RIDGE

IAC GROUP LTD
PROLOGIS PARK BIRMINGHAM INTERCHANGE
LIGHTING STATEMENT

08 January 2021

PROLOGIS PARK BIRMINGHAM INTERCHANGE

08 January 2021

Prepared for

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VERSION CONTROL

VERSION	DATE	DESCRIPTION	CREATED BY	REVIEWED BY
-	08.01.2021	For Planning	AP	PC

CONTENTS

1. INTRODUCTION

Ridge & Partners LLP has been appointed to produce a Lighting Statement for planning purposes for the development of the three new additional car parking areas within the existing car park.

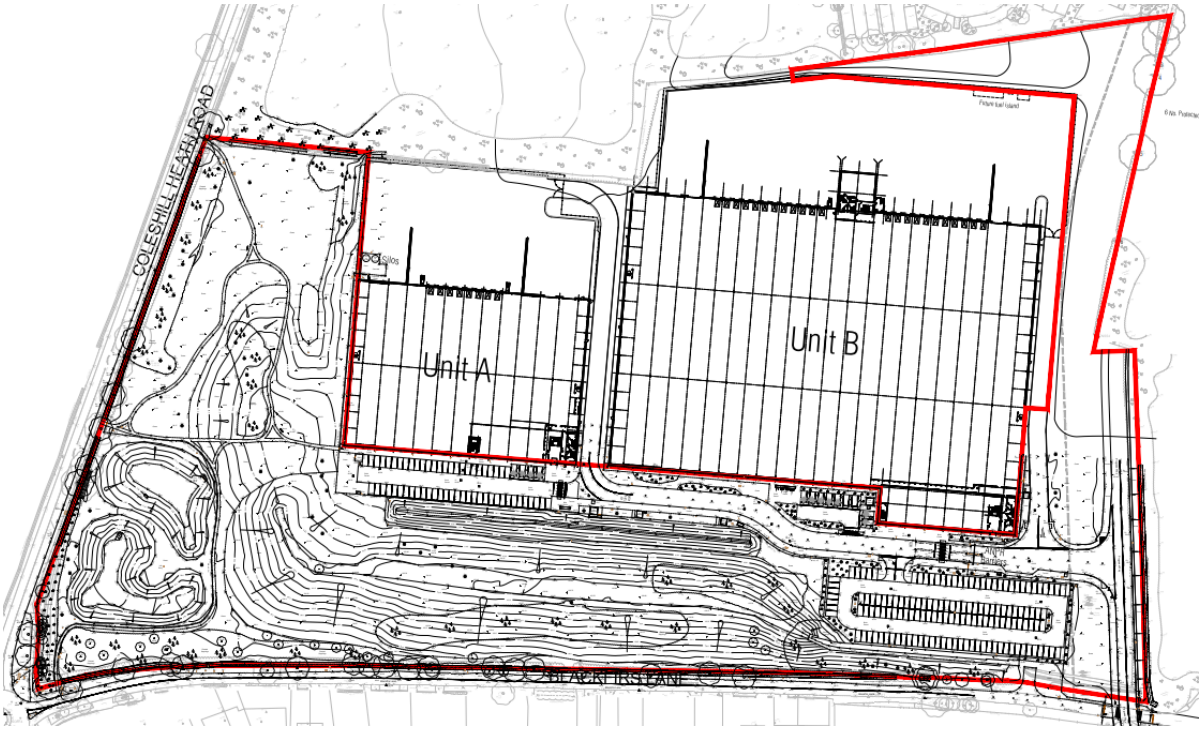
1.1. Site Location

The site is circa 5.82 Hectares (14.28 acres) in total. It is broadly u-shaped and generally slopes down from South (around 100.5m AOD) to North (around 98.1m AOD). In addition however, there is an approximately 5m high landscaped bund which runs along the southern boundary of the site along Blackfirs Lane, which is circa 104.4m AOD at its highest, as compared to the existing car parking area immediately South of Units A and B which is generally at 99.7m AOD.

The site directly abuts existing industrial units (referred to as Unit A and Unit B), leased by the Applicant. The site is bound by Progress Way to the East, Blackfirs Lane to the South, Coleshill Heath Road to the West and further employment uses within Birmingham Business Park to the North. The site's context is highly mixed use in character. The site is located within the South-western corner of Birmingham Business Park, which bounds the site to the East and North.

There are existing residential properties located to the South of the site on Blackfirs Lane, which are located circa 90m South of Unit B and 60m South of the Unit A. Inter-visibility between the site and the residential properties is restricted by a circa 5m high landscaped bund, which runs along the southern boundary of the site.

The site is centred on National Grid Reference SP 18671 85192 and it is shown in the image below.

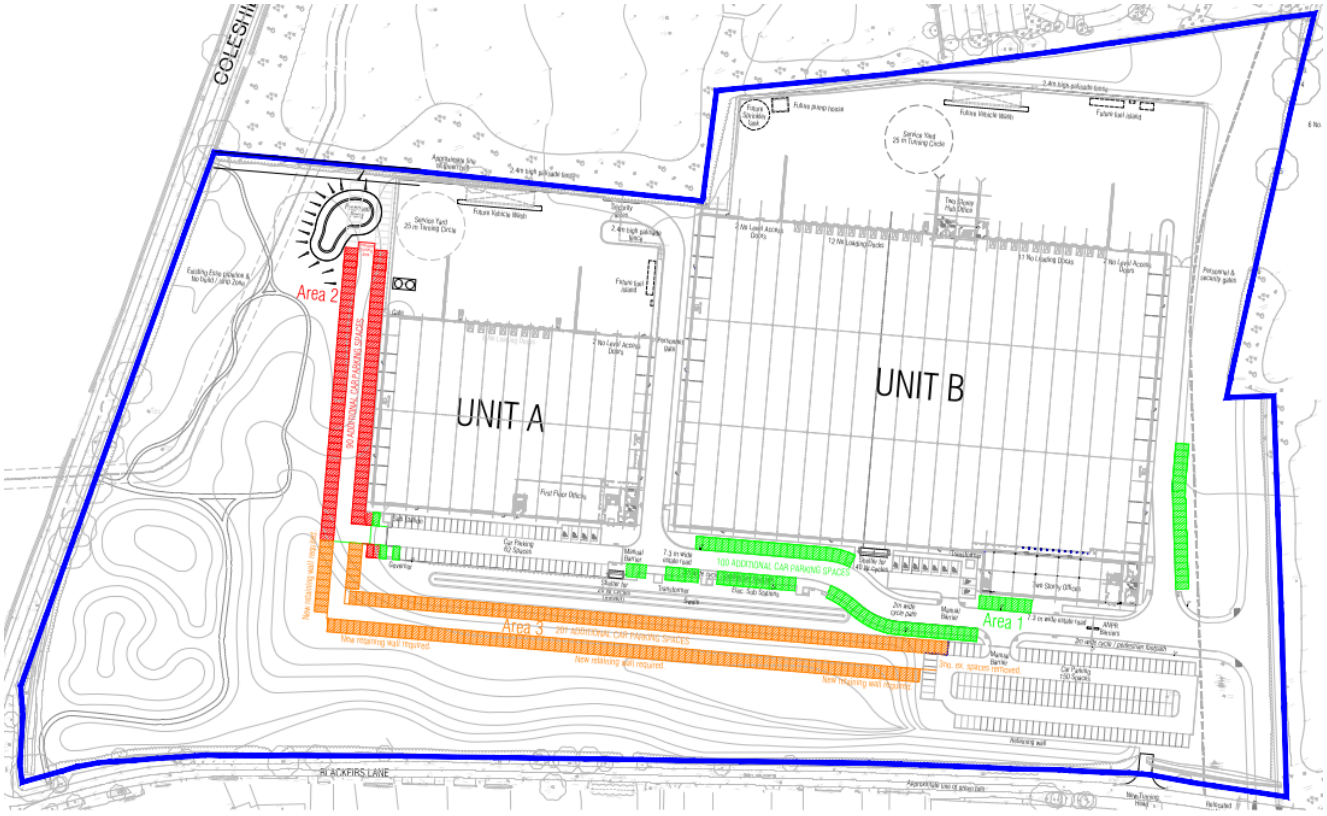


1.2. Development Proposal

The proposal is to seek full planning permission for an additional 388 car parking spaces and associated earthworks, engineering, landscaping and sustainable urban drainage systems. The car park area 1 is on the north side of Blackfirs Lane and west side of Progress Way, the car park area 2 is on the east side of Coleshill Heath Road and the car park area 3 is on the north side of Blackfirs Lane.

The image below indicates the proposed new car parks layout:

- Car park area 1 designated by the green colour and comprises of an additional 100 car parking spaces
- Car park area 2 designated by the red colour and comprises of an additional 90 car parking spaces
- Car park area 3 designated by the orange colour and comprises of an additional 201 car parking spaces. Due to the site levels a retaining wall is being constructed to allow for the installation of the car parking spaces. The retaining wall is circa 3-4m high in relation to the car parking spaces.



The proposed lighting schemes design covers the new car park areas only. However, the existing lighting scheme to the car park and service yards has been taken into account; so that existing lighting is used as far as possible and the extent of proposed new lighting is minimised.

2. EXTERNAL LIGHTING STRATEGY

2.1. Design Criteria

The design criteria for the proposed scheme will comply with CIBSE Guide LG6 "The Exterior Environment" and BS5489-1:2020 Lighting of roads and public amenity areas – code of practice.

2.2. Reduction of Obtrusive Light

The external lighting will be designed in accordance with published standards and with reference to the Institution of Lighting Professionals "Guidance Notes for the Reduction of Obtrusive Light (GN01)".

Obtrusive light is often referred to as 'light pollution' and is manifested in the following:

- Sky glow, often caused by poor direction of light
- Glare, the brightness of a light source when viewed against a dark background
- Light Trespass, the spilling of light beyond the property or area being lit
- Over lighting, poor / over design resulting in inefficient use of energy

2.3. General Description and Strategy

The external lighting system will incorporate:

- Column mounted LED luminaires
- Wall mounted LED luminaires
- Photocells

The external lighting will provide lighting to the new car parks. The external lighting strategy has sought to minimise the amount of additional lighting and represents the minimum required to ensure the safety of car park users.

The column mounted and the wall mounted luminaires will be provided with photocell control. In the evening, when the natural daylight has reduced sufficiently the photocells will switch the luminaires on at 100%.

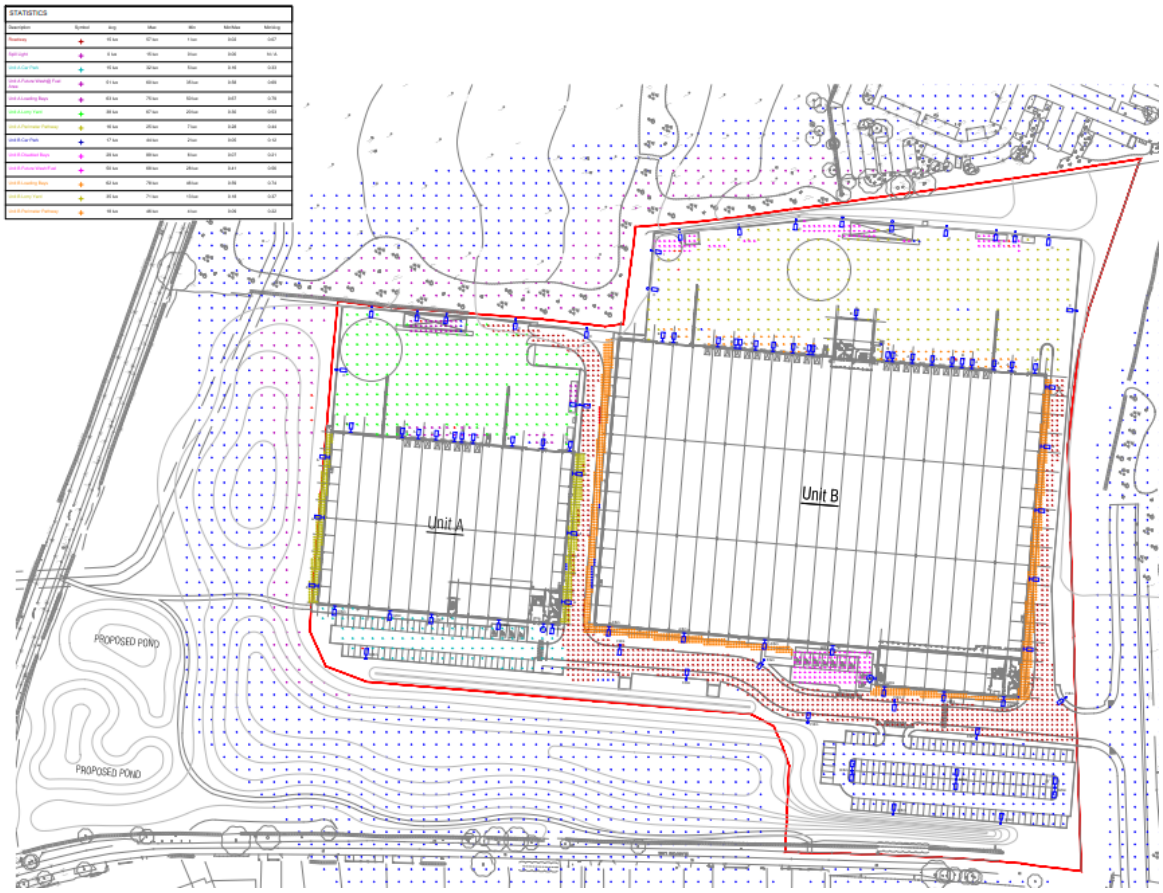
Generally, luminaires will be selected to prevent the spread of light in an upward direction. Additionally, the luminaires will be specified and located to limit the spill of light and glare beyond the site boundary.

The system will be installed to avoid glare and light pollution to the surrounding areas. Light trespass into the windows of buildings and housing on and off site will be avoided.

Lamp type and efficiency will also be evaluated, to ensure an energy efficient solution. Energy efficiency will also be an important consideration in the design, with photocells being integrated into the overall lighting scheme.

As this is an existing site there are already areas which are illuminated including the existing car park area, service yard, loading bay, roadway and pathways (refer to image below). The new luminaires will be the same type of fittings as the existing for aesthetic reasons. The new lighting scheme will not increase the light spill, it will maintain the existing values. In the new car park area 2, near the proposed pond, the new luminaires have been careful placed to ensure the existing lighting levels have not increased.

The columns in the car park area 3 will be 5m tall, this is similar to the retaining wall which along with the proposed planting provides cover to the residential area (south of site).



The existing luminaires fittings are D-Series (DSX-1 and DSX-2), Factor Small Streetlight and Denver Wall Elite from Holophane.

3. PROPOSED LUMINAIRES

3.1. Car Park

The new car park area 1 will be lit generally utilising column mounted luminaires at 6m high with single 4000K LED heads with variety of lumen outputs and distributions to aim the light where required and reduce any spill light. The columns will be located at one side of the car park area 1.

Factor Small Streetlight

The new car park area 2 will be lit generally utilising luminaires wall mounted at 7m high with single 4000K LED heads with variety of lumen outputs and distributions to aim the light where required and reduce any light spill. The wall mounted luminaires will replace the existing luminaires mounted on the west side of Unit A.

D-Series 1

The new car park area 3 will be lit generally utilising column mounted luminaires at 5m high with single 4000K LED heads with variety of lumen outputs and distributions to aim the light where required and reduce any spill light. The columns will be located at one side of the car park area 3.

There are existing luminaires to the North of this car park (close to the Unit A building) but they do not provide significant light to the new car park area.

D-Series 1

The new light scheme will add two Factor Small Streetlight luminaires (as indicated by reference "FNew" on the drawing in the Appendix 1) and nine D-Series 1 (as indicated by reference "H1New" on the drawing in the Appendix 1) to the existing luminaires.

The new light scheme will replace three Factor Small Streetlight (as indicated by reference "A" on the drawing in the Appendix 2) luminaires mounted on wall in the Unit A building, West side elevation, with three D-Series 1 (as indicated by reference "MNew" on the drawing in the Appendix 1).

4. LIGHTING CALCULATION

4.1. Surrounding Area

Within Appendix 1 the layout indicates the location of the existing and new luminaires along with the calculated lighting levels.

All existing luminaires have "EX" located adjacent to them and all new luminaires have "NEW" located adjacent to them.

The calculation is modelled including the existing and new luminaires, together, in a flat plane to simulate the worst-case scenario and does not take into account the retaining wall. The lighting levels are based on the luminaires being at full output.

The new car park spaces adjacent to the South side of the building are illuminated using existing luminaires.

The new lighting scheme will not increase the light spill out of the site, it will maintain the existing values. In the new car park area 2, near the proposed pond, the new luminaires have been careful placed to ensure the existing spill out levels have not increased when compared to the Lighting Statement approved as part of the previously approved development (ref: PL/2016/02001/PPOL).

The height of the columns in car park area 3 along with the retaining wall and planting will provide a buffer zone between the lighting on the site and the residential areas to the south of Blackfirs Lane. There will not be increased light spill towards the residential properties to the South of Blackfirs Lane.

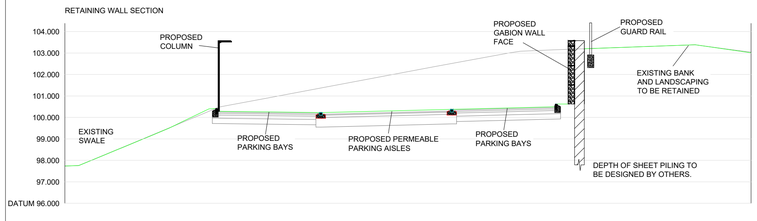
APPENDIX 1 - PROPOSED LIGHTING LAYOUT AND CALCULATION

Schedule				
Symbol	Label	Description	Lamp	Model & Manufacturer
	FNew	New Column mounted single LED external luminaire in diecast aluminium housing with IP65 rating. Available with high frequency control gear and integral photocell. Column mounted at 6 meters with an long and narrow distribution. Dimensions: 688mm L x 207mm W x 111mm D	4000K 6000lm LED	Factor Small
	MNew	New Wall mounted single LED external luminaire in diecast aluminium housing with IP65 rating. Available with high frequency control gear and integral photocell. Wall mounted at 7 meters with an forward throw distribution. Dimensions: 838mm L x 331mm W x 188mm D	4000K 6000lm LED	D-Series DSX1
	H1New	New Column mounted single LED external luminaire in diecast aluminium housing with IP65 rating. Available with high frequency control gear and integral photocell. Column mounted at 5 meters with an forward throw distribution. Dimensions: 838mm L x 331mm W x 188mm D	4000K 8000lm LED	D-Series DSX1

Statistics					
Description	Symbol	Avg.	Max	Min	Min/Avg
Access Road	+	17 lux	55 lux	6 lux	0.35
EX Unit A Car Park	+	15 lux	33 lux	6 lux	0.40
EX Unit B Car Park	+	29 lux	90 lux	3 lux	0.10
EX Unit B Disabled Bays	+	19 lux	35 lux	8 lux	0.47
Inner Spill	+	12 lux	79 lux	0 lux	0.00
New Car Park Unit A South Orange	+	16 lux	46 lux	4 lux	0.25
New Unit A Car Park South Green	+	18 lux	50 lux	3 lux	0.17
New Unit A Car Park West Red	+	11 lux	21 lux	4 lux	0.36
Spill Out site	+	0 lux	17 lux	0 lux	N/A

Plan View
Scale - 1 : 750

RETAINING WALL SECTION



CROSS SECTION BY BAYNHAM MEIKLE

SCALE 1:1000
10 0 20 30 40 50 m

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REV	DESCRIPTION	DATE	BY	CHKD
-	FOR PLANNING	08/01/2021	AP	PC

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IN ASSOCIATION WITH:

PROJECT:

PROLOGIS PARK BIRMINGHAM INTERCHANGE

TITLE:

EXTERNAL LIGHTING

DRAWN BY:	AP	SCALE: 1:1000	@ A1
CHECKED BY:	PC	DATE: 08/01/2021	

STATUS:

PLANNING

DRAWING No:

PROJECT:	ORG:	ZONE:	LEVEL:	TYPE:	ROLE:	NUMBER:	REV:
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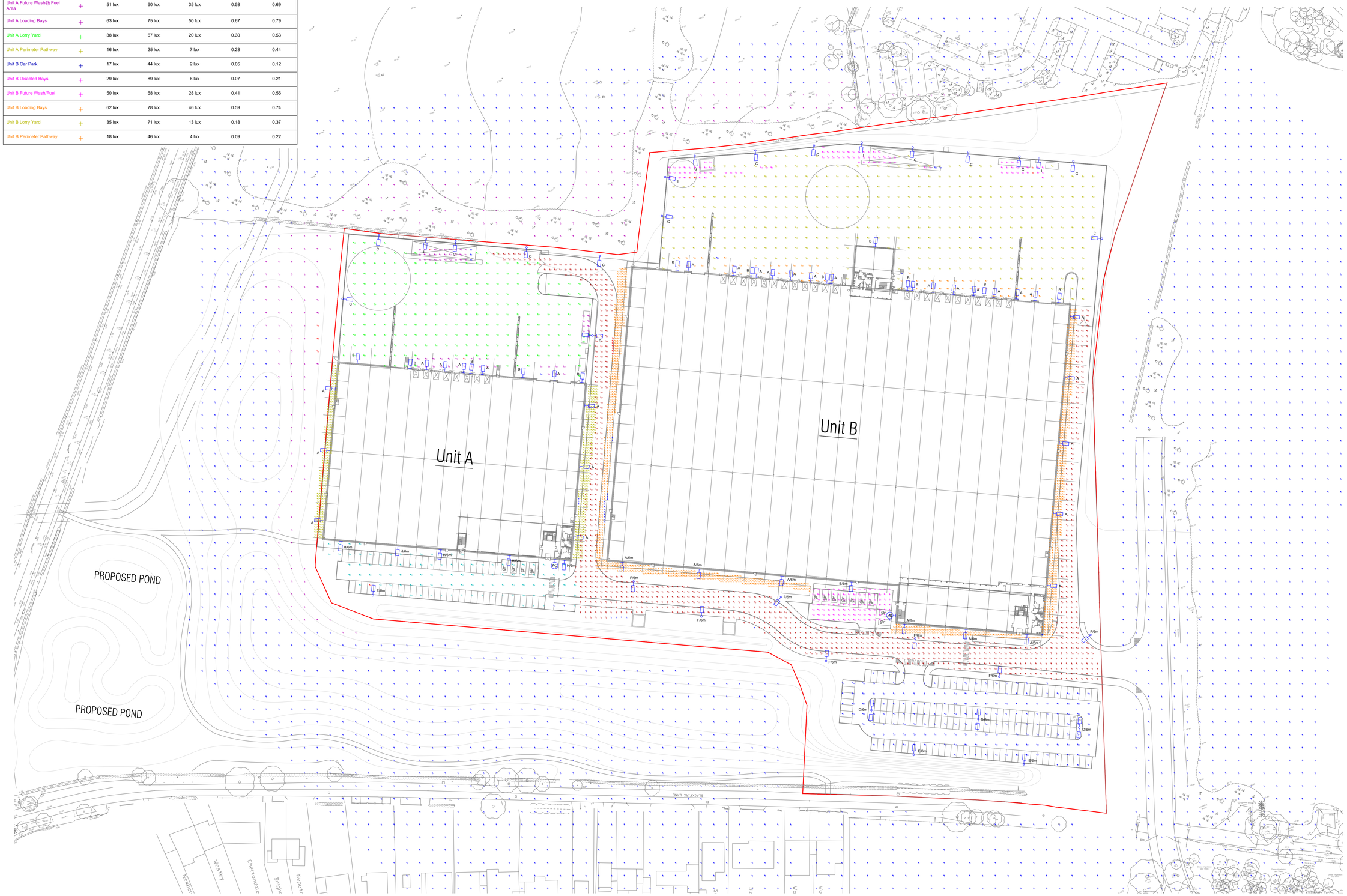
RIDGE

APPENDIX 2 – PREVIOUSLY APPROVED DEVELOPMENT (REF:PL/2016/02001/PPOL) – LIGHTING LAYOUT AND CALCULATION

STATISTICS

Description	Symbol	Avg	Max	Min	Min/Max	Min/Avg
Roadway	+	15 lux	57 lux	1 lux	0.02	0.07
Spill Light	+	0 lux	15 lux	0 lux	0.00	N / A
Unit A Car Park	+	15 lux	32 lux	5 lux	0.16	0.33
Unit A Future Wash@ Fuel Area	+	51 lux	60 lux	35 lux	0.58	0.69
Unit A Loading Bays	+	63 lux	75 lux	50 lux	0.67	0.79
Unit A Lorry Yard	+	38 lux	67 lux	20 lux	0.30	0.53
Unit A Perimeter Pathway	+	16 lux	25 lux	7 lux	0.28	0.44
Unit B Car Park	+	17 lux	44 lux	2 lux	0.05	0.12
Unit B Disabled Bays	+	29 lux	89 lux	6 lux	0.07	0.21
Unit B Future Wash/Fuel	+	50 lux	68 lux	28 lux	0.41	0.56
Unit B Loading Bays	+	62 lux	78 lux	46 lux	0.59	0.74
Unit B Lorry Yard	+	35 lux	71 lux	13 lux	0.18	0.37
Unit B Perimeter Pathway	+	18 lux	46 lux	4 lux	0.09	0.22



NOTES

1. This drawing shall not be used as a working drawing. All scaled dimensions shall be verified on site.
2. For architectural and structural details please refer to appropriate specialist drawings

LIGHTING LEGEND

- A — 47 Watt LED, building mounted lantern, 7,000mm AFFL as Holophane lighting `FACTOR Small` Range - FORWARD FTS.2.LA064.NR
- B — 208 Watt LED, building mounted lantern, 10,000mm AFFL as Holophane lighting `D Series` Range - FORWARD DSX1.2.LA224.FW
- C — 208 Watt LED, Post top mounted lantern, 10,000mm AFFL as Holophane lighting `D Series` Range - FORWARD DSX1.2.LA224/FW/BLS
- D — 2 No. 68 Watt LED, Post top mounted lantern, 6,000mm AFFL as Holophane lighting `D Series` Range - FORWARD DSX1.2.LA084.FW
- E — 68 Watt LED, Post top mounted lantern, 6,000mm AFFL as Holophane lighting `D Series` Range - FORWARD DSX1.2.LA084.FW.BLS
- F — 70 Watt LED, Post top mounted lantern, 6,000mm AFFL as Holophane lighting `FACTOR Small` Range - FORWARD FTS.2.LA064.NR
- G — 2 No. 70 Watt LED, Post top mounted lantern, 10,000mm AFFL as Holophane lighting `FACTOR Small` Range - FORWARD - DSX1.2.LA224.FW
- H — 68 Watt LED, Post top mounted lantern, 8,000mm AFFL as Holophane lighting `D Series` Range - FORWARD DSX1.2.LA04.FW
- I — Post top mounted lantern, 8,000mm AFFL as Holophane lighting `D Series 2` Range - FORWARD DSX2.2.LA364.FW.BLS
- PC — Building mounted lighting control photocell, final location to be agreed on site, to be located on south facing wall
- /6m — Building/post top mounted luminaires, installed 6m AFFL

Revision:	Date:	Description:	Drw:	Chk:

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Project:
PROLOGIS
BICKENHILL LANE

Drawing Title:
EXTERNAL LIGHTING CALCULATION
LUX PLOT LAYOUT

Client:
PROLOGIS

Drawn:	Checked:	Date:	Scale:	Paper Size:
CJ	JP	11.01.19	1:500	A0

Job No.:	Dwg No.:	Stage:	Revision:
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