

# Hyde Park Lighting

RB-001 Return Brief

10-Jun-2022  
Hyde Park Lighting  
**Commercial-in-Confidence**

AECOM

Hyde Park Lighting  
Hyde Park Lighting  
Commercial-in-Confidence

## Hyde Park Lighting

RB-001 Return Brief

Client: City of Sydney

ABN: 22636550790

Prepared by

**AECOM Australia Pty Ltd**

Level 21, 420 George Street, Sydney NSW 2000, PO Box Q410, QVB Post Office NSW 1230, Australia

T +61 2 8008 1700 www.aecom.com

ABN 20 093 846 925

10-Jun-2022

Job No.: 60613074

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

© AECOM Australia Pty Ltd (AECOM). All rights reserved.

AECOM has prepared this document for the sole use of the Client and for a specific purpose, each as expressly stated in the document. No other party should rely on this document without the prior written consent of AECOM. AECOM undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. This document has been prepared based on the Client's description of its requirements and AECOM's experience, having regard to assumptions that AECOM can reasonably be expected to make in accordance with sound professional principles. AECOM may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified. Subject to the above conditions, this document may be transmitted, reproduced or disseminated only in its entirety.

## Quality Information

Document Hyde Park Lighting

Ref 60613074

Date 10-Jun-2022

Prepared by Giulia Vignaroli

Reviewed by Andrei Angelin

### Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
B	10-Jun-2022	For issue	Andrei Angelin Technical Director	<i>Andrei Angelin</i>

## Table of Contents

1.0	Introduction	1
1.1	Project Overview	1
1.2	Scope & Purpose	1
2.0	Accredited Level 3 Provider	3
2.1	Design Assumptions	3
2.2	Key Design Risks	3
2.3	Scope of Works	3
2.4	Standards	3
3.0	Low Voltage Electrical Services	4
3.1	Design Assumptions	4
3.2	Key Design Risks	4
3.3	Scope of Work	4
3.4	Standards	5
4.0	Lighting	7
4.1	Design Assumptions	7
4.1.1	Luminaire pole:	7
4.2	Key Design Risk	7
4.3	Scope of Works	7
4.4	Standards	8
5.0	Communication and Security Installations	10
5.1	Design Assumptions	10
5.2	Key Design Risks	10
5.3	Scope of Work	10
5.3.1	Inclusions:	10
5.3.2	Exclusions:	10
5.4	Codes and Standards	10
6.0	Structural Engineering Services	12
6.1	Design Assumptions	12
6.2	Key Design Risks	12
6.3	Scope of Work	12
6.4	Codes and Standards	13
7.0	Landscape Architecture	14
7.1	Design Assumptions	14
7.2	Key Design Risks	14
7.3	Scope of Work	14
8.0	Environmental Services	16
8.1	Design Assumptions	16
8.2	Key Design Risks	16
8.3	Scope of Work	16
8.4	Standards	17
9.0	Heritage Services (GML)	18
9.1	Design Assumptions	18
9.2	Key Design Risks	18
9.3	Scope of Works	18
9.4	Standards	18

## 1.0 Introduction

### 1.1 Project Overview

Hyde Park is a heritage listed park located in the centre of Sydney, spanning 16.2-hectare (40-acre), it is also the oldest public parkland in Australia.

The project proposes the replacement of all existing heritage listed lighting; the design shall meet the requirements of all relevant Australian Standards.

In addition, all lighting poles shall be replaced, suitable footing designs shall be done.

The condition of the existing electrical, communication and security services shall be reviewed. Based on the assessment AECOM will document an updated LV infrastructure to supply the new lighting and event lighting.

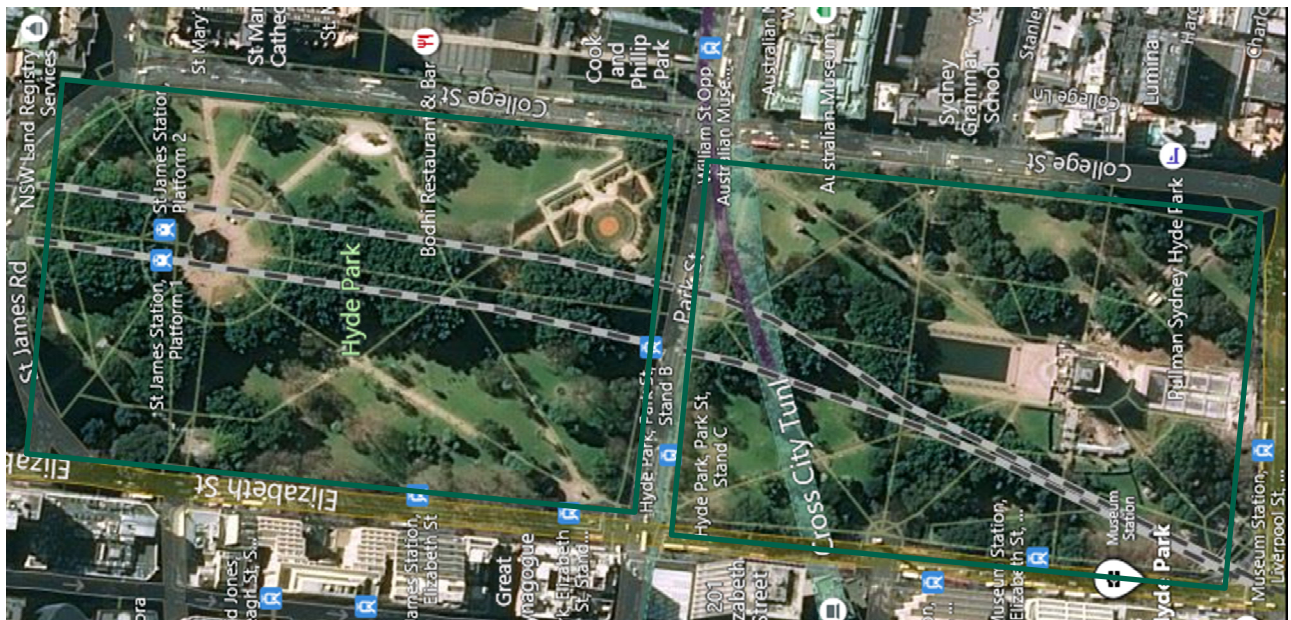


Figure 1 Site location

### 1.2 Scope & Purpose

AECOM have produced this return brief, with the view of identifying specific minimum requirements whilst identifying design assumptions and risks.

The Contractor shall be responsible to provide shop drawings and other documentation as necessary to demonstrate conformance with the design requirements, design parameters, industry practice, codes, regulations and standards.

This report comprises a Brief for the Hyde Park Lighting Upgrade for the following building engineering services:

- Accredited Level 3 Provider,
- Low Voltage Electrical,
- Lighting,
- Communications and Security,
- Structural,

- Landscape,
- Environmental,
- Heritage,

In addition, we advise that the services shall comply and be based on the following:

- Relevant Australian Standards,
- Relevant International Standards,
- Occupational Health and Safety Regulations,
- Local Council Authority guidelines,
- Manufacturer's warranty requirements.

The scope of works is as follows:

- Replace the Heritage listed lighting within the park with Heritage approved prototypes that meet the requirements of all relevant Australian Standards,
- Incorporate a lighting control system with coordination with City of Sydney and their stakeholders,
- Review the security strategy for the park,
- Review the existing electrical infrastructure and updated where required to meet all relevant Australian Standards and codes,
- Allow for event power to meet the requirements of City of Sydney,
- Decommissioning all the existing Ausgrid lighting within the park,
- Designing footing details to suite the geotechnical outcomes of the park.

## 2.0 Accredited Level 3 Provider

### 2.1 Design Assumptions

- No allowance for private Electrical reticulation design (see Section 3.0 LV),
- As per discussions with CoS, it is assume that the existing authority supplies into the site are sufficiently sized and no further capacity is required. CoS preference is to utilise the existing capacity and not introduce additional infrastructure into the park.
- Decommission existing Ausgrid lighting assets in Hyde Park only,
- Retaining the existing smart poles providing lighting to the streets on the existing Ausgrid network is not included in the scope of works. Further discussions are in place with Ausgrid to discuss CoS options.

### 2.2 Key Design Risks

Nil.

### 2.3 Scope of Works

Decommission existing Ausgrid lighting in Hyde Park:-

#### Stage 1:

Prepare and Lodge Ausgrid asset decommission application.

#### Stage 2:

Deliver certified Ausgrid design and Summary of Environmental Report (SER).

### 2.4 Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 1 HV Electrical Design standards**

Item	Standards
Wiring Rules	AS/NZS 3000:2018
Public Lighting Design and Construction	Ausgrid NS119
Design and Construction Standard for URDs	Ausgrid NS110
Laying Underground Cables up to and Including 11kV	Ausgrid NS130
Low Voltage Cable Joints and Terminations	Ausgrid NS127

## 3.0 Low Voltage Electrical Services

### 3.1 Design Assumptions

- No provisions have been made for a prime or standby (generator backed) power supplies to any proposed or future loads.
- No provision has been made for an Uninterruptable Power Supply (UPS).
- All existing services and equipment not affected by the new proposed lighting and electrical reticulation shall be retained and resupplied from the new electrical switchboards. The supplies to equipment (e.g. circuit breaker sizes) shall be provided as like for like.
- Where there is event and general power provided within existing Switchboards, the outlets will be replaced with dedicated outlets installed on bollards.
- All existing cylindrical green pillars (previously used for firefly lighting) to be disconnected and removed.
- All existing power poles to be considered for demolition, refer to the condition assessment report issued by AECOM in January 2021.
- The existing Ausgrid electrical supplies to the park shall be retained and reconnected to the new main switchboards. No upgrades or changes to the existing Ausgrid supplies into the park.
- Existing capacity provided by Ausgrid will be utilised. No allowance will be made for additional power, this was discussed and agreed with CoS. To avoid the need of power monitoring during events.
- Shutdowns of existing electrical switchboards will be required when decommissioning of existing electrical main switchboards. General park power outlets within the park will not be available for use during these periods.
- Arborist to review AECOM's pit locations and conduit pathways to provide additional advice on trench as required.
- Advice on archaeological significance of the site has been provided from heritage consultant. It is assumed this information is accurate and can be relied upon for locating the pit and conduits.

### 3.2 Key Design Risks

- All existing electrical assets within the park vicinity will need to be investigated and assessed to confirm whether they are required for demolition. AECOM will issue a sketch indicating existing electrical which are proposed for demolition. City of Sydney to review and provide comment and confirmation.

### 3.3 Scope of Work

The Electrical Services works will comprise the following systems:

- Modifications or installation of new underground Service Mains cables from existing point of common coupling to new Main Switchboards as required (if required, subject to final location of new main switchboards). Any works associated with existing services mains will be undertaken by a Level 1 and Level 2 ASP. Applications for shutdowns and approval of works to Ausgrid to be included as part of these works.
- Decommissioning and make safe redundant existing Main Switchboards and Distribution boards.
- New Main Switchboards, supplying general power, event power and park lighting.
- New Earthing System (MEN) for all new Main Switchboards.
- New Surge Protection



- New Supply Authority Metering equipment.
- New LV cable pit and pipe infrastructure to new light fittings, new power bollards
- New Electrical reticulation network including the following:
  - Service Mains Cabling
  - Submains Cabling
  - Distribution Boards including all accessories including private metering, isolators and circuit breakers, control cabling etc.
  - Final sub-circuit cabling to general power, event power and lighting.
  - Supplies to other services, ie. ICT and Security Services.
  - Cable Containment as required.
- General External Power and Event Power Outlets complete with Load Centre for local isolation (installed on custom bollards).
- Any existing equipment to be retained to be resupplied from new electrical reticulation network.

### 3.4 Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 2 LV Electrical Design standards**

Item	Standards
Authorities	City of Sydney Guidelines (If applicable) Ausgrid Service and Installation Rules of New South Wales
All	AS/NZS 3000 - Electrical Installations (Known as the Australian / New Zealand Wiring Rules).
Reticulation Design	AS/NZS 3000 - Electrical Installations (Known as the Australian / New Zealand Wiring Rules).  AS/NZS 3008 – Electrical installations – selection of cables for alternating voltages up to and including 0.6/1 kV.  AS/NZS 3013 (for safety services supply) - Electrical installations - Classification of the fire and mechanical performance of wiring system elements  AS/NZS 3017: Electrical Installations—Verification guidelines.
Main switchboard	AS/NZS 61439 (set) - Low-voltage switchgear and control gear assemblies
Distribution Boards	AS/NZS 61439 (set) - Low-voltage switchgear and control gear assemblies
Electrical Maximum Demand	AS/NZS 3000 - Electrical Installations (Known as the Australian / New Zealand Wiring Rules).
Consumer's Mains	AS/NZS 3000 - Electrical Installations (Known as the Australian / New Zealand Wiring Rules).

Item	Standards
	AS/NZS 3008 – Electrical installations – selection of cables for alternating voltages up to and including 0.6/1 kV.
Sub-mains	<p>AS/NZS 3000 - Electrical Installations (Known as the Australian / New Zealand Wiring Rules).</p> <p>AS/NZS 3008 – Electrical installations – selection of cables for alternating voltages up to and including 0.6/1 kV.</p> <p>AS/NZS 3013 (for safety services supply) - Electrical installations - Classification of the fire and mechanical performance of wiring system elements</p>
Final sub-circuits	<p>AS/NZS 3000 - Electrical Installations (Known as the Australian / New Zealand Wiring Rules).</p> <p>AS/NZS 3008 – Electrical installations – selection of cables for alternating voltages up to and including 0.6/1 kV.</p>

## 4.0 Lighting

### 4.1 Design Assumptions

Below items are based on the previous discussions and workshops with City of Sydney

- All pedestrian pathways including Central Avenue and Secondary Pathway lighting to be IP65 opal sphere type luminaire, completed with 65W LED, 3000K, CRI 80, 8000lm.
- Proposed and agreed illuminance level details are as follows in accordance with AS/NZS 1158.3.1:2020.
  - Primary Paths: PP2
  - Secondary Paths: PP3
  - Open Lawn Area N/A

#### 4.1.1 Luminaire pole:

##### Pathway poles

- Primary path pole design to match the current pole design – height of 4.5m, elaborate details of the pole feature and size to be identical.
- Central Avenue pole finish colour to match 1920's installation. The final finish colour to be determined by City of Sydney Council.
- Secondary Path pole to be a mixture of 4.5m heritage pole and 7m hinged aluminium pole.
- Pole foundation details to be shallower than current design to protect the tree roots, proposed footing details to be submitted as part of 50% design.
- Anti-graffiti treatment to be added in the finish paint.

##### Open Area poles

- Proposed Pole: Straight, hinged type, Aluminium, Height of 7m.
- Pole finish: Dark grey/ charcoal colour confirmed by City of Sydney Council.
- Anti-graffiti treatment to be added in the finish paint.

### 4.2 Key Design Risk

- Final lighting layout objection from heritage perspective. If this occurs the potential further works from lighting and electrical services are as follows:
  - Adjust the light pole locations as required, further lighting calculation works to ensure revised lighting layouts are complied with required P category in accordance with AS/NZS 1158.3.1 2020,
  - Drawing updates,
  - Adjust all relevant electrical services design details to suit,
  - Review of light pole footing details for the new light pole positions,
  - Consequently, the deliverable program will be delayed.

### 4.3 Scope of Works

- Lighting calculations to meet following agreed illuminance levels in accordance with AS/NZS 1158.3.1:2020.
- Lighting layouts for North & South Park incl. main pathways, all open lawn areas : Palm Grove, Nagoya Gardens, Dalley Lawn, College Lawn, British Lawn, Sandringham Garden, Electric Lawn, Cook Lawn, Memorial Lawn East and West.
- Memorial Precinct, adjacent The Pool of Reflection and cascade water feature is excluded from this design package
- Luminaire types to be proposed for the park and include:
  - Bespoke lights for the post tops lining the paths through Hyde Park North and South;

- Off the shelf light fittings for mast lighting to illuminate open lawn areas mentioned above and selected monuments/ features in the park incl. Nagoya Garden feature, William Bede Dalley statue, Sandringham Gardens & Memorial Gates, Palm Grove artwork, Selected features of Frazer Fountain and the Emden Gun.
- Off the shelf direct / indirect wall mounted lights for the Sandringham Gardens.
- Lighting control system proposal to support City of Sydney 's Smart City design intent. Currently proposed lighting control options are below:
  - Bluetooth wireless (CASAMBI) lighting control system with controllers complete with dedicated Bluetooth antennas, at selected locations. Controllers to communicate to CMS ethernet gateways which will provide remote monitoring and control. CMS ethernet gateways to be connected to City of Sydney's internet network via fibre connection.
  - Selected poles and luminaires will be fitted with Bluetooth nodes to create a Bluetooth wireless mech, which will communicate to the controller at selected locations.
  - Lighting control system to be programmed to allow integration with City of Sydney's existing main CMS system via CMS ethernet gateways within the park.

#### 4.4 Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 3 Lighting Services Design standards**

Item	Standards
AS/NZS 1158	Lighting for Roads & Public spaces
AS 4282	Control of the obtrusive effects of Outdoor lighting
Service and Installation Rules of New South Wales	
AS/NZS 3000:2018	Electrical Installations (Known as the Australian / New Zealand Wiring Rules)
AS/NZS 3008	Electrical Installations – selection of cables. Cables for alternating voltages up to and Including 0.6/1kV
AS/NZS 3100	Approval and test Specification-General requirements for electrical equipment
AS/NZS 3017	Electrical Installations—Verification guidelines
IESNA LM79-08, LM80-08 and TM21-11	
AS 3439	Low-voltage Switchgear

Item	Standards
External Lighting	<p>AS/NZS 1158 Part 1 to 6 - Lighting for Roads &amp; Public spaces</p> <p>AS 4282: Control of the obtrusive effects of Outdoor lighting.</p> <p>Service and Installation Rules of New South Wales.</p> <p>AS/NZS 3000:Electrical Installations (Known as the Australian / New Zealand Wiring Rules)</p> <p>AS/NZS 3008: Electrical Installations – selection of cables. Cables for alternating voltages up to and Including 0.6/1kV</p> <p>AS/NZS 3100: Approval and test Specification-General requirements for electrical equipment.</p> <p>AS/NZS 3017: Electrical Installations—Verification guidelines.</p> <p>IESNA LM79-08, LM80-08 and TM21-11</p> <p>Hyde Park Plan of Management (adopted October 2006)</p> <p>Disability Discrimination Act 1992, Disability Services Act 1993 and Anti-Discrimination</p> <p>Act 1997 as amended (Australian Legal Information Institute website);</p> <p>AS 1428 Design for Access and Mobility (consultant to acquire);</p> <p>Crime Prevention Through Environmental Design (CPTED) Principles (consultant to acquire);</p> <p>Relevant Australian standards, guidelines, codes and applicable laws (consultant to acquire).</p>
	Hyde Park Plan of Management (adopted October 2006)
	Disability Discrimination Act 1992, Disability Services Act 1993 and Anti-Discrimination
	Act 1997 as amended (Australian Legal Information Institute website)
	AS 1428 Design for Access and Mobility (consultant to acquire)
	Crime Prevention Through Environmental Design (CPTED) Principles (consultant to acquire)
	Relevant Australian standards, guidelines, codes and applicable laws (consultant to acquire).

## 5.0 Communication and Security Installations

### 5.1 Design Assumptions

- No allowance for wireless communications services in the park (wi-fi, LPWAN, Bluetooth, consolidated cellular coverage etc.)
- No allowance for video analytics for CCTV services
- No allowance for security bollards.
- No advice has been provided from arborist. Pit/conduit pathways and locations may require relocation pending arborist's report.
- Advice on archaeological significance of the site has been provided from heritage consultant. It is assumed this information is accurate and can be relied upon for locating the pit and conduits.

### 5.2 Key Design Risks

- Shadows/insufficient lighting for surveillance along tertiary pathways and open lawn areas
- Stakeholder input required for overarching control requirements to align with other existing and proposed City of Sydney projects.

### 5.3 Scope of Work

#### 5.3.1 Inclusions:

- Additional CCTV cameras and associated in-ground infrastructure (pit and conduit, fibre ties, media converters). In-ground infrastructure to include fibre connections back to existing Control Room at Town Hall,
- Conduit provisions for lighting control connectivity. Final connection type to be confirmed (4G SIM VS. Fibre). Connection via Ausgrid fibres supplying CCTV has been noted as not suitable,
- Retention of existing CCTV cameras and monitoring systems (e.g. environmental sensors etc.)

#### 5.3.2 Exclusions:

- Smart City master planning and roadmap documentation,
- Smart City integrated platform for city-wide asset monitoring and control,
- Smart City initiatives (refer: Hyde Park\_Priority Initiatives\_CoS Ranking.xlsx) beyond those required to enhance CCTV and lighting control systems as part of the Hyde Park Lighting project
- Communications infrastructure to support additional smart initiatives (e.g. smart bins, digital signage and wayfinding, environmental sensors, data storage and management solutions etc.)

### 5.4 Codes and Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 4 Structural Design standards**

Item	Standards
AS/NZS 62676: 2020 (all parts)	Video surveillance systems for use in security applications
AS/CA S009:2020	Installation requirements for customer cabling (wiring rules)
AS/CA S008:2020	Requirements for authorised cabling products
AS 3996:2019	Access Covers and Grates
AS/NZS IEC 61935.1:2012	Specification for the testing of balanced and coaxial information technology cabling - Installed balanced cabling as specified in ISO/IEC 11801 and related standards (IEC 61935-1, Ed.3.0 (2009) MOD)
AS/NZS 3000:2018	Wiring Rules
AS/NZS 11801 (-1 & -3)	Telecommunications installations – Generic Cabling for Customer Premises
	<i>City of Sydney Design Guidelines not yet provided</i>

## 6.0 Structural Engineering Services

### 6.1 Design Assumptions

- Light pole foundation structures will be located as necessary underneath proposed light poles, noting the following:
- No advice has been provided from arborist. Light pole foundation structure may require relocation pending arborist's report.
- Advice on archaeological significance of the site has been provided from heritage consultant. It is assumed this information is accurate and can be relied upon for locating the light poles and their foundation structures.
- Light pole design for strength and serviceability (including fixing details to the foundation) is by others and does not form part of AECOM's scope.
- Light pole loads, including vertical and lateral loads, are provided by others and does not form a part of AECOM's scope.
- Foundation structures to be designed using geotechnical parameters provided in the geotechnical engineer's report.

### 6.2 Key Design Risks

- No arborist's report has been provided to AECOM:
- If the arborist's report is provided after the commencement of design, there is the risk of redesign work for all disciplines due to the requirement of relocating light poles.
- If the arborist's report is not provided by the construction phase, there is risk of damaging heritage plants during construction.
- Advice on archaeological significance of the site has been provided from heritage consultant and it is assumed this information is accurate. In the instance it is not, there is risk of disturbing archaeologically significant land.

### 6.3 Scope of Work

The structural scope of works will comprise the following:

#### Design Phase

- Review of incoming and outgoing documentation,
- Interdisciplinary coordination as necessary,
- Review and addressing of comments from client as required,
- Review of Geotechnical parameters,
- Review of Arborist Report (if not available, assumptions will be made for the design),
- Drafted drawings of light pole foundations,
- Structural Specification provided
- Final structural calculations submitted (at 95% submission).

#### Construction Phase

- Respond to requests for information (RFIs) during the construction stage as required,
- Attend site inspections to ensure light pole foundations are constructed as documented by AECOM,
- Provide inspection reports following each inspection.



## 6.4 Codes and Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 5 Structural Design standards**

Item	Standards
National Construction Code	National Construction Code (NCC) Building Code of Australia (BCA) Relevant Sections of Volume 1 Parts B & C
AS/NZS 1170.0-2002	Structural Design Actions Part 0 General Principles
AS/NZS 1170.1-2002	Structural Design Actions Part 1 Permanent, Imposed and Other Actions
AS/NZS 1170.2-2011	Structural Design Actions Part 2 Wind Actions
AS 3600-2018	Concrete Structures
AS 2159-2009	Piling – Design and installation

## 7.0 Landscape Architecture

### 7.1 Design Assumptions

- No allowance for arboriculture services or preparation of tree protection plans. We will work with City of Sydney appointed arborist.
- No allowance for irrigation design or reticulation.

### 7.2 Key Design Risks

Nil.

### 7.3 Scope of Work

#### Stage 1 Design Development & Approvals:

- Review refined Lighting Layout Plan to ensure consideration has been provided to all aspects of Hyde Park's functions / uses.
- Ensure the designs develop a coordinated palette of lighting fixtures that responds to its urban design role and enhance the parks significant monument's, gardens and built form.
- Preparation of exhibition panels for community consultation to illustrate the design, in plan and section.

#### Stage 2 Construction Documentation:

- Provide specialist advice during development of draft documentation and light fitting prototype.
- Preparation of landscape plans for areas of disturbance adjoining/due to new light pole locations, conduit routes or pit locations (within the park).

#### Stage 3 Construction Stage:

- Respond to queries and site attendance during construction as required.

### 7.4 Regulations and Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 6 Landscape Design standards**

Item	Standards
National AS 2303:2018	Tree stock for landscape use
AS 4419:2018	Soils for landscaping and garden use
AS 4454: 2012	Composts, soil conditioners and mulches
AS 1428.1:2001 and 2009	Design for Access and Mobility, General Requirements for Access-New Building Work.

Item	Standards
AS 1428.2:1992	Design for Access and Mobility, Enhanced and Additional Requirements-Buildings and Facilities.
AS 1428.3:1992	Requirements for Children and Adolescents with Physical Disabilities.
AS / NZS 1428.4:1 2009	Tactile Ground Surface Indicators for the Orientation of people with Vision Impairment.

## 8.0 Environmental Services

### 8.1 Design Assumptions

- AECOM will prepare a Review of Environmental Factors to assess the environmental impact of the proposal

The REF will:

- Assess the potential environmental impacts of the design based on detail supplied by City of Sydney and the concept design prepared by AECOM,
- Include a site visit to better understand site constraints and opportunities. This site visit may be optionally attended by a City of Sydney representative,
- identify any permits and/or additional approvals required by other agencies. The scope does not include preparing applications to obtain permits for this project,
- Consultation with Council or other agencies as required under the Infrastructure SEPP on the preferred option will be undertaken. This would involve preparation of a letter outlining the works and a follow up phone call to the Council and agencies,
- Ky issues to be assessed in the REF will include biodiversity, Aboriginal heritage, biodiversity, sediment and water quality, construction noise and traffic impacts and noise impacts during construction. Operational impacts would be assessed, though these are likely to be minimal,
- It is assumed that the heritage report prepared by GML would be suitable to inform the degree of heritage impact associated with the proposal. On this basis no additional heritage specialist report would be prepared, though the GML report would be summarised into the body of the REF,
- Note that an Environmental Impact Statement will not be prepared for this project as there is no trigger for such an assessment (being either listing with the schedules of *State Environmental Planning Policy (State and Regional Development) 2011*, or a likely significant impact upon the environment),
- It is assumed that City of Sydney review comments on the draft would be provided to AECOM as one set of consolidated comments,
- It is assumed the REF team will be provided a design and project description (including materials and construction methodology) suitable for the preparation of the REF,
- Should AECOM, through the course of preparing the REFs, identify environmental constraints that may require more detailed consideration or assessment, we would discuss this as soon as possible with City of Sydney as this may attract a variation,
- No allowance has been made for attendance at community meetings or other public authorities other than that required by the ISEPP,
- One consolidated set of review comments from City of Sydney have been allowed for on the draft REF,
- One electronic copy of the final REF report would be issued. No hard copies have been allowed for,
- Any permit application fee payments are the responsibility of City of Sydney.

### 8.2 Key Design Risks

- The need for unforeseen technical studies to support the REF. The only technical study currently assumed to be required would be the non-Aboriginal heritage assessment prepared by others.

### 8.3 Scope of Work

- The scope of works is the upgrade of the existing luminaires within Hyde Park by City of Sydney.
- Section 5.5 of the EP&A Act sets out the requirements for the City of Sydney in their duty to consider environmental impact. Specifically, the City of Sydney (a determining authority), 'in its consideration of an activity shall... examine and take into account to the fullest extent possible

all matters affecting or likely to affect the environment by reason of that activity'. Based on the scale of the works and the high likelihood that they will not result in significant impacts on the environment, AECOM proposes to prepare an REF on behalf of City of Sydney to satisfy their obligation to consider matters affecting or likely to affect the environment. The REF will be prepared based on the concept design and in accordance with City of Sydney's Environmental Management System.

- A two week review period for City of Sydney of the Draft REF has been allowed for.
- The AECOM REF Lead will work collaboratively with the nominated City of Sydney representative for the project, to make sure that relevant knowledge about the project and environmental issues and opportunities are acknowledged and included in the preparation of the REF.

## 8.4 Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 7 Environmental Design standards**

Standards
Environmental Planning and Assessment Act 1979
National Construction State Environmental Planning Policy (Infrastructure) 2007 Code
Sydney Local Environment Plan 2012

## 9.0 Heritage Services (GML)

### 9.1 Design Assumptions

- HIS to be prepared based on design docs that specifies the location, size, depth of proposed ground disturbance work,
- Archaeological research design,
- Any fees payable to Heritage NSW for the lodgement of the section 60 is not included,
- Preparation of an Aboriginal Heritage Impact Permit is not included,
- Preparation of one Exemption notification,
- No self-assessment under the EPBC Act has been included (Governor's domain National Heritage Listing),
- 4 Weeks of Archaeological Research Design and monitoring, is not included in the scope of works,
- There will be review of 3 iterations of the lighting plan,
- Archaeological research design is not included in the scope of works.

### 9.2 Key Design Risks

- Significant impacts on heritage values of Hyde Park or items in the vicinity, eg Museum Station, St James, Anzac Memorial and the new NHL listings,
- Discovery of State significant relics or Aboriginal objects during ground works will require works to cease, variations and extensions of time.

### 9.3 Scope of Works

- Preparation of a Heritage impact statement,
- One exemption notification Section 57 (completed in 2020),
- Review of up to 3 iterations of the lighting plan,

### 9.4 Standards

All supplied equipment, methods of installation and standards of workmanship shall comply with the relevant technical specifications, procedures, practices and standards:

Wherever a Standard or Code of Practice is referred to in this specification, it will imply the latest issue and/or revision applicable at the time of tender. In particular, the requirements of the following standards and specifications shall be observed at all times, where applicable.

Where more than one code or regulation is applicable, the more stringent shall apply.

**Table 8 Heritage Design standards**

Standards
Statements of Heritage Impact
Other Guidelines and standards for heritage management
Burra Charter
EBPC Heritage Impact assessment guidelines