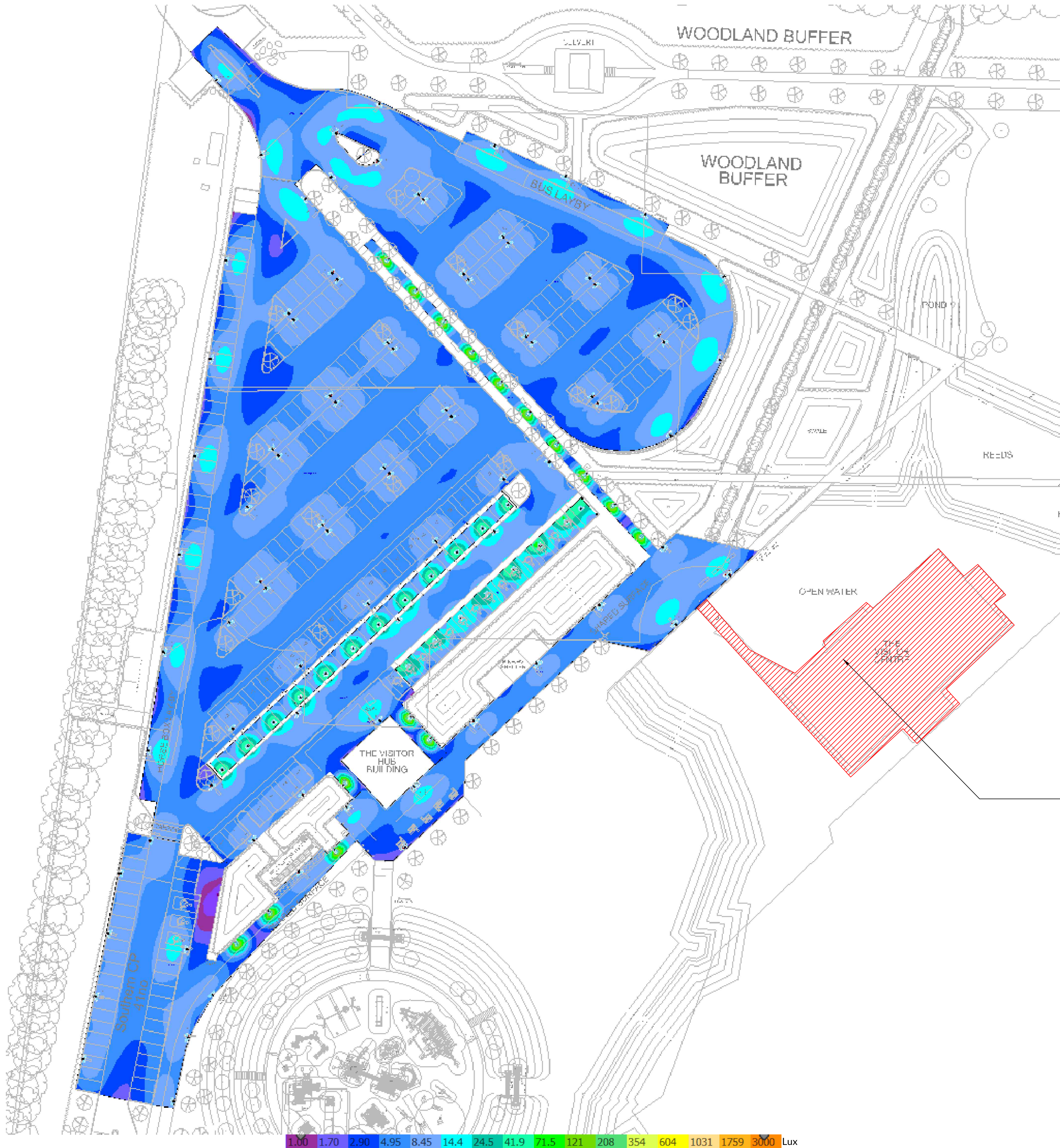




Site External Lighting Lux Level Calculation Plot - From DIALux

	Em		Uo	
Category	Standard	Achieved	Standard	Achieved
Walkways	5	11.25	0.25	0.21
Car Park	5	13.65	0.25	0.20

General External Lighting Lux Level - From Calculation

Intrusive lighting illuminance calculation towards the nearby trees are under development.

Emergency lighting model from the Visitor Center broadwalk to the muster point will be develop after finalised the emergency lighting fitting.

Table 2.2 Excerpt from BS EN 12464-2:2014 (reproduced by permission of BSI)

Ref. no.	Type of area, task or activity	E_m (lux)	U_o (-)	R_{GL} (-)	R_p (-)	Remarks
5.1.1	Walkways exclusively for pedestrians	5	0.25	50	20	
5.1.2	Traffic areas for slowly moving vehicles (max. 10 km/h), e.g. bicycles, trucks and excavators	10	0.40	50	20	
5.1.3	Regular vehicle traffic (max. 40 km/h)	20	0.40	45	20	At shipyards and in docks, R_{GL} may be 50
5.1.4	Pedestrian passage, vehicle turning, loading and unloading points	50	0.40	50	20	

Illuminamce Level for Walkways Based on CIBSE Lighting Guide 6 (Section 2.4 - Amenity Lighting)

Application	Minimum maintained mean illuminance (lx)	Illuminance uniformity (minimum/average)	Notes
Light traffic and low crime risk car parks	5	0.25	The illuminance is measured on the ground, using the method given in BS 5489-1 (BSI, 2013)
Medium traffic or medium crime risk car parks	10	0.25	The illuminance is measured on the ground, using the method given in BS 5489-1 (BSI, 2013)
Heavy traffic or high crime risk car parks	20	0.25	The illuminance is measured on the ground, using the method given in BS 5489-1 (BSI, 2013)
Paths in public parks where risk assessment shows the need	10	0.25	The illuminance is measured on the ground or pathways
Service station: pump area	50	0.33	The illuminance is measured on the ground
Service station: storefront	30	0.33	The illuminance is measured on the ground

Illuminamce Level for Carpark Based on SLL Lighting Hand Book

The general car park area to be illuminated to a maintained average horizontal illuminance of 5lux at ground level, assuming the facility falls under the category of 'light traffic and low crime risk car parks'.

Table 3.2 CIE environmental zones (source: CIE 150 (2017) Tables 2, 5 and 7; reproduced by permission of CIE)

Zone	Lighting environment	Examples
E0	Intrinsically dark	UNESCO Starlight Reserves, IDA Dark Sky Parks, major optical observatories
E1	Dark	National Parks, Areas of Outstanding Natural Beauty, relatively uninhabited rural areas
E2	Low district brightness	Sparsely inhabited rural areas
E3	Medium district brightness	Well inhabited town and urban settlements
E4	High district brightness	Town and city centres, out of town retail parks

Table 3.3 Night-time limit values for different environmental zones (source: CIE 150 (2017) Tables 2, 5 and 7; reproduced by permission of CIE)

Time	Maximum values of vertical illuminance on properties (lux) for stated CIE Environmental zone				
	E0	E1	E2	E3	E4
Pre-curfew	0	2	5	10	25
Post-curfew	0	0.1*	1	2	5
Item	Maximum permitted values of average surface luminance (cd/m²) for stated maximum values of upward light ratio (ULR) of luminaires (%)				
	0	0	2.5	5	15
Building façade	< 0.1	< 0.1	5	10	25
Signs	< 0.1	50	400	800	1000

* If the installation is for public (road) lighting then this may be up to 1 lux

Night Time Lighting Guidance (SLL Guide 12)



CDM Regulations:

In addition to any information included in this drawing, refer also to the project CDM Risk Register for information on residual risks.

General Notes:

- This drawing should be reviewed alongside all other relevant design information.
- Do not scale from drawing.
- All relevant regulations, building standards and industry best practice are to be applied.
- Any drafting errors and differences between other drawings and specifications shall be brought to the attention of RCDCL.

Drawing Specific Notes:

- This Lux Plot matches drawing: HTR-RCDC-04-XX-DR-E-6301 – Site External Lighting Layout.
- In development
 - Vertical illuminance calculation
 - Emergency lighting calculation
 - Floating building
- External lighting can be controlled via time-switch for scheduled operation, photocell control for automatic dusk-to-dawn switching, DALI-based zone dimming control, and separate contactors enabling independent zone switching.

Rev	Revision Purpose	Drwn	Chkd	Vrfd	Date
P03	For Information	KA	TR	VR	20.08.26
P02	For Information	KA	TR	VR	29.07.26
P01	Reserved Matters Draft	CV	TR	VR	19.05.26

Revision History

Project Name:

Havant Thicket Reservoir Visitor Centre

Client:

Portsmouth Water

Architect:

Urban Fabric

Services:

Electrical

Drawing Title:

Site External Lighting Lux Plot

Project No:	Drawing Status:	Scale @A1:
2485	S2	NTS

Drawing Reference: HTR-RCD-00-00-DR-E-0002
Internal Reference: HTR-RCDC-03-XX-DR-E-6302