EUSTON TOWER

Lighting Assessment Addendum

December 2024

British Land

Euston Tower

Exterior Lighting Strategy

December 2024

Introduction

This Euston Tower - Lighting Strategy Addendum summarises the revisions made to the pending strategic application for Full Planning Permission (ref. 23/5240/P), submitted in December 2023 for the Proposed Development at Euston Tower (286 Euston Road, London).

The Applicant has undertaken extensive consultation during both the pre-application and determination stages of the Proposed Development and has sought to respond positively to the responses received. The scheme has been revised in response to feedback from Officers, local stakeholders and residents, the Regents Park Conservation Area Advisory Committee and statutory consultees, including Historic England and The Greater London Authority.

This Addendum has been prepared detailing the revisions to the pending scheme (the “Proposed Development”). For the avoidance of doubt, the Euston Tower -Lighting Strategy which accompanied the December 2023 Submission is considered as read and this Addendum deals only with the 2024 Revisions and any updates to assessments as a result of these revisions. This Addendum also clarifies and provides further details responding to consultation responses received since the original submission in December 2023. Save where varied or supplemented in this Addendum, the content of the Euston Tower - Lighting Strategy remains valid and up to date.

The Description of Development for the Proposed Development, in light of the 2024 Revisions, has been updated to the following:

“Redevelopment of Euston Tower comprising retention of parts of the existing building (including central core, basement and foundations) and erection of a new building incorporating these retained elements, to provide a 32-storey mixed-use building providing offices and research and development floorspace (Class E(g)) and office, retail, café and restaurant space (Class E) and Enterprise space (Class E/ F) at ground and first, and associated external terraces; public realm enhancements, including new landscaping and provision of new publicly accessible steps and ramp; short and long stay cycle storage; servicing; refuse storage; plant and other ancillary and associated work.”

This report outlines the lighting strategy for the Euston Tower development public realm and tower nighttime appearance. The design work here has been developed in collaboration with Architects 3XN and Landscape Architects DSDHA. This proposal, along with the landscape works, is illustrative at this stage and with be refined and further coordinated at a later design stage.

This document is intended to support the planning application, which has been submitted on behalf of British Land Property Management Limited, who is the Applicant.

Creating a public space that people want to use

Lighting Philosophy


Minimise Light Pollution


Placemaking


Wayfinding and Legibility

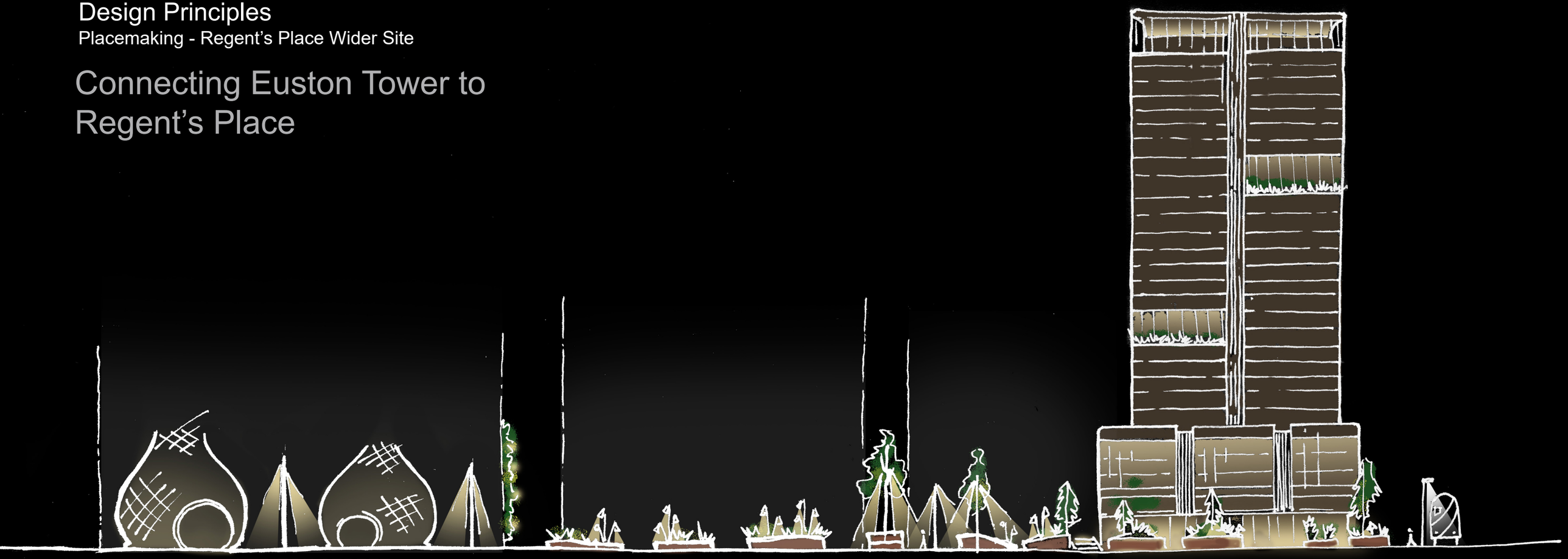

Perception of Safety


Sustainability


Community

Design Principles
Placemaking - Regent's Place Wider Site

Connecting Euston Tower to Regent's Place



EXISTING SITE

NEW DEVELOPMENT








Design Principles
Wayfinding and Legibility

This broader site map emphasizes the permeability of the site, illustrating how people move into and through the site from residential and business areas to a major city intersection. The map provides an overview of transitions and access points, which are explored in more detail on the following page.

Primary Route (Main Thoroughfare)

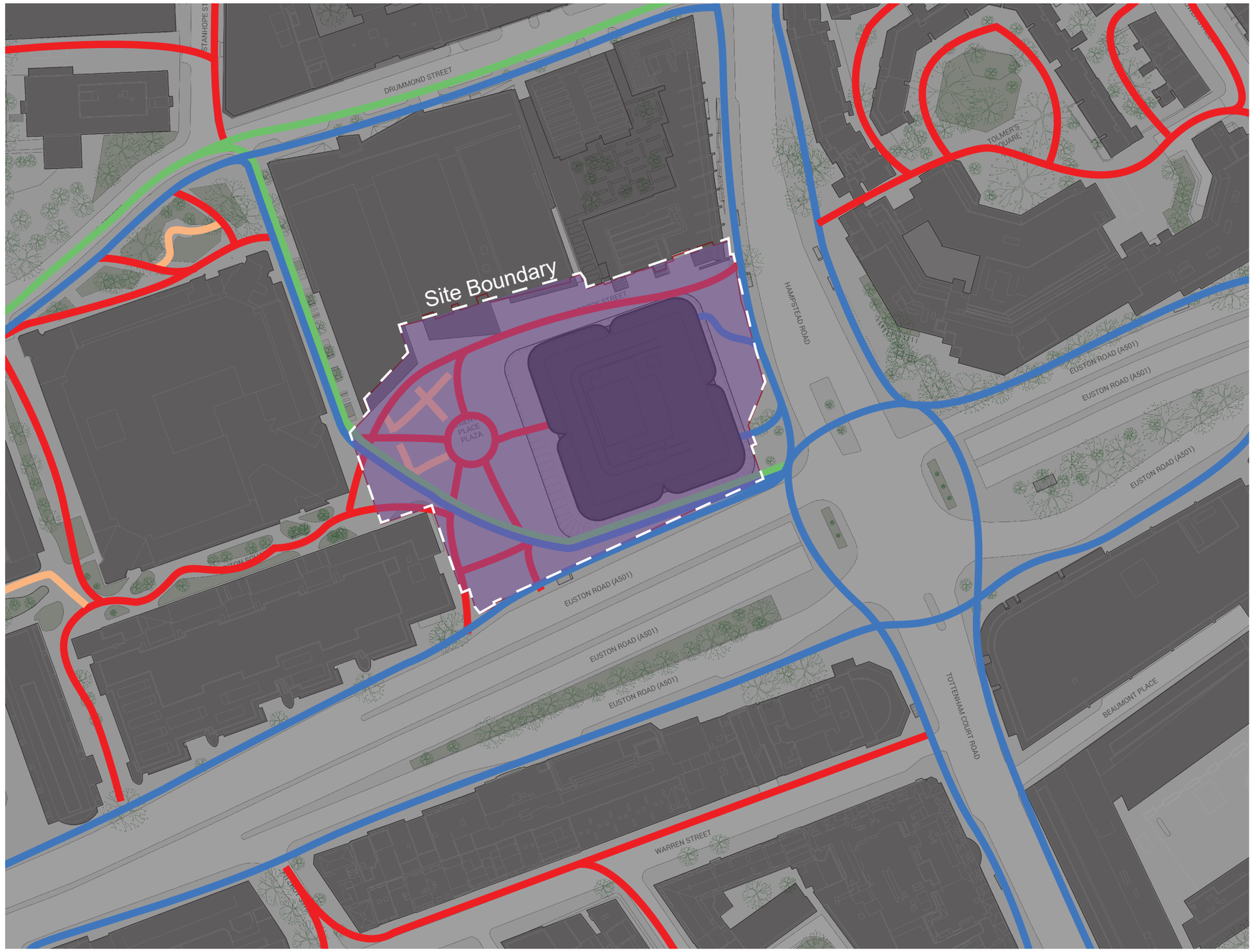
Secondary Route (Pedestrian Only)

Tertiary Route (Meandering and Leisure)

Cycle Route

Main Entrances

Secondary Entrances



Site route map with surrounding context

Design Principles
Wayfinding and Legibility

Light distribution will reinforce wayfinding and legibility across Regent's Place. Different routes and character areas will be defined by light distribution and variation of light levels.

Primary routes will be distinctly brighter than secondary routes intended for pedestrians and meandering. The key route intended for shared use with cyclists will feature column mounted lighting.

Secondary and Meandering routes will be characterised by lower illuminance levels, lighting equipment will be low level, and integrated to seating or other street furniture. In seating areas, lighting will create a focus inviting visitors to dwell and activate the space.

Building entrances will be accentuated by dedicated focus lighting to make them clearly identifiable.

Lighting to the UKPN access stair shall be contained within the stair footprint and provide minimal necessary illumination during use hours with minimal spill outward to the planting.

Site route map

Primary Route (Main Thoroughfare)

Secondary Route (Pedestrian Only)

Tertiary Route (Meandering and Leisure)

Cycle Route

Main Entrances

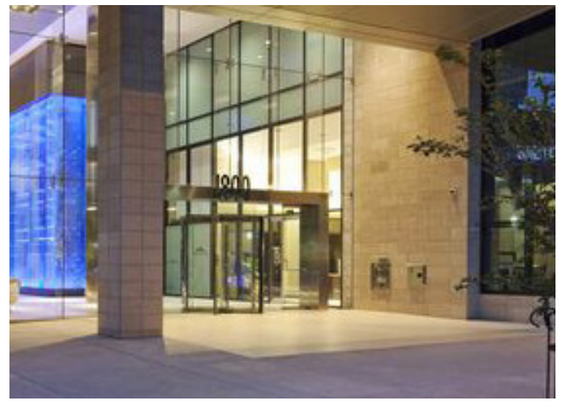
Secondary Entrances

UKPN Access Stair

Cycle routes

Pedestrian routes

Meandering and Leisure routes

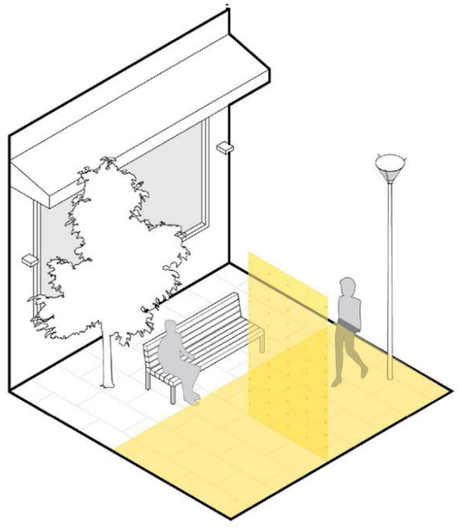


Main entrances

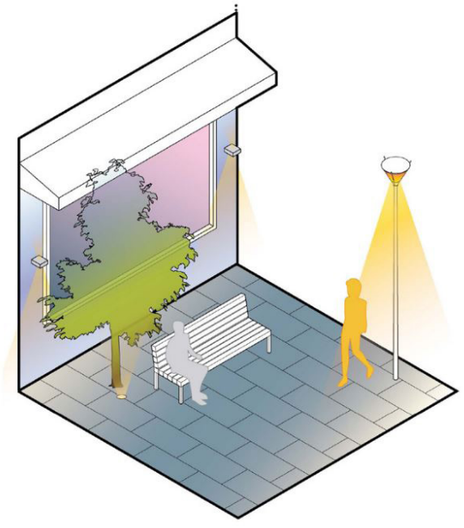
Design Principles
Safety

The lighting strategy will create a safe and welcoming environment in the hours of darkness.
Much of public realm lighting design has leant itself to simply satisfying minimum and average requirements of illuminance in the horizontal plane and vertical planes. The proposed approach goes beyond this, considering quality, contrast and distribution, to create a balanced approach with layers of light. This approach is evidence-based and has been developed by Arup collaboration with academic researchers.

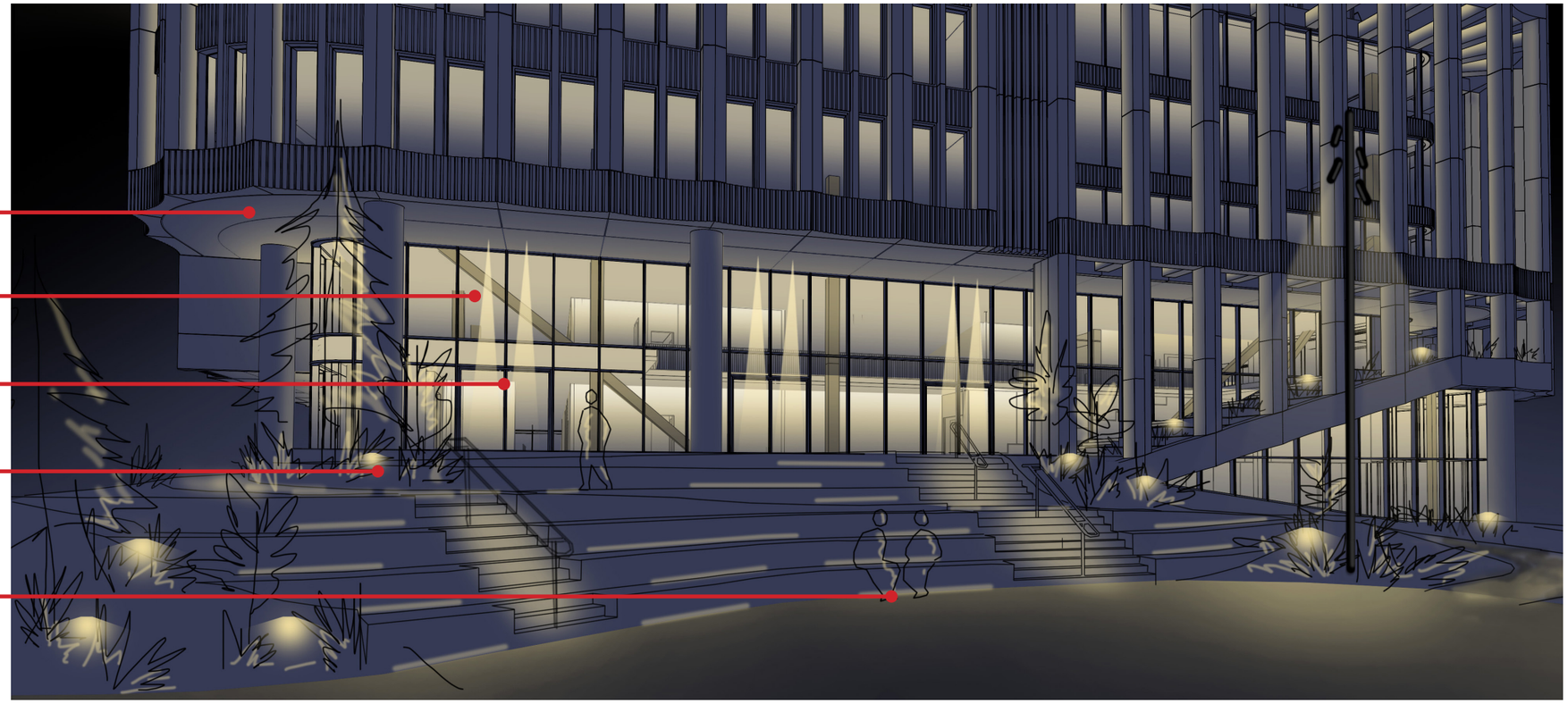
- Surface illumination combined with vertical and spatial accents
- Prioritise low contrast fixtures to minimise instances of glare
- Lighting integrated at low level to avoid direct view to fixtures; the effect is visible, rather than the light source.
- Creation of focal points to encourage dwell, activation and natural surveillance through occupation.



Design by Criteria - Conventional Approach



Holistic Design - Arup Approach



The illuminated soffit draws the eye upward, **enhances perceived brightness,** and appears welcoming

The visually permeable glazed facade showcases the internal lit character of the building, and **emanates a light glow** to its immediate surroundings.

Dedicated lighting to entrances creates **pools of light** aiding wayfinding into the building

Downward accent light to landscape elements creates **playful pockets of light** and minimises upward light, reducing contribution to sky glow

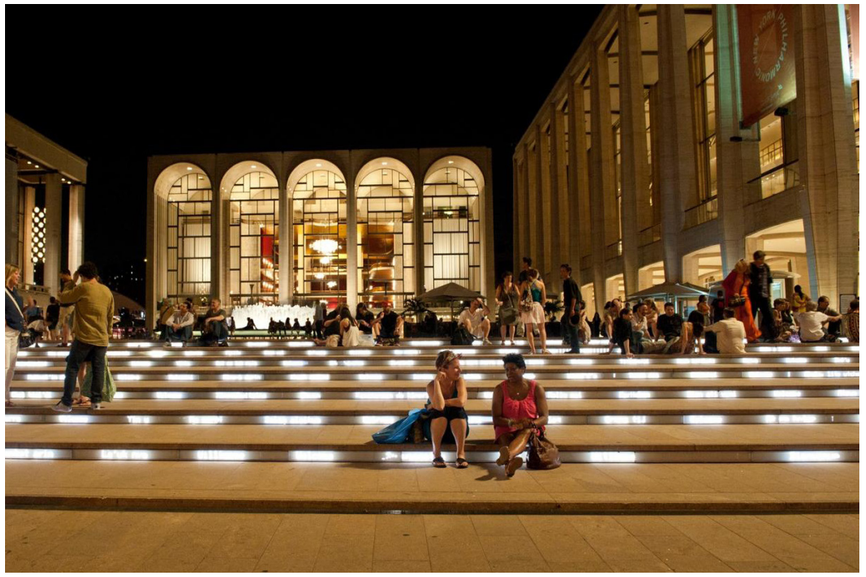
Illumination at seating creates an **inviting ambiance** for a moment of leisure

Design Principles
Community

The project's aspirations to continue to provide accessible community spaces will be supported by the lighting strategy:

- Interior lighting visible through the visually permeable façade will reveal activity inside and create a sense of anticipation
- Lighting at podium level will lead visitors to community and coworking spaces
- Focused lighting to Regent's Place Plaza could support projectors and/or other temporary lighting for integration with artwork or other community events, bringing the opportunity to imbue the lighting with an element of play for all ages
- Improvement to peoples' wellbeing by having access to quality public space at night

While it is intended that the lighting will support improved use and activation, lighting is not intended to be used throughout the night. A security setting is proposed to reduce illumination levels outside of standard operating hours at a curfew time to be agreed until dawn when the lighting would reduce and will be achieved through a sitewide lighting control system.



Community events at night

Public space activated by play artwork

Design Principles
Sustainability

The lighting system will be developed to align with the wider projects sustainability goals. This will be achieved by:

- The lighting strategy will effectively and efficiently illuminate public spaces, such that equipment can be minimised, reducing embodied and operational carbon.
- The lighting strategy will include a robust future proof control system, to adapt to future use and new technologies.
- The scheme will use contemporary luminaires with high efficiency LED light sources, high quality optics and optical accessories to ensure that unnecessary light spill is minimised.
- Equipment selection: will include fixtures with durable materials, and consider future re-use and modular replacement and upgrade.
- Utilise standard products, avoiding cost and complications of bespoke solutions.

Generally the following principles of circular economy will be applied to the lighting design.

1. Circle of lighting materials
Lighting products should be capable of being dismantled to base components to be up or down cycled, or, as a last resort, re-cycled and returned to the materials reservoir.

2. An adaptable system
Lighting systems must be able to adapt to new layouts, functions and programmes over a building's lifetime, while being able to integrate with technologies that may not exist at the time of design.

3. Higher flexibility, higher resilience
Lighting outputs, layers, and distributions of light within a space must be flexible to accommodate variable functions and uses throughout the day.

4. High quality design
A successful circular lighting design must go beyond box checking of energy efficiency and longevity. The quality of the lighting design will have a significant impact on the longevity of its use, affecting its circularity.

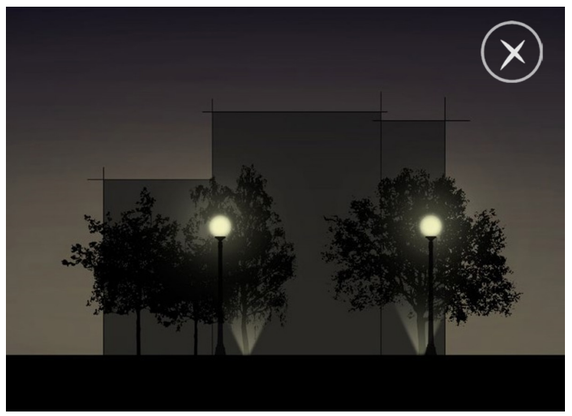
Design Principles
Minimising Light Pollution

Regent's Place features high ambient light levels due to spill light from commercial properties, lighting in the existing public realm, signage to retail units and any lit seasonal features.

Existing lighting conditions, provided by a combination of lighting equipment on the site and borrowed light from adjacent installations, combined with the central London location makes this site unsuitable for creating inherent darkness typically required to support habitats for bats and insects.

While true darkness cannot be achieved, there are a number of measures to be employed to minimise the detrimental effects of lighting:

Warm white light will be used across site, preferred by people and various bat species
Lighting equipment will feature focused downward light and optical accessories to minimise upward light and ensure that any unnecessary light spill is minimised.
The control system will ensure that lighting is in operation only at times that it is required. For example on light nights in the summer, lighting equipment will only be in use from dusk up until the curfew time.



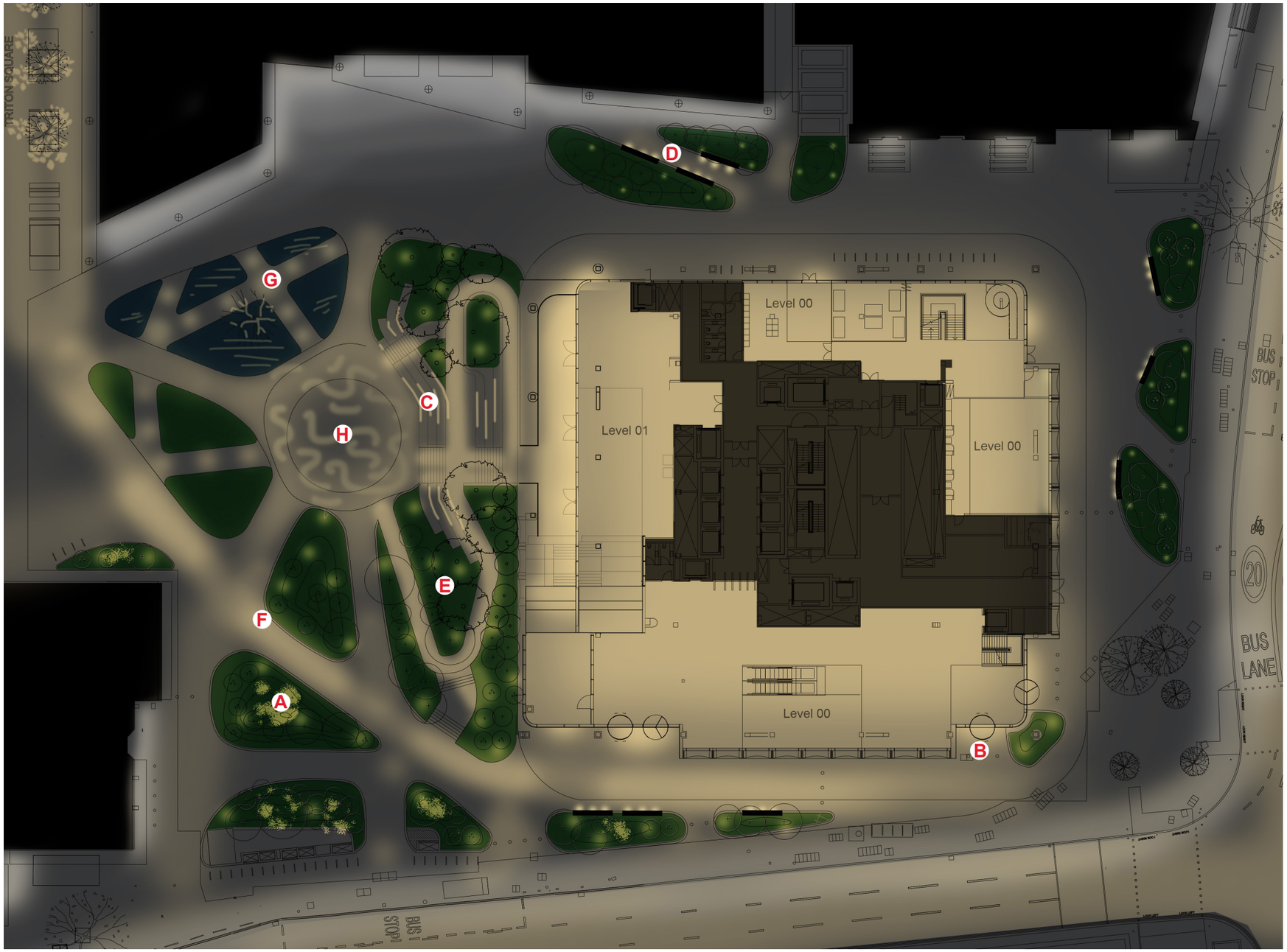
Unshielded upward light

Controlled downward light

Design Strategy
Overall Site Characteristics

Main design characteristics throughout the site include:

A Moonlighting from trees creates visual interest and casts a dappled light effect on planting below
B Pools of light at entrances aids wayfinding into the building and feels welcoming
C Accent illumination beneath stair seating encourages dwell
D Illumination beneath bench seating serves low level path illumination and encourages dwell
E Downward accent lighting to planters minimises upward sky glow and creates pockets of warm glow within the planting
F Column lighting to the shared pedestrian and cycle path increases vertical illumination, enhancing perception of safety and aiding wayfinding
G Low level lighting to wetland paths creates reflections on the surface of the water
H Multi-spots to columns can be used for events or performances to create increased lighting to central area or decorative projection.



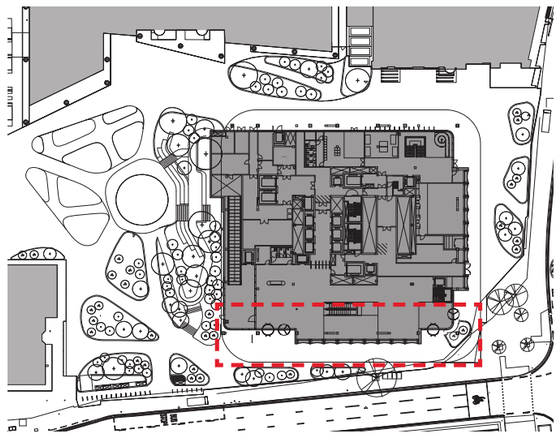
Site wide lighting strategy

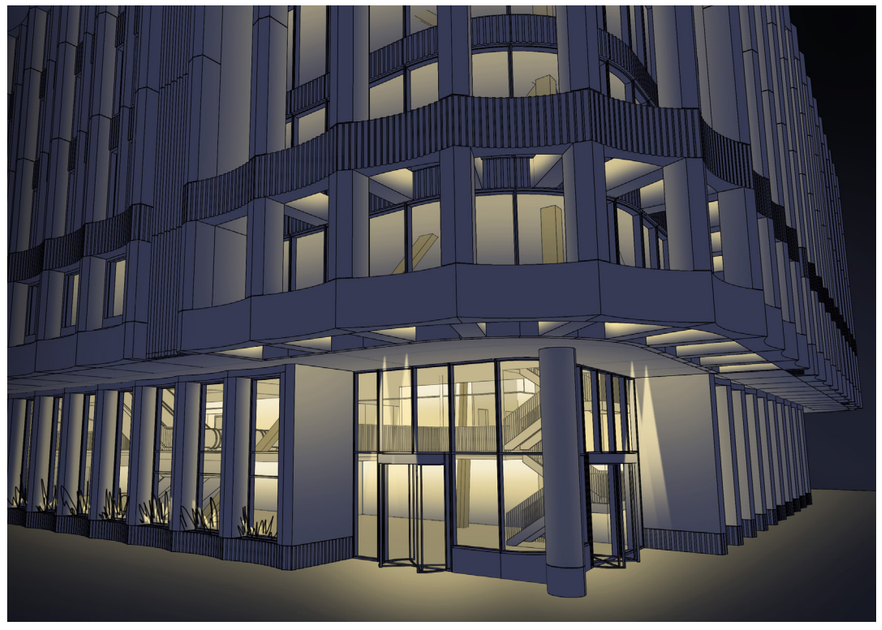
Design Stategy
Euston Road - Entrances

Lighting Layers:

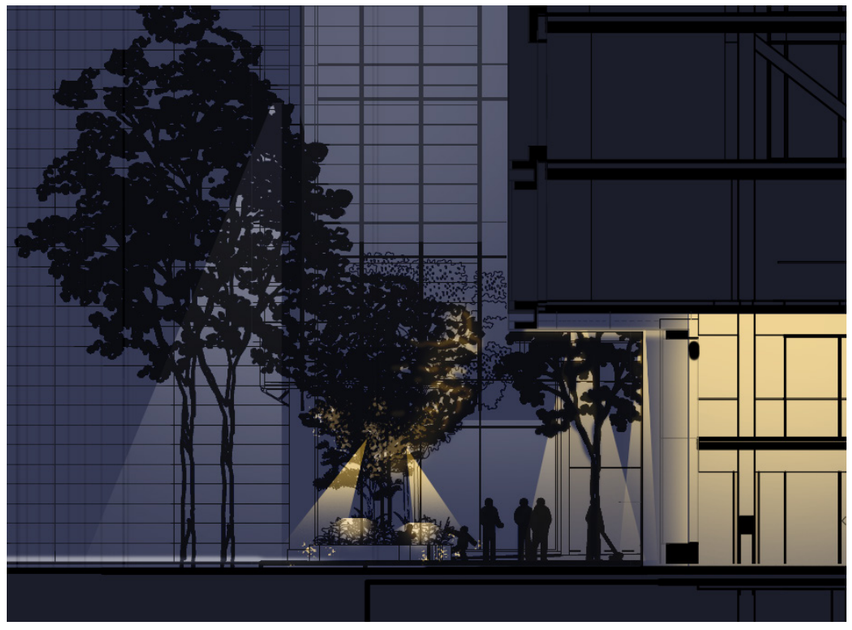
1. Light glow from the Podium facade casts incidental lighting on surrounding planting and providing comfortable ambient light. As the facade is visually permeable, the inner workings of the building appear welcoming, attractive and accessible.
2. Entrances to the building are marked by pools of light at the threshold, increasing wayfinding into the building.
3. Dedicated lighting to the exterior canopies on the ground floor and level 01 lifts the perceived brightness of the space while creating a consistent lit surface treatment around the building.
4. Interior illumination on the upper levels of the building lightly accent the adjacent exterior structure, defining the building's night-time appearance by enhancing the rhythm of the facade.
5. Walls adjacent to entrances will be lit externally to emphasise signage
6. Fins will be accentuated to continue the lit surface at the upper level. Accentuating these elements raises perceived visual brightness of the area and showcases another element of the facade's rhythm.
7. Downward accent light to landscape elements create playful pockets of light. This treatment continues the precedent approach from Regent's Place, creating visual cohesion across the wider site.

Euston Road | Lighting Study Perspective





Euston Road | Lighting Study Perspective

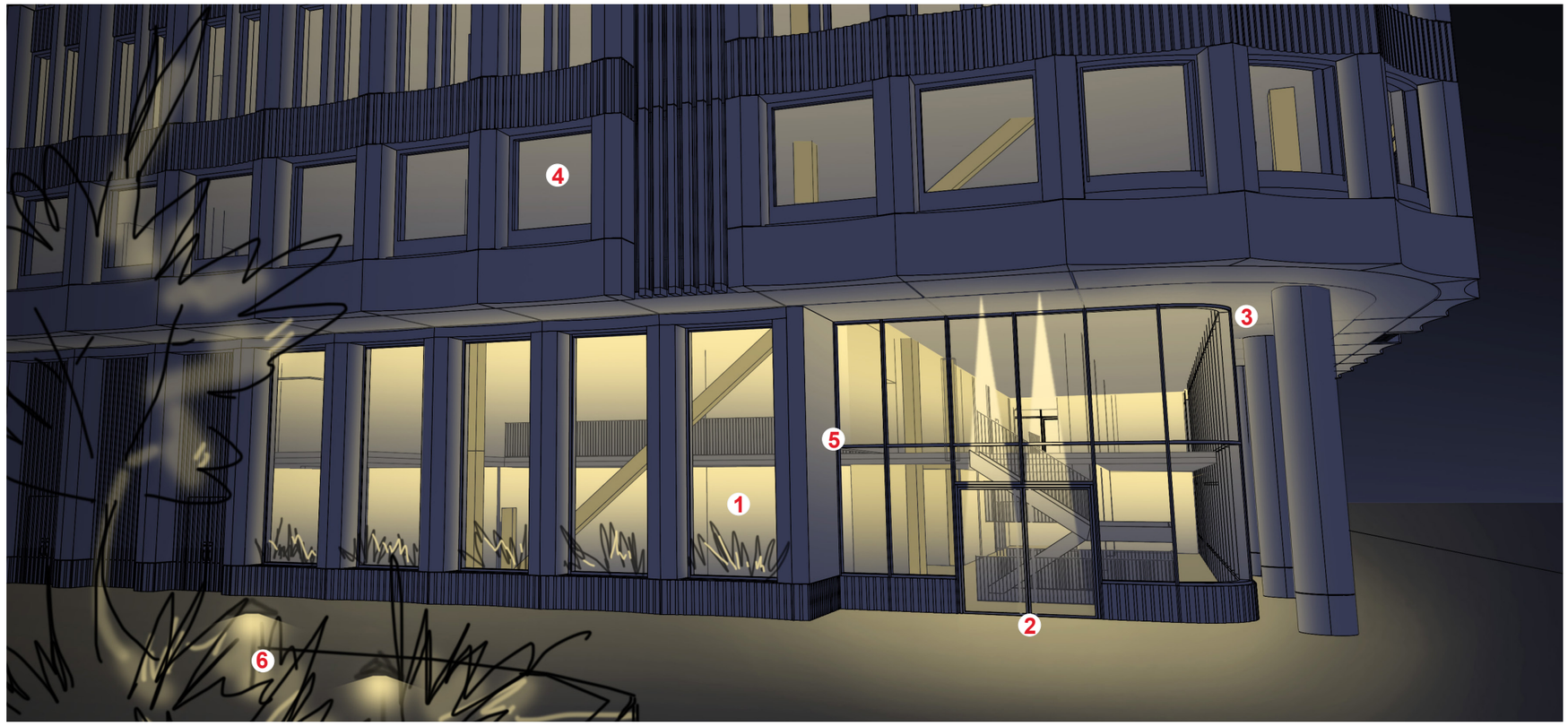


Euston Road | Lighting Study Section

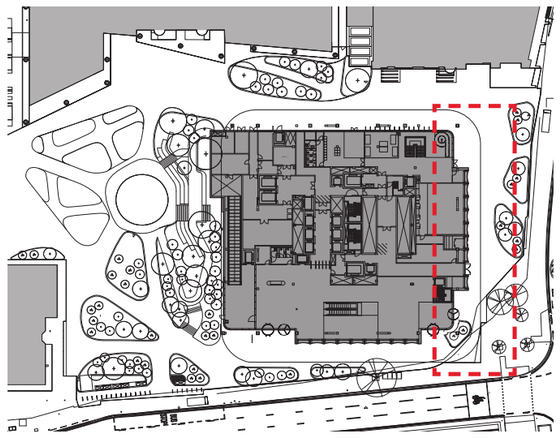
Design Strategy
Hampstead Road

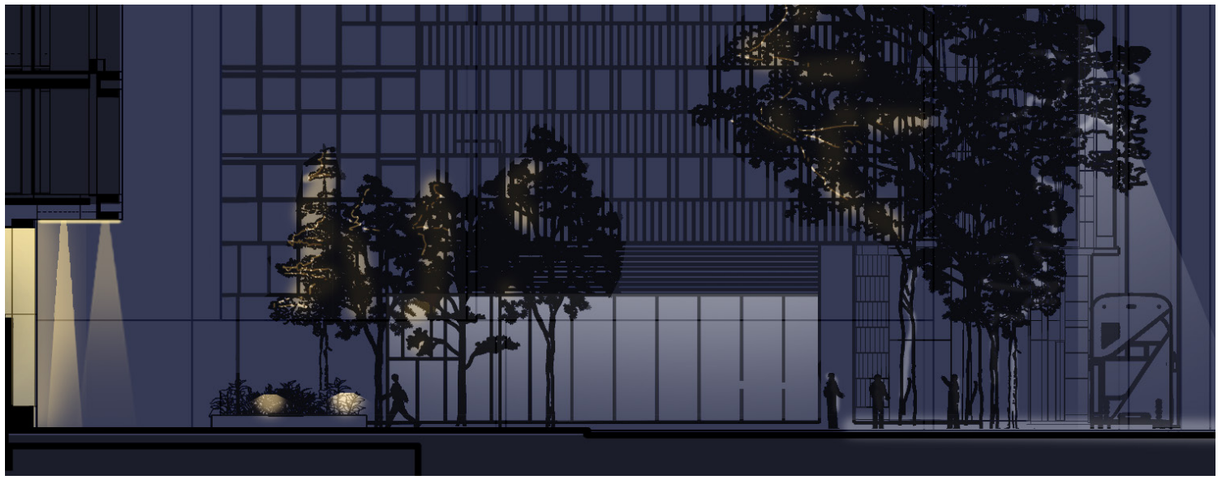
Lighting Layers:

1. Light glow from the Podium facade casts incidental lighting on surrounding planting and providing comfortable ambient light. As the facade is visually permeable, the inner workings of the building appear welcoming, attractive and accessible.
2. Entrances to the building are marked by pools of light at the threshold, increasing wayfinding into the building.
3. Dedicated lighting to the canopy lifts the perceived brightness of the space while creating a consistent lit surface treatment around the building.
4. Interior illumination on the upper levels of the building lightly accent the adjacent exterior structure, defining the building's evening appearance by enhancing the rhythm of the facade.
5. Walls adjacent to entrances will be lit externally to emphasise signage or community message boards
6. Downward accent light to landscape elements create playful pockets of light. This treatment continues the precedent approach from Regent's Place, creating visual cohesion across the wider site. The physical appearance of low level luminaires located in planting along Hampstead Road will share visual characteristics with similar equipment on site and will be physically robust to suit the high traffic, public thoroughfare.



Hampstead Road | Lighting Study Perspective



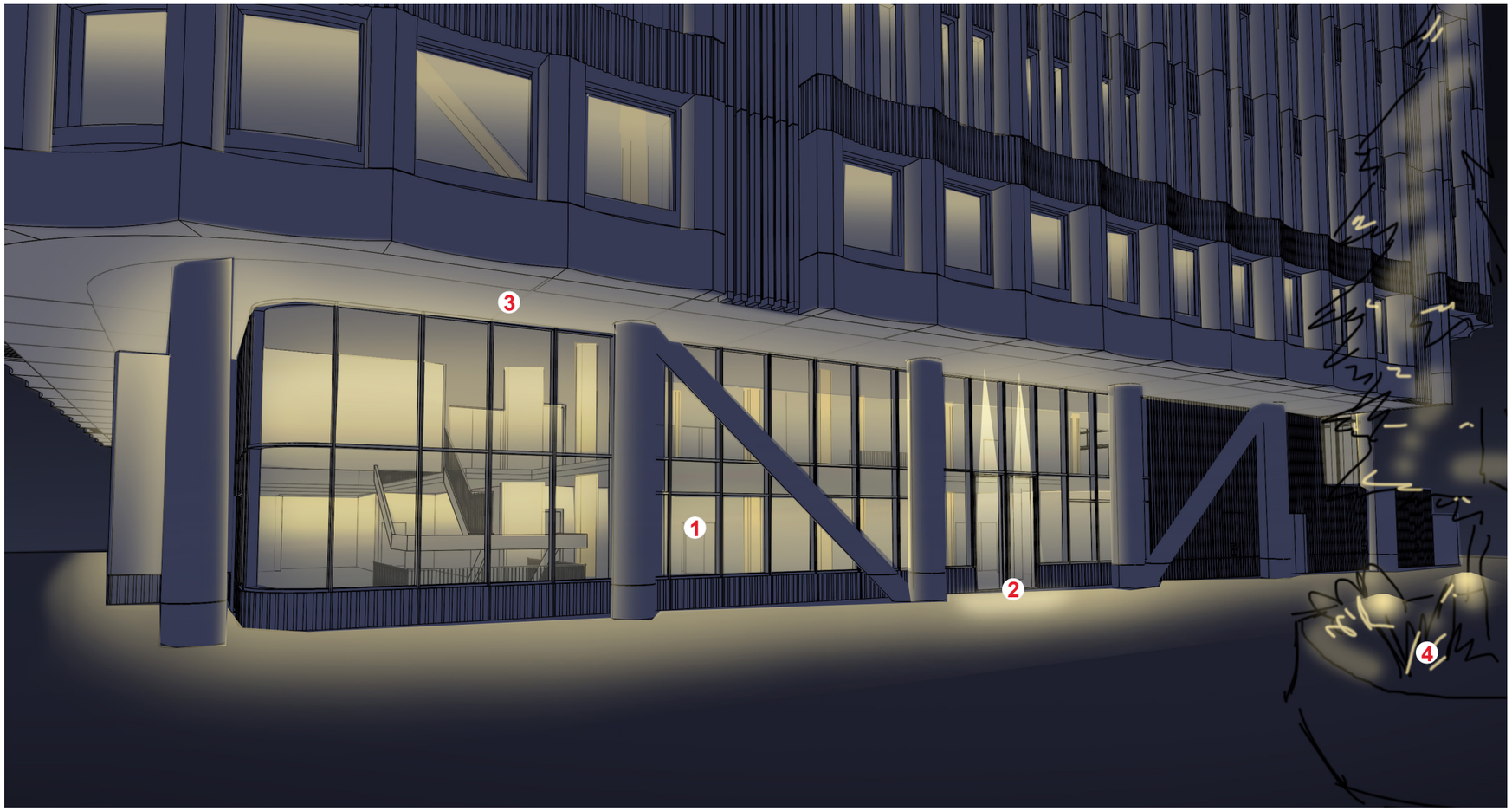


Hampstead Road | Lighting Study Section

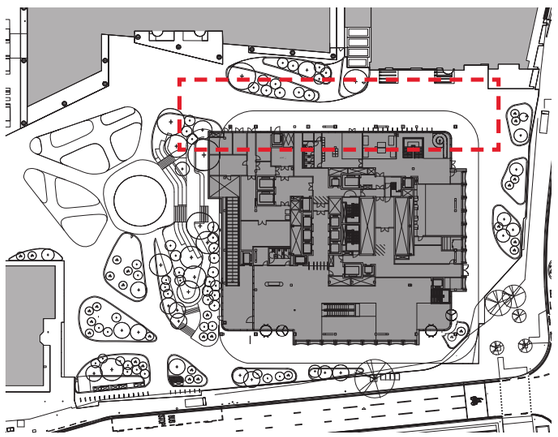
Design Strategy
Brock Street

Lighting Layers:

1. Light glow from the Podium facade casts incidental lighting on surrounding planting and providing comfortable ambient light. As the facade is visually permeable, the inner workings of the building appear welcoming, attractive and accessible.
2. Entrances to the building are marked by pools of light at the threshold, enhancing wayfinding into the building.
3. Dedicated lighting to the exterior canopy lifts the perceived brightness of the space while creating a consistent lit surface treatment around the building.
4. Downward accent light to landscape elements create playful pockets of light. This treatment continues the precedent approach from Regent's Place, creating visual cohesion across the wider site.



Brock Street | Lighting Study Perspective



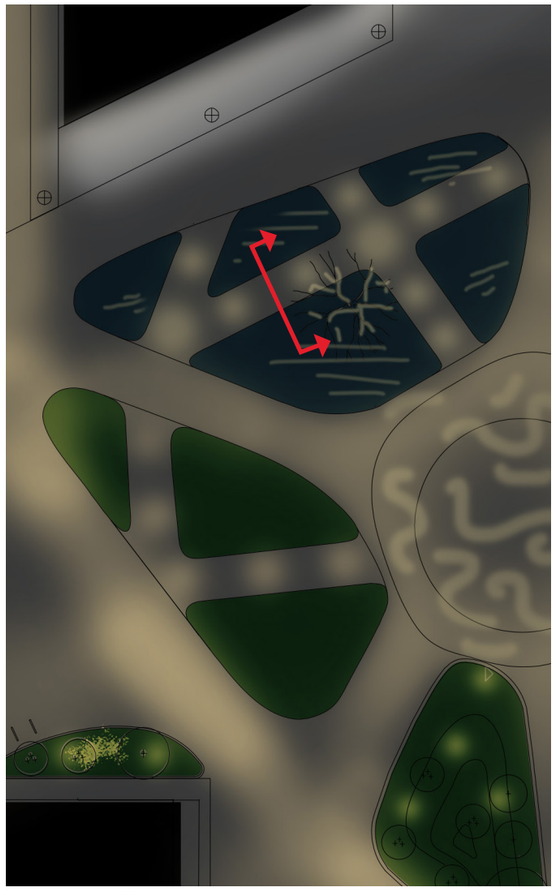
Brock Street | Lighting Study Section

Design Strategy
Wetlands

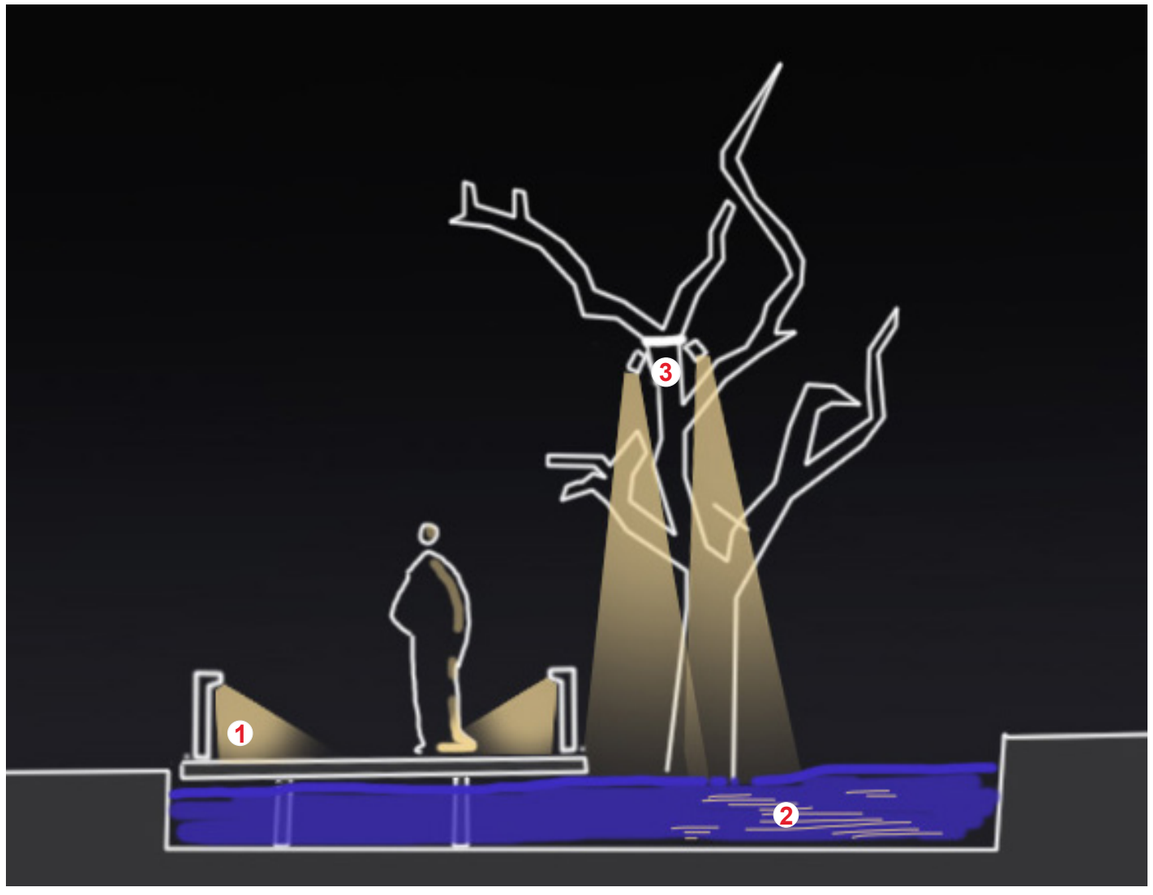
The Northern wetland area is expected to maintain water at all times while the Southern wetland area is expected to flood occasionally, water draining away within 24 hours. Direct light to these areas is intentionally avoided, to encourage reflections on the water's surface.

Lighting Layers:

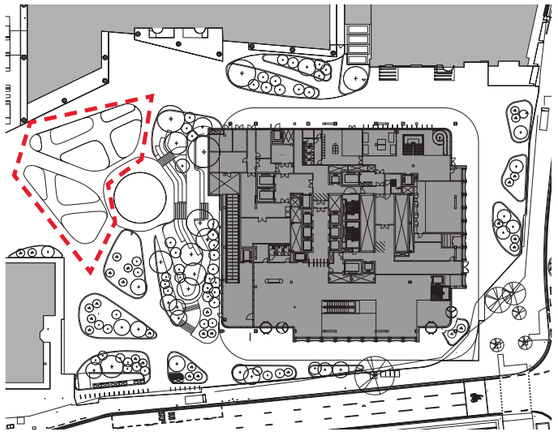
1. Low level path lighting lends a subtle effect to the areas, allowing a small amount of incidental light to be cast on nearby planting.
2. Nearby lighting and surrounding building lighting will reflect in the water.
3. Downlight accent at the habitat tree draws vertical visual interest and will reflect back into the pool below.

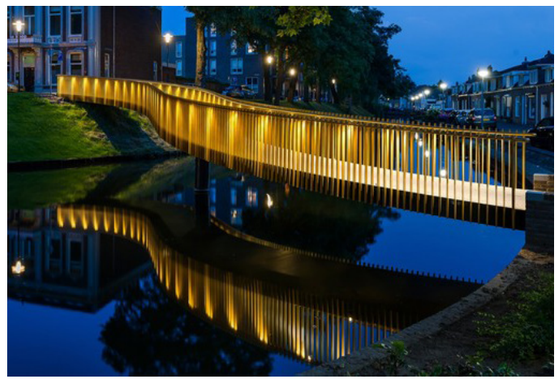


Wetland Areas | Plan



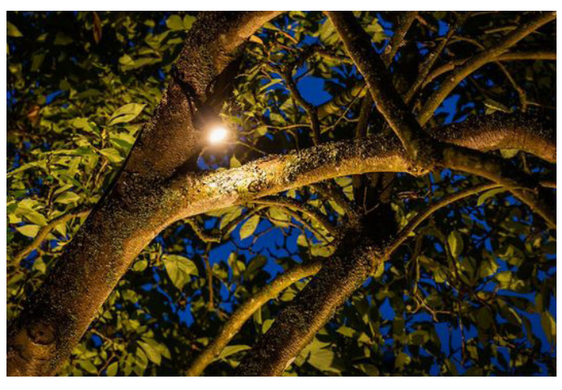
Wetland | Lighting Study Section





Reference | Lighting reflected in water

Reference | Low level path light



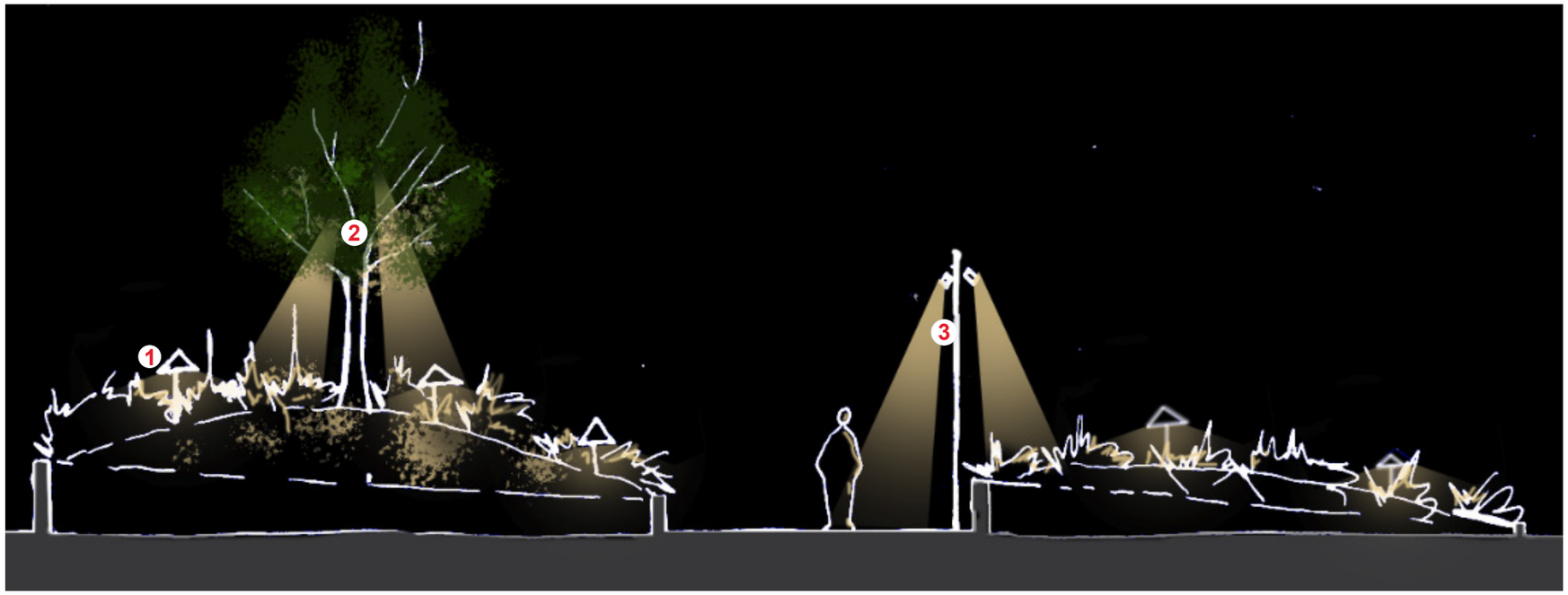
Reference | Moonlighting

Design Strategy
Euston Road - Planting Areas

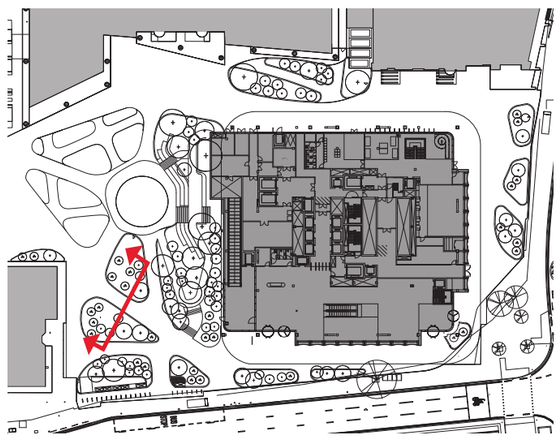
The planting areas adjacent to Euston Road will feature a consistent design language carried across from other areas recently redeveloped in the wider site. Where possible and appropriate, lighting equipment to Euston Tower landscape areas will use the same family of fixtures as used across the wider site, to ensure visual continuity throughout.

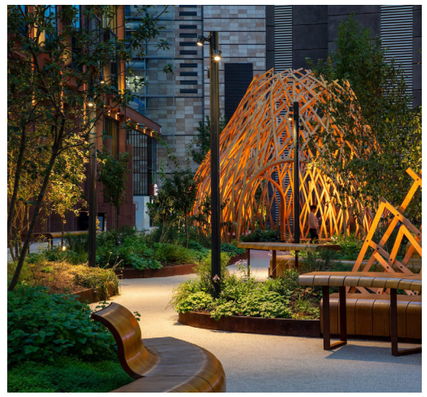
Lighting Layers:

1. Downward accent light to landscape elements creates playful pockets of light. This treatment continues the precedent approach from Regent's Place, creating visual cohesion across the wider site.
2. Moonlighting from trees creates visual interest and casts a dappled light effect on planting below, this features is also used adjacent to 1 Triton.
3. Column-mounted lighting illuminates the proposed bike path and main thoroughfare of the site. Columns will maintain a pedestrian scale, lending a comfortable atmosphere, yet still providing essential vertical illumination for safe wayfinding through the site for both cyclists and pedestrians.
4. Individual, soft, point sources below the benches (not pictured) create a welcome seating environment, and harken to the soft pockets of accent light in the landscaping.



Shared Cycle route | Lighting Study Section




Reference | Regent's Place


Reference | Moon lighting

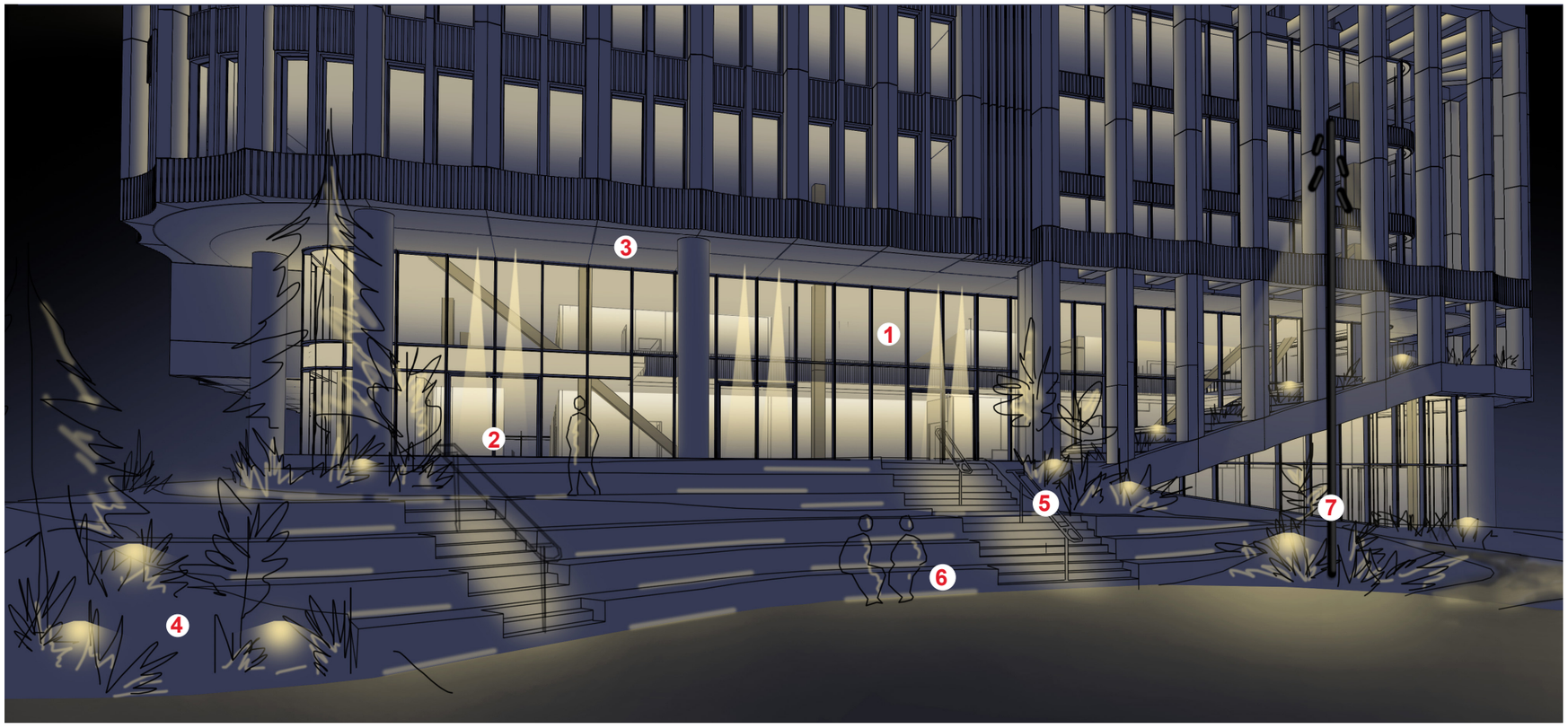

Reference | Bench lighting


Reference | Downward accent light

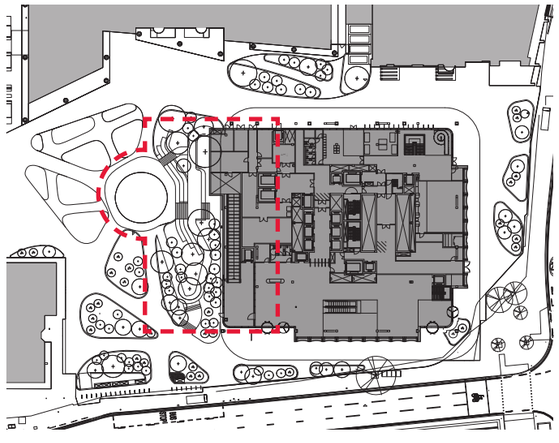
Design Strategy
Podium and Central Site

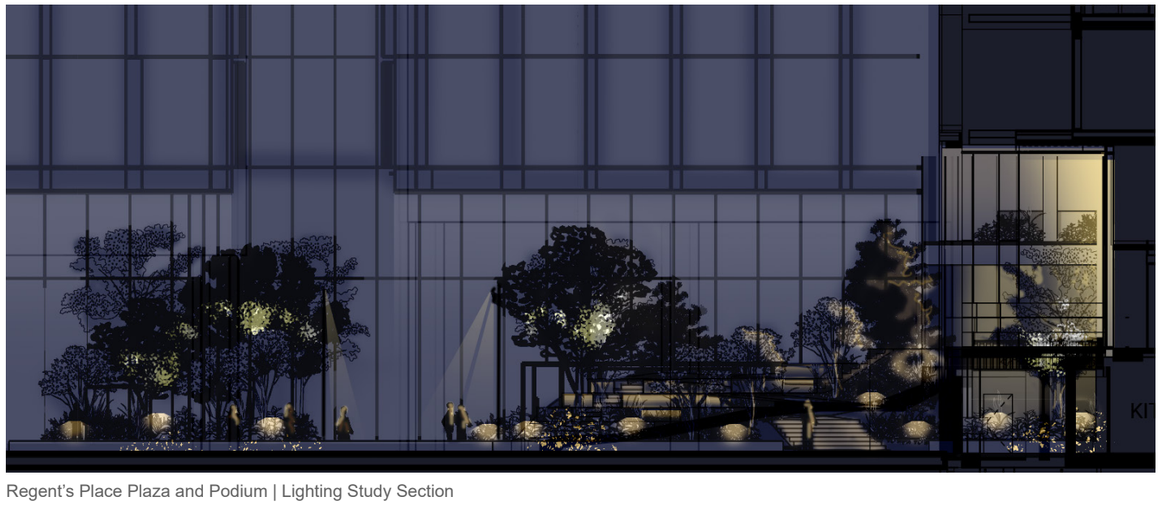
Lighting Layers:

1. Light glow from the Podium facade casts incidental lighting on surrounding planting and providing comfortable ambient light. As the facade is visually permeable, the inner workings of the building appear welcoming, attractive and accessible.
2. Entrances to the building are marked by pools of light at the threshold, enhancing wayfinding into the building.
3. Dedicated lighting to the canopy lifts the perceived brightness of the space while creating a consistent lit surface treatment around the building
4. Downward accent light to landscape elements creates playful pockets of light. This treatment continues the precedent approach from Regent's Place, creating visual cohesion across the wider site.
5. Lighting integrated to the handrail provides direct illumination to stairs
6. The seating area will feature integrated bench lighting, in intermittent locations, inviting people to dwell.
7. Dedicated column lighting (8m) to the central area provides illumination for flexible programming and creates the opportunity for additional lighting that can help create community activation
8. There is to be a provision of a power supply to the Regent's Place Plaza for flexible programming such as markets and outdoor cinema.



Podium Seating | Lighting Study Perspective





Regent's Place Plaza and Podium | Lighting Study Section

Design Strategy
Tower Characteristics

Euston Tower's night time appearance will be characterised by it's interior lighting, terrace lighting and landscape strategy.

The form of the building will be revealed by the interior lighting shining on to the window reveals, creating a sense of form and rhythm that varies upon viewing angle. In contrast, uplighting to terrace soffits, will be continuous delineating their form.

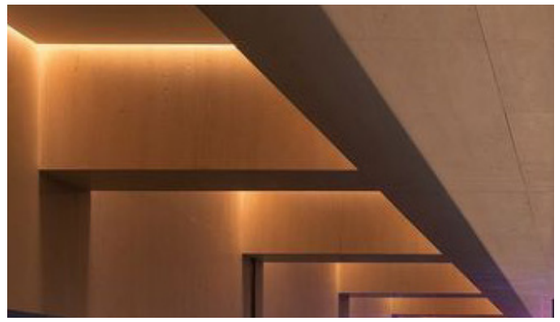
Soffit lighting is also employed at the podium level creating a welcoming entrance and grounding the tower from a distance in the hours of darkness.

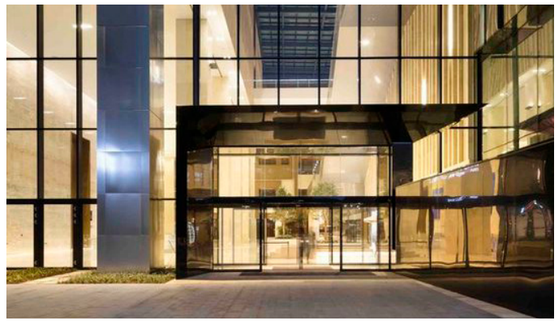
It is expected that in the hours of darkness, outside of operating hours, lighting equipment to commercial spaces will be programmed to switch off when offices are unoccupied. As such internal lighting will create an occasional, unpredictable pattern in the lit effect. Internal light levels in the podium may reduce outside of normal working hours reflecting the reduced occupancy of the spaces and save energy.

The top floor with a feature crown surface will be uplit from the interior and capable of being controlled independent of occupancy as a feature of the tower's character. This layer of illumination will be subject to curfew with manual override for special events

Warm white light is recommended throughout to harmonise with the natural warmth of the facade material.

Terrace | Lighting Study Section





Reference | Soffit lighting, effect of spill light, illuminated interior

Euston Tower | Lighting Study Perspective

Design Strategy
Controls

It is anticipated that publicly accessible areas in Euston Tower will operate with defined opening hours, with potential extended opening times for events. Hours of access to the commercial tenanted spaces to be defined at a later stage.

The typology of equipment and hours of use will vary throughout the hours of darkness. This will be aligned to seasonal variation. The lighting control system is an essential tool to manage these assets and minimise unnecessary energy use. (Graphics opposite illustrate variation in hours of use throughout the year).

The lighting control system will have a single master ‘owner’ or ‘user’. The system will have the capability to grant access to and be operated by multiple users, for example; British Land, commercial and retail tenants, and/or community user groups. The extents of permissions granted to different user groups will be determined in later design stages.

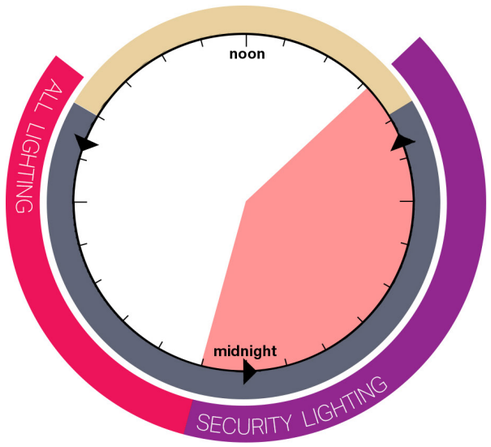
The public realm lighting will be controlled via a digitally addressable lighting control system that enables luminaires to be grouped into scenes that can be programmed to be recalled at certain times and for different uses. The lighting control system will have the capability to be programmed for timed events and to be overridden as required.

The lighting control system may be a stand alone system, or may be a part of Euston Tower’s lighting control system. The system is to be developed such that it features capability to communicate with lighting control systems operating exterior across the wider Regent’s Place site.

Any illuminated signage used on site is to be provided with a means to control the intensity of the lit element post installation. This is to ensure that the surface luminance/brightness can be adjusted to meet the requirements of design guidance and be balanced with the surrounding ambient light levels to avoid excessive brightness and over-dominance of the visual scene.

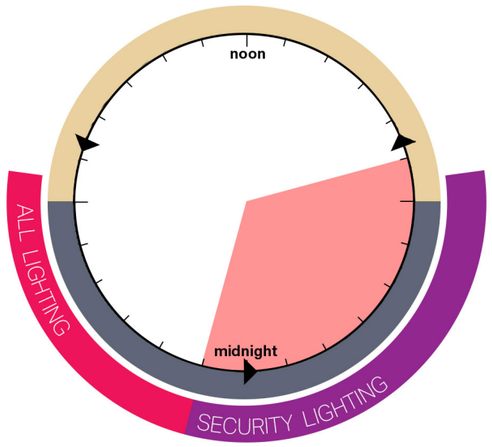
It is imperative that all lighting equipment and controls are future-proofed to allow for the potential integration with maturing digital, smart-city and/or smart-building technologies. As a minimum this shall include the provision of DALI addressable drivers within all luminaire types, allowing for future connection of a CMS and two-way communications such as fault reporting or device self-diagnostics.

Generally all lighting will:
- Provide a reliable and energy efficient amenity to the Euston Tower development.
- Be automatically controlled so as to only be activated during hours of darkness and within defined and agreed time periods.
- Allow separate control of architectural, signage and landscape lighting; allowing switch off and/or dim down of groups or routes after the curfew time(s).
- Allow opportunity for adaptive control of areas/zones/types of lighting in response to the likely usage and activation of the space required throughout hours of darkness.
- The lighting control system will enable the possibility to monitor lighting equipment for faults and energy usage.



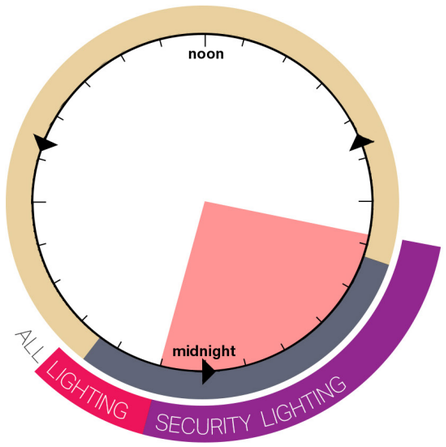
WINTER SOLSTICE

DECEMBER 21



EQUINOXES

MARCH 21 & OCTOBER 21



SUMMER SOLSTICE

JUNE 21

Daylight Hours

Hours of Darkness

Design Strategy
Lighting Criteria

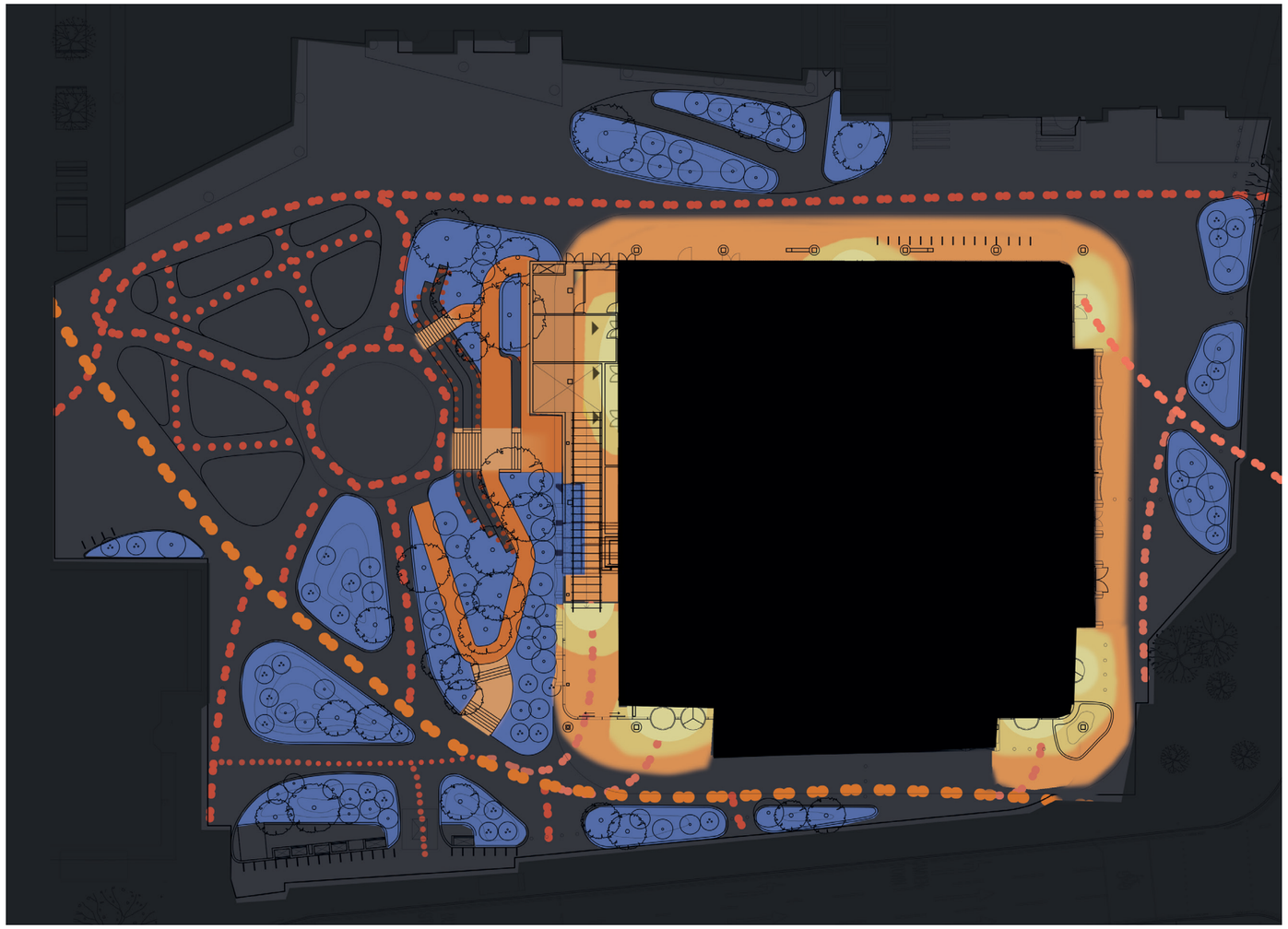
Due to the project's location in central London, the project is classified as being within Lighting Zone E4. This Lighting Zone is characterised as an urban area with high levels of brightness and nighttime activity.

The lighting strategy as presented in the previous sections is to be developed through following design stages to achieve the performance criteria as detailed below in the Lighting Criteria Table. The lighting performance criteria have been informed by the guidance as presented within the following documents:

- BS EN 12464:1 2021 Light and Lighting - Lighting of Workplaces, Part 1: Indoor Workplaces
- BS EN 12464:2 2021 Light and Lighting - Lighting of Workplaces, Part 2: Outdoor Workplaces
- BS EN 5489:1 2020 Design of Road Lighting. Part 1: Code of practice for lighting of roads and public amenity areas
- BS EN 13201:2, 2015 Road Lighting, Part 2: Performance Requirements
- CIBSE SLL Lighting Guide 6, 2016: The Exterior Environment
- Institute of Lighting Professionals (ILP) Guidance Note GN01, 2020: Guidance Notes for the Reduction of Obtrusive Light.
- CIBSE SLL Lighting Guide 21, 2021: Protecting the night-time environment

Zone	Surrounding	Lighting environment	Examples
E0	Protected	Dark (SQM 20.5+)	Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places
E1	Natural	Dark (SQM 20 to 20.5)	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc.
E2	Rural	Low district brightness (SQM ~15 to 20)	Sparsely inhabited rural areas, village or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Well inhabited rural and urban settlements, small town centres of suburban locations
E4	Urban	High district brightness	Town / City centres with high levels of night-time activity

Environmental Zones' from the Institute of Lighting Professionals Guidance Note 01 (2020): Guidance Notes for the Reduction of Obtrusive Light



	Lighting Criteria			
	Locations	Average maintained horizontal illuminance	Average maintained vertical illuminance (for facial recognition)	Notes
	Entrances	50 lx	10 lx	
	Entrance Transition/Plaza (Events)	30 lx	6 lx	
	Transition/Stair	20 lx	-	Stair 20 lux average, 10 lux minimum
	Cyclist Route	10 lx	3 lx	0.25-0.4 uniformity
	Primary Routes	7.5 lx	2.5 lx	
	Secondary Routes	5 lx	1.5 lx	
	Tertiary Routes	3 lx	1 lx	
	Accent Lighting	NA	NA	