). Category P12 lighting is for designated parking spaces, specifically intended for people with disabilities.

Pathway Lighting
The existing pathway lighting was assessed for the horizontal illuminance levels in accordance with AS/NZS1158.3.1, Category P2. Whilst the majority of the pathways did meet the minimum illuminance level of 0.7 lux, there were quite a number of areas that were not compliant. These have been shown in the subsequent figures.
Non-compliant areas have been shown in red.

Pathway Adjacent Notts Avenue:

Section of Pathway along The Promenade:



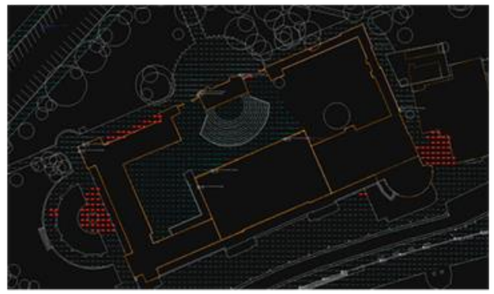
Carpark Lighting
The carpark lighting has been assessed to AS/NZS1158.3.1, Category P11b. Per the pathways, the horizontal levels were assessed for compliance. The majority of the carpark does meet the horizontal illuminance requirements. In many instances the carparks are illuminated from one side or the other. As the P11b carpark category requires vertical illumination in two directions, the carparks will most likely not comply with this requirement. Further to this, there are six (6) disabled parking locations identified. Disabled parking is required to be illuminated to a higher level of light - >14 lux. Four (4) out of the six (6) disabled parking locations do not currently meet this requirement – as shown.

Campbell Parade Disabled Parking x 2:

Parks Drive Central Disabled Parking (east of Pavilion):

Parkland Areas
Due to the overarching flood lighting, the parkland areas vary in illuminance levels. This is the result of the flood lighting effect whereby the levels are far greater at closer ranges to the light and then fade out as the assessment area moves further away from the lighting.
This results in two scenarios. Firstly the occupants would experience a blanket of light approach when in the space, whereby the pathways and parklands are blended into one.
Secondly, from a considerable distance away, those looking out onto the park would experience a rather uneven effect and does not add to the visual presence of the park.
Apart from the aesthetic benefits of having a more consistent approach to the parkland area, it is also removes any unnecessary dark spaces. To the users, this will provide clearer views across the park, creating an increased sense of safety – as they can view the area surrounding the pathway they will be using.

Promenade Surrounds:



Pathway along Ramsgate Avenue:

SITE ASSESSMENT - EXISTING ELECTRICAL

EXISTING ELECTRICAL INFRASTRUCTURE

The switchboards have been assessed for current electrical code compliance and their capacity to service future lighting and electrical upgrades in each area of the park – including built in capacity to 'future proof' them.

The public domain scope area is currently serviced by a number of switchboards. These switchboards are:

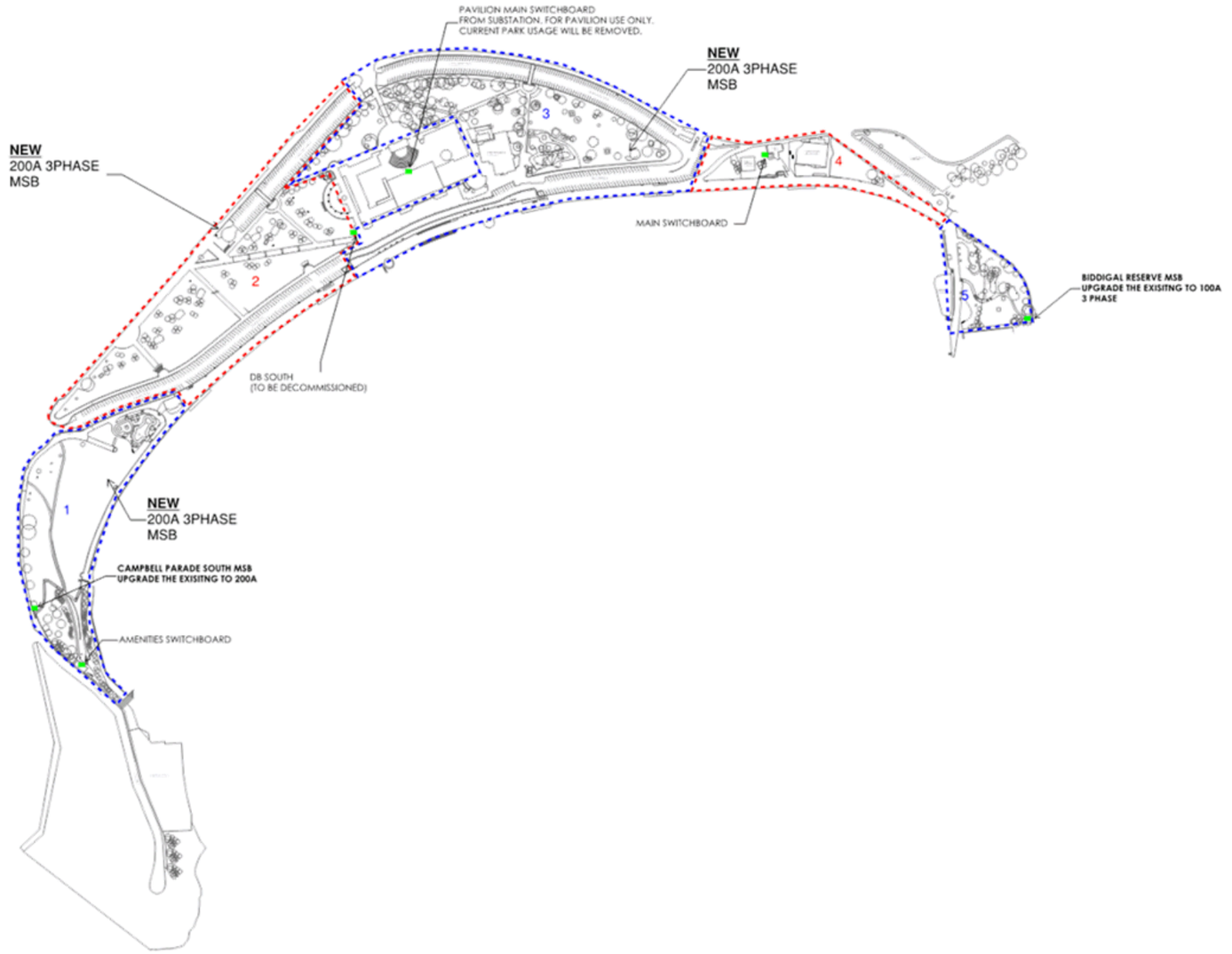
- Campbell parade (south) main switchboard near the start of Notts Avenue
- Un-named distribution switchboard at the skatepark adjacent to the water harvesting control panels
- Distribution Board South outside at the southern end of the Pavilion building.
- North Bondi amenities building main switchboard
- Biddigal Reserve main switchboard

It is noted that the Pavilion building provides the power to the Distribution Board South via its main switchboard. This main switchboard will likely be replaced as part of the proposed building refurbishment works and as such the Pavilion main switchboard will no longer considered further as a source of power for public domain spaces due to potential extended outages.
An independent switchboard will be required for this area of the park.

Pumping panels or other specific purpose switchboards have not been assessed for spare capacity as these are built for specific purpose use.

Existing Electrical Condition

The existing electrical systems were visually inspected. No cover plates or escutcheons were removed from the switchboard to access live equipment. From the condition of the switchboards further access to live by an electrician was not warranted as these assets will likely be replaced during the implementation of the masterplan.
Generally the electrical equipment in the park is greater than 20 years old with some equipment being much older. Some minor works have been made that utilize contemporary electrical equipment.
Refer to **Page 9** for further information on the existing electrical equipment.



BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

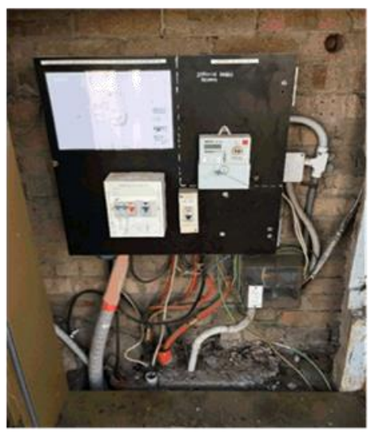
SITE ASSESSMENT - EXISTING ELECTRICAL

The public domain scope is serviced by a number of switchboards. These switchboards are:

- Campbell Parade (south) main switchboard near the start of Notts Avenue
- Un-named distribution switchboard at the skatepark adjacent water harvesting control panels
- Distribution Board South outside at the southern end of the Pavilion building
- North Bondi amenities building main switchboard
- Biddigal Reserve main switchboard

The load capacity of the switchboards has been assessed taking into account:

- North and south amenities building
- Council depot
- Event bollards
- Vendor licenced areas
- North Bondi pool pump
- Water harvesting System
- Irrigation systems
- Public BBQ's
- Public Wi-Fi access points
- Future public lighting and electrical needs



Campbell Parade South MSB

The main switchboard has an incoming supply rated at 100A three phase service fuses. The main switchboard circuit breaker limits the electrical load on this switchboard to 63A three phase. Based on the equipment sighted that is serviced from this switchboard, the assessed load of the main switchboard is 64A.

Should the main switch be replaced with a 100A rated device, this leaves a spare capacity of 36A three phase.

Skatepark Distribution Board

The distribution switchboard has an incoming supply rated at 63A single phase from the southern Campbell Parade main switchboard. The switchboard only services socket outlets within the switchboard cupboard and the 15A power outlet for the mobile vendor just to the north of the skate park. Based on the outlets sighted the assessed load of the switchboard is 45A single phase, leave spare capacity of 18A single phase.

Distribution Board South

The incoming supply of the distribution switchboard could not be ascertained from the site inspection as no drawings or records (via labelling) were found either at the distribution board or at the Pavilion main switchboard identifying the source of supply. The operation and maintenance manual from the stage 1 works includes a new CT meter cubicle and service protection device, but there is no circuit breaker in the unmetered supply section of the building main switchboard for the connection.

The supply at the distribution switchboard is three phase. The distribution board has a main isolator rated at 160A three phase.

The switchboard has been specified with digital power analyser meters and records the maximum electrical load. The meters recorded a maximum load of 116A and a maximum demand of 63A three phase. One the basis of a 160A three phase supply this leaves space capacity of 44A three phase when the maximum recorded load is considered.

Note that this power supply will be affected by the refurbishment of the Pavilion building as the source of supply originating at the building.

Biddigal Reserve MSB

This main switchboard has an incoming supply rated at 100A three phase via service fuses. The electrical load is limited to 95A three phase by the 63A circuit breaker for the distribution section of the switchboard and by 32A circuit breaker for the seat water pool pump.

A spot check of the electrical load revealed loads of less than 1A for each phase on the switchboard. This was a daytime measurement so the high mast lighting poles powered would not have been included in this figure. In addition, the pool pump was not in service at this time, nor were the BBQ's.

Based on the equipment sighted, the assessed load of the switchboard is 58A three phase leaving spare capacity of 37A three phase.

North Bondi Amenities MSB

This main switchboard has an incoming supply rated at 100A single phase via a service fuse. There are three incoming phases at the switchboard cupboard, but two phases are un-used. The main switch circuit breaker limits the load on this switchboard to 40A single phase. A spot check of the electrical load revealed a load of 3.4A on the switchboard. This was a daytime measurement so that the high mast lighting poles powered wold not have been included in this figure.

Based on the equipment sighted, the electrical load of the switchboard is assessed to be 18A single phase, leaving spare capacity of 22A single phase.

Existing Switchgear

The site has numerous brands of switchgear used in the switchboards. The majority of switchgear serving park equipment circuits is of the miniature type circuit breakers.

From the ratings of switchgear sighted, there has been little regard for discrimination of upstream and downstream circuit breaker ratings as required by AS3000 Wiring Rules. Circuit breakers discriminate when a fault on the electrical reticulation results in the circuit breaker immediately upstream of the fault opening.

In an electrical system where the ratings of upstream and downstream switchgear are too closely selected, it is possible that the upstream circuit breaker, downstream circuit breaker or both upstream and downstream circuit breakers trip.

Should the upstream circuit breaker trip, this should remove supply to other circuits not related to the circuit with the fault. Care will need to be taken with the selection of suitable circuit breakers when any switchboards are replaced.

Refer to page 28 for the electrical upgrade section.

LIGHTING UPGRADE

Design Intent
The lighting upgrades to Bondi Park will take into account a number of items – all of which are important to the night time users experience.

It will take into account safety – whereby the levels of light will aim to meet those recommended by Australian Standards. Of special importance is also the visual comfort of the park occupants – as well as visual interest to create a pleasant experience for the night time users.

Safety (Functional Lighting)
Bondi Park has a relatively defined usage comprising of pedestrian pathways, carparks and open areas for passive recreation. The Australian Standard that relates to this usage is AS/NZS1158.3.1, Lighting for Roads and Public Spaces, Part 3.1: Pedestrian Area Lighting.
The standard specifies categories for different types of usage and recommends illumination levels and uniformities for different types of spaces based on three criteria:
- extent of use
- risk of crime
- need to enhance prestige

Based on the usage and types of spaces, the relevant categories for Bondi Park are Category P2 for the primary pathways and Category P11b for the carparks. With regards to the carpark lighting, there are some instances where it will be difficult to have lights on either side of the carpark (required to meet the vertical levels of the higher categories pertaining to carparks). As such where the carpark is only illuminated via one side, the lower lighting category (P11c) will be used for the assessment as it does not require vertical levels.

The parkland areas will be illuminated via spill lighting from the adjoining pathways. This will vary depending on the location, but the intent is to avoid darkness adjacent to the pathways. This design solution allows for the feature items to stand out, but also increase the level of safety experienced by the night time occupants.

In addition to this, in areas 3, 4 and 6 (refer to page 4), there is an option to replace high mast lighting along the Campbell Parade edge of the park in Southern and Central Bondi as an additional lighting overlay to support night time activities or in the event of an emergency.

Visual Comfort
Whilst compliance with the Australian Standards does provide safety levels of light, it does not necessarily create a comfortable and pleasant environment.
To create a pleasant visual environment, it is important that the additional factors of light, including colour appearance of light (correlated colour temperature), colour rendering and glare are tightly controlled. The Australian Standards do not make specific recommendations with respect to the colour appearance or the colour rendering of light source and the glare recommendations are inadequate for modern light sources.

Correlated Colour Temperature
The correlated colour temperature (CCT) is an indication of whether the light appears to be warm or cool.
Although this does not have an effect on colour rendering, it tends to create the mood of the space. Warmer colours tend to be associated with relaxation and comfort, while cooler colours tend to be related to sterility and cleanliness.
LA+S recommend that the lighting for Bondi Park have a general CCT of 3000K – which falls under the warmer spectrum of lighting. This does not preclude the use of cooler or warmer lighting in some specific locations to make some elements stand out to add visual interest and impact.

Lighting CCT Chart

Colour Rendering
Colour rendering is a measure of accuracy that a light source reveals colours. To a large extent, this is independent of colour appearance.
White light is made up of a spectrum of different coloured lights – the proportions of the different colours used have an effect on the colour rendering of a light source.
Colour rendering is important in a public domain environment as it makes the space appear more vibrant. It also renders skin tones more accurately to enhance the appearance of occupants.

Glare
Glare is light that inhibits rather than aids vision. The eye automatically changes its sensitivity to suit the ambient lighting levels. If a light source is too bright, the eye artificially reduces its sensitivity so that the whole visual environment appears to be darker.
When a light source with excessive glare is used, although the illumination level may be adequate by the standards, the space will appear dark and people will be under the impression that it is under-lit and possibly unsafe. The current lighting throughout Bondi Park utilizes high output flood lights to illuminate the space. These are generally considered to be glare sources, and as such, the experience of the occupants may currently be that of a darker space – even though the illumination levels are not lacking in most areas.

Example High Colour Rendering – Low Glare

Example – Low Colour Rendering – High Glare

Visual Interest
Visual interest is not only important in creating an interesting space, but also in creating a unique character for the space. In any large public domain, it is important to guide people through the space and give focal points for orientation. This is more important at night as many of the other features of the space are less obvious at night.
The lighting should have a sense of routes and destinations. The destinations generally have some iconic, lit object that can easily be recognized from a distance. There can also be intermediate objects within a large space.
In order to achieve this design objective, the lighting will be a three-tired approach as per the guidelines for the application of public lighting – as defined in the DRAFT Waverley Creative Lighting Strategy.
- Tier 1 – Base Lighting
- Tier 2 – Amenity Lighting
- Tier 3 – Lighting Interventions

Tier 1
Tier 1 provides base levels of light for functional movement in Bondi Park. This includes the Pathway and Carpark areas.

Tier 2
This level involves using lighting to create layered elements. This provides both functional and experience lighting – in addition to that noted in tier 1. Throughout Bondi Park, this is achieved via lighting up the following elements:
- Handrail Lighting
- Graffiti Wall
- Sculpture
- Mosaic Wall
- Seats along Campbell Parade

Tier 3
The Tier 3 level of lighting involves site specific installations at key locations that celebrate a unique sense of place or character. They assist in activating a space or wayfinding as well as creating visual interest.
This will be achieved via lighting the following:
- Tree lighting
- Shelters
- Playground lighting
- Pedestrian bridges

LIGHTING UPGRADE

Sustainable Public Lighting
The recent advancements in lighting technologies have facilitated a unique approach to lighting of public spaces. The introduction of LED light sources as well as lighting control systems allows for a flexible and sustainable lighting approach.
The sustainable lighting approach is via a two pronged effect – Energy Efficiency of light sources and reductions in lighting power consumption via the use of smart control technologies.

Energy Efficiency
The advancement in LED lighting technology – when used in the correct manor and with fixtures that utilize lenses – allows for better lighting control. This control enables designers the ability to place lighting precisely where it is required, be it functional or feature – whilst minimizing unnecessary spill light.
What this allows for is the use of fewer fixtures, or fixtures with a lower energy consumption as the spill light is minimized. Light can be placed where it is required and as such considerably lower levels of power are required to achieve the same effect when compared to traditional older technologies. Often times, higher wattage fixtures are used, spaced very far apart in order to minimize the number of poles and fixtures used. As discussed in the earlier sections, this approach to lighting often times results in glare to the occupants of a space and inhibits rather than enhances their view.

Operational and Maintenance Reductions with LED Technology
LED technology has made many advancements in the recent years. It is often perceived as a technology that will last many years without the need for maintenance. Whilst this is true, it is not true for all light fixtures and is reliant on a number of things; heat control and dissipation, the materials used, water ingress protection and the quality of the cables used. Reputable manufacturers have taken the above into consideration when designing fixtures. As such, this leads to an installation which requires very little maintenance over time.

Lighting Control
The lighting control intent for the functional (tier 1) lighting will be via various modes of operation. These will be customized during commissioning to reflect the current use of the space and anticipated traffic activity.
An example would be to have three modes of lighting.

Dusk to 11pm & 4.30am to Dawn. This mode would allow for a softer level of lighting (whilst still providing compliance with the lighting requirements where applicable) which will create a desirable mood for outdoor occupancy and ambience. This will also help to create a contrast between the open spaces, the feature elements and the primary pathways of travel.

11pm to 4.30am. Throughout this time, it is generally expected that there will be a significant reduction in pedestrian traffic. As such, there will be less occupants to provide natural surveillance. Lighting can either be switched off in some areas such to discourage occupancy. Or lighting can be focused to specific areas to provide a greater perception of safety.

Event Mode. During times where events may be set to occur, the lighting can be customized to only light locations surrounding the event locations. An example is when an event may be hosted at the Pavilion. Lighting to the surrounds only can be turned on as needed to service patrons and staff access carparks and public transport after the event. This has been demonstrated on page 23.

Lighting Control Hardware
Lighting controls for the public domain spaces are typically addressed using two types of systems:

- Centralized control at the switchboards – sunset switch / timeclock / dimming controls.

(this allows lighting in an area to be controlled – dependent on the circuit configuration – rather than individual light control)

- Distributed controls at lighting poles – typically NEMA cells.

(this allows for each light fitting to be controlled independent of the others).

For the NEMA cell control, where the postop luminaires come in a NEMA cell version, these can be used. Where the light fitting does not come in a NEMA cell version, the NEMA cell can be fixed to the pole. This will then control the lights on that particular pole.

It Is noted that Stage 1 pathway lighting has centralized lighting controls at the Distribution Board South. The existing high mist lighting within the park currently has local sunset switches on the poles.

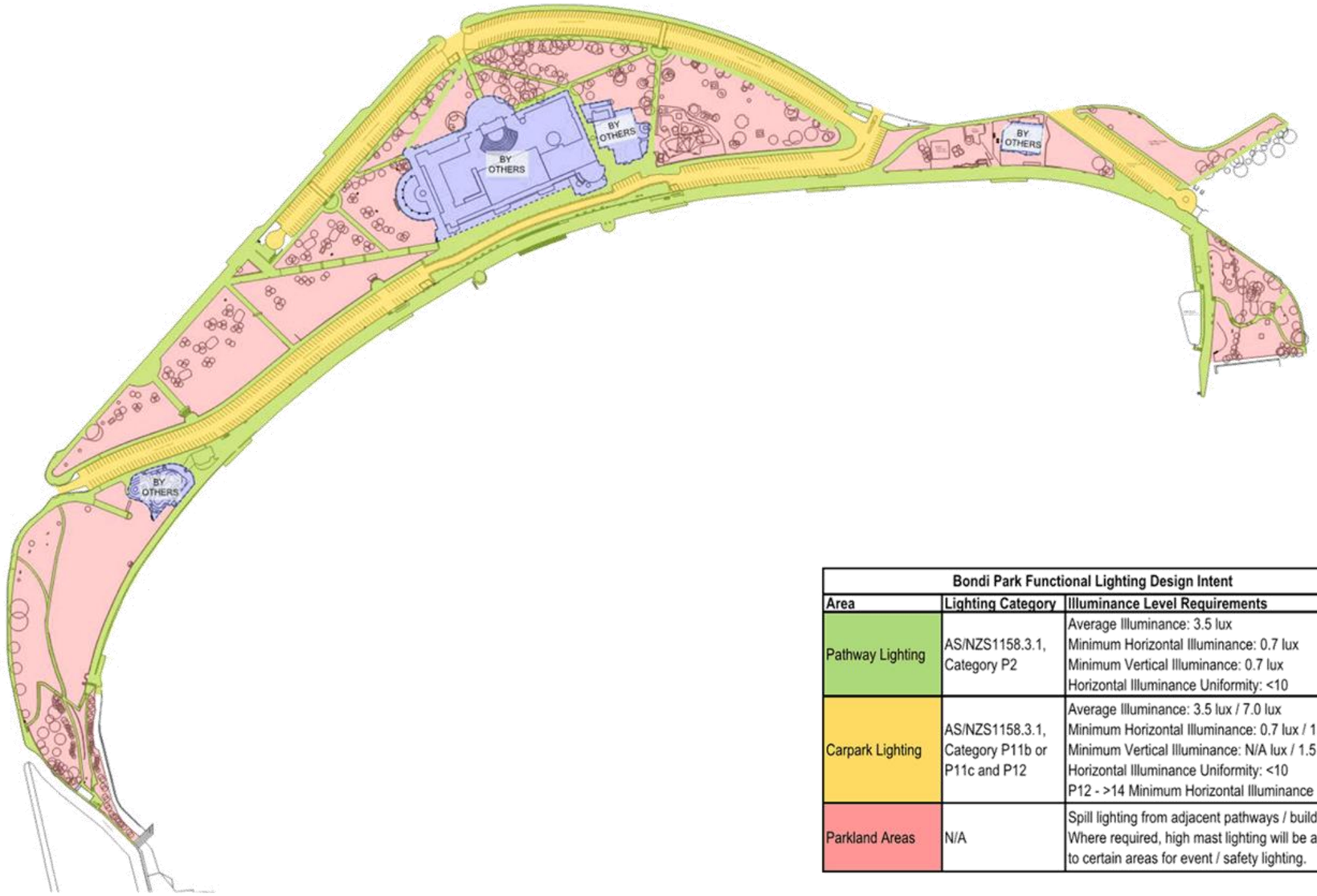
Design Notes
Spill Lighting & Glare
The Pavilion pathway area is currently illuminated via spherical bauble post top lighting. Due to the diffused brightness, the human eye focuses on this and it becomes difficult to see beyond these lights. In addition, because of the glare they cause, the surrounding areas will appear darker. This has been further outlined on page 6.

The design intent for The Pavilion pathway area and all other areas within Bondi Park is to utilize post top lighting that is directional. Where it is to be tilted, this will be no higher than 45 degrees from the horizontal to minimize any glare.
The post top lighting will have minimal upward waste light (<3%) so as to reduce light spilled into the night time sky, helping to improve the dark sky vision in this area.

TIER 1 LIGHTING CATEGORY INTENT (AS/NZS1158.3.1)

The functional lighting intent for Bondi Park is to aim for compliance with the recommendations outlined in the Australian Standards for the relevant areas. These have been outlined in the diagram below. Bondi Park has a series of pedestrian footpaths (shown in green), carpark areas (shown in orange) and parkland areas (shown in red).
For the pathways, where possible the lighting intent is to meet compliance with AS/NZS1158.3.1, Category P2.
For the carpark areas, where possible, the lighting intent is to meet compliance with AS/NZS1158.3.1, Category P11b or P11c (where P11b is not possible).
The general parkland areas (shown in red) will be illuminated via spill lighting from the adjacent paths.

The Pavilion, Bondi and North Bondi Surf Life Saving Clubs are subject to separate design and management by others and will be illuminated to suit the application.
The Skate Park, Bondi Playground and Biddigal Reserve Playground are subject to future design and consultation. Should the Skate Park be lit, then this will be according to the Skate Park designer requirements.



Bondi Park Functional Lighting Design Intent		
Area	**Lighting Category**	**Illuminance Level Requirements**
Pathway Lighting	AS/NZS1158.3.1, Category P2	Average Illuminance: 3.5 lux Minimum Horizontal Illuminance: 0.7 lux Minimum Vertical Illuminance: 0.7 lux Horizontal Illuminance Uniformity: <10
Carpark Lighting	AS/NZS1158.3.1, Category P11b or P11c and P12	Average Illuminance: 3.5 lux / 7.0 lux Minimum Horizontal Illuminance: 0.7 lux / 1.5 lux Minimum Vertical Illuminance: N/A lux / 1.5 lux Horizontal Illuminance Uniformity: <10 P12 - >14 Minimum Horizontal Illuminance
Parkland Areas	N/A	Spill lighting from adjacent pathways / buildings. Where required, high mast lighting will be applied to certain areas for event / safety lighting.

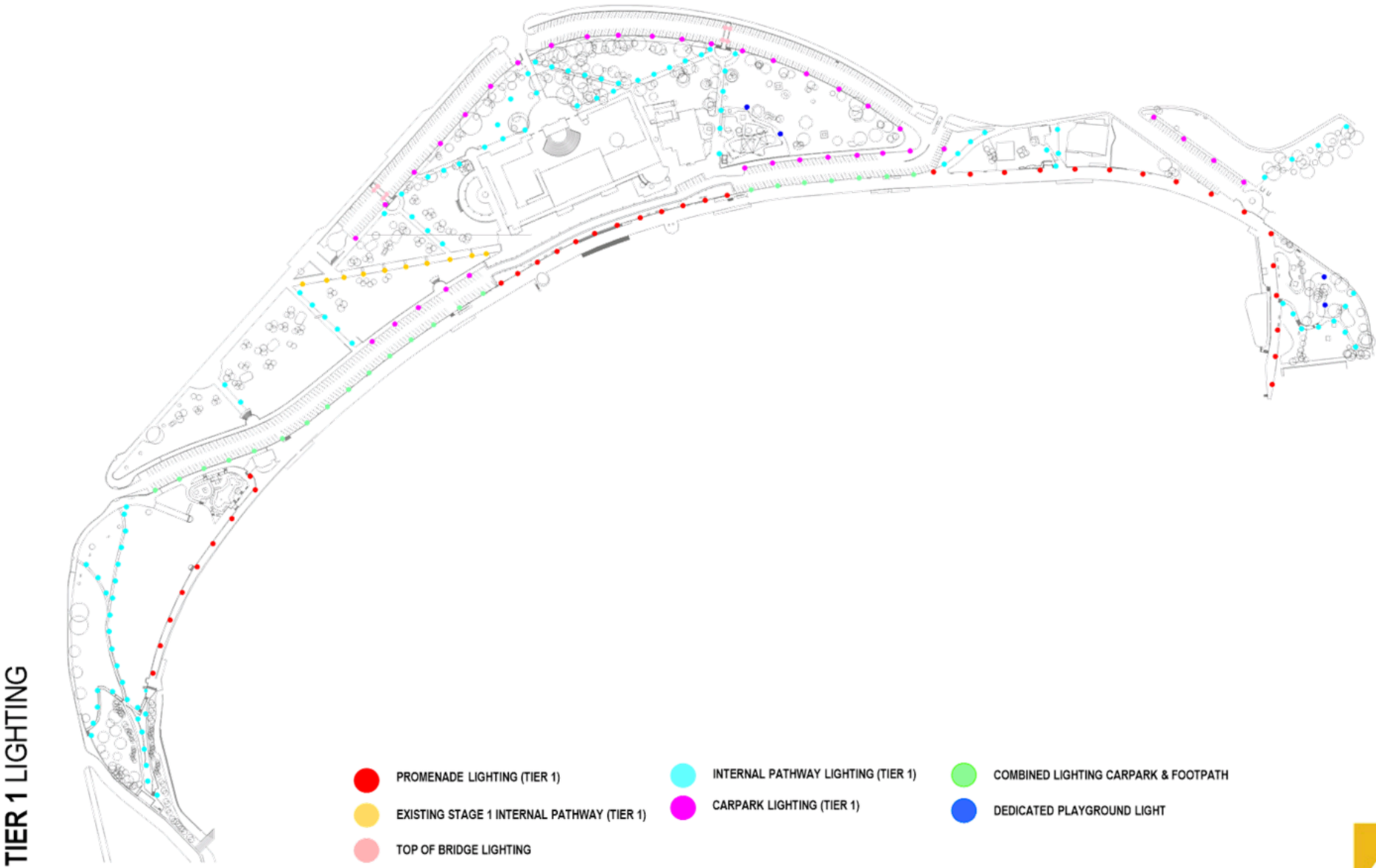
BASE LIGHTING TIER 1 LIGHTING LOCATIONS

13

Tier 1 provides base levels of light for functional movement in Bondi Park. This includes the Pathway and Carpark areas.

Notes:

1. Lighting locations are indicative subject to future detailed design.
2. Lighting to Parks Drive will be subject to final Campbell Parade Street lighting. Adjustment for final Campbell Parade Street lighting to be taken into account during detailed design.

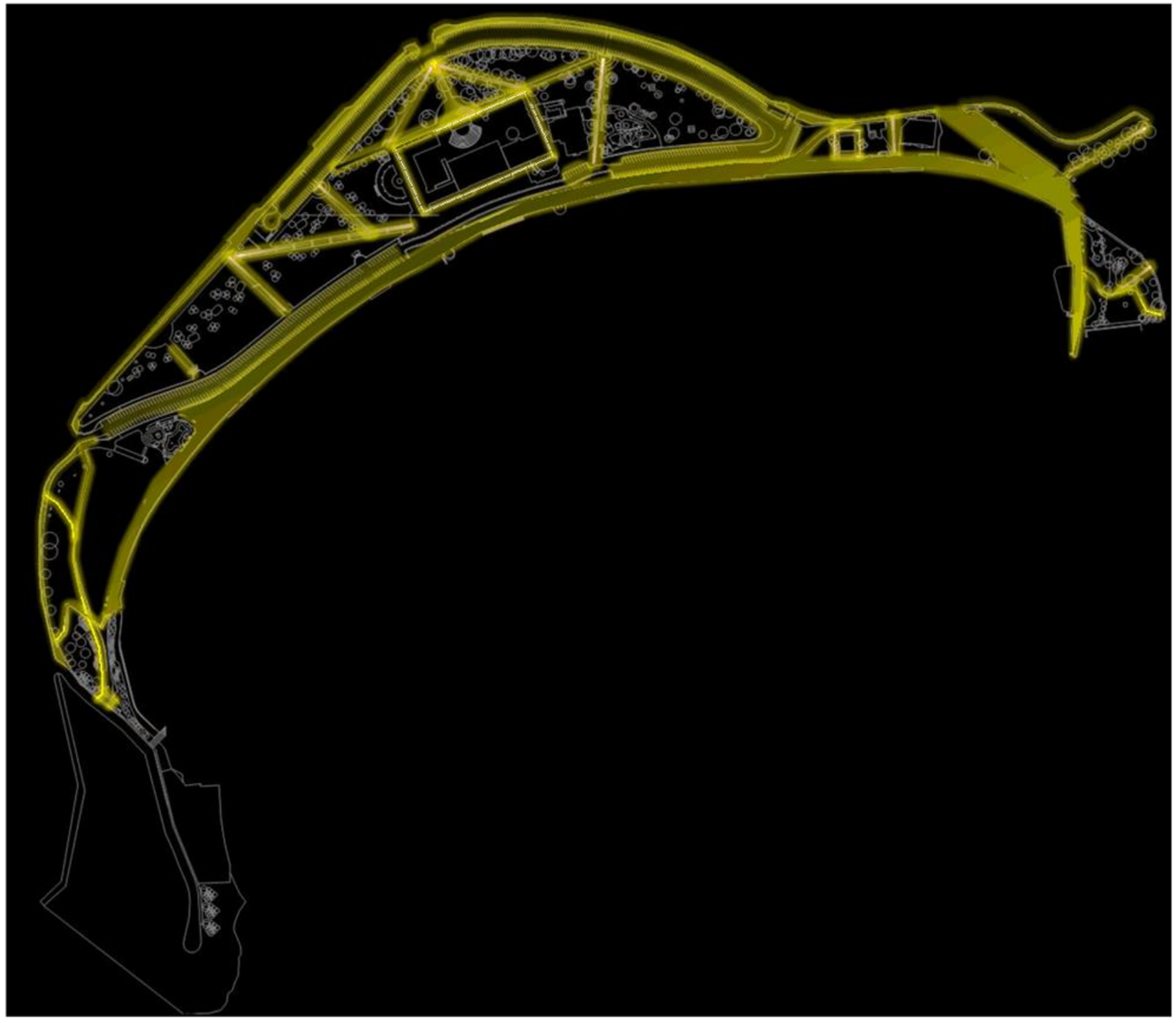


TIER 1 LIGHTING

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

BASE LIGHTING - TIER 1 LIGHTING EFFECT

Notes:
1. Lighting locations are indicative subject to future detailed design.
2. Lighting to Parks Drive will be subject to final Campbell Parade Street lighting. Adjustment for final Campbell Parade Street lighting to be taken into account during detailed design.
3. Footpaths along Campbell Parade will be lit with pedestrian scale back-lighting off street poles.



TIER 1 LIGHTING

Example Carpark Lighting demonstrating uniform lighting per Australian Standard requirements.

Pathway Lighting (per Stage 1 works)
Existing Bondi pathway lighting utilises lens technology to direct light where required – onto the footpath – and minimise light spill.

Example Promenade Lighting
The use of two fittings on each pole allows light to be directed to two areas using a single pole.

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

AMENITY LIGHTING - TIER 2 LIGHTING LOCATIONS

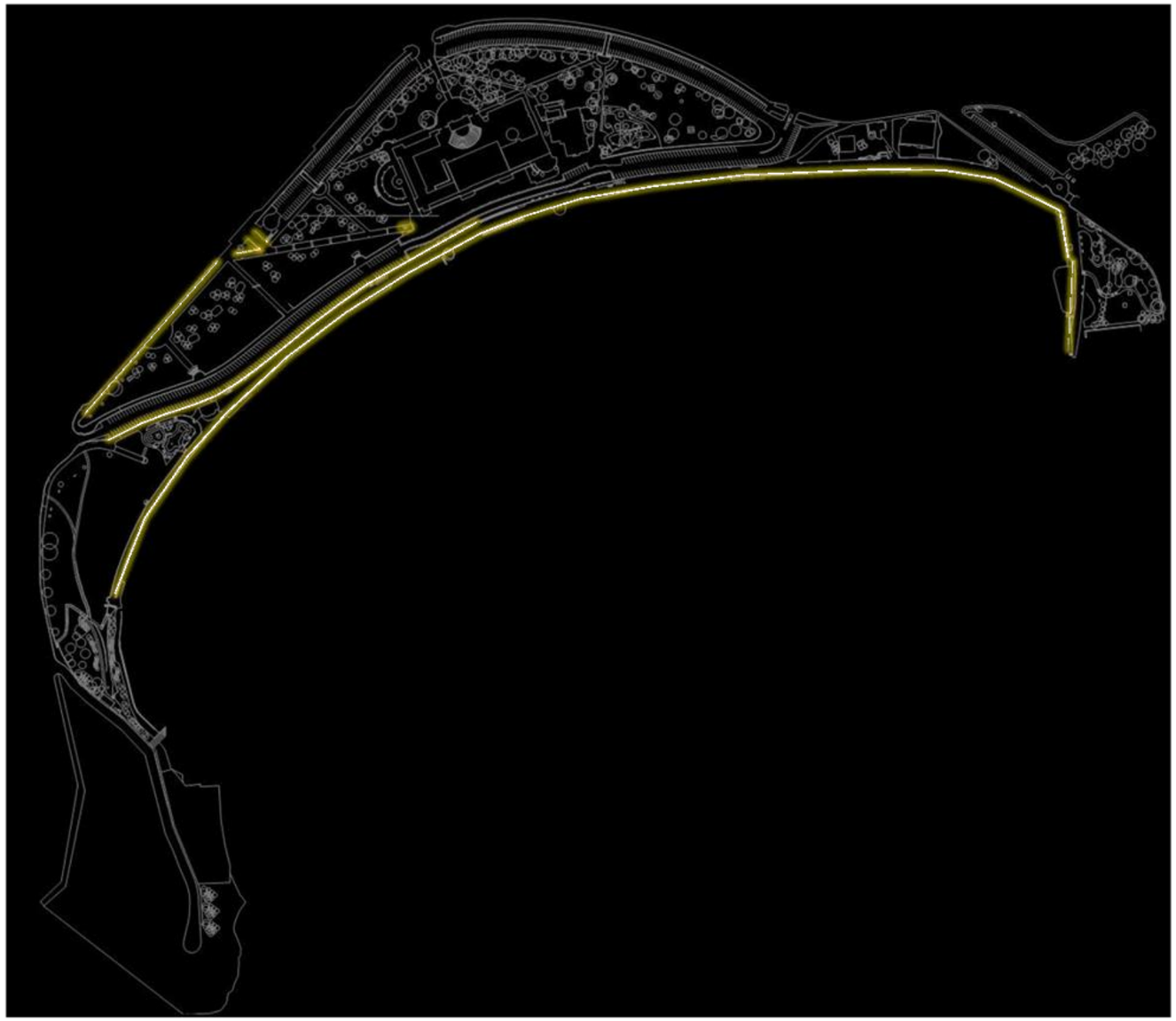
15

This level involves using lighting to create layered elements.
This provides both functional and experience lighting – in addition to that shown in tier 1.

Notes:
1. Lighting locations are indicative subject to future detailed design.

AMENITY LIGHTING - TIER 2 LIGHTING EFFECT

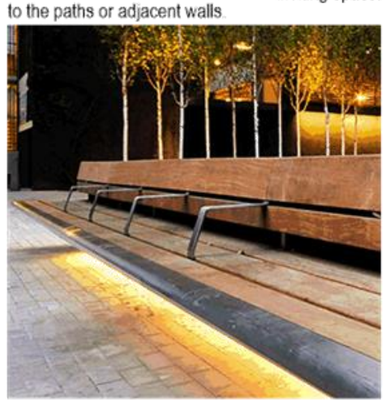
Notes:
1. Lighting locations are indicative subject to future detailed design.



TIER 2 LIGHTING

Example Handrail Lighting. Handrail lighting integrates seamlessly into handrail. The lenses used will be able to control the angle of light distributi9n either to the paths or adjacent walls.

Existing Stage 1 entry wall feature lighting. Strip lighting diffuses off the wall face to create visual interest, highlight the entrance and create an inviting space.

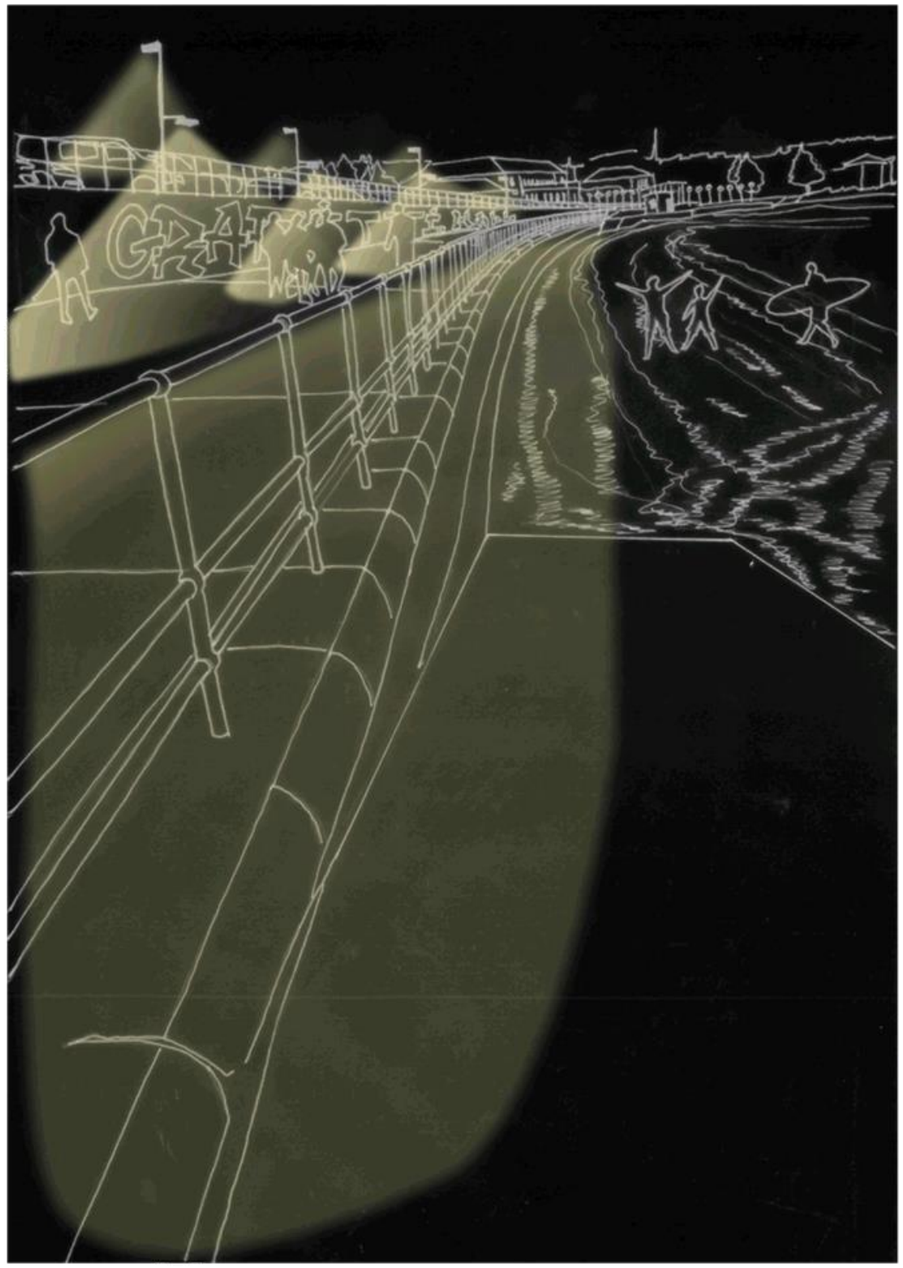


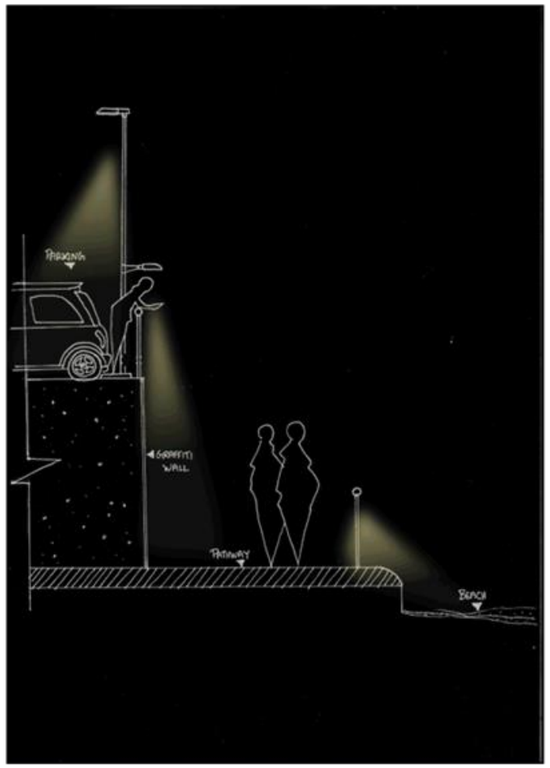
Under-seat lighting along Campbell Parade can be used to supplement existing street lighting, create visual interest and improve the perception of safety at the public transport stops. Lighting controls can be used to switch lighting effect on / off at the end and commencement of pubic transport service

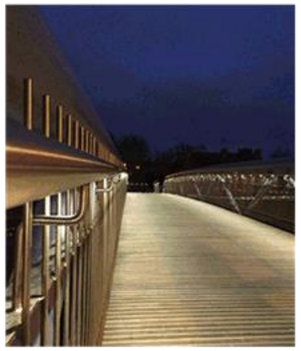
Example Application image for Mosaic Wall & Graffiti Wall Lighting. Will be illuminated either via top for the Graffiti wall – refer to page 17 and from lighting fixed to the top of wall for the Mosaic Wall.

A combined lighting effect can be achieved along the promenade utilizing double sided poles to light both QED carpark, the promenade and graffiti wall. Supplementary handrail lighting will ensure low even distribution of light along the seawall edge retaining the view of the night time sky and will aid access on and off the beach via ramps and stairs at dawn and dusk.

COMBINED LIGHTING APPROACH. FOOTPATH, GRAFFITI WALL & HANDRAIL







Example Handrail Lighting

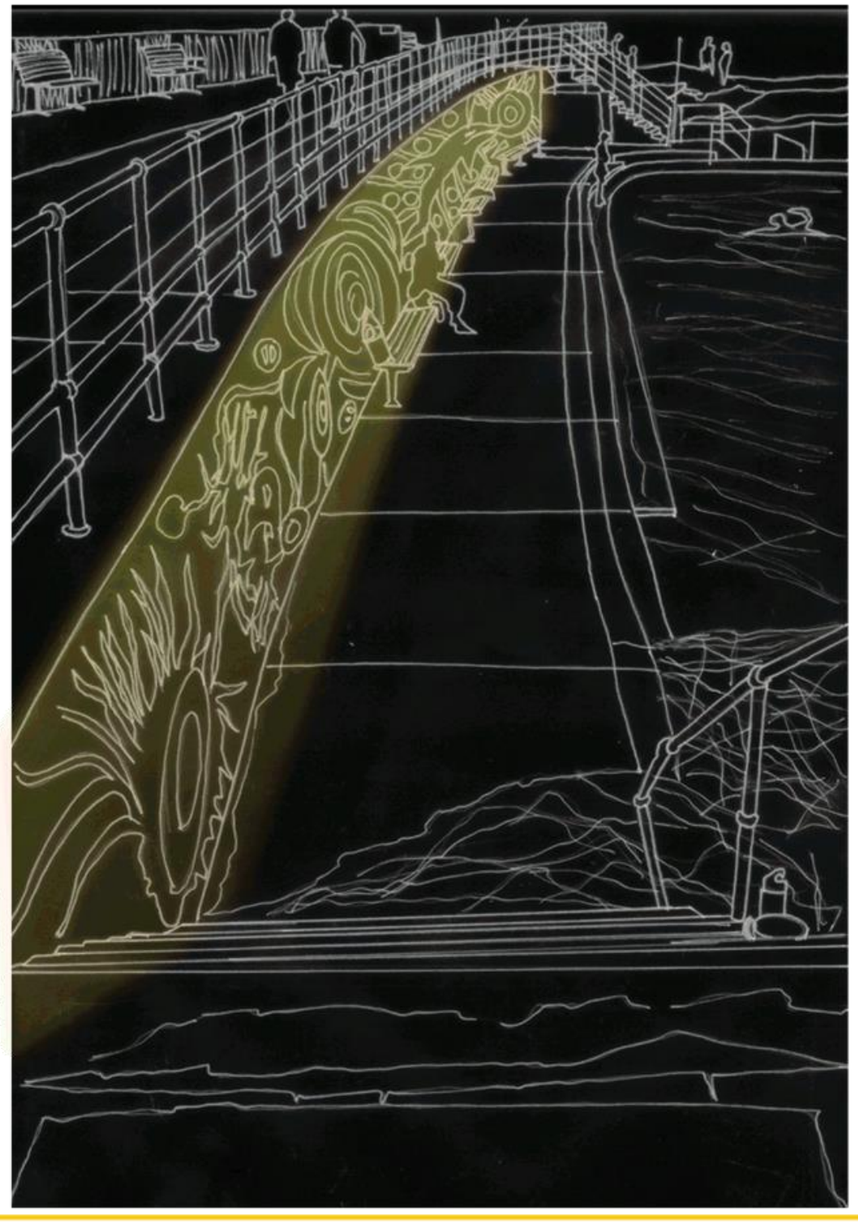
Example Graffiti wall Lighting

Example Carpark Lighting

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

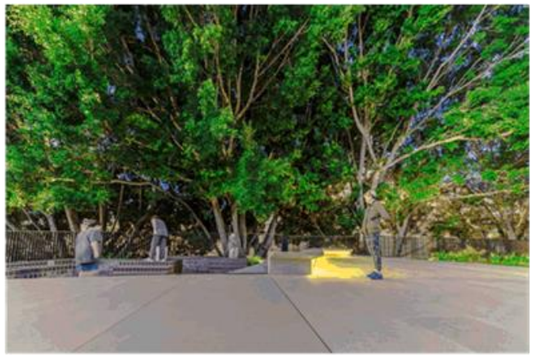
Subtle lighting of the mosaic wall at North Bondi Children's pool will provide visual interest and improve the perception of safety and aid passive surveillance. Lighting controls will allow for feature lighting to be turned off after certain hours to deter access to this area.

TIER 2 – MOSAIC WALL LIGHTING EFFECT

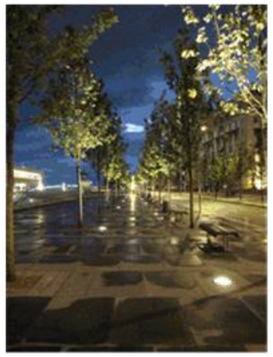


Example Mosaic Wall Lighting

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN



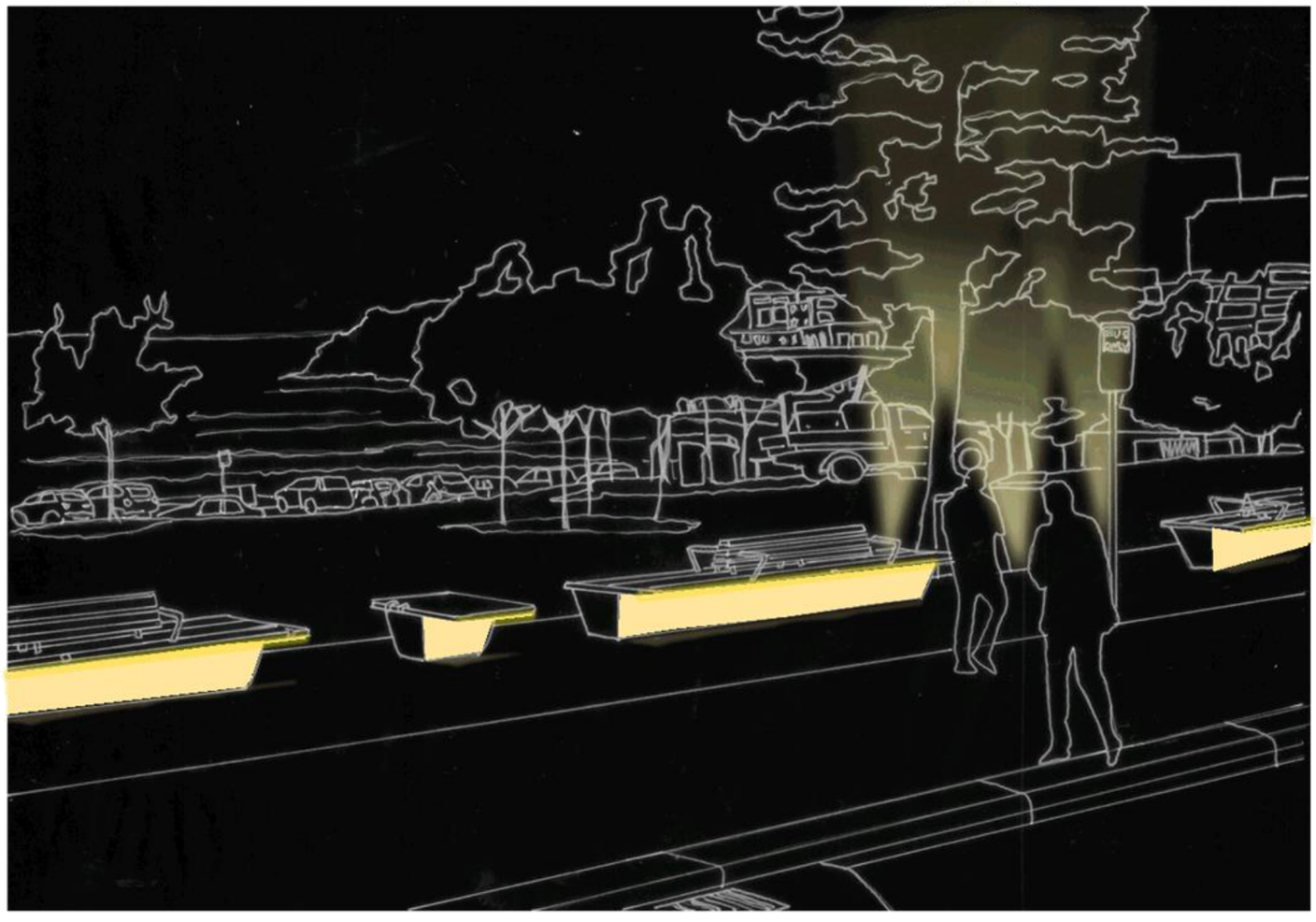
Example Seat Lighting



Example Tree Lighting

Under lighting of seats and up-lighting of trees will supplement street lighting, provide visual interest and improve perceptions of safety and passive surveillance to pedestrians and the public transport stops on Campbell Parade. Lighting controls can be used to switch the lighting on or off when pedestrian activity is low and public transport stops running.

TIER 2 – CAMPBELL PARADE SEATING LIGHTING EFFECT



LIGHTING INTERVENTIONS - TIER 3 LIGHTING LOCATIONS

The Tier 3 level of lighting involves site specific installations at key locations that celebrate a unique sense of place or character. They assist in activating a space or wayfinding as well as creating visual interest.

Notes:

1. Lighting locations are indicative subject to future detailed design.
2. Playground lighting to also be supported using spot lighting fixed to the adjacent pathway. Playground lighting subject to future detailed design and will not form part of these works at this stage.
3. Skatepark lighting will not be lit at this stage and is subject to future detailed design / consultation.

TIER 3 LIGHTING

Low impact species planted in groups so light will diffuse off low canopy and generate a glowing effect. This will improve perception of safety along this edge as pole tops would be above the canopy and cast a shadow. Up-lighting of the trees will serve to brighten darkness created under the trees.

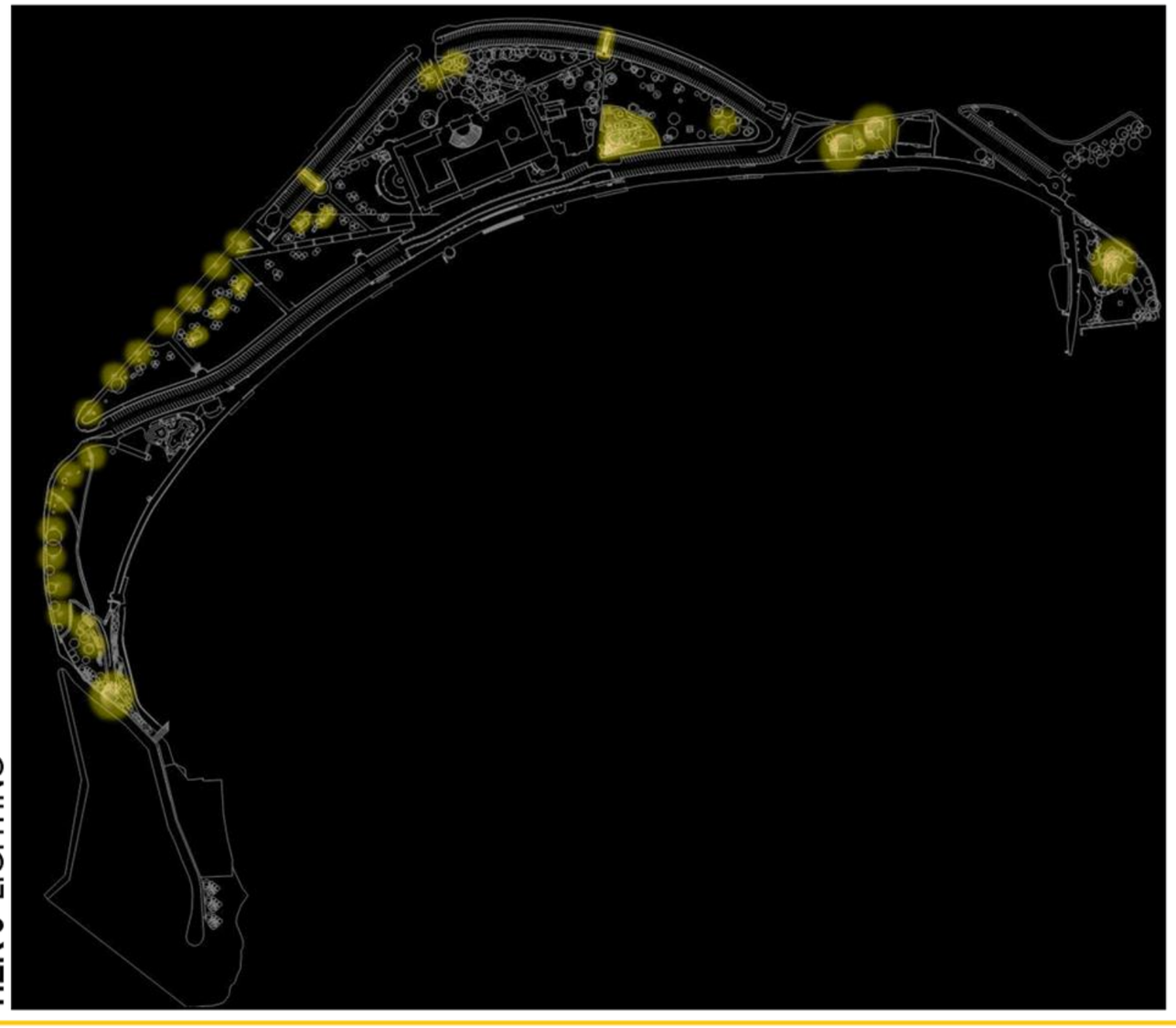
TREE LIGHTING
SHELTER LIGHTING
PLAYGROUND LIGHTING
PEDESTRIAN BRIDGE LIGHTING
BUILDING FAÇADE LIGHTING
OUTDOOR GYM LIGHTING

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

LAS

LIGHTING INTERVENTIONS - TIER 3 LIGHTING LOCATIONS

Notes:
1. Lighting locations are indicative subject to future detailed design.



TIER 3 LIGHTING

Example Pedestrian Bridge Lighting

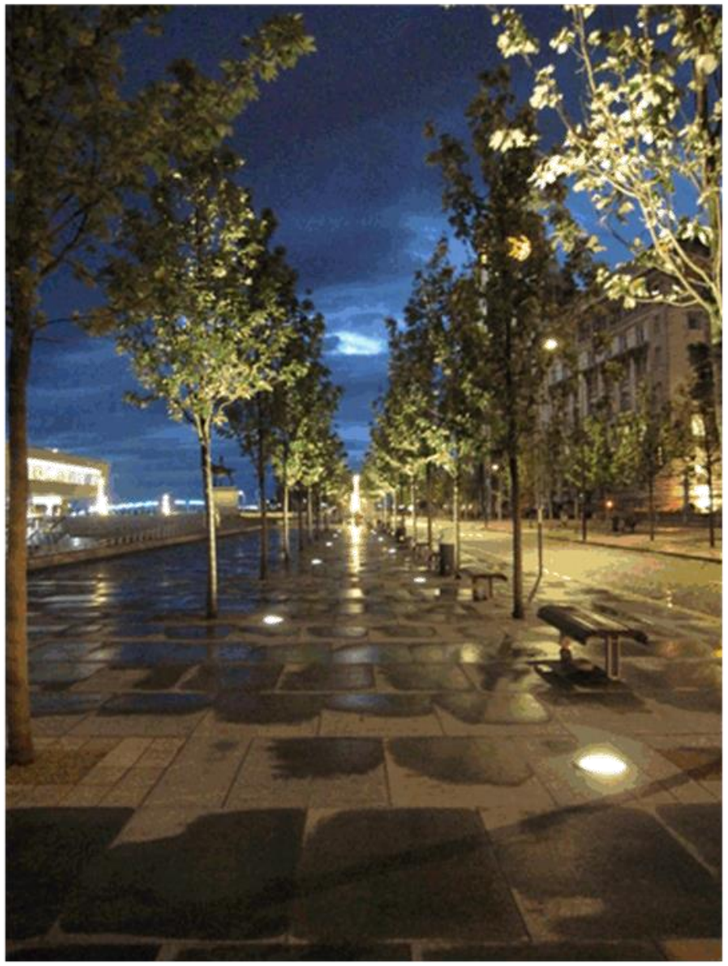
Example Tree Lighting

Example Shelter Lighting using in-ground strip lighting to reflect off ceiling

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

Example Tree Lighting

Up-lighting to significant trees in the landscape can provide visual interest, assist in wayfinding and improve perceptions of safety by lighting the darker spaces under large trees. Lighting can be applied in different ways to highlight different features of trees such as the canopy, leaves, trunk structure and bark. The addition of colour can provide visual interest and contribute to the atmosphere of a space. Lights can be mounted in-ground or off adjacent poles and include lighting controls to switch lights on / off when pedestrian activity is low.



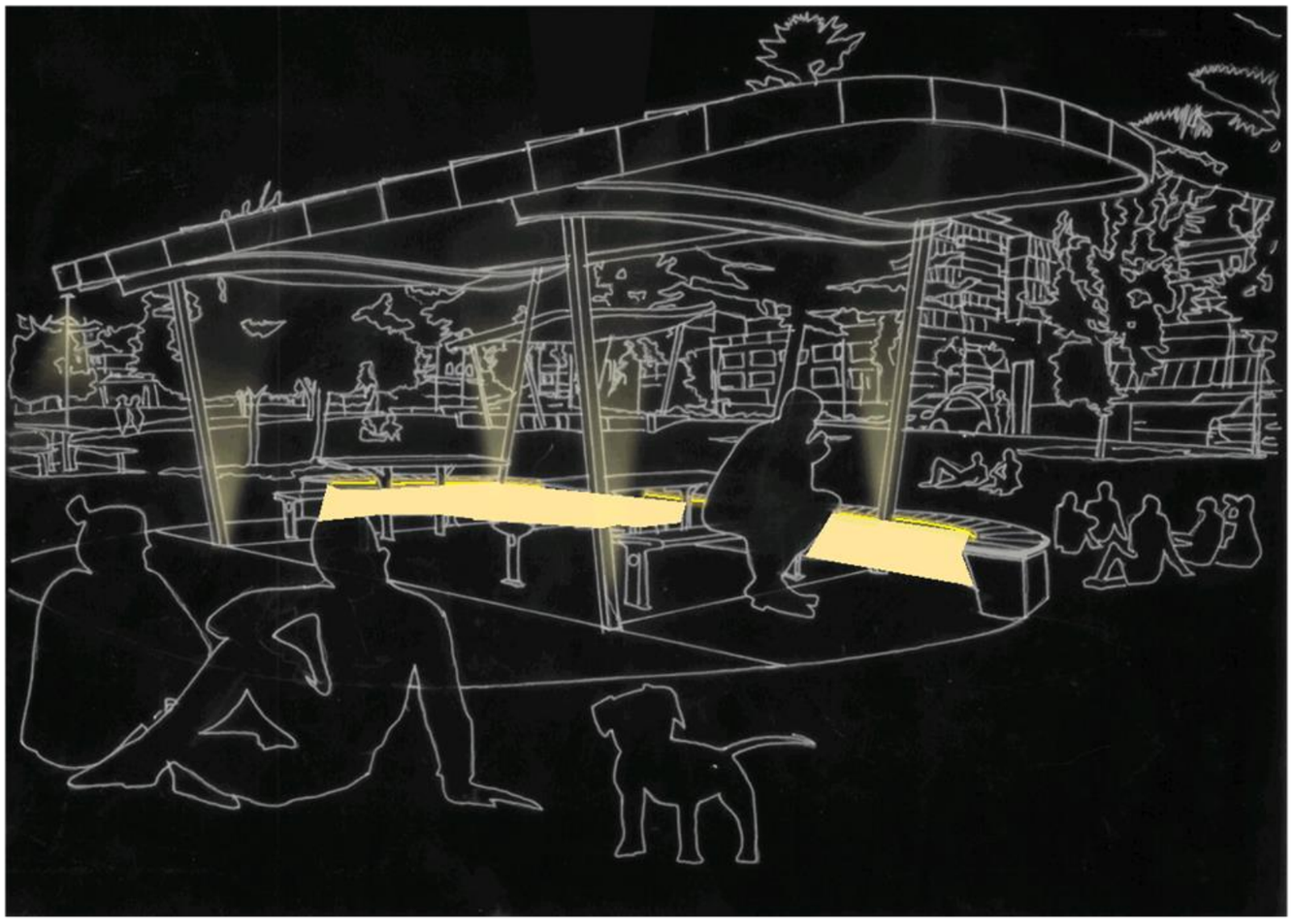
Example Tree Lighting

TIER 3 – TREE LIGHTING EFFECT

Example Tree Lighting

Example Shelter Lighting

Example Seat Lighting

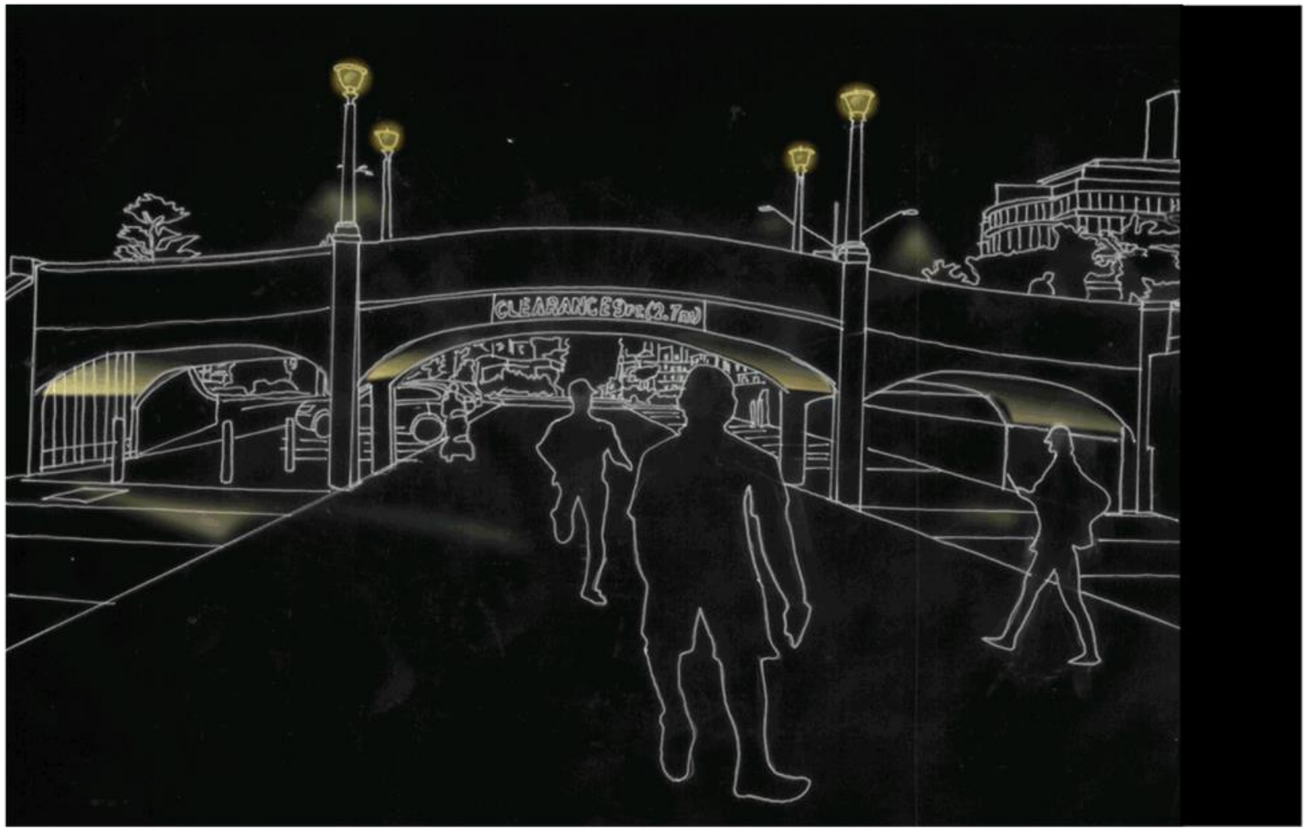


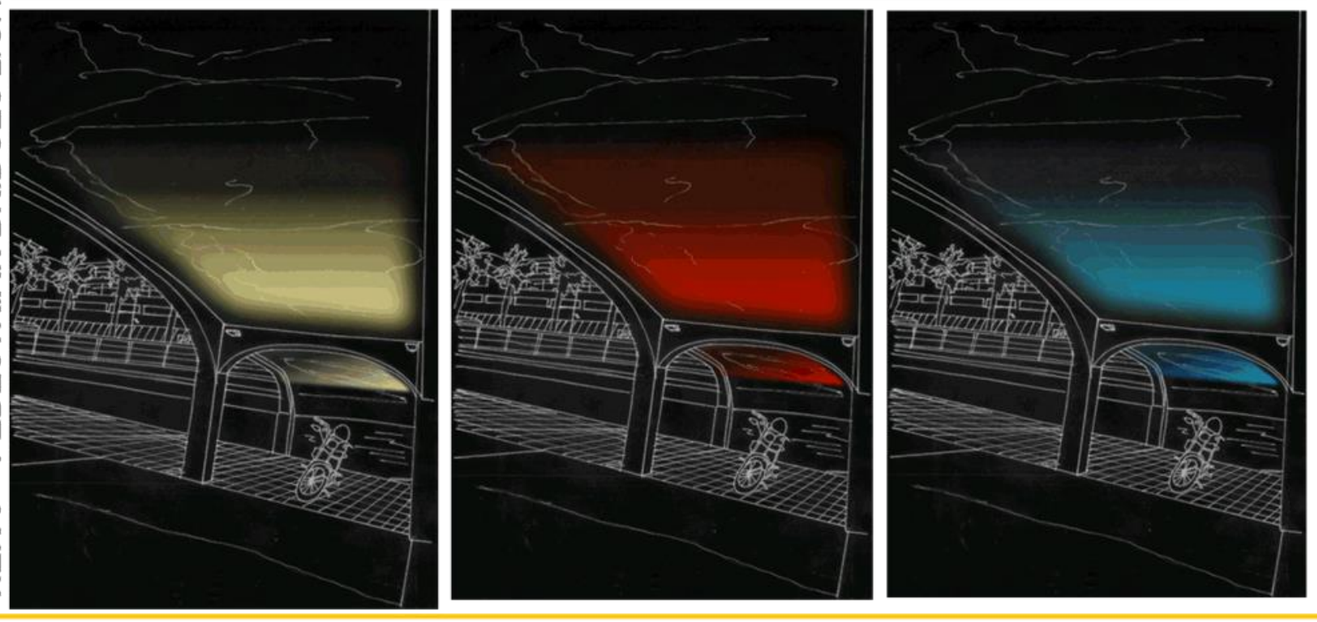
Lighting can be retrofitted to the existing picnic shelters to encourage use up to 8pm or 9pm and then be switched off to discourage after hours use. Lighting the shelters would improve the perception of safety in the park, add visual interest and provide a welcoming atmosphere.

TIER 3 – SHELTERS LIGHTING EFFECT

BONDI PARK MASTERPLAN

TIER 3 – PEDESTRIAN BRIDGES LIGHTING EFFECT

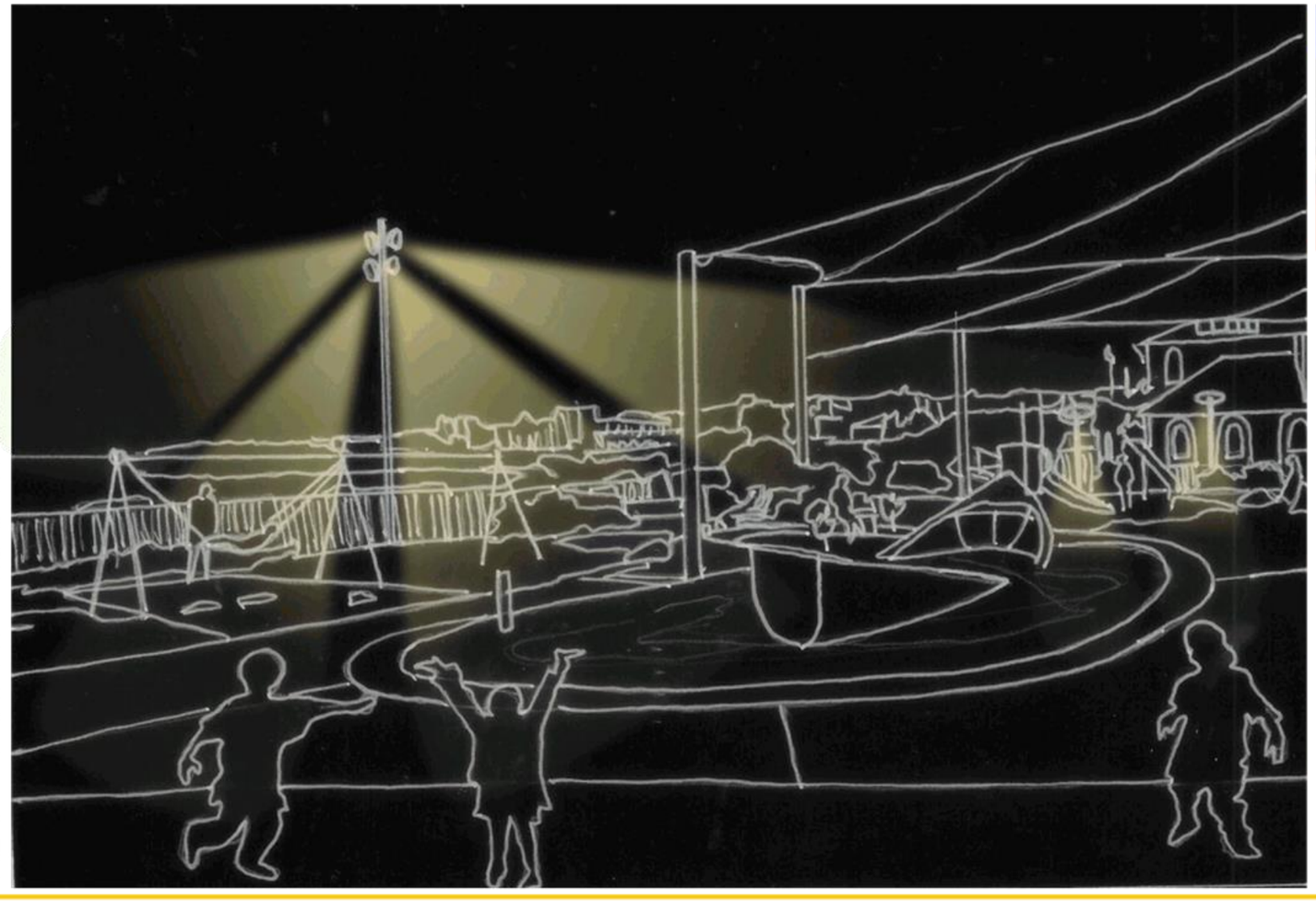




Lighting added to the bridge arches could be used to highlight the architectural features of the heritage pedestrian bridges, improve the visual aesthetic at night and deter antisocial behavior.

Example Pedestrian Bridge Lighting

Playground lighting could be included to extend the use of the playground in the evening, improve perceptions of safety and deter antisocial behavior. Playground lighting could be lights off adjoining poles or integrated into the play space as feature or interactive play element. The playground will be subject to future detailed design and consultation and consideration of lighting interventions can be further developed at a future stage.



TIER 3 – PLAYGROUND LIGHTING EFFECT

Example Playground Lighting

Example Wall Lighting

TIER 3 – PLAYGROUND SCULPTURE LIGHTING EFFECT (BIDDIGAL RESERVE)

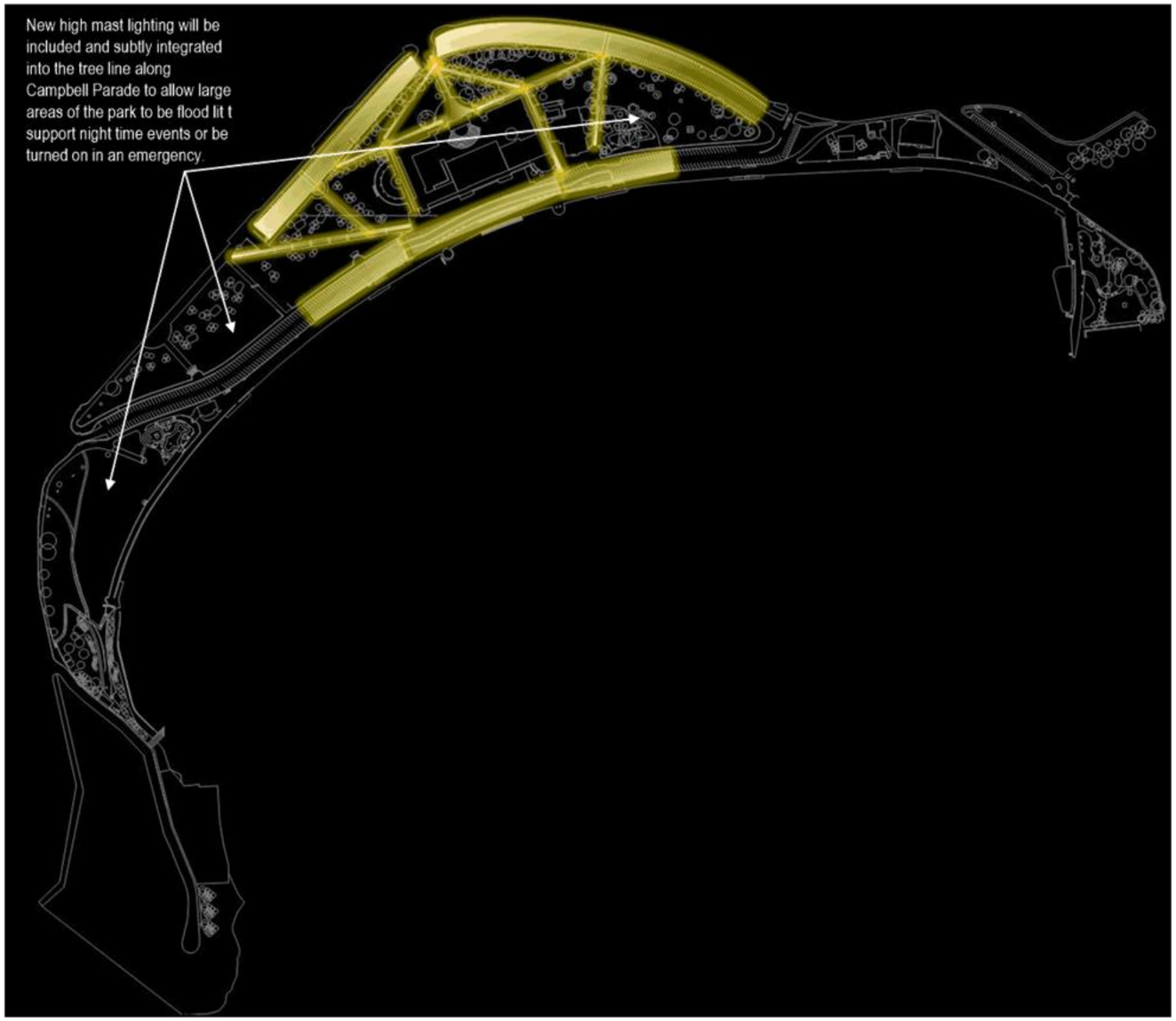
Example Sculpture Lighting

The experience of public art can be further enhanced and explored by the provision of well designed and integrated lighting. Sculpture elements can be lit to act as landmarks for wayfinding at night, improve the atmosphere and experience of a space and improve passive surveillance and deter vandalism of public art pieces.

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

EVENT MODE LIGHTING

The functional lighting throughout Bondi Park can be customised to cater for events – providing lighting only where required to suit the event and its location.
In this example, a lighting scheme is shown to accommodate an event at The Pavilion, whereby the nearby pathways, and relevant carpark sections have been illuminated.



PAVILION EVENT

Example Pathway Lighting

Example Pavilion Lighting

Example Carpark Lighting

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

ELECTRICAL UPGRADE

Electrical Upgrades
To address the future uses of the Bondi beach public spaces work will need to be undertaken to rectify the current issues with the existing electrical reticulation and switchboards as well as improving the locations at which power is available with the park precinct.

Servicing of Future Loads
A number of potential items will have an impact on the future electrical load on switchboards within the park.
These items have been identified as:

- Public lighting
- Feature lighting
- Events bollards
- Vendor licensed areas
- Skatepark sports lighting
- Playground feature lighting
- Amenities buildings x 2
- Electric vehicle charging stations

Of the above list, a number of items have the ability to substantially effect the electrical loading of the park.

Vendor Power
Six locations have been nominated as requiring power to licensed vendor concession areas. Presently the location near the skate ramp has permanent power. The other locations will require a power outlet for the vendor to power their equipment from. Providing power to all existing licensed vendor concession areas will provide flexibility to utilize these spaces in the future and remove any vendor reliance on generator power.
It is proposed that vendor power be privately metered by Council and energy usage billed to the vendor concession holder. Vendor locations have been shown below.

The rating of power used can vary greatly between concession types. As a minimum a 15A single phase outlet should be provided for each vendor concession area. Larger supplies can be addressed on a case by case basis.

Event Bollards
Event bollards provide distributed power throughout a space avoiding the need for long lengths of cabling during events and the associated management of OHS trip hazards – and also for generators to be brought to site and the associated noise impacts. The rating of outlets provided can be tailored to suit the anticipated event usage and cover off a wide variety of uses to the space. Typically, three phase power is provided within a select number of event bollards to allow for a stage and associated equipment to be set up nearby. Further ancillary bollards throughout a space will contain single phase power outlets for smaller electrical load requirements.

Electric Vehicle Charging Stations
The load of an electric vehicle charging station depends on the speed of charging. Electric vehicles such as those produced by Tesla can be charged by single or three phase power. Smaller amperage single phase (10A or 15A) charging station can provide charge in order of 10km to 15km per hour of charging. A larger three phase (32A) charging station can provide 55km range per hour of charging. These figures are for one charging station with one vehicle being charged. Charging ports can be integrated into the base of the light pole in the carparks reducing the need and clutter of additional park furniture.

Switchboards
Existing switchboards, with the exception of Distribution Board South, will need to be replaced to ensure the park loads can be serviced for the next 20 to 25 years – a duration equivalent to the effective and economic life of electrical installations. The existing economic supplies from the Ausgrid network will be retained and incoming supplies added to service new switchboards.

There are three areas that have little in the way of electric services apart from high mast lighting. These are:
•Bondi Park picnic area & the adjacent northern Pavilion lawn
•The southern portion of the central Bondi Park
•South Bondi Park

For these areas, additional main switchboards are proposed which will be fed from Ausgrid low voltage mains on Campbell Parade. As part of these works, Distribution Board South will be decommissioned and a new Switchboard located at Campbell Parade, removing the power supply from the Pavilion building main switchboard and any future interruptions the Pavilion refurbishment may present.

The majority of main switchboards will have a 100A three phase rating. However, it is likely that the main switchboard for the southern portion of central Bondi Park will need to be rated at 200A three phase to allow flexibility to cater for events (areas 3, 4 and 6 – refer to map on page 4).

Switchboards will be equipped with facilities to record the electrical load on each switchboard as well as energy consumption. Vendor power and events bollard provisions will have metering for Council to bill energy consumption to the vendor concession holders and events organizers.

The switchboard housing is to be of fully welded stainless steel construction where free standing. Where the switchboards are located inside sealed cupboards they can be painted mild steel or made of synthetic materials.

Refer to page 29 for the proposed switchboard coverage zones.

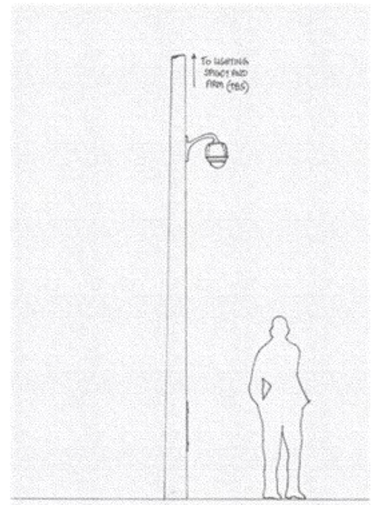
Electrical and Communications Reticulation
New electrical reticulation will be installed from the switchboards to cater for cabling to event bollards, vendor outlets, electric vehicle charging stations, feature lighting, light poles and any services mounted on the poles (Wi-Fi access points, parking meter radio systems etc). Elements on lighting poles such as the Wi-Fi access points would be provided with dedicated circuits.

Electric cabling will be installed within in-ground conduits with cable pits provided at selected locations to assist pulling in of cabling. Conduits and pits will be installed in a similar manner to the stage 1 works, namely communications and electrical conduits into each light pole and trunk (larger volume) conduit runs between pits for non-lighting (event power etc) and spare conduits adding extra capacity to future proof the system for any future upgrades avoiding the need to retrench the park for any future upgrades.

Communications conduits to be run to all light poles to enable direct connection of fibre optics to Wi-Fi access points and NEMA controls.

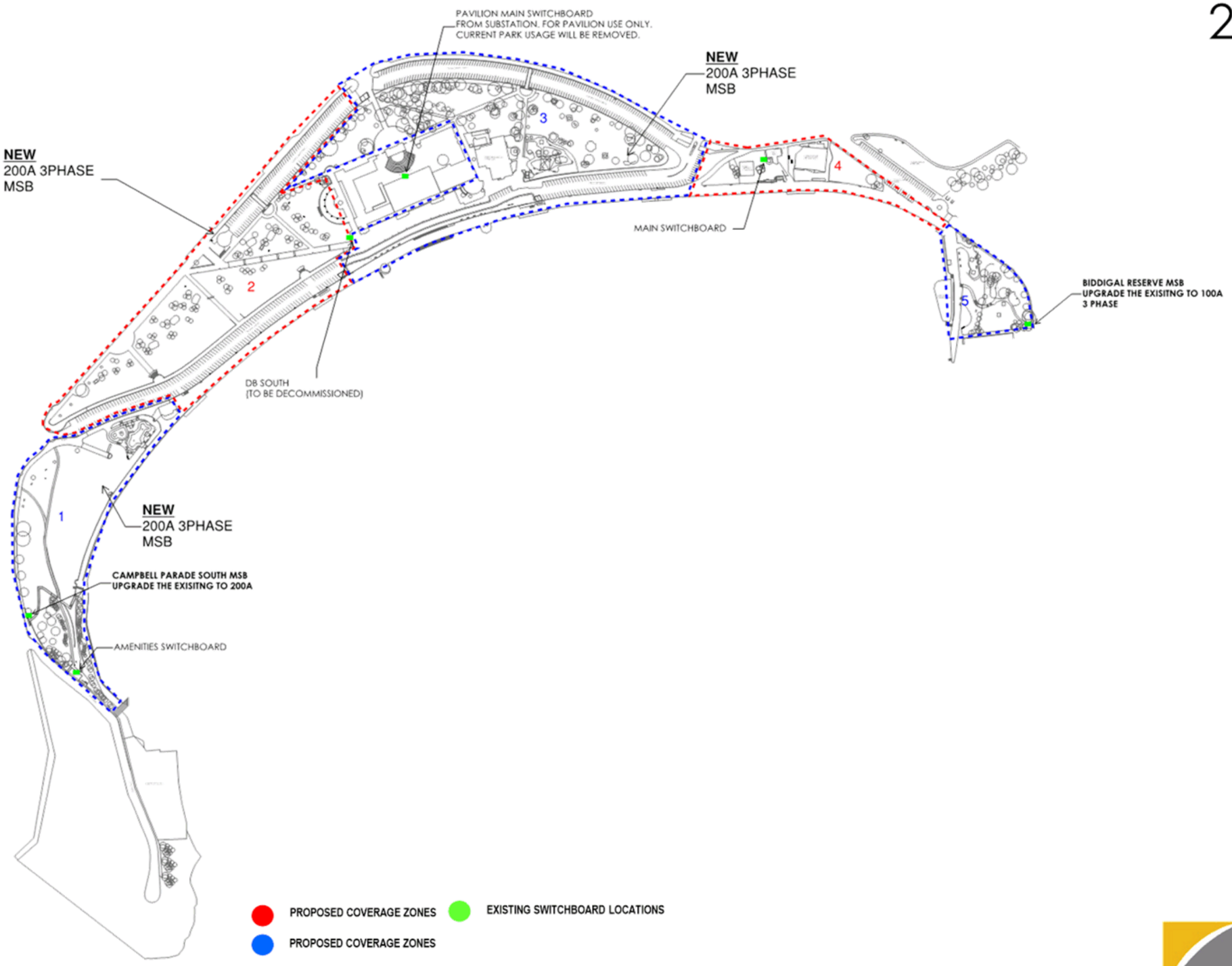
CCTV
Council does not currently monitor the park with CCTV cameras, but this may be something council may wish to consider in the future. It is recommended that additional conduits be included to future proof the system as part of good practice.
These conduits can be used in the future to install CCTV onto light poles if desired.

The physical mounting of CCTV cameras to lighting poles has historically been done using the brackets that have little consideration for the aesthetics of the installed product and the overall pole. Detailing of lighting poles can cater for cable access holes and CCTV bracket mounting points to reduce the likelihood of an unsatisfactory end result when a CCTV camera is fixed to a light pole in the future.



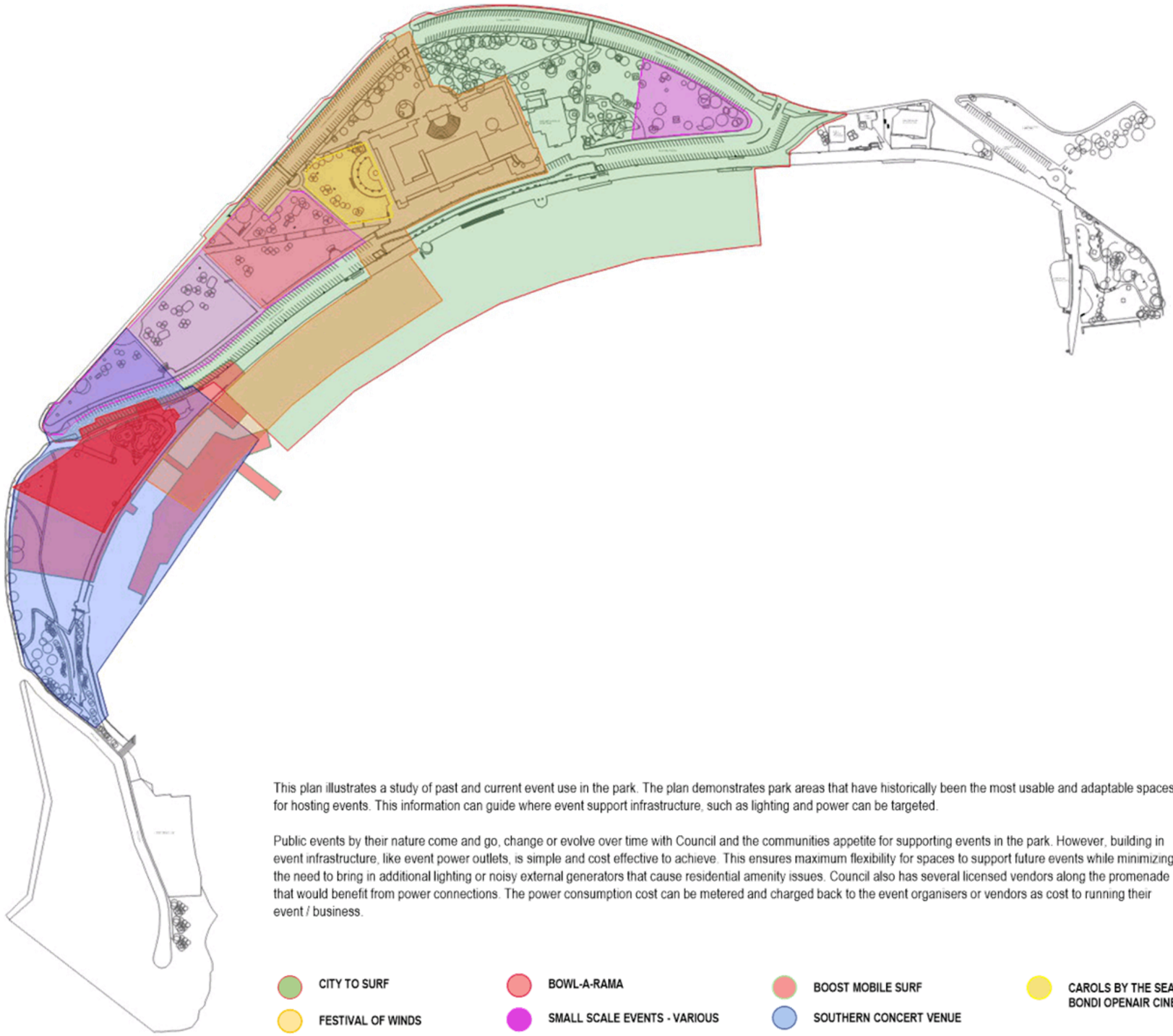
Example CCTV Camera fixing

PROPOSED POWER SWITCHBOARDS & COVERAGE ZONES



BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

30



EVENT POWER STRATEGY

This plan illustrates a study of past and current event use in the park. The plan demonstrates park areas that have historically been the most usable and adaptable spaces for hosting events. This information can guide where event support infrastructure, such as lighting and power can be targeted.

Public events by their nature come and go, change or evolve over time with Council and the communities appetite for supporting events in the park. However, building in event infrastructure, like event power outlets, is simple and cost effective to achieve. This ensures maximum flexibility for spaces to support future events while minimizing the need to bring in additional lighting or noisy external generators that cause residential amenity issues. Council also has several licensed vendors along the promenade that would benefit from power connections. The power consumption cost can be metered and charged back to the event organisers or vendors as cost to running their event / business.

- CITY TO SURF
- BOWL-A-RAMA
- BOOST MOBILE SURF
- CAROLS BY THE SEA & BONDI OPENAIR CINEMA
- FESTIVAL OF WINDS
- SMALL SCALE EVENTS - VARIOUS
- SOUTHERN CONCERT VENUE

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

LAS

MASTERPLAN IMPLEMENTATION

Bondi Park's lighting and electrical recirculation system is reaching he end of its serviceable life with areas of lighting no longer meeting Australian Standards or best practice in public lighting.
The need to upgrade infrastructure in the short to medium term presents Council with an opportunity to address safety, legibility and functionality of the park at night and greatly improve the night time experience for both residents and visitors to the park. The Lighting and Electrical Masterplan seeks to guide this process by articulating a holistic vision for the park ensuring a consistent approach is adopted across the entire park.

To undertake lighting and electrical upgrades on the scale of Bondi Park, it is an expensive and disruptive exercise requiring large areas of the park to be trenched to remove and replace infrastructure.
It is recommended that the Masterplan is implemented in stages with the majority of upgrades included with major park landscape upgrades planned for the park in the coming years to reduce the cost of implementation and impact to park users by coupling projects together. Other projects will form standalone upgrades – for example to complete works undertaken in the central park in 2015.

The following Staging Plan and Cost Estimate has been developed to provide Council with a guide to implementing the Master Plan over time. The Staging Plan seeks to group large areas of the park together as the most pragmatic approach to achieving upgrades in the short to medium term.

Cost estimations provided within this document are an order of cost estimate only and are provided to assist Waverley Council in cost planning and project funding for future Capital Works projects. Waverley Council needs to make their own judgement and employ a professional cost planner to ascertain actual costs for each project as the actual design for each area or element is developed.

BONDI PARK MASTERPLAN

MASTERPLAN IMPLEMENTATION

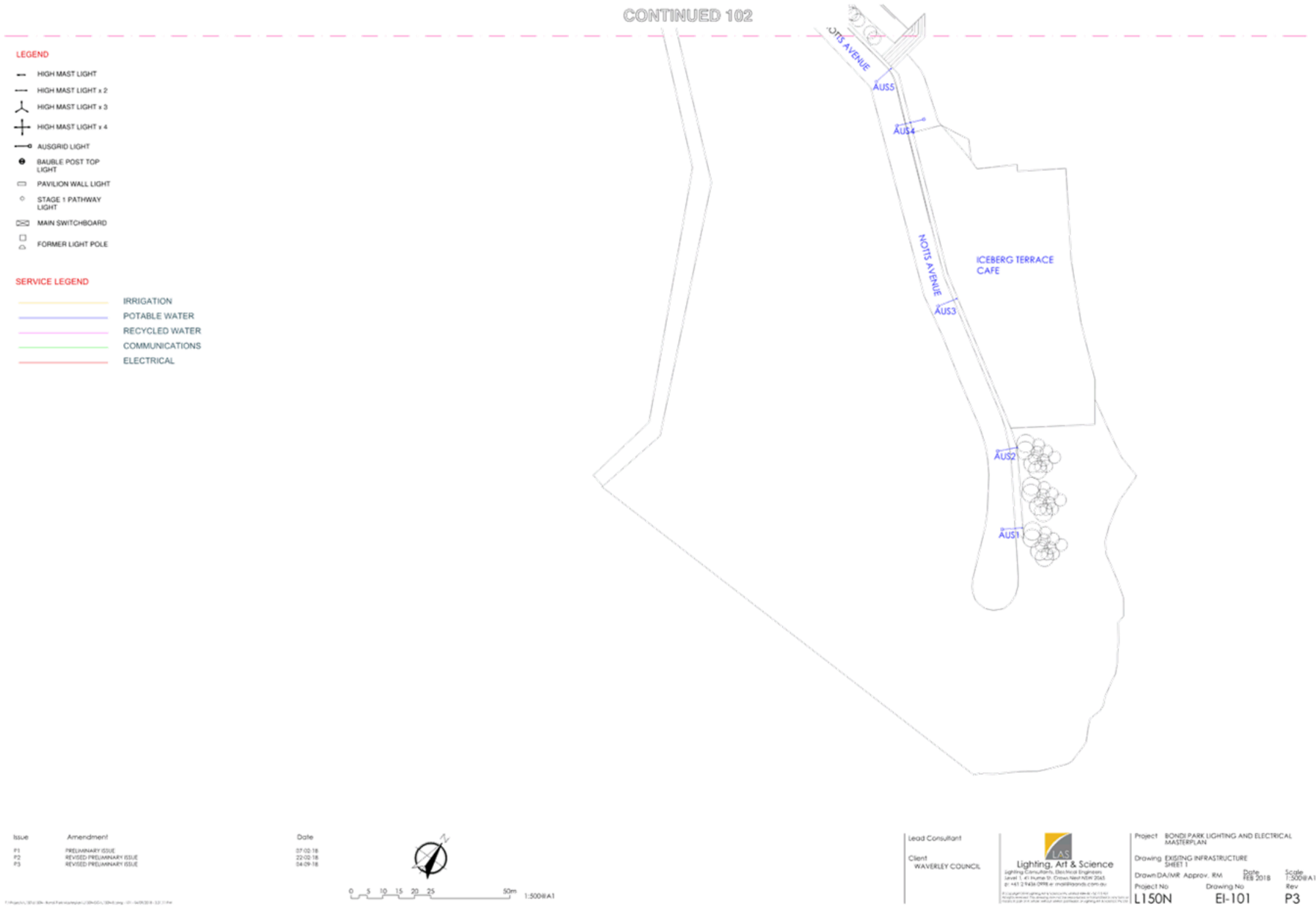
Cost estimations provided within this document are an order of cost estimate only and are provided to assist Waverley Council in cost planning and project funding for future Capital Works projects. Waverley Council needs to make their own judgement and employ a professional cost planner to ascertain actual costs for each project as the actual design for each area or element is developed.

Bondi Park Masterplan
Cost Estimate-Lighting & Electrical

Area	Description	Total Project Value
AREA 1 - South Bondi Park - Short-term Prioirty 1 - 2 years		
Combined with South Bondi Park Upgrade - inclusive all electrical and lighting upgrades including MSB and Design Costs.		
	Preliminaries $	48,010.00
	MSB Upgrade $	25,000.00
	Tier 1 Lighting & Electrical $	292,100.00
	Tier 2 Lighting & Electrical $	-
	Tier 3 Lighting & Electrical $	96,500.00
	Event Infrastructure $	66,500.00
	Design, PM Costs & Contigency $	121,465.30
	SUBTOTAL $	649,575.30
	Allowance 2 Yr CPI at 3% $	689,134.44
	GST $	68,913.44
	AREA 1 PROJECT VALUE $	718,488.74
AREA 2 - Nth Bondi Promenade - Short-term Prioirty 1 - 2 years		
Combined with Stormwater Culvert Upgrade - inclusive all electrical and lighting upgrades including MSB and Design Costs.		
	Preliminaries $	16,010.00
	MSB Upgrade $	15,000.00
	Tier 1 Lighting & Electrical $	58,800.00
	Tier 2 Lighting & Electrical $	86,300.00
	Tier 3 Lighting & Electrical $	-
	Design, PM Costs & Contigency $	61,638.50
	SUBTOTAL $	237,748.50
	Allowance 2 Yr CPI at 3% $	252,227.38
	GST $	25,222.74
	AREA 2 PROJECT VALUE $	262,971.24
AREA 3 - Central Bondi Park - Short to Medium-term Prioirty 1 - 3 years		
Standalone Project - inclusive all electrical and lighting upgrades including MSB and Design Costs.		
	Preliminaries $	141,620.00
	MSB Upgrade $	225,000.00
	Tier 1 Lighting & Electrical $	217,000.00
	Tier 2 Lighting & Electrical $	69,400.00
	Tier 3 Lighting & Electrical $	132,700.00
	Event Infrastructure $	64,000.00
	Design, PM Costs & Contigency $	254,916.00
	SUBTOTAL $	1,104,636.00
	Allowance 3 Yr CPI at 3% $	1,171,908.33
	GST $	117,190.83
	AREA 3 PROJECT VALUE $	1,221,826.83
AREA 4 - Pavillion & Bondi SLSC Building Surrounds + Lawns, Picnic Area & Parks Drive Carpark - Medium-term Prioirty 3 - 4 years		
Standalone Project or Combine with Pav - inclusive all electrical and lighting upgrades including MSB and Design Costs.	$	1,978,891.20
	Preliminaries $	230,640.00
	MSB Upgrade $	225,000.00
	Tier 1 Lighting & Electrical $	657,000.00
	Tier 2 Lighting & Electrical $	-
	Tier 3 Lighting & Electrical $	197,000.00
	Event Infrastructure $	74,200.00
	Design, PM Costs & Contigency $	415,152.00
	SUBTOTAL $	1,798,992.00
	Allowance 4 Yr CPI at 3% $	1,965,807.13
	GST $	196,580.71
	AREA 4 PROJECT VALUE $	1,995,572.71
AREA 5 - Biddigal Reserve - Medium-term Prioirty 3 - 4 years		
Combined with Biddigal Reserve Upgrade - inclusive all electrical and lighting upgrades including MSB and Design Costs.		
	Preliminaries $	12,060.00
	MSB Upgrade $	-
	Tier 1 Lighting & Electrical $	78,900.00
	Tier 2 Lighting & Electrical $	41,700.00
	Tier 3 Lighting & Electrical $	-
	Design, PM Costs & Contigency $	46,431.00
	SUBTOTAL $	179,091.00
	Allowance 4 Yr CPI at 3% $	195,697.57
	GST $	19,569.76
	AREA 5 PROJECT VALUE $	198,660.76
AREA 6 - Promenade, Sea Wall, QED Carpark, North Bondi, Ramsgate Ave & Scarbourgh Hill Walkway - Long-term Prioirty 5 years +		
Standalone Project - inclusive all electrical and lighting upgrades including MSB and Design Costs.		
	Preliminaries $	272,420.00
	MSB Upgrade $	-
	Tier 1 Lighting & Electrical $	785,700.00
	Tier 2 Lighting & Electrical $	510,400.00
	Tier 3 Lighting & Electrical $	-
	Licenced Vendor Infrastructure $	66,000.00
	Design, PM Costs & Contigency $	408,630.00
	SUBTOTAL $	2,043,150.00
	Allowance 5 Yr CPI at 3% $	2,299,583.33
	GST $	229,958.33
	AREA 6 PROJECT VALUE $	2,273,108.33
	MASTER PLAN VALUE TOTAL $	6,670,628.62

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

APPENDIX A – EXISTING INFRASTRUCTURE – COMBINED SERVICES



BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

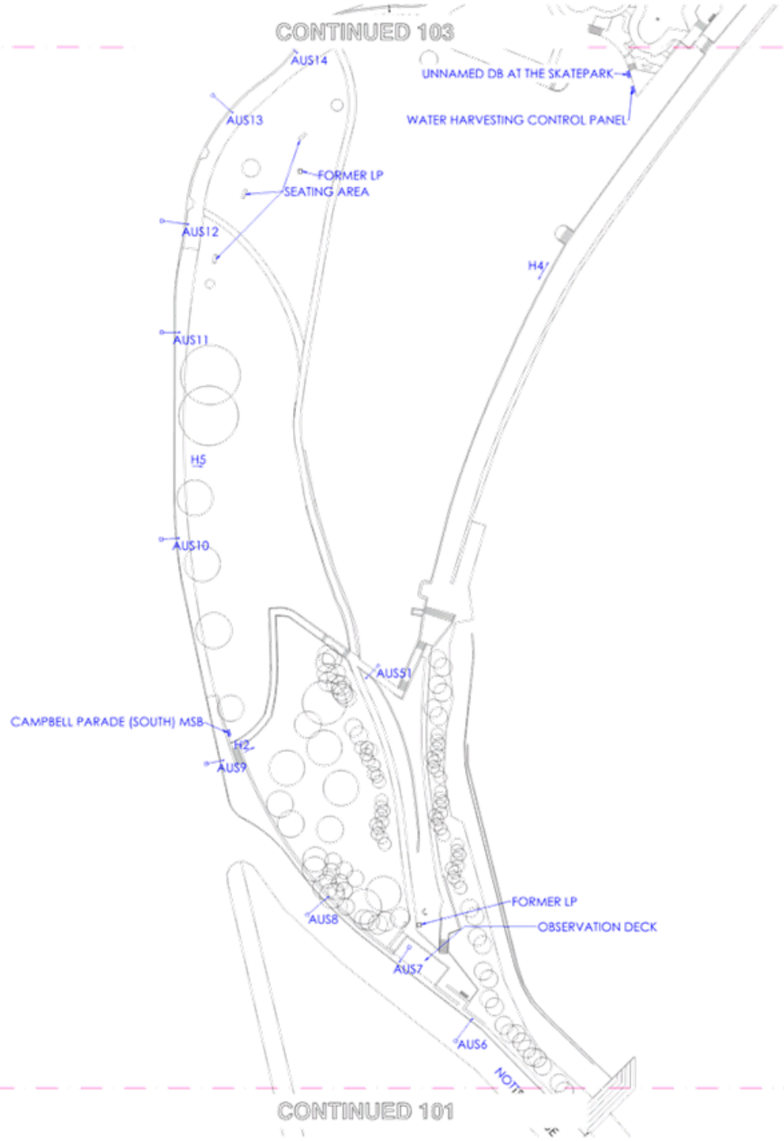
APPENDIX A – EXISTING INFRASTRUCTURE – COMBINED SERVICES

LEGEND

- HIGH MAST LIGHT
- HIGH MAST LIGHT x 2
- HIGH MAST LIGHT x 3
- HIGH MAST LIGHT x 4
- AUSGRID LIGHT
- BAUBLE POST TOP LIGHT
- PAVILION WALL LIGHT
- STAGE 1 PATHWAY LIGHT
- MAIN SWITCHBOARD
- FORMER LIGHT POLE

SERVICE LEGEND

- IRRIGATION
- POTABLE WATER
- RECYCLED WATER
- COMMUNICATIONS
- ELECTRICAL



Issue	Amendment	Date
P1	PRELIMINARY ISSUE	07-02-18
P2	REVISED PRELIMINARY ISSUE	22-02-18
P3	REVISED PRELIMINARY ISSUE	04-09-18

0 5 10 15 20 25 50m 1:500@A1

Lead Consultant

Client
WAVERLEY COUNCIL

Lighting, Art & Science
Lighting Consultants, Electrical Engineers
Level 1, 41 Hume St, Crows Nest NSW 2065
p. +61 2 9436 0998 e. mail@laands.com.au

Project BONDI PARK LIGHTING AND ELECTRICAL MASTERPLAN
Drawing EXISITNG INFRASTRUCTURE SHEET 2
Drawn DA/MR Approv. RM Date FEB 2018 Scale 1:500@A1
Project No L150N Drawing No EI-102 Rev P3

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

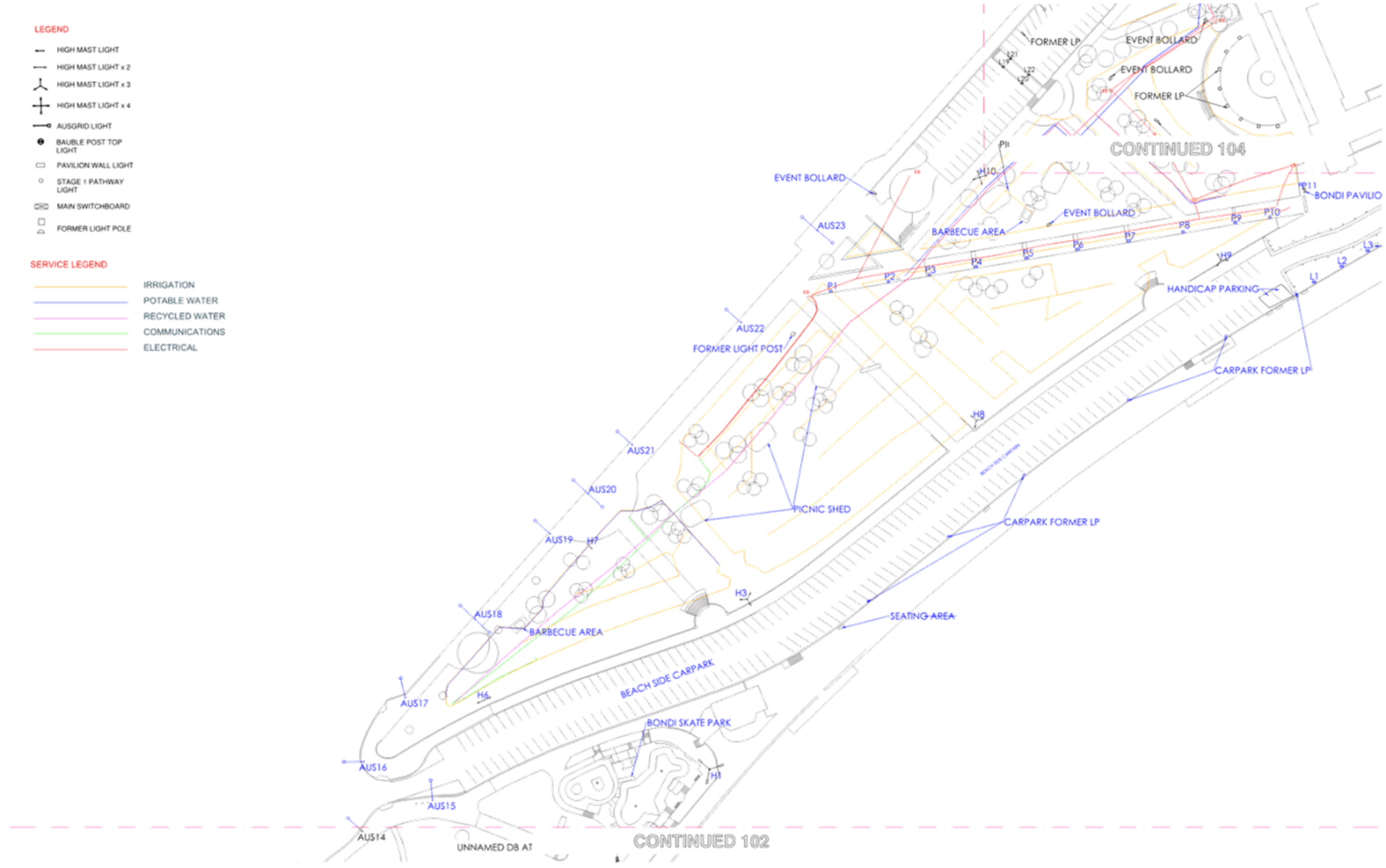
APPENDIX A – EXISTING INFRASTRUCTURE – COMBINED SERVICES

LEGEND

- HIGH MAST LIGHT
- HIGH MAST LIGHT x 2
- HIGH MAST LIGHT x 3
- HIGH MAST LIGHT x 4
- AUSGRID LIGHT
- BAUBLE POST TOP LIGHT
- PAVILION WALL LIGHT
- STAGE 1 PATHWAY LIGHT
- MAIN SWITCHBOARD
- FORMER LIGHT POLE

SERVICE LEGEND

- IRRIGATION
- POTABLE WATER
- RECYCLED WATER
- COMMUNICATIONS
- ELECTRICAL



Issue	Amendment	Date
P1	PRELIMINARY ISSUE	07-02-18
P2	REVISED PRELIMINARY ISSUE	22-02-18
P3	REVISED PRELIMINARY ISSUE	04-09-18

Lead Consultant

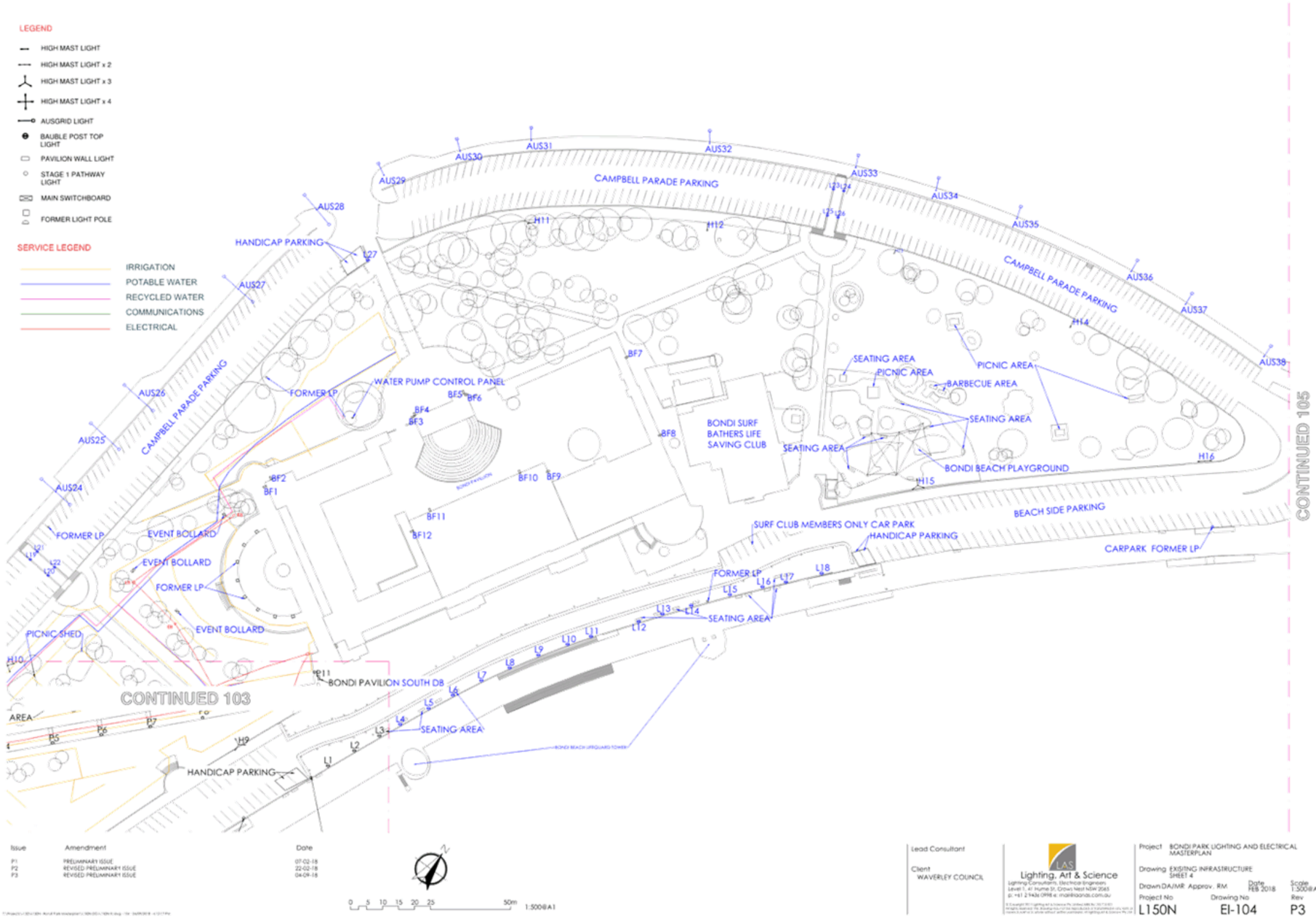
Client
WAVERLEY COUNCIL

Lighting, Art & Science
Lighting Consultants, Electrical Engineers
Level 1, 41 Hume St, Crows Nest NSW 2065
p. +61 2 9436 0998 e. mail@laands.com.au

Project BONDI PARK LIGHTING AND ELECTRICAL MASTERPLAN
Drawing EXISTING INFRASTRUCTURE SHEET 3
Drawn DA/MR Approv. RM Date FEB 2018 Scale 1:500@A1
Project No L150N Drawing No EI-103 Rev P3

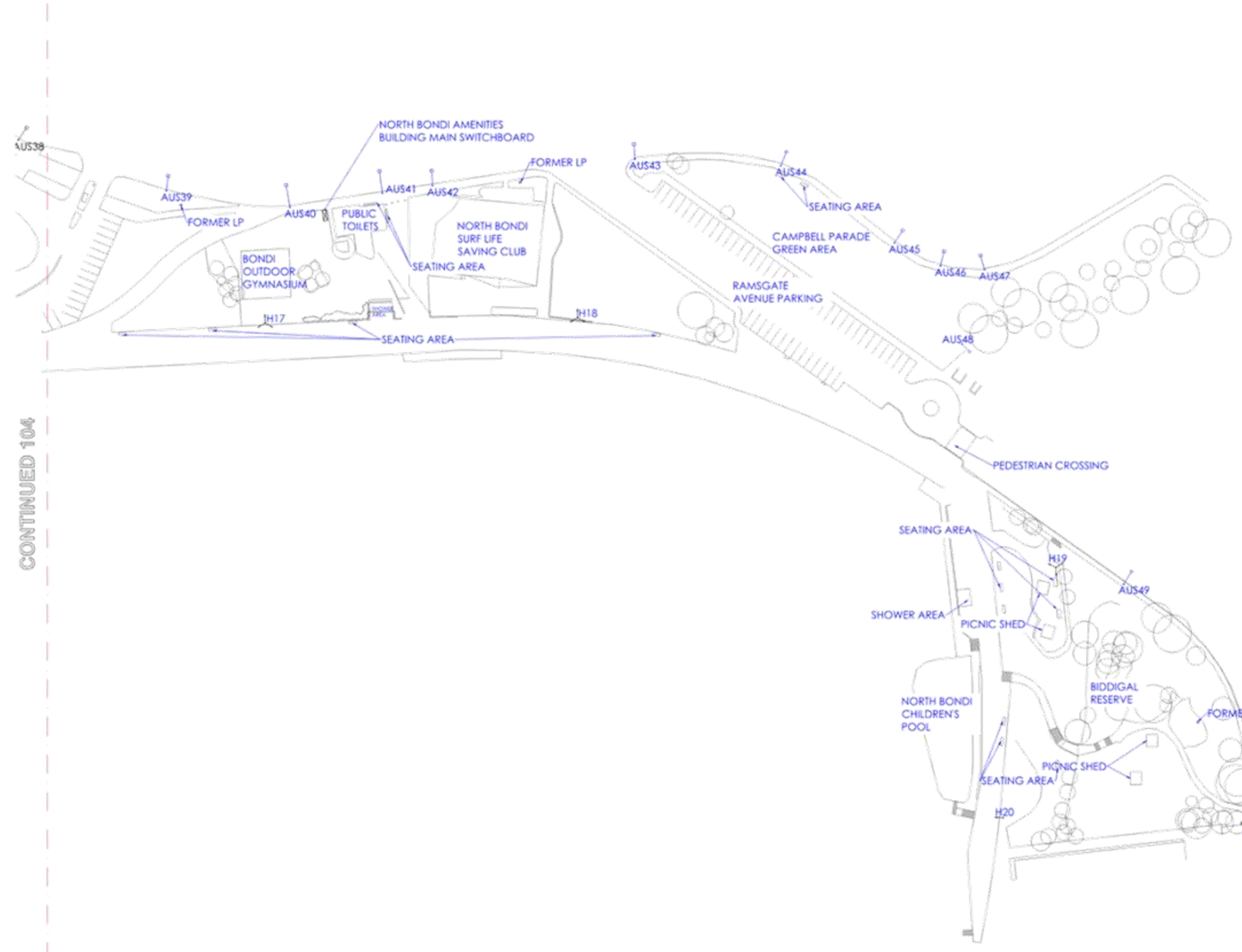
BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

APPENDIX A – EXISTING INFRASTRUCTURE – COMBINED SERVICES



BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

APPENDIX A – EXISTING INFRASTRUCTURE – COMBINED SERVICES



LEGEND

- HIGH MAST LIGHT
- HIGH MAST LIGHT x 2
- HIGH MAST LIGHT x 3
- HIGH MAST LIGHT x 4
- AUSGRID LIGHT
- BAUBLE POST TOP LIGHT
- PAVILION WALL LIGHT
- STAGE 1 PATHWAY LIGHT
- MAIN SWITCHBOARD
- FORMER LIGHT POLE

SERVICE LEGEND

- IRRIGATION
- POTABLE WATER
- RECYCLED WATER
- COMMUNICATIONS
- ELECTRICAL

Issue	Amendment	Date
P1	PRELIMINARY ISSUE	07-02-18
P2	REVISED PRELIMINARY ISSUE	22-02-18
P3	REVISED PRELIMINARY ISSUE	04-09-18

0 5 10 15 20 25 50m (1:500@A1)

Lead Consultant

Client
WAVERLEY COUNCIL

Lighting, Art & Science
Lighting Consultants, Electrical Engineers
Level 1, 41 Hume St, Crows Nest NSW 2065
p: +61 2 9436 0998 e: mail@lasnb.com.au

Project BONDI PARK LIGHTING AND ELECTRICAL MASTERPLAN
Drawing EXISTING INFRASTRUCTURE SHEET 5
Drawn DA/MR Approv. RM Date FEB 2018 Scale 1:500@A1
Project No L150N Drawing No EI-105 Rev P3

BONDI PARK LIGHTING & ELECTRICAL MASTERPLAN

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

The following criteria assessment table has been developed as a guidance for council in their selection of luminaires for each lighting tier and application – as has been detailed in this Masterplan.
The luminaire types shown are 'fit for purpose' based on current market availability (at the time of this Masterplan development) from established Australian suppliers with dedicated capability of supplying fittings and parts for the intended lifespan of the public lighting installations at Bondi Park.

The luminaire selection criteria was established and reviewed with Council.
The following definitions have been provided to assist readers to determine what each heading relates to and how to distinguish the performance / specification differences between products.

Tier –
In order to achieve the design objectives of the Masterplan, the lighting intent is a three-tiered approach as per the application of public lighting defined in the DRAFT Waverley Creative Lighting Strategy.
Tier 1 – Base Lighting
Tier 2 – Amenity Lighting
Tier 3 – Lighting Interventions
(refer to page 10 of the Masterplan report for more information).

Location / Luminaire Type –
Where the light will be used and what application it will be used for.

Supplier / Luminaire Model –
Current Australian supplier and product code.

Cost –
The supply only price of the fitting (excluding installation and delivery charges). The price is noted at the time the Masterplan was developed and is subject to change.

Aesthetic –
Image to illustrate the luminaire look, feel and application for aesthetic consideration during the detailed design.

Luminaire Finish –
Nominates the standard or custom finish options provided by the supplier for aesthetic consideration during the detailed design. For Bondi Park, a more robust finish is recommended due to the sand and salt spray conditions which are known to impact external finishes over a period of time.

Function & Durability Criteria –
This section has been broken down into sub-criteria that demonstrate a products ability to be 'fit for purpose' for the intended application and environmental conditions experienced at the exposed beach location.
The sub-criteria are as follows:

- Warranty
- Weather / Environment Durability (IP and IK Rating)
- Luminaire Type & Wattage
- Dimming Output
- Rated Life
- Notes

Warranty
The typical standard warranty length of time on most lighting products is 5 years, with some products providing up to 10 years. Note that the warranty periods are often negotiable and can be organised at the time of purchase.
It is important that Council review the product disclosure statements for each luminaire type as the terms and conditions for each supplier and manufacturer will vary. Note that most warranties will typically provide replacements for faulty fittings – however they will not cover faulty installation by third party contractors and poor maintenance practices.

Weather / Environment Durability
Light fittings are manufactured to be used in certain locations (e.g. indoor, outdoors, intermittent water exposure, continued water exposure).
In order to provide a delineation between the various exposure limits, an IP (Ingress Protection) rating system exists.
Further to this, light fittings are also designed to withhold a certain force – or impact. This is categorized using the IK rating system.

Ingress Protection (IP) Rating
The Ingress Protection marking classifies the rates and degree of protection provided against intrusion (body parts such as hands or fingers), dust, accidental contact and water – via mechanical casings and electrical enclosures.
This is particularly important at Bondi Park as the site is exposed to windblown sand and salt spray. IP65 is the minimum rating recommended for outdoor / external applications. The following definitions are applicable to the Bondi Park area:

IP65 – IP rated as 'dust tight' and protected against water projected from a nozzle.
IP66 – IP rated as 'dust tight' and protected against heavy seas or powerful jets of water.
IP67 – IP rated as 'dust tight' and protected against immersion
IP68 – IP rated as 'dust tight' and protected against complete, continuous submersion in water.

IK Rating
The IK rating is a number from 00 to 10 indicating the degrees of protection provided by electrical enclosures (including luminaires) against external mechanical impacts.
The IK rating identifies the ability of an enclosure to resist impact energy levels measured in joules (j).
The following definitions are applicable to the Bondi Park area:

IK07 – Protected against 1 joules impact. This is equivalent to an impact from a 0.25kg mass dropped from 400mm above the impacted surface.
IK08 – Protected against 5 joules impact. This is equivalent to an impact from a 1.7kg mass dropped from 300mm above the impacted surface.
IK09 – Protected against 10 joules impact. This is equivalent to an impact from a 5kg mass dropped from 200mm above the impacted surface.
IK10 – Protected against 20 joules impact. This is the equivalent to an impact from a 5kg mass dropped from 400mm above the impacted surface.

Note that for lighting, IK10 is the highest rating and most suitable where there is a high risk of vandalism or impact. Not all applications require such a rating and an assessment of the potential risk should be considered when selecting a luminaire suitable for the application.

Luminaire Type & Wattage
This section provides a brief review of the technical specification of each of the luminaires.

- Application – whether the fitting is a pole top mount, in ground, wall mount etc.
- Light distribution or pattern – the spread of light from the fitting. This will depend on the optics available and also the required application of the fitting and the area which it is to light.
- Correlated Colour Temperature (CCT) – This is the appearance of light and indicates whether a light source will have a warm or cool appearance (further explained on page 10 of this document). For outdoor areas, it is recommended that a CCT of 3000K be used as it renders outdoor elements such as trees and architectural elements nicely at night. However, sometimes a difference in colour temperature is also used to highlight certain elements to create a point of difference.

Dimming / Output
This criteria defines the control availability for each luminaire and also whether it is compatible with the NEMA remove lighting control system. Council has an aim to maximize lighting control to enable lighting to be switched off or dimmed improving energy efficiency and control the use of light during the various hours of operation – refer to page 11 for further information.

Lifespan
This criteria defines the expected hours of use per fitting under normal operating hours. Often this is based on assumed maximum operating temperature.
The lifespan is typically denoted as the depreciation of light expected over a certain number of hours.
E.g. L80@50,000 hours means that at 50,000 hours of use, we would expect a depreciation of 20% light output.
This depreciation factor is typically taken into account during the design phase so that at end of life, there is still an adequate amount of light.

Notes
These are notes that have been added for further consideration during the detailed design phase.

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

Tier	Location	Luminaire Type	Supplier	Luminaire Model	Aesthetics	Luminaire Finish	Approximate Cost ($) Supply Only	Function and Durability					
								Warranty (Terms & Conditions)	Weather / Environment Durability (IP rating / IK rating)	Luminaire Type & Wattage	Dimming / Output	Expected Lifespan	Notes
TIER 1	**Promenade**	Post Top Option 1	iGuzzini	MaxiWoody BU93		Grey	$1000 for each light $1200 for each pole	5 Year Warranty	IP67/IK08	Pole Mounted Spotlight 50° Beam 3000K 28.4W	Integrated Electronic Control Gear or NEMA Cell to pole (to control 2 each fittings on each pole)	100,000h-L80-B10 (Ta 40°C)	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Post Top Option 2	We-ef	RMT320 Double-sided 105-7038		Grey Aluminium RAL9007(Standard) Signal Black RAL9004 (Standard) Traffic White RAL9016 (Standard) White Aluminium RAL9006 (Standard)	$3700 for pole and light	10 Year Warranty	IP66/IK08	Pole mounted Rectangular, forward throw beam [R65] 3000K 43W	Integrated Electronic Control Gear or NEMA Cell control	LED>60,000h Ta 25°(L70/B10) Control gear>50,000h Ta 25°	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Post Top Option 3	Bega Lighting	99 868		Graphite Silver	$4500 for pole and light	5 Year Warranty	IP65/IK09	Pole Mounted Asymmetric beam 3000K 29W	Integrated Electronic Control Gear or NEMA Cell control	max. ambient temperature Ta=40°C -at 50,000h L90B50 -at 230,000h L70B50	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Post Top Option 4	Bega Lighting	77 853		Graphite Silver	$4500 for pole and light	5 Year Warranty	IP66/IK08	Pole Mounted Asymmetric beam 3000K 38W LED	Integrated Electronic Control Gear or NEMA Cell control	max. ambient temperature Ta=40°C -at 50,000h L90B50 -at 230,000h L70B50	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Post Top Option 5	We-ef	111-0463		Grey Aluminium RAL9007(Standard) Signal Black RAL9004 (Standard) Traffic White RAL9016 (Standard) White Aluminium RAL9006 (Standard)	$3800 for pole and light	10 Year Warranty	IP66/IK07	Pole Mounted Asymmetric beam 3000K 24W LED	Integrated Electronic Control Gear or NEMA Cell control	LED>60,000h Ta 25°(L70/B10) Control gear>50,000h Ta 25°	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Post Top Option 6	iGuzzini	WoW EC47		Grey	$3800 for pole and light	5 Year Warranty	IP67/IK08	Pole Mounted Asymmetric beam 3000K 30W LED	Integrated Electronic Control Gear or NEMA Cell control	100,000h-L80-B10 (Ta 40°C)	
	Internal Pathways	Internal Pathway	We-ef	RMT320 Double-sided 105-7038		Grey Aluminium RAL9007(Standard) Signal Black RAL9004 (Standard) Traffic White RAL9016 (Standard) White Aluminium RAL9006 (Standard)	$3700 for pole and light	10 Year Warranty	IP66/IK09	Pole mounted Rectangular, forward throw beam [R65] 3000K 43W	Integrated Electronic Control Gear or NEMA Cell control	LED>60,000h Ta 25°(L70/B10) Control gear>50,000h Ta 25°	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
	Carpark Lighting	Carpark Light Option 1	Bega Lighting	99 515		Graphite Silver	$4500 for pole and light	5 Year Warranty	IP66/IK08	Pole Mounted Asymmetric, side throw beam 3000K 26W	Integrated Electronic Control Gear or NEMA Cell control	max. ambient temperature Ta=40°C -at 50,000h L80B10 -at 181,000h L70B50	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

TIER 1		Carpark Light Option 2	We-ef	VFL530 LED 108-1165		RAL9007(Standard) Signal Black RAL9004 (Standard) Traffic White RAL9016 (Standard) White Aluminium RAL9006 (Standard)	$2500 for pole and light	10 Year Warranty	IP66/IK08	Pole Mounted Rectangular,forwar dthrow beam [R65] 3000K 27W	Integrated Electronic Control Gear or NEMA Cell control	LED>60,000h Ta 25°(L70/B10) Control gear>50,000h Ta 25°	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Carpark Light Option 3	Ligman Lighting	Vekter 5 VK-9000X		RAL9011 Dark Grey RAL7043 White RAL9003 Matt Silver RAL9006 Bronze RAL6014	$4500 for pole and light	5 Year Warranty	IP65/IK09	Pole Mounted T3 Beam 3000K 40W	Integrated Electronic Control Gear or NEMA Cell control	LED CRI >80, Lifetime: 50,000h	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Carpark Light Option 4	Bega Lighting	77 853		Graphite Silver	$4500 for pole and light	5 Year Warranty	IP66/IK08	Pole Mounted Asymmetric beam 3000K 38W LED	Integrated Electronic Control Gear or NEMA Cell control	max. ambient temperature Ta=40°C -at 50,000h:L90B50 -at 230,000h:L70B50	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Carpark Light Option 5	We-ef	111-0463		Grey Aluminium RAL9007(Standard) Signal Black RAL9004 (Standard) Traffic White RAL9016 (Standard) White Aluminium RAL9006 (Standard)	$3800 for pole and light	10 Year Warranty	IP66/IK07	Pole Mounted Asymmetric beam 3000K 24W LED	Integrated Electronic Control Gear or NEMA Cell control	LED>60,000h Ta 25°(L70/B10) Control gear>50,000h Ta 25°	1. Poles-powedercoat pipeline grey Dulux N43 2. Fittings-to match Stage-2 (possibly White Aluminium RAL 9006)
		Carpark Light Option 6	iGuzzini	WoW EC47		Grey	$4000.00 for pole and light	5 Year Warranty	IP67/IK08	Pole Mounted Asymmetric beam 3000K 30W LED	Integrated Electronic Control Gear or NEMA Cell control	100,000h-L80-B10 (Ta 40°C)	

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

TIER 2	**Handrail Lighting**	Handrail Option 1	Klik Systems	LEDpod 40		Silver	$200 for LED each pod	5 Year Warranty	IP65/IK08	Asymmetrical Beam 3000K 1.9W	DALI Dimmable		
		Handrail Option 2	HLS Lighting	HLS-VA		Silver	$200 for LED each pod	5 Year Warranty	IP66/IK10	Asymmetrical Beam 3000K	Any Dimming Protocol		
		Handrail Option 3	Wila Lighting (Light Source & Controls)	Puck		Silver	$250 for each LED pod	5 Year Warranty	IP66/IK10	Asymmetrical Beam 3000K	Standard	50,000h at L90	
	Graffiti Wall	Graffiti Wall Option 1	iGuzzini (integrated wall and path)	MaxiWoody BU93		Grey	$1000 for each light $1200 for each pole	5 Year Warranty	IP67/IK08	Wide Flood Beam 3000K 28.4W	Integrated Electronic Control Gear	100,000h-L80-B10 (Ta 40°C)	1. Make note that this will form part of the combined lighting approach to do both the pathway and graffiti wall. 2. Limitation with this option may be not get an even wash on the wall. Advise: cost effective and streeamlined solution.
		Graffiti Wall Option 2	Erco Lighting (integrated wall and path)	Parascoop Wallwasher 33208.000		Graphit M	$2,200	5 Year Warranty	IP65/IK08	Wallgrazing Wide Flood Beam 3000K 24W	Dimmable Electronic Control Gear	L90/B10≤50000h L90≤100000h 0.1%≤100000h	1. Make note that this will form part of the combined lighting approach to do both the pathway and graffiti wall. 2. Limitation with this option may be not get an even wash on the wall. 3. Can be attached to back of a pole using uprigth supporting pole attachment. Advise: cost effective and streeamlined solution.
		Graffiti Wall Option 3	iGuzzini Linear (dedicated linear wall wash)	Mini47 EG25		Grey	$1,500	5 Year Warranty	IP66/IK05	Wallgrazing Wide Flood Beam 3000K 24.6W	DMX Control Protocol	59,000h-L80-B10 (Ta 40°C)	
	Mosaic Wall	Mosaic Wall Option 1	iGuzzini	Mini47 EG25		Grey	$1,500	5 Year Warranty	IP66/IK05	Wallgrazing Wide Flood Beam 3000K 24.6W	DMX Control Protocol	59,000h-L80-B10 (Ta 40°C)	
		Mosaic Wall Option 1	Erco Lighting	Parascoop Wallwasher 33208.000		Graphit M	$2,200	5 Year Warranty	IP65/IK08	Wallgrazing Wide Flood Beam 3000K 24W	Dimmable Electronic Control Gear	L90/B10≤50000h L90≤100000h 0.1%≤100000h	1. Make note that this will form part of the combined lighting approach to do both the pathway and graffiti wall. 2. Limitation with this option may be not get an even wash on the wall. 3. Can be attached to back of a pole using uprigth supporting pole attachment. Advise: cost effective and streeamlined solution.
		Mosaic Wall Option 1	ACDC Lighting	Blade Mini Standard Bright		Anodised Aluminium Silver Anaodised Aluminium Black Powder coat white Can be customized	$1,700	5 Year Warranty	IP67/IK08	Wallgrazing Wide Flood Beam (54°) 3000K 27W	Integrated Electronic Control Gear	Lifetime L70. Based on TM-21 >50,000h	
	Sculpture	Sculpture Light Option 1	We-ef	ETC310-FS LED 185-9926		Stainless steel	$1,200	10 Year Warranty	IP67/IK10+	Symmetric, Medium Beam 3000K 7.7W	Dimmable Electronic Control Gear		1. Output to size will need to be varied depending on the size of the wall / sculpture

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

TIER 2		Sculpture Light Option 2	Bega Lighting	77 005		Stainless steel	$1,500	5 Year Warranty	IP68/IK10	Symmetric, Flood 3000K 5.8W	Dimmable Electronic Control Gear	max. ambient temperature Ta=40°C -at 50,000h:L90B10 -at 310,000h:L70B50	1. Output to size will need to be varied depending on the size of the wall / sculpture
		Sculpture Light Option 3	iGuzzini	LightUp E121		Stainless steel	$1,300	5 Year Warranty	IP68/IK10	Symmetric, Flood 3000K 5.8W	Dimmable Electronic Control Gear	50,000h-L80-B10 (Ta 40°C)	1. Output to size will need to be varied depending on the size of the wall / sculpture
		Sculpture Light Option 4	Louis Poulsen	Radiis 109		Stainless steel	$1,800	5 Year Warranty	IP66/IK10	Symmetric, Flood 3000K 14W	Electronic Control Gear		1. Output to size will need to be varied depending on the size of the wall / sculpture
	Campbell Parade Seating	Campbell Pde Seat Option 1	KKDC	KURV-Y		White	$350/m	3 Year Warranty	IP67	Opal diffuser 3000K 11.3W/m	Remote Electronic Control Gear	30,000h@ 25°C	
		Campbell Pde Seat Option 2	LED Linear	VarioLED Flex VENUS		White	$350/m	5 Year Warranty	IP67	Opal diffuser 3000K 6W/m	Remote Electronic Control Gear	L80/B10>60,000h	
		Campbell Pde Seat Option 3	Lite Source & Controls	Edge Mini		White	$250/m	5 Year Warranty	IP65	Opal diffuser 3000K 4.5W/m	Remote Electronic Control Gear		
		Campbell Pde Seat Option 4	iGuzzini	Underscore In/Out 10mm		White	$350/m	5 Year Warranty	IP68	Opal diffuser 3000K 5.5W/m	Remote Electronic Control Gear	30,000h-L70-B20@40°C	

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

TIER 3	**Tree & Shelters Up/Light**	Tree Lighting Option 1	We-ef	ETC310-FS LED 185-9926		Stainless steel	$1,200	10 Year Warranty	IP67/IK10+	Symmetric, Medium Beam 3000K 7.7W	Dimmable Electronic Control Gear		1. Output to size will need to be varied depending on the size of the foliage / shelter
		Tree Lighting Option 2	Bega Lighting	77 005		Stainless steel	$1,500	5 Year Warranty	IP68/IK10	Symmetric, Flood 3000K 5.8W	Dimmable Electronic Control Gear	max. ambient temperature Ta=40°C -at 50,000h L90B10 -at 310,000h L70B50	1. Output to size will need to be varied depending on the size of the foliage / shelter
		Tree Lighting Option 3	iGuzzini	LightUp E121		Stainless steel	$1,300	5 Year Warranty	IP68/IK10	Symmetric, Flood 3000K 5.8W	Dimmable Electronic Control Gear	50,000h-L80-B10 (Ta 40°C)	1. Output to size will need to be varied depending on the size of the foliage / shelter
		Tree Lighting Option 4	Louis Poulsen	Radiis 109		Stainless steel	$1,800	5 Year Warranty	IP66/IK10	Symmetric, Flood 3000K 14W	Electronic Control Gear		1. Output to size will need to be varied depending on the size of the foliage / shelter
	Shelters Seat Lighting	Shelters Seat Lighting Option 1	KKDC	KURV-Y		White	$350/m	3 Year Warranty	IP67	Opal diffuser 3000K 11.3W/m	Integrated Electronic Control Gear	30,000h@ 25°C	
		Shelters Seat Lighting Option 2	LED Linear	VarioLED Flex VENUS		White	$350/m	5 Year Warranty	IP67	Opal diffuser 3000K 6W/m	Integrated Electronic Control Gear	L80/B10>60,000h	
		Shelters Seat Lighting Option 3	Lite Source & Controls	Edge Mini		White	$250/m	5 Year Warranty	IP65	Opal diffuser 3000K 4.5W/m	Integrated Electronic Control Gear		
	Pedestrian Bridges	Pedestrian Bridges Option 1	Erco Lighting	Parascoop Ceiling washlight 33204.000		Graphit M	$2,200	5 Year Warranty	IP65/IK08	Ceiling washlight Wide Flood Beam 3000K 24W	Dimmable Electronic Control Gear	L90/B10≤50000h L90≤100000h 0.1%≤100000h	1.Can be attached to the wall using upright supporting attachment
		Pedestrian Bridges Option 2	iGuzzini	Mini47 EG36		Grey	$1,700	5 Year Warranty	IP66/IK05	Wallgrazing Wide Flood Beam 3000K 24.6W	DMX Control Protocol	59,000h-L80-B10 (Ta 40°C)	
	Spotlight Feature Lighting	Spotlight Feature Lighting Option 1	We-ef	FLC230 LED 139-1909		Grey Aluminium RAL9007(Standard) Signal Black RAL9004 (Standard) Traffic White RAL9016 (Standard) White Aluminium RAL9006 (Standard)	$1,500	10 Year Warranty	IP66/IK07	Symmetric, wide beam(B) 3000K 43W	Integrated Electronic Control Gear	LED>60,000h Ta 25°(L70/B10) Control gear>50,000h Ta 25°	1. Can be attached to the pole using pole clamp/brackets. To illuminate various park elements such as trees, building façade, sculptures.

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

TIER 3		Spotlight Feature Lighting Option 1	iGuzzini	MaxiWoody BU99		Grey	$1,200	5 Year Warranty	IP67/IK08	Pole Mounted Spotlight 50° Beam 3000K 39.6W	Integrated Electronic Control Gear	99,000h-L80-B10 (Ta 40°C)	1. Can be attached to the pole using pole clamp/brackets. To illuminate various park elements such as trees, building façade, sculptures.
		Spotlight Feature Lighting Option 1	We-ef	FLD131 LED#1 145-9600		RAL9007(Standard) Signal Black RAL9004 (Standard) Traffic White RAL9016 (Standard) White Aluminium RAL9006 (Standard)	$1,250	10 Year Warranty	IP66/IK07	Symmetric, wide beam(B) 3000K 28W	Integrated Electronic Control Gear	LED>60,000h Ta 25°(L70/B10) Control gear>50,000h Ta 25°	1. Can be attached to the pole using column fitter. To illuminate various park elements such as trees, building façade, sculptures.

APPENDIX B – LIGHTING CRITERIA ASSESSMENT TABLE

ADDITIONAL LIGHTING FOR FUTURE WORKS	**Future Skatepark**	Skatepark Lighting Option 1	Pierlite	Raptor 600		Standard Housing Colour (as shown in image)	$4,500	5 Year Warranty	IP66/IK06	Asymmetrical Distribution 4000K	Integrated Electronic Control Gear	50,000h - L90 - B10	
		Skatepark Lighting Option 2	Schreder	Omniblast		Standard Housing Colour (as shown in image)	$6,000	5 Year Warranty	IP66/IK09	Asymmetrical Distribution 4000K	Integrated Electronic Control Gear	100,000h-L70	
		Skatepark Lighting Option 3	Philips	Optivision Led Gen 2		Standard Housing Colour (as shown in image)	$5,800	5 Year Warranty	IP66/IK08	Asymmetrical Distribution 4000K	Integrated Electronic Control Gear	100,000h-L80-B10	
ADDITIONAL LIGHTING FOR FUTURE WORKS	**Highmast Flood Lighting for Events**	Highmast Flood Lighting Option 1	Pierlite	Raptor 600		Standard Housing Colour (as shown in image)	$4,500	5 Year Warranty	IP66/IK06	Asymmetrical Distribution 4000K	Integrated Electronic Control Gear	50,000h - L90 - B10	
		Highmast Flood Lighting Option 2	Schreder	Omniblast		Standard Housing Colour (as shown in image)	$6,000	5 Year Warranty	IP66/IK09	Asymmetrical Distribution 4000K	Integrated Electronic Control Gear	100,000h-L70	
		Highmast Flood Lighting Option 3	Philips	Optivision Led Gen 2		Standard Housing Colour (as shown in image)	$5,800	5 Year Warranty	IP66/IK08	Asymmetrical Distribution 4000K	Integrated Electronic Control Gear	100,000h-L80-B10	

REPORT
OC/5.2/18.10

Subject: **Commemorative Tributes**

TRIM No: A18/0478

Author: Bianca Simpson, Open Space Planning Manager

Director: Dan Joannides, Acting Director, Waverley Renewal

RECOMMENDATION:

That Council:

1. Maintains its position of declining donations for park benches and trees with associated memorials from individual community members.

2. Maintains its position of assessing offers of sponsorship from community organisations and charities for public domain infrastructure based on their merit and a formal agreement.

3. Notes the options available for memorials through the Ivy Leaf vine, scatter ash gardens and proposed memorial walk at Waverley Cemetery.

4. Considers extending the Ivy Leaf memorial to South Head Cemetery.

5. Officers identify areas for 'reflective spaces' in the design of Council's parks, and focus on reinforcing these spaces to allow for seating and reflection in a tranquil, passive space.

6. Accepts donations to fund works within select 'reflective spaces' in the local government area, in accordance with the Sponsorship, Grants and Donations Policy.

7. Updates its website with further information on memorials in Waverley (as outlined above).

8. In accordance with the Sponsorship, Grants and Donations Policy, enters into a sponsorship agreement with Miranda Smidmore to pay tribute to her son Luke Smidmore in the form a timber seat with plaque in Bondi Park (south) in recognition of her donation to the Prince of Wales Hospital.

1. Executive Summary

The purpose of this report is to clarify Council's position in regard to commemorative tributes in Waverley and provide details for how Council could expand on these services.

2. Introduction/Background

The way we commemorate those who have passed is reflective of our personal values, beliefs and our life story, commemoration is such an important part of our culture and society. In support of members of our community who are grieving Council provides a range of services. Notably, we have a state heritage listed cemeteries in Waverley Cemetery and South Head cemetery with opportunities for memorials as well as internment. We tell the stories of those in our community who have made contribution through programs such as the Local Heroes Awards, Best of the Best Awards, cemetery tours and our local studies collection

in the Library. From time to time, Council also receives donations or enters into sponsorship agreements with community organisations or charities to provide recreation infrastructure in tribute of notable members of the community, both alive and posthumous (deceased).

Council receives several requests a year for memorials to pay tribute to deceased community members. Typically memorials are requested in our open spaces in the form of a plaque attached to a seat with ocean view. Often a member of the community offers a donation to cover the cost of supplying the seat and/or plaque. Because it is difficult to accommodate the volume of these specific requests our current convention is to not allow donations such as plaques associated with seats or trees in our open spaces. This approach is communicated on Council's website: <www.waverley.nsw.gov.au/community/connected_waverley/volunteering/memorials_in_waverley>.

Current Policy Documents

While Council does not have a policy covering memorial donations specifically, the Sponsorship, Grants and Donations Policy, adopted by Council in November 2013, outlines Waverley Council's approach to dealing with sponsorship and donation arrangements. This policy outlines the principles and procedures for the acceptance and granting of sponsorships, grants and donations providing guidance to the public and Council Staff. This policy document provides an avenue for Council to either accept or deny a donation or enter a sponsorship agreement. Provided certain conditions are met, this policy also enables members of the community to participate in public domain improvements.

In denying sponsorship or donations the Policy outlines that:

'*Waverley Council retains the discretion not to accept sponsorships or donations from any entity for any reason*.'

The Policy provides guidance on unconditional gifts, bequests and endowments of which the donation of commemorative memorials is addressed under unsuitable proposals stating that:

'*Council will not … agree to receive a sponsorship, where Council decides that your activities or proposals: …Conflict with the Community's long term vision, direction and strategies as set out in the Community Strategic Plan (Waverley Together) or other Council policies and plan (eg Plan of Management, Arts Plus Plan). (or) Requests that seek permission to install obtrusive signage and other undesirable visual clutter which are contrary to Council guidelines on memorials/signage or Plans of Management or other council policies.'*

Current issues with private donations

As mentioned, Council are unable to accommodate the volume of requests for memorials in the form of plaques with seats or trees. Additionally these requests raise a number of issues such as:

- Inequity of some requests being granted if deemed 'suitable' and others not granted under 'unsuitable' conditions.
- Requests tend to be particular about the location and type of seat with the memorial, often these are not aligned with Councils landscape plans or Plan of Management.
- If the placement of seating is determined by the communities request as opposed to recreational need, the seat itself can be poorly located and underused.
- Benches and seats require ongoing maintenance at cost to Council financial and staff resources.

- Facilitating the volume of requests we receive would require a significant amount of Council staff resourcing.

- Public domain furniture has a limited lifespan which could be as little as 7 years in our coastal parks. The replacement and/or disposal of furniture would be at cost to Council the associated plaque would not necessarily be replaced with the seat. While an agreement could be met on outset, it is potentially upsetting for the family associated with the memorial to see it removed. Likewise our living assets such as trees have a limited lifespan and their survival rate cannot be guaranteed.

Ways the community can pay tribute to loved ones

Council does offer other means of paying tribute to members of the community posthumous. The various means include:

- Waverley Cemetery: The 'Ivy Vine' offers residents a means of installing plaques at an affordable price, currently set at $1,354, for the plaque and mounting. These small plaques integrated into walls and built elements in the Cemetery. This creates a place for people to visit and remember.

Figure 1. Ivy Leaf vine at Waverley Cemetery.

- Waverley Cemetery: Memorial planting and memorial gardens are available to scatter ashes.

- Council's Best of the Best Awards are given to local heroes once every four years who have made a lifelong contribution to the local community and are available posthumous. Plaques are installed on the promenades along Bondi or Bronte Beach in their honour. Typically, a panel of Councillors selects the preferred candidate.

- Waverley Park: includes the World War One monument in the Memorial Gardens and a World War Two monument in the rose garden. Council arranges annual commemoration ceremonies Anzac Day, Remembrance Day and Russian Victory Day at this site. There are also memorials to individuals who have made a significant contribution to the local community, particularly sporting contributions associated with Waverley Park.

- Centennial Park: There are opportunities at Centennial Parklands for residents to purchase and install memorial benches, trees and plaques to honour family and friends. For more information visit the Centennial Parklands website: <http://www.yourparklands.org.au/how_you_can_help>.

Additionally, Council has previously entered sponsorship type agreements, partnering with community organisations such as Rotary or the Lyons Club to purchase and install public domain or recreational infrastructure such as the Fitness Station at Bondi Park which was a partnership agreement with the Rotary Club. The existing Sponsorship, Grants and Donations Policy made way for this agreement. In addition, a Memorandum of Understanding was drafted and agreed by Council.

3. Relevant Council Resolutions

Council or Committee Meeting and Date	Minute No.	Decision
Council 12 December 2017	CM/8.4/17.12	That Council: 1. Investigates creative options for the installation in public places of commemorative tributes that recognise deceased local family members or those with a strong connection to Waverley that have passed away. 2. Reports back to Council no later than the June 2018 Council meeting with an outline of: (a) Potential locations and types of commemorations that could be installed, whilst ensuring that they are placed discreetly and sensitively. (b) Suggested criteria for the application and fee structures. 3. Consults with the Public Art Committee on the locations and built forms that might be appropriate in Waverley.

4. Discussion

Further opportunities for memorials

Currently, a Master Plan is being developed for Waverley Cemetery which will set the vision and framework for how the cemetery is to be developed to meet the present and future needs of the surrounding communities. Under the Master Plan the cemetery will continue to function as an operating entity, offering burial, interment and memorialisation. To increase the opportunity and diversity of burial and memorialisation in the Cemetery the Master Plan identifies further opportunities for incorporating memorials into the Cemetery, including informal scatter gardens and niche walls. The plan also suggests a Memorial Walk with remembrance wall for naming plaques. In addition it is suggested for residents with a close association with South Head Cemetery, the 'Ivy Vine' memorial could be extended in this space.

Open space provides many benefits to the environment and community, people's quality of life and wellbeing as well as a place of recreation and other actives. Through our park planning, design and upgrades we do our utmost to balance demands in our parks to ensure they meet the community's needs. It is apparent through the requests we receive that there is a desire in the community to pay tribute to loved ones within our open spaces, allowing people to visit and reflect on their loss. It is an important reminder that quiet and reflective spaces within our parks provide a valuable resource to the community in benefiting their wellbeing. To ensure these needs are met, the following actions are recommended:

- That the Open Space and Recreation Strategy currently being drafted identifies opportunities for 'reflective spaces' which are suitable for quiet contemplation, rest and respite.

- Once 'reflective spaces' are identified Council considers selecting one or two which may focus on developing for the purpose of providing a 'living legacy' to members of the community who have passed away.

- For members of the community who would like to pay tribute to loved ones, Council can then provide an option of focusing any donations to the upkeep on these spaces to meet these needs. This maybe in the form of providing additional planting, furniture or the like. It is recommended that individual plaques are not accommodated within this space with the focus of the area being open for all visitors seeking time out to reflect whether through the grieving process or otherwise.

Smidmore tribute

At the Council meeting on 12 December 2017, Miranda Smidmore requested a memorial in tribute to her son (posthumous). Council then passed the resolution (CM/8.4/17.12) detailed above. In tribute to Luke Smidmore, funds have been raised by the local community and a donation made to the Prince of Wales Hospital. In regard to the generous contributions made by the community to charity, it is recommended that Council installs a bench seat in Bondi Park (south) with a small plaque acknowledging the donation on behalf of Luke Smidmore to the Prince of Wales Hospital. An agreement can be reached with the Smidmore family, in accordance with Sponsorship, Grants and Donations Policy, to accommodate this request.

5. Financial impact statement/Timeframe/Consultation

Additional opportunities to administer donations of memorials would require additional staff and monetary resourcing. As mentioned, to assist in the process, Council could consider setting up a fund for the upkeep of the 'reflective garden' to provide planting, furniture or the like for this space with monetary contributions from the community who would like to commemorate a loved one. Council would commit to maintaining this space within the existing maintenance schedule however additional funds through donation would ensure it was maintained to a high standard and kept as a reflective space.

The Open Space and Recreation Strategy will be developed over the coming 12 months. Once 'reflective spaces' are identified, Council's Open Space Planning team can then identify a priority project and proceed to include this in the capital works program for 2019/20 to design and improve the space for this purpose.

During this process of reviewing opportunities for commemorative tributes, the Public Art Committee was consulted. Council officers attended the Waverley Public Art Committee meeting on 17 September 2018 to discuss the issues associated with memorials, the formal recommendation was we:

- Not proceed with a commemoration plan in addition to what is currently offered.

- Extend Ivy Leaf to South Head Cemetery.

- Update the website with information on memorials and reference to the Centennial Park memorial scheme.

- Investigate other opportunities in the LGA to accommodate other memorialisations.

6. Conclusion

Council's current approach is not to accept the donation of commemorative memorials in the form of individual requests for seats and trees. The volume of requests would not be able to be accommodated in Council's limited open space assets and would likely lead to undesirable visual outcomes and an over proliferation of signage contrary to Council current approach to signage in the LGA. In addition to the visual impacts the ongoing management and maintenance of commemorative memorials would require ongoing Council resourcing currently not programed.

However, there are further opportunities we can peruse to allow the community to pay tribute to loved ones and help in the grieving process. In order to proceed we ask Council to support:

- Maintain our position in declining donations for park benches and trees with associated memorials from individual community members.

- Maintain our position to assess offers of sponsorship from community organisations and charities for public domain infrastructure based on their merit and a formal agreement.

- Note the options available for memorials through the Ivy Leaf vine, scatter ash gardens and proposed memorial walk at Waverley Cemetery.

- Consider extending the Ivy Leaf memorial to South Head Cemetery.

- Allow for Council Officers to proceed in identifying areas for 'reflective spaces' in the design of our parks and focus on reinforcing these spaces to allow for seating and reflection in a tranquil, passive space. Allow for donations to fund works within select 'reflective spaces' in the LGA.

- Update Council's web site with further information on memorials in Waverley (as defined by the points above).

- Enter a sponsorship agreement with Miranda Smidmore to pay tribute to her son Luke Smidmore in the form a timber seat with plaque in Bondi Park (south) in recognition of the donation to the Prince of Wales Hospital.

7. Attachments

Nil .

REPORT
OC/5.3/18.10

Subject: **Tender Evaluation - Bondi Park Additional Amenities**

TRIM No: A18/0516

Author: Richa Bohara, Project Manager

Director: Dan Joannides, Acting Director, Waverley Renewal

RECOMMENDATION:

That Council:

1. Treats the Tender Evaluation Matrix attached to this report as confidential in accordance with section 11(3) of the *Local Government Act 1993*, as it relates to a matter specified in section 10A(2)(c) of the *Local Government Act 1993*. The attachment contains information that would, if disclosed, confer a commercial advantage on a person with whom the Council is conducting (or proposes to conduct) business.

2. Under clause 178(1)(a) of the *Local Government (General) Regulation 2005*, accepts CHROFI as the preferred tenderer for Bondi Park Additional Amenities design services for the sum of $[TO BE INSERTED BY COUNCIL AT THE MEETING].

3. Authorises the General Manager, or delegated representative, to enter into contract on behalf of Council with CHROFI.

4. Notifies unsuccessful tenderers of the decision in accordance with clause 179 of the *Local Government (General) Regulation 2005*.

1. Executive Summary

The purpose of this report is to seek Council's approval for the appointment CHROFI to provide professional services design and documentation for the proposed Bondi Park Central and Southern Additional Amenities and to refurbish tunnel two (under the lifeguard tower) to provide storage for lifeguards as recommended by the Tender Evaluation Committee (TEC)

2. Introduction/Background

The Bondi Park, Beach and Pavilion Plan of Management (PoM) included a Master Plan comprising a number of Key Ideas. Key Idea 4 from the PoM recognises the need for new facilities (including bathrooms, bike storage, bin storage, kiosks and showers) and shaded areas. Some of the works relating to this Key Idea have already been undertaken with the upgrade of the southern toilets and construction of the new northern amenities, completed in 2014 and 2015 respectively.

The recent study into the current amenity capacity at Bondi Park has focused attention on to existing facilities and their ability to cope with Bondi Park users during peak periods. In particular, Council's facilities team has undertaken a monitoring survey on Pavilion amenities users and the findings reveal that the Pavilion amenities are not coping with the influx of users during peak periods such as City 2 Surf and

summer periods. There is a clear indication that amenity capacity in the area is inadequate. This project will ensure the significant improvement of the overall amenities capacity across Bondi Beach.

Council engaged Arup Consultants to provide a feasibility study to investigate opportunities for additional amenities at Bondi Beach. Multiple locations were evaluated and assessed according to the three overarching criteria; Place, Connectivity and Constructability. Further workshops revealed three key locations that can accommodate amenities buildings with minimal visual and heritage impact on Bondi Park. On 7 August 2018, Council made a unanimous decision to proceed with detailed design and stakeholder consultation on the proposed Bondi Park Central and Southern Additional Amenities (with reduced footprint) and design documentation for refurbishment of tunnel two (under lifeguard tower) to provide storage for the lifeguards.

3. Relevant Council Resolutions

Council or Committee Meeting and Date	**Minute No.**	**Decision**
Strategic Planning and Development Committee 7 August 2018	PD/5.7/18.08	That Council: 1. Proceeds with detailed design and stakeholder consultation on the following three proposals: (a) A reduced footprint Bondi Park Central Amenities facility. (b) A reduced footprint Bondi Park Southern Amenities facility. (c) A reduced footprint at Bondi Park Northern Amenities, accommodating only limited Council equipment storage, waste bin storage and family amenities as part of a future upgrade to Biddigal Reserve. 2. In regard to the Bondi Surf Club existing storage, considers either: (a) A staged approach with new storage created prior to the displacement of their existing storage. (b) Shifting the proposed Central Amenities facility to an adjacent space so as not to impact on the Club's existing storage. 3. Proceeds with detailed design and stakeholder consultation to refurbish tunnel two (under the lifeguard tower) to provide storage for the lifeguards, if deemed by Council officers to be appropriate given the consideration in clause 2. 4. Notes that all Options, 1, 2 and 3, are feasible for improved amenity capacity in Bondi Park and should be considered in the preparation of future Long Term Financial Plans.

4. Discussion

Invitation to tender

A Tender Evaluation Panel was established to evaluate the tenders. The Panel consisted of:

- Sharon Cassidy – Executive Manager, Project Waverley.
- Robert Sabato – Senior Project Manager, Project Waverley.
- Richa Bohara – Project Manager, Project Waverley.

An RFT Evaluation & Probity Plan was developed and approved by the Evaluation Panel. Tenders for the Bondi Park Additional Amenities works were called on 4 September 2018

Tenders closed on 25 September 2018.

The Evaluation Panel used the RFT Evaluation & Probity Plan to determine which tender offered the best value for money in the provision of Bondi Park Additional Amenities design services to Council.

Tenders Received

The following tenders were received:

- Lippmann Partnership.
- Stephen Collier Architects PL.
- CHROFI.
- Fuse Architecture.
- Lahz Nimmo Architects.
- Terroir.
- Arup.
- Breakspear Architects.
- Michael Davis Architecture.
- Sam Crawford Architecture.
- MHN Design Union.
- Lacoste + Stevenson Architects.

Late tenders

Nil.

Non-conforming tenders

Nil.

Alternative tenders

Lahz Nimmo Architects submitted four alternative fee structures based on estimated construction costs. The alternative, consistent with the other submissions, was used in the evaluation.

CONFORMING TENDERS EVALUATED
Lippmann Partnership
Stephen Collier Architects PL
CHROFI
Fuse Architecture

Lahz Nimmo Architects
Breakspear Architects
Michael Davis Architecture
Sam Crawford Architecture
Lacoste + Stevenson Architects
MHN Design Union
Terroir
Arup

Tender evaluation

Conforming tenders were evaluated in accordance with Council's Purchasing Procedures and RFT Evaluation & Probity Plan, the Tendering Guidelines for NSW Local Government 2009 issued by the Office of Local Government, and the provisions of the *Local Government Act 1993* and *Local Government (General) Regulation 2005*.

The Evaluation Panel agreed on the following weightings to be used against the advertised selection criteria:

Advertised Evaluation Criteria	Weighting
Project Understanding and Proposed Methodology	30%
Demonstrated Capacity within the proposed timeframe	10%
Experience and Past Performance in similar projects	30%
Price	30%
Total	100%

Tenders were given a score on each of the evaluation criteria, resulting in a total score out of 100. Tenders were ranked in accordance with their scores. Final scores and rankings are shown in the confidential Tender Evaluation Matrix attached to this report.

Evaluation Panel's recommendation

Following a rigorous evaluation of the tenders, the Evaluation Panel recommends that the services/product offered by CHROFI provides the best value to Council. CHROFI provided the best value to Council based on the non-price and price criteria assessment.

5. Financial impact statement/Timeframe/Consultation

Financial impact statement

The budget for Bondi Park Additional Amenities is from the Long Term Financial Plan – Building and Infrastructure – Bondi Plan of Management Works.

The preferred tenderer's price is included in the confidential Tender Evaluation Matrix attached to this report.

The total anticipated funding required for Bondi Park Additional Amenities design services is $560,000. The current budget allocation for the project is $300,000, of which $5,000 has been allocated to project management fees, leaving $295,000 which is sufficient budget for the planned expenditure in 2018/19. The remaining expenditure will be included in the 2019/20 Capital Works Budget.

Timeframe

The design project will commence in October 2018 with construction planned for 2019–20.

Consultation

Stakeholder and community consultation will be undertaken in the development of the design.

6. Conclusion

The Tender Evaluation Panel recommends Council enter into contract with CHROFI for Bondi Park Additional Amenities design works.

7. Attachments

1. Bondi Park Additional Amenities - Tender Evaluation (confidential) .