



Lynchmead Farm, Weston-Super-Mare

Lighting Impact Assessment

For Mead Realisations Ltd.

Date: 8 March 2022

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Lynchmead Farm, Weston-Super-Mare

1. INTRODUCTION

1.1 Purpose of Report

Hydrock Consultants has been appointed by Mead Realisations Ltd. to provide planning stage advisory services in relation to the external lighting design for Lynchmead Farm residential estate in Weston-Super-Mare, North Somerset, England. This document forms part of the Reserved Matters planning application and will inform North Somerset Council Planning Authority of the external lighting strategy of the site. Planning reference 20/P/1579/OUT.

The following design statement is provided for planning purposes to describe the proposal for the new external lighting scheme for the proposed development, with the specific intention of expressing methods for the reduction of obtrusive light.

The proposal will be a guide to ensure the future external lighting scheme is as unobtrusive as possible, complies with guidelines for the reduction of light pollution and to satisfy the local planners and the local community.

The external lighting scheme will be designed to create a safe external environment by providing artificial lighting in the hours of darkness, whilst ensuring the lighting does not affect the neighbouring buildings. Also, of vital importance is the visual impact perspective. In addition, as set out the EAD Ecology technical Note, the proposed development at Lynchmead Farm recorded at least ten species of Bats foraging or commuting within the application area and the survey area.

This report focuses on the building mounted front door mounted luminaire, rear garden luminaire and internal lighting. In addition to the residential lighting, street lighting and cul de sac amenity lighting is set out.

The report demonstrates the strict lighting parameters necessary for the area and ecology.

1.2 Site and Location

The development site is located within the authority boundary of North Somerset Council and is bounded by Ebdon Road to the south and agricultural pasture land to the East, West, and North, as shown in Figure 1.

1.3 Development Details

The development proposes to construct up to 75 residential homes as set out in the Clifton Emery Design agricultural and Access Statement and the following layout, Figure 1.

Figure 1: Lynchmead Farm masterplan.



Above: Illustrative Masterplan

2. LEGISLATION, POLICY AND GUIDANCE

2.1 National Legislation

National Legislation is given in the following documents:

- Wildlife and Countryside Act 1981;
- Environmental Protection Act 1990;
- Clean Neighbourhood and Environment Act 2005; and
- The Conservation of Habitats and Species Regulations 2017.
- ILE Guidance Notes for the Reduction of Obtrusive Light GN01:2011;

The statutory regime within these documents has been amended to include the light spill glare from lighting installations within different premises: 'artificial light emitted from premises so as to be prejudicial to health and nuisance'.

Under Section 79 of the Environmental Protection Act 1990, local authorities have a duty to take notice and act accordingly to investigate any complaint regarding artificial lighting of statutory nuisance. Once statutory nuisance may occur, local authorities must issue an abatement notice requiring that the nuisance cease or be abated within a set timescale.

The ILE Guide for the Reduction of Obtrusive Light is the primary document used by most local councils and planning departments to categorise the provision of external lighting. External lighting shall be compliant to Dark Sky requirements and to Lighting Environmental Zone CIE E21.

2.1.1 National Planning Policy

The National Planning Policy Framework (NPPF) 2018 states that:

- 180: Planning policies and decisions should also ensure that new development is appropriate for its location taking in

account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- » Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

The Planning Policy Guidance (PPG) states that: "Artificial light provides valuable benefits to society, including through extending opportunities for sport and recreation, and can be essential to a new development. Equally, artificial light is not always necessary, has the potential to become what is termed 'light pollution' or 'obtrusive light' and not all modern lighting is suitable in all locations. It can be a source of annoyance to people, harmful to wildlife, undermine enjoyment of the countryside or detract from enjoyment of the night sky. For maximum benefit, the best use of artificial light is about getting the right light, in the right place and providing light at the right time.

2.2 Local Policy

The North Somerset Core Strategy (re-adopted January 2017) is the strategic document to guide development within North Somerset up to 2026. Within the Core Strategy, Policy CS4: Nature Conservation is relevant to the ecological assessment of the proposed development.

The North Somerset Sites and Policies Plan (Part 1): development management policies (adopted July 2016) contains generic development management policies against which planning applications and development proposals are assessed. Within this publication, Policies DM8 (Nature Conservation) and DM9 (Trees) are relevant to this assessment.

North Somerset Council's Supplementary Planning Document (SPD) 'Biodiversity and Trees' (2005) provides additional guidance for developers, with relevance to nature conservation.

2.3 Legislation and Guidance for Lighting Effects on Bats

In the United Kingdom, all bats are protected by law. The following documents form the legislative framework for the protection of bats:

- The Wildlife and Countryside Act 1981;
- The Conservation of Habitats and Species Regulations (2017).

According to the above-mentioned documents, it is illegal to:

- Intentionally or recklessly disturb a bat while it is occupying a structure of place of shelter or protection;
- Intentionally or recklessly obstruct access to a structure or place used by a bat for protection or shelter.

The Bat Conservation Trust has published documents that offer guidance on artificial lighting for new or existing developments around bat sensitive areas. Landscape and Urban Design for Bats & Biodiversity make the following recommendations:

- No bat roost should be directly illuminated;
- The type of lamp specified does not have an adverse impact on bats foraging and commuting patterns;
- The height of the lighting columns should be as low as possible;
- The light should be as low as guidelines permit;
- The lighting operational times should provide switch off intervals;
- Road and trackways in areas important for bat foraging and commuting areas should

provide stretches left unlit to avoid isolations of bat colonies.

The Bat Conservation Trust and the Institute of Lighting Professionals (ILP) have produced Guidance Note 8: Bats and Artificial Lighting in the UK. It summarises the impact of artificial lighting on bats and provides guidance on mitigation methods to reduce the impact on bats. This note shall be referred to throughout the report.

2.4 Ecology assessment

A site-specific ecological assessment has been carried out by EAD Ecology, namely: Ecological Impact Assessment, Land at Lynchmead Farm, Weston-Super-Mare, April 2020, Mead Realisations Ltd. Report reference, 2000402_P886_Lynchmead_EclA.docx.

The initial ecological surveys have been undertaken on the site to identify areas of the site which are of important to local fauna.

The Ecological Mitigation Strategy proposes the following mitigation methods to reduce impact. An updated Parameters Plan for the development has been prepared, to show the areas of the site identified as ‘dark corridors’, within which lighting levels would be maintained at under 0.5 lux at ground level and at 2m above the ground. These dark corridors would allow permeability of the site for bats and other nocturnal wildlife, providing multiple north-south and east-west routes. Where new roads cross these dark corridors, bat ‘hop-overs’ will be created with short sections of road remaining unlit. These dark corridors would be achieved through the use of the following lighting design features:

- Narrow Spectrum lights with no UV content; e.g. warm white (<3500K) LED.
- Variable lighting regimes (motion sensors or part night lighting) in areas close to hedgerows and trees.
- Directional downlights - illuminating below the horizontal plane.
- Reducing the height of light units (whilst ensuring light does not spill above the vertical plane).
- Use of use of fore/rear shields to restrict light direction.
- Avoidance of upward light (e.g. ground mounted floodlights up-lighting trees, buildings and vegetation).

In addition, landscape proposals would be designed to provide additional screening, e.g. through new native hedgerow planting alongside corridors. As detailed in the EclA report, separate construction and operation phase lighting plans would be prepared following receipt of outline planning approval, and would be subject to review by an ecologist with any lighting along adopted highways subject to agreement with North Somerset Council. The lighting design for the site during operation would seek to provide adequate lighting within the public highways for basic

Zone	Sky Glow ULR (Max %)	Light Intrusion (into windows) Ev (Lux)		Luminaire intensity I (candelas)		Building Luminance L (Pre-curfew)
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	Average L (cd/m2)
E0	0	0	0	0	0	0
E1	0	2	0(1*)	2500	0	0
E2	2.5	5	1	7500	500	5
E3	5	10	2	10000	1000	10
E4	15	25	5	25000	2500	25

Table 1: Obtrusive Light Limitations for Exterior Lighting Installations - General Observers. (ULR = Upward Light Ratio of the installation; E_v = Vertical illuminance in lux; I = Light intensity in candelas; L = Luminance in candelas per square meter. *permitted only from public road lighting installations.)

security and orientation of residents, whilst controlling light spill to the ecologically sensitive areas. The design team have reviewed the dark corridors plan and subject to detailed design at the reserved matters stage are content that appropriate dark corridors could be achieved. Full adherence to the parameters set out above, could be secured by Planning Condition.

The external lighting will be designed in conjunction with the ecology strategy and so there is no negative impact to fauna on or near to the site.

3. EXTERNAL LIGHTING STRATEGY

This report aims to clarify the known light pollution issues and will enable a review of the results against the criteria identified by the various lighting and environmental bodies, national and local policy and standards.

3.1 Sensitive Receptors

The sensitive receptors have been identified as the following:

- Perimeter hedge lines around the development

3.2 Site Environmental Zone Classification

Guidance Notes for the Reduction of Obstructive Light GN01:2011 classifies environmental zones into five categories,

shown in Table 1. The lighting limitations for each environmental zones are described in Table 2, extracted from the same document. Limits are set in terms of:

- Permissible maximum upward light %;
- Illuminance into windows;
- Source intensity; and
- 'Building luminance', which sets upper values for decorative lighting of any structure, statue etc.

These limits should then be applied to any new lighting in the area.

Following the study, the site has been classified as Environmental Zone E2.

Where possible, any new lighting proposed by the development should conform to the limitations provided in Table 1.

3.3 Relevant Standards and Guides

The following documents should be consulted and adhered to when designing the external lighting strategy for the scheme:

- ILP Guidance Notes for the Reduction of Obtrusive Light GN01:2011;
- CIBSE Lighting Guide 6 (LG6) – Outdoor Environment;
- CEN/TR 13201-1: Road Lighting - Part 2;
- CIE – Guidelines for Minimising Sky Glow;

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark	UNESCO Starlight Reserves, IDA Dark Sky Parks
E1	Natural	Intrinsically	National Parks, Areas of Outstanding Natural Beauty
E2	Rural	Low District Brightness	Small Town centres or suburban locations
E3	Suburban	Medium District Brightness	Small Town centres or suburb locations
E4	Urban	High District Brightness	Town/City centres with high levels of night-time activity

Table 2: Environmental Lighting Categories

- Royal Commission on Environmental Pollution – Artificial Light in the Environment.
- BS EN 12464-1: Light and Lighting - Lighting of Work Places - Part 2: Outdoor Work Places;
- BS 5489-1:2013 Code of Practice for the Design of Road Lighting; and
- The Institute of Lighting Professionals GN011: Guidance Notes for the Reduction of Obtrusive Light.

The ILP Guide for the Reduction of Obtrusive Lights is the primary document used by most local councils and planning departments to categorise the provision of external lighting. Where possible, the external lighting should be compliant to Dark Sky requirements and to Lighting Environmental Zone E2.

3.4 Proposed External Lighting Strategy

Refer to appendix internal luminaire layouts for setting out of luminaires for residential properties in the vicinity of sensitive receptors.

3.4.1 Front Door and Rear Gardens

Residential properties in the vicinity of the sensitive receptors will have a low output luminaire mounted next to the front door. It will be wall mounted downward facing.

Calculation based on Simes Microloft Round LED 2700K, rated luminaire luminous flux 70lm with PIR control.

Other luminaire of equivalent specification would be suitable.

3.4.2 Street lighting

The street lighting is lit using Schröder Urbis AXIA 2.1 5165 Integrated lenses Front-Rear louvers 4 OSLO SQUARE GIANT@300mA WW 730 230V.

These low output luminaires are mounted on 4m columns to light the main access roads. The luminaires are fitted with front and rear louvers. In addition, the front of the luminaires shall be fitted with a shield to increase the cut off angle of light distribution.

There is no adoptable street lighting on this development.

Other luminaire of equivalent specification would be suitable.

1.1.1 Cul-de-Sac amenity lighting

The cul de sac amenity lighting is via bollards with directional light distribution focused downwards and onto the access roads. The calculation is based on Simes Tomorrow Bollard, LED 2700K 1072lm 14.1W.

This luminaire is a 800mm tall bollard with 0 degrees upward lighting.

Other luminaire of equivalent specification would be suitable.

3.4.3 Internal lighting

Residential properties in the vicinity of the sensitive receptors will have recessed downlight directional spot luminaires on the ground floor and MK surface mounted hanging pendants with LED lamp.

The ground floor is based on based on Luceco 3000K downlight LED 600lm.

The first floors are based on 600lx LED lamp from MK ceiling rose pendant

Other luminaire of equivalent specification would be suitable.

3.5 Impact on Sensitive Receptors

To ensure that the site complies with the requirements in Guidance Notes for the Reduction of Obtrusive Light GN01:2011, the windows can have a maximum illuminance of 5 lux (pre-curfew) and 2.5 lux (post curfew).

The majority of the sensitive line has been calculated to be less than 0.5 lux. The calculation plane is 8m tall vertical measurements to simulate the worst-case illumination levels.

3.6 Lighting Control

The external lighting controls as a minimum will consist of a passive infrared (PIR) system to detect persons in the vicinity of the lighting and will remain illuminated for 15min overrun for home mounted fittings.

3.7 Conclusion

The use of directional, LED lamps is utilised to both save energy and ensure that light is only directed to the required areas.

The current design is compliant with EAD mitigation requirement. Namely; the areas of the site identified as 'dark corridors', within which lighting levels would be maintained at under 0.5 lux at ground level and at 2m above the ground.

The drawings appended to this report, illustrate the 8m high calculation plane to demonstrate the illumination are below 0.5 lux up to 2m. high.

All proposed external lighting luminaires have a 0° tilt and are designed to have a ULR of <5%.

The calculation is based on a worst-case scenario, i.e., all residential properties having all room lighting on simultaneously and no blinds drawn. In reality, it is very unlikely this scenario will occur.

The above methods of lighting and control are proven methods for reducing light spill over the site boundary onto neighbouring areas and reducing sky glow from upward light distribution. The purpose of the lighting scheme is ultimately to provide a safe and secure environment for the residents and to minimise or eliminate any negative impact on the existing environment and residential property's ensuring that the new development blends into the surrounding environment.

In addition, through the strategic positioning of windows, building orientation, adding shields to street lighting, citing of fences and new hedge barriers, the desired measures have been achieved to protect bats foraging across and through the development.

3.7.1 Additional Measures to Reduce Light Spill

The following measures are recommended for further consideration for the proposed development:

- Properties may have blinds added in the future.
- Improved glazing g-value performance may be utilised to further reduce the light penetrating the glazing from windows directly facing the sensitive receptors.
- Window sizes may be reduced in size.

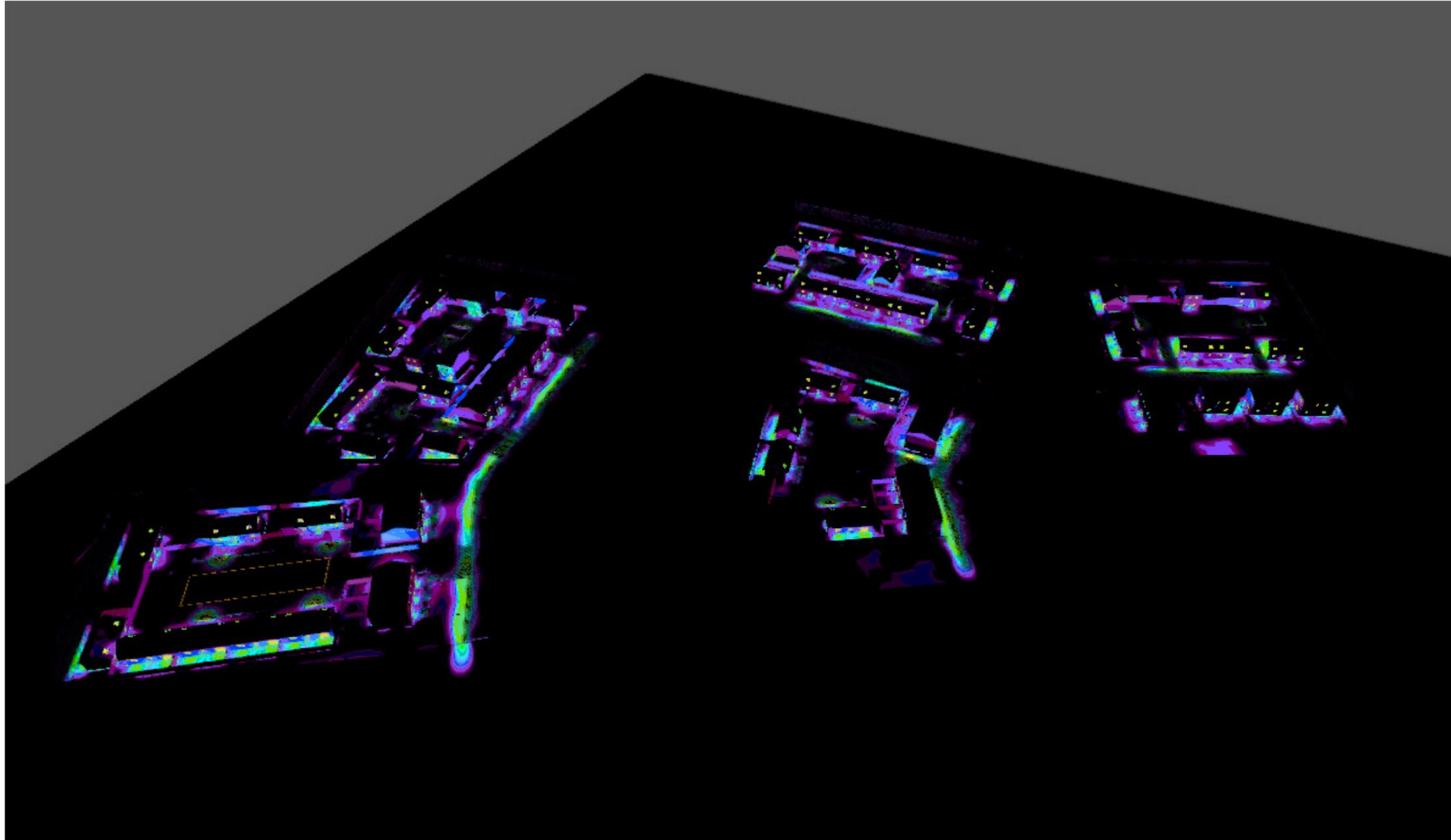


Figure 2: Lynchmead Farm - 3D Dialux model.

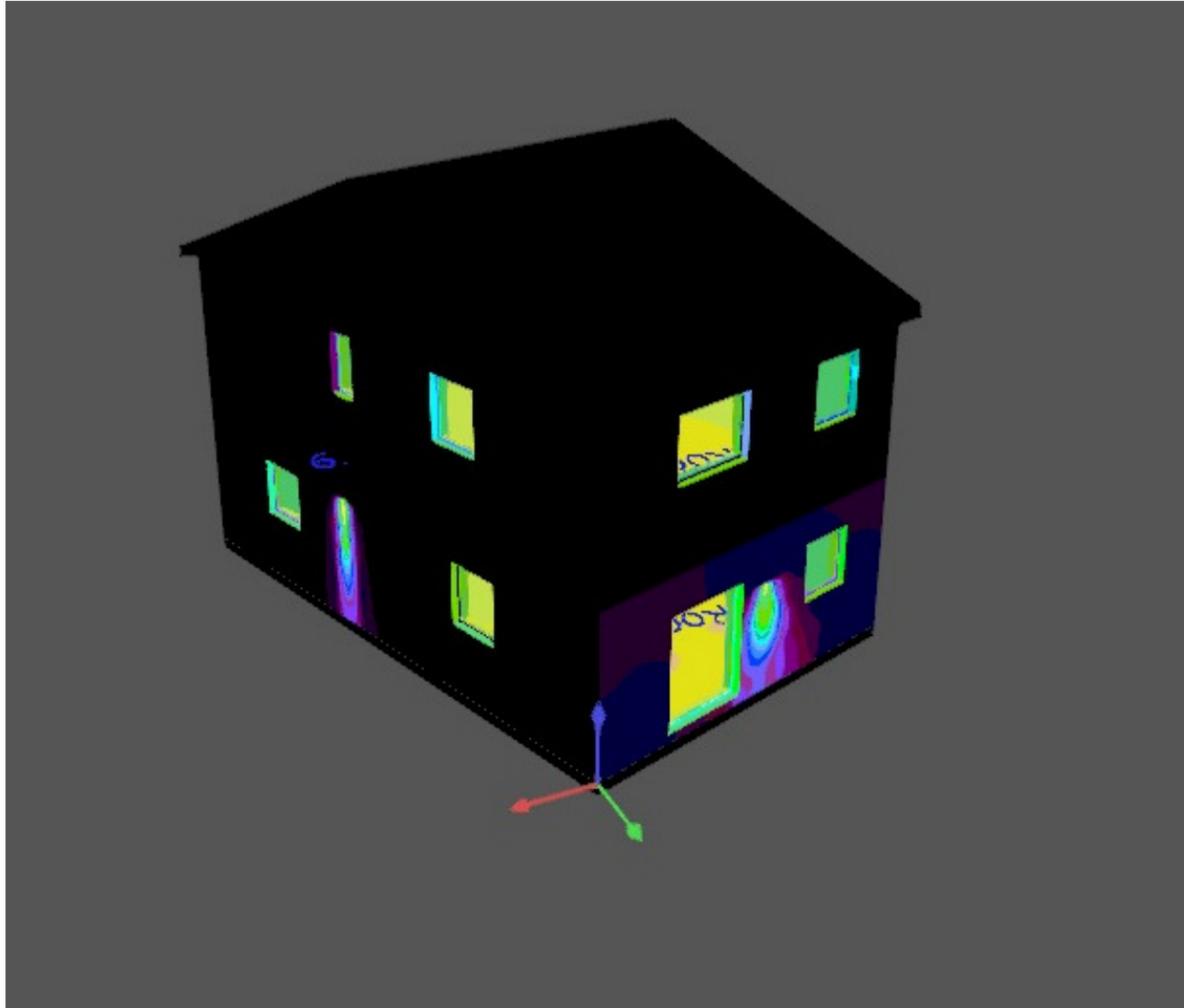


Figure 3: Lynchmead Farm 1 bed - 3D Dialux model.

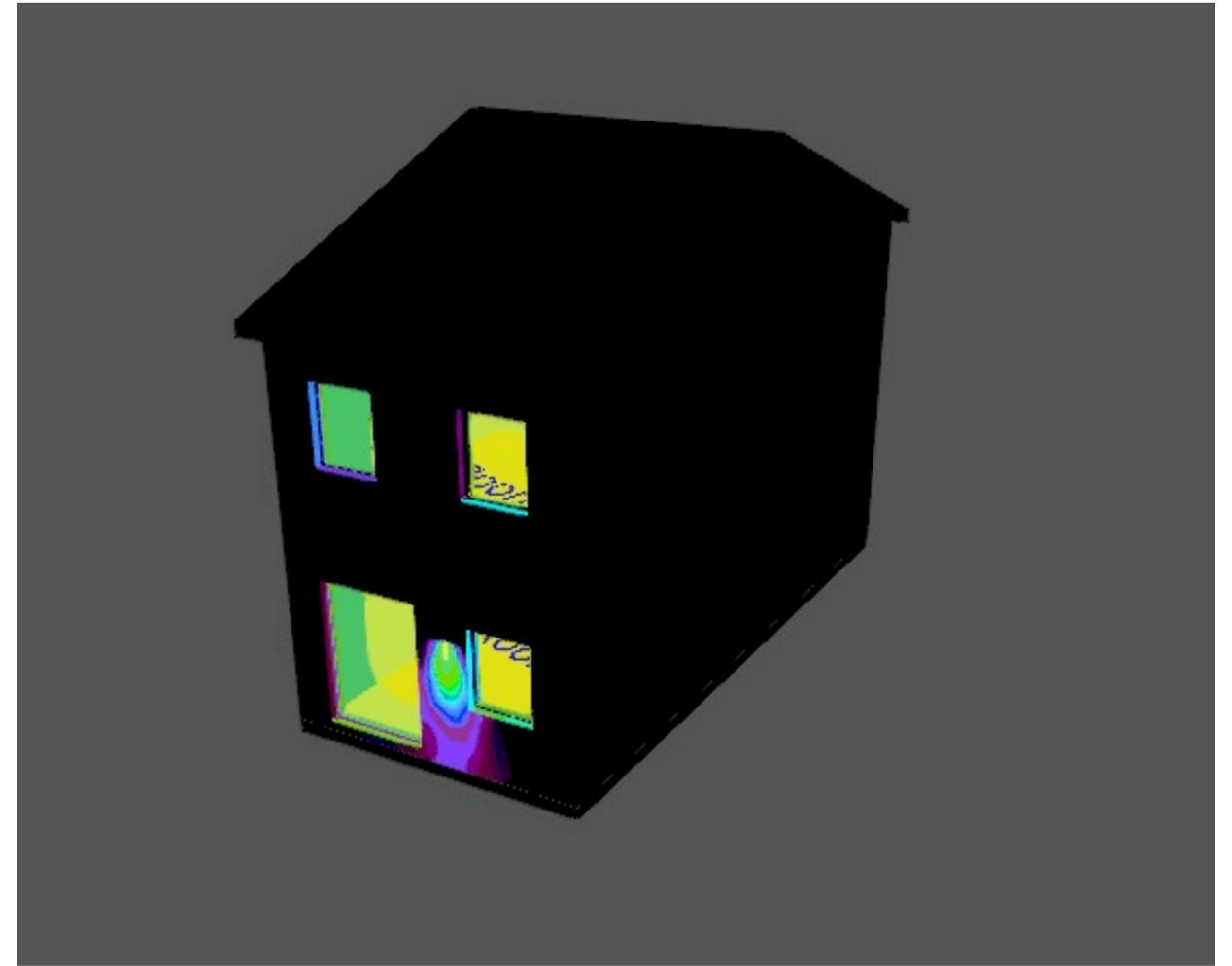


Figure 4: Lynchmead Farm 2 bed - 3D Dialux model.

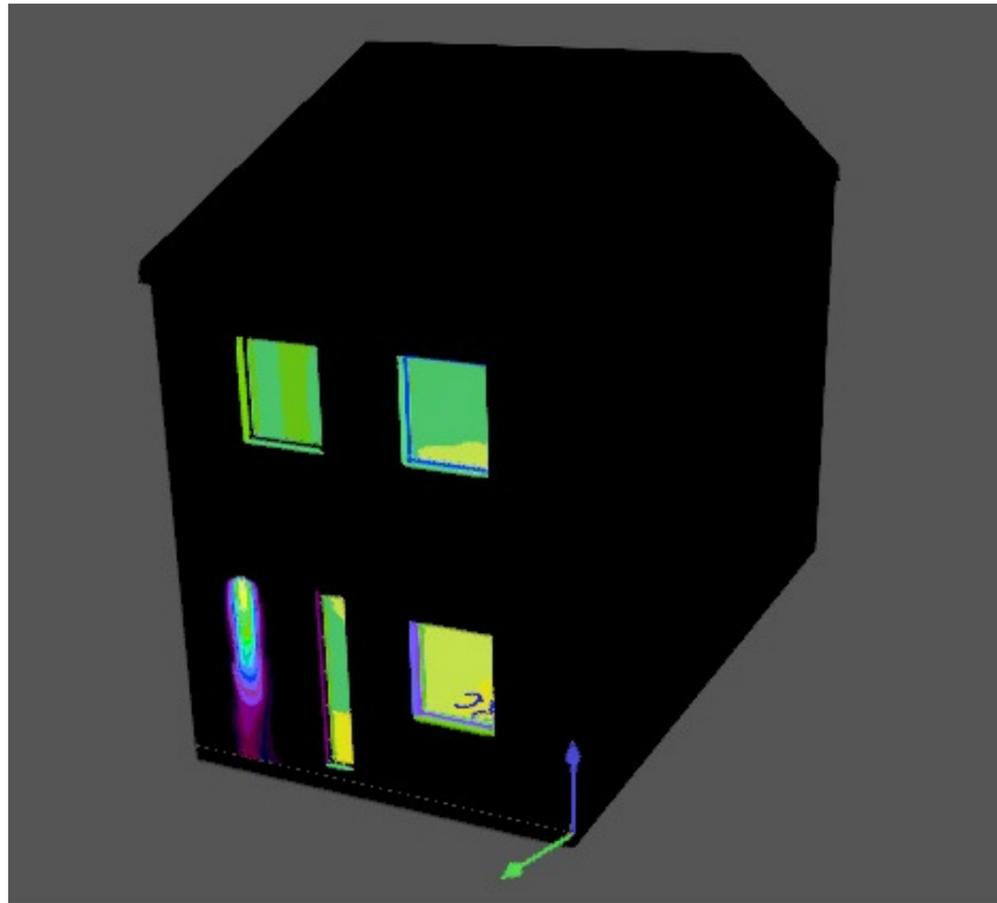


Figure 5: Lynchmead Farm 2 bed - 3D Dialux model.

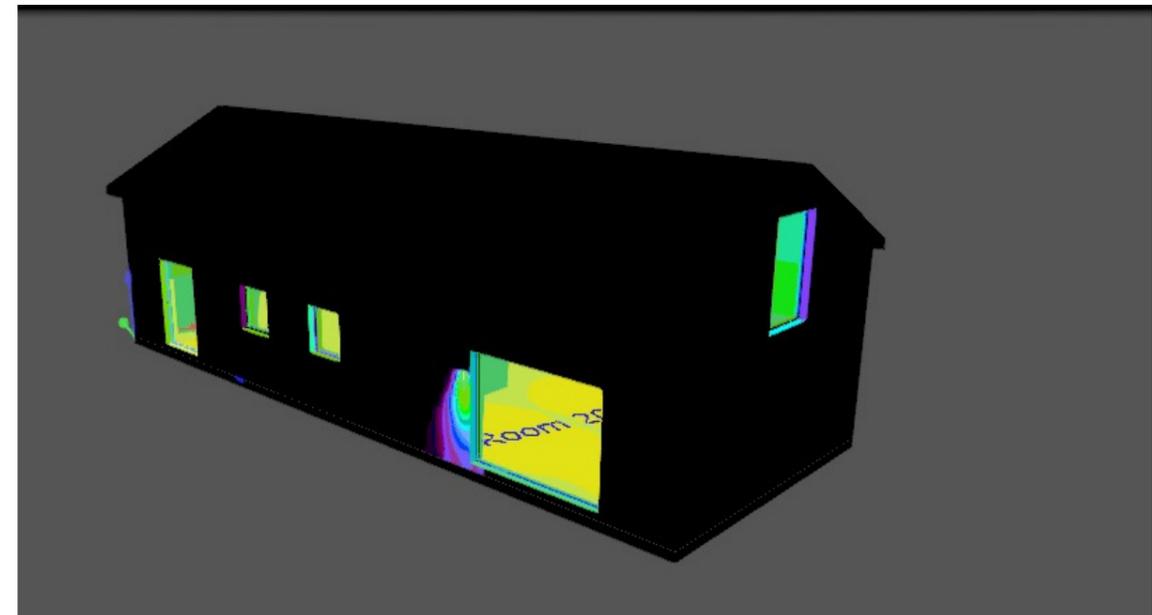


Figure 6: Lynchmead Farm 3 bed - 3D Dialux model.

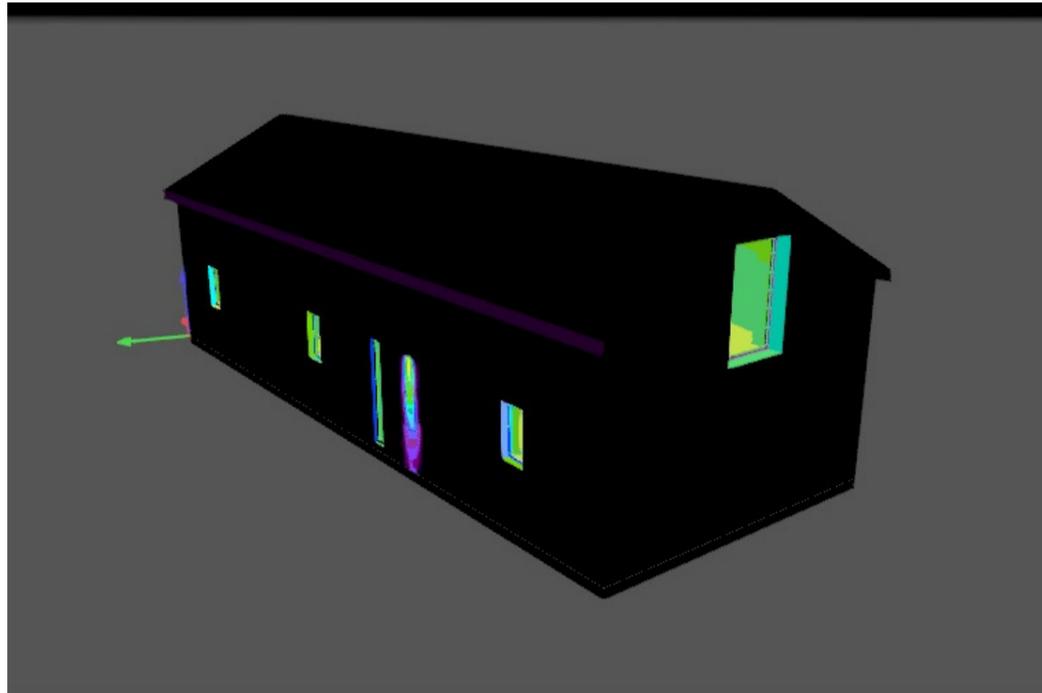


Figure 7: Lynchmead Farm 4 bed - 3D Dialux model.

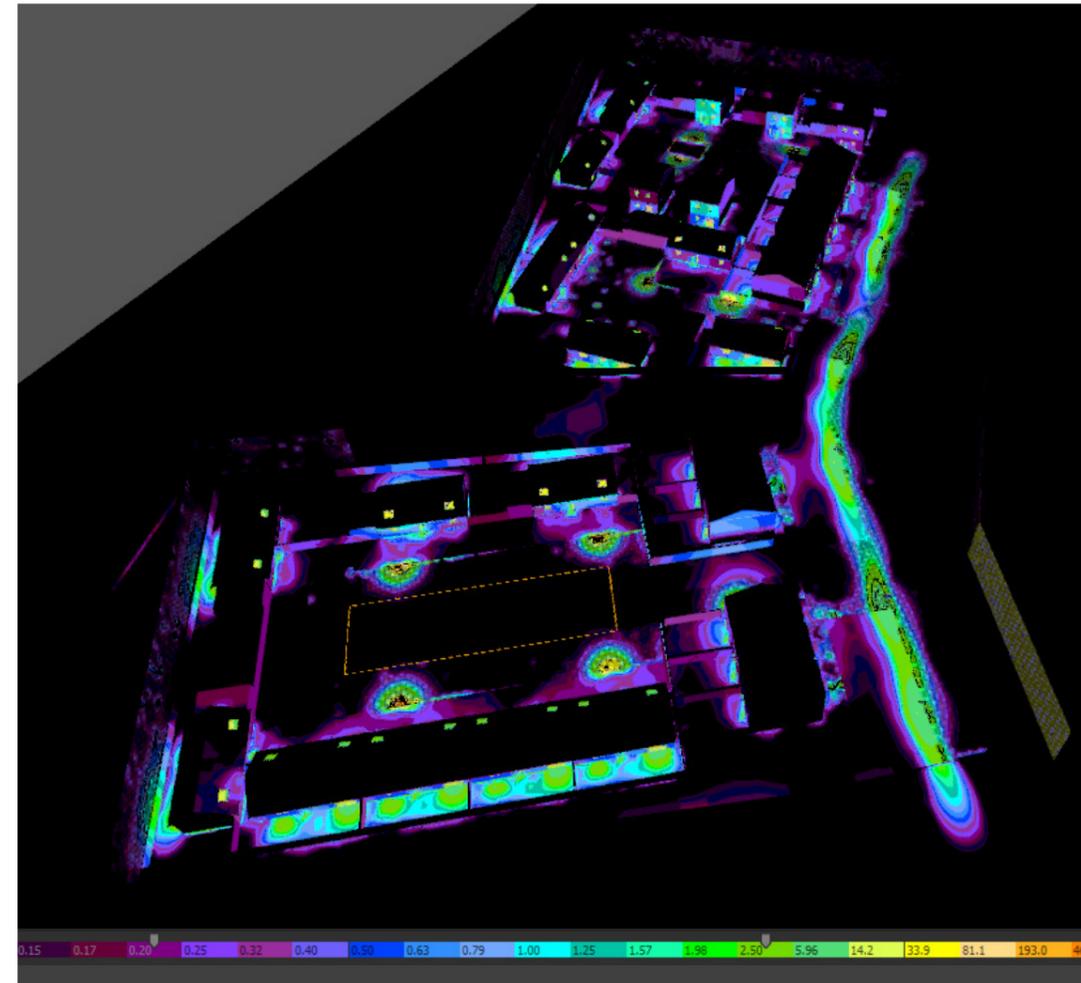


Figure 8: Lynchmead Farm - 3D Dialux model.

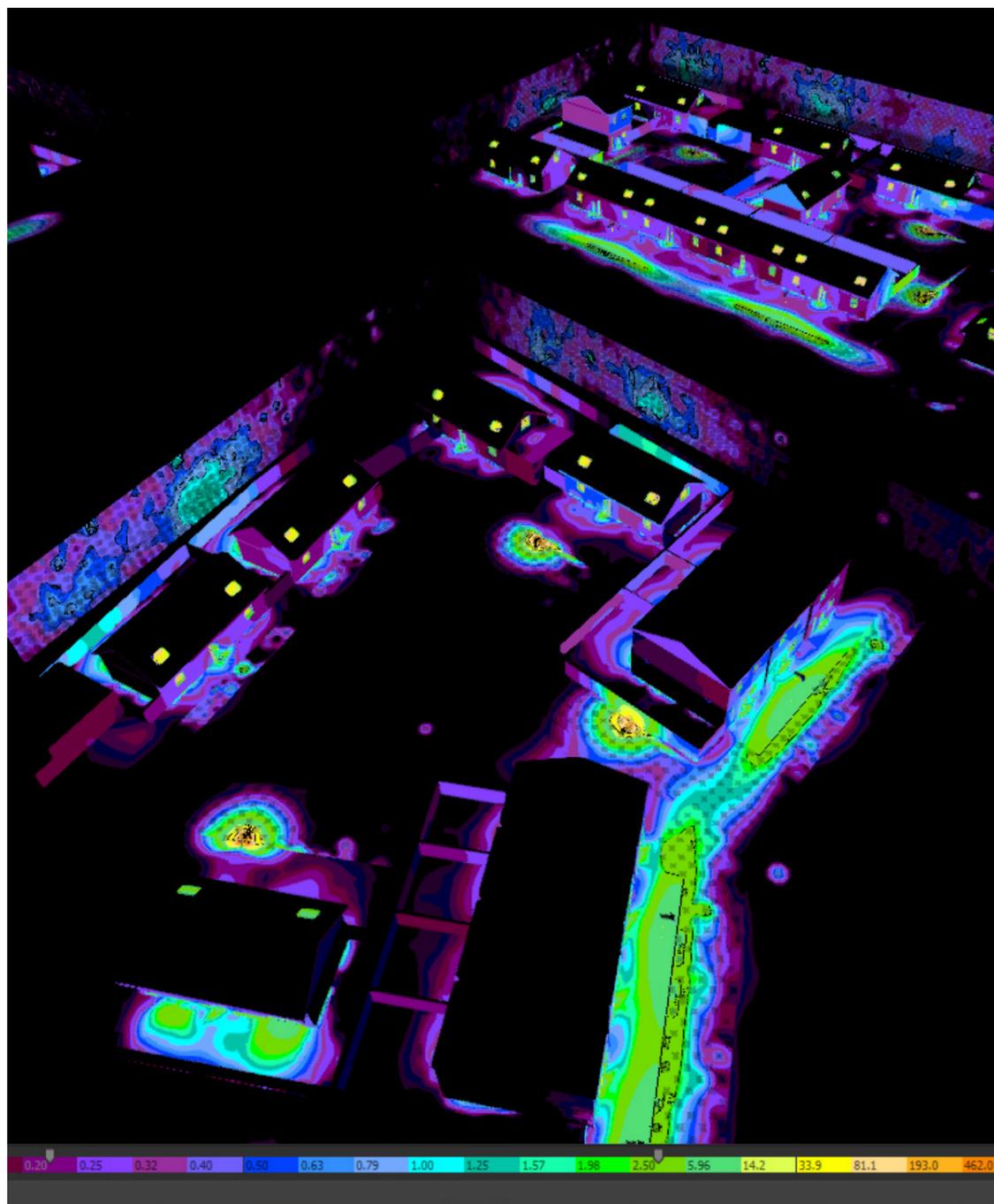


Figure 9: Lynchmead Farm - 3D Dialux model.

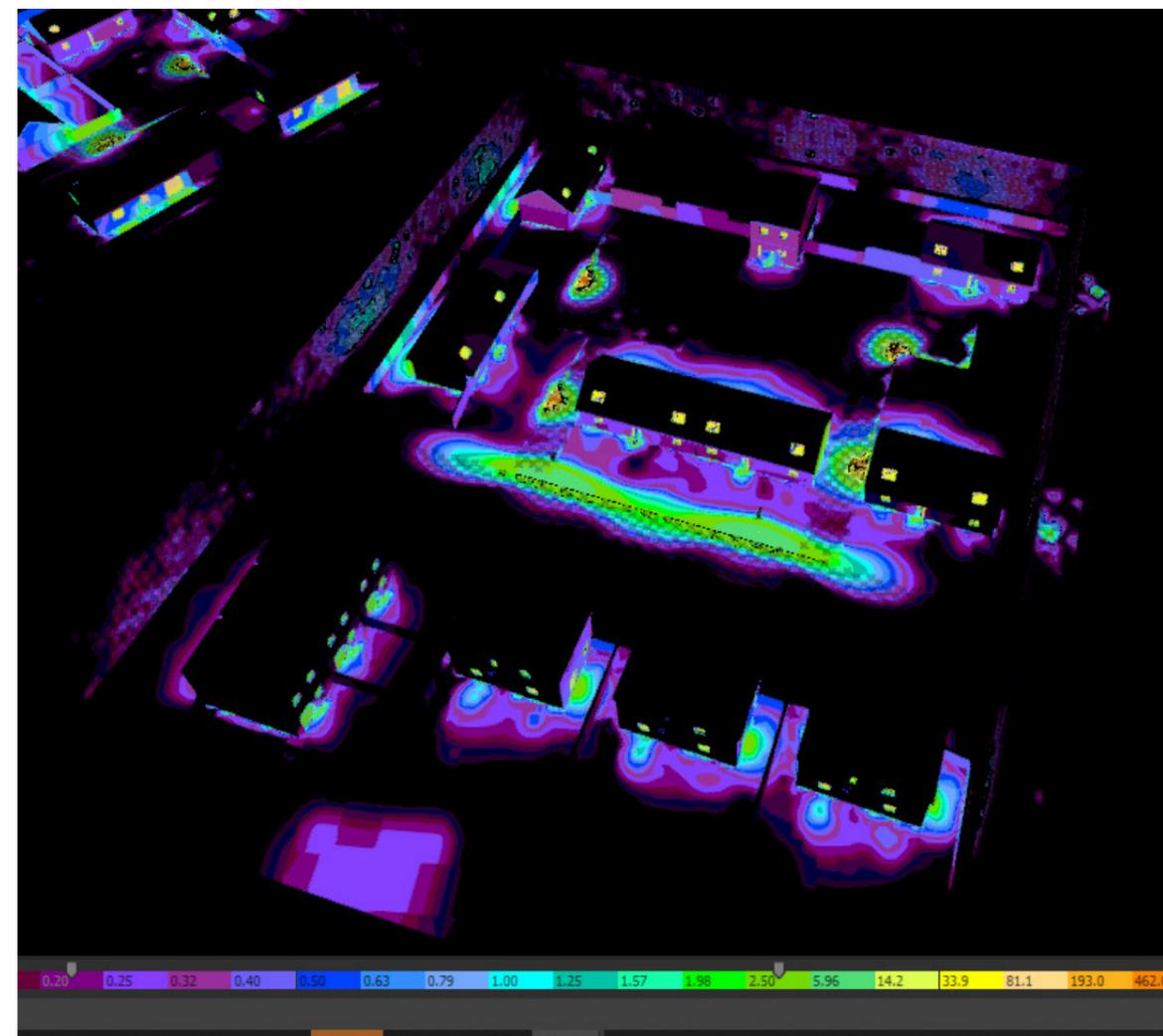


Figure 10: Lynchmead Farm - 3D Dialux model.

Appendix A Glossary of Terms

Atmospheric Conditions

The amount of particle pollution and presence of moisture and other gases in the atmosphere. Light is scattered by the particles and that coming back to an observer below causes the veiling impact of Sky Glow.

Aura

Localised halo of light above a lit area, caused by direct upward light or reflections from the ground and other surfaces. More obvious where light units are grouped relatively close together and / or of high power.

Ballast

Ballast is located internally within a luminaire and forms part of the lighting control gear. The ballast regulates the light output of the luminaire.

Curfew

The time after which stricter requirements (for the control of obtrusive light) will apply. Often a condition of use of lighting applied by the local planning authority.

Colour Rendering Index (CRI)

Ability of a light source to match colours in comparison with a full spectrum light source such as daylight or a tungsten lamp. On a scale of 0 – no colour matching, to 100 – full colour matching.

Environmental Zone (E0 – E4)

A classification method developed by the ILP to match appropriate lighting controls to the local environment:

- An E0 Zone is UNESCO Starlight Reserve, IDA Dark Sky Parks etc.;
- E1 Zone is an intrinsically dark landscape;
- E2 Zone as low district brightness;
- E3 Zone is medium district brightness; and
- E4 Zone is a City Centre location.

LED

Light emitting diode.

Lighting Illuminance

The illuminance or light level is the amount of light energy reaching a given point on a defined surface area, namely the luminous flux (i.e. lumens) per square meter. Illuminance is measured in lux.

Lux

The lux is the unit of illuminance and luminous emittance, measuring luminous flux per unit area. It is equal to one lumen per square meter. In photometry, this is used as a measure of the intensity, as perceived by the human eye, of light that hits or passes through a surface.

Sky Glow

Wide area of night sky scattering direct and indirect upward light back to an observer. Depends on atmospheric conditions and the amount of upward light. Very typical above urban areas.

SON

High-pressure sodium discharge lamp. Typically golden orange light or whiter light, but more modern versions available in a 'whiter' output. Very poor CRI of approximately 25.

SOX

Low pressure sodium discharge lamp. Orange light, essentially monochromatic, identifying only yellow colour with all others rendered as shades of grey. CRI 0.

ULOR

Upward light ratio output.

Uniformity (U_o)

The uniformity of illumination is the lowest calculated illuminance and the average illuminance of the working plane. Uniformity is calculated to ensure the lighting design provides a uniform illuminance in line with the required standards.

Appendix B *Approved
Ecological
Landscape Plan*

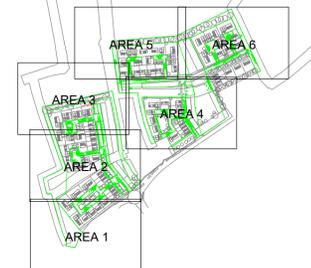


Appendix C *Predicted Light
Spill Drawings*

LYNCHMEAD FARM ADOPTABLE LIGHTING SPECIFICATIONS

- A** Wall Light 73m wall mounted external downlighter
- C** Column Light 842lm column head luminaire mounted at 4m

KEY PLAN



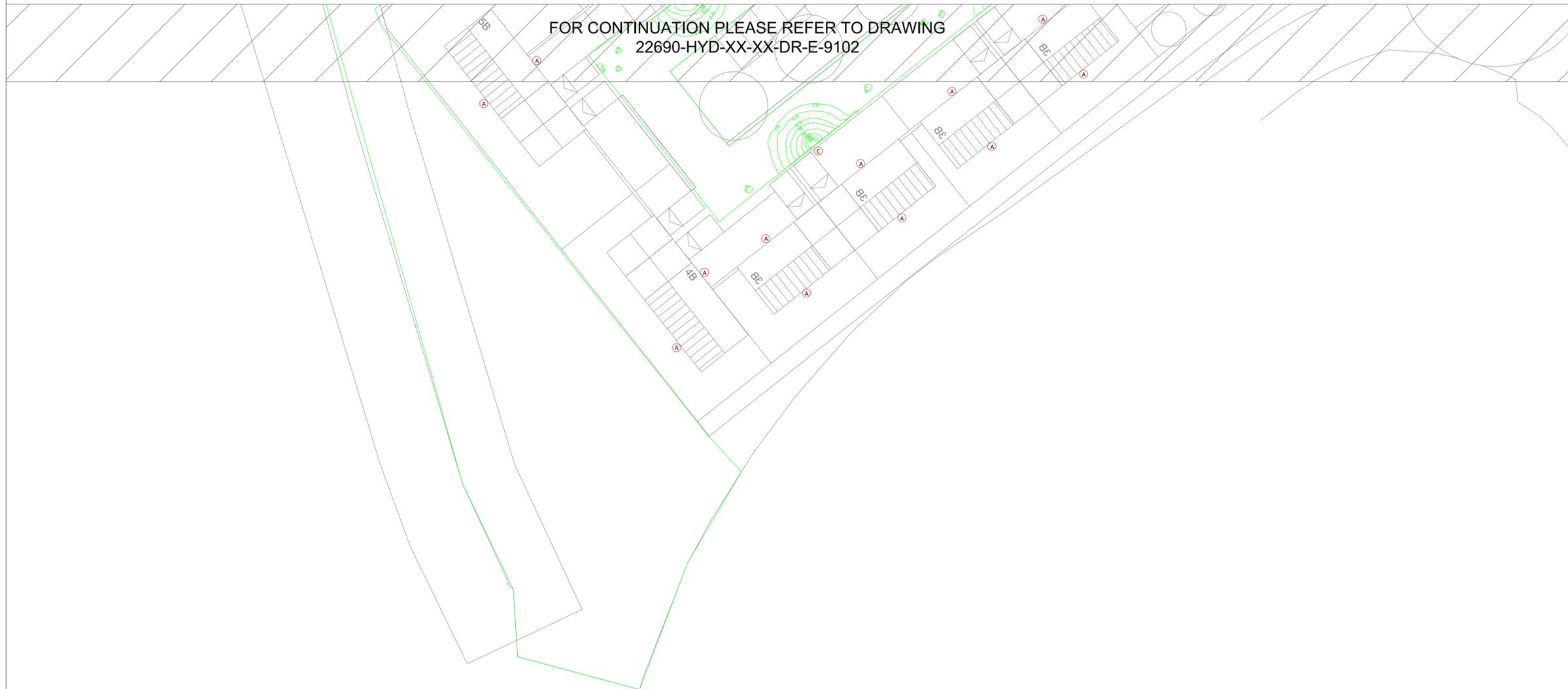
NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. This drawing is to be read in conjunction with all relevant engineers' and service engineers' drawings and specifications. This drawing is copyright.
3. This drawing is designed with a luminaire maintenance factor of 1.00
4. For internal house layouts please refer to 22690-HYD-XX-XX-DR-E-2100 series
5. For vertical isoline layouts please refer to 22690-HYD-XX-XX-DR-E-9200 series.

KEY:

- HORIZONTAL CALCULATION PLANE

FOR CONTINUATION PLEASE REFER TO DRAWING
22690-HYD-XX-XX-DR-E-9102



REVISIONS

REV	REVISION NOTES/COMMENTS	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P03	PRELIMINARY						
		JB	03.03.22	ES	03.03.22	ES	03.03.22
P02	PRELIMINARY						
		JB	22/02/22	ES	22/02/22	ES	22/02/22
P01	PRELIMINARY						
		JB	10/02/22	ES	10/02/22	ES	10/02/22

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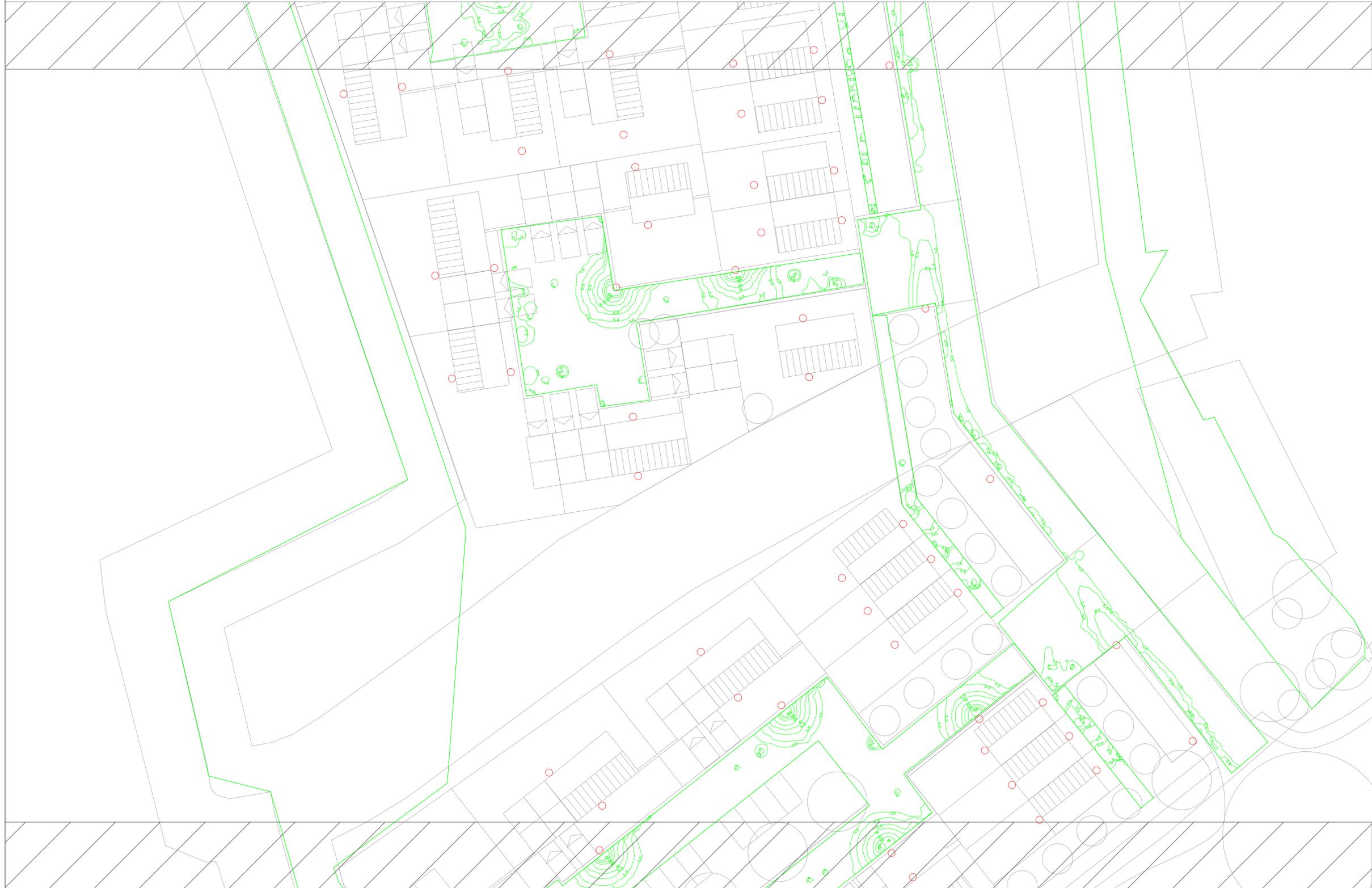
PROJECT

LYNCHMEAD FARM

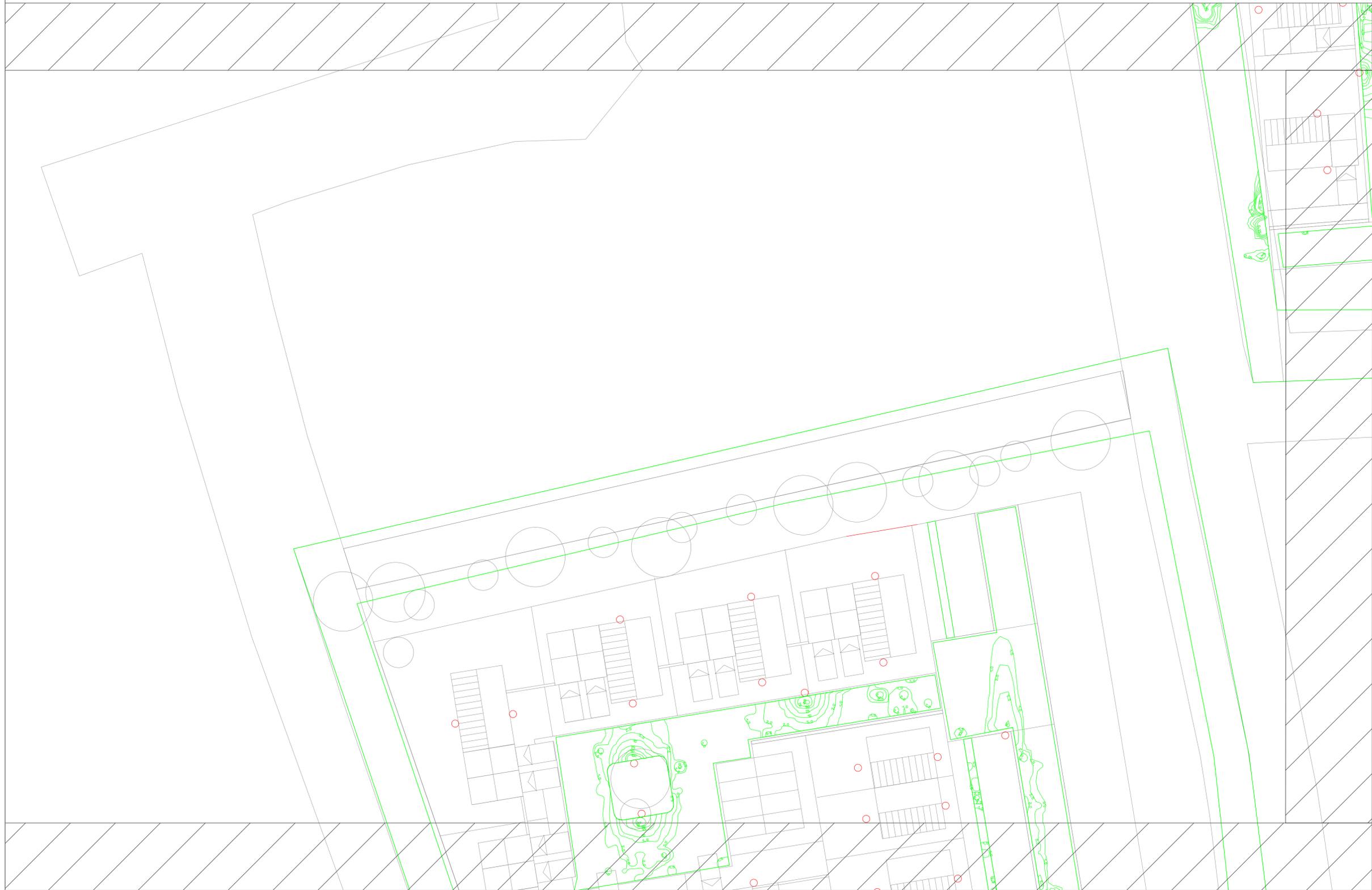
TITLE

ELECTRICAL SERVICES - HORIZONTAL
ADOPTABLE LIGHTING ISOLINES LAYOUT
AREA 1

HYDROCK PROJECT NO. C-22690	SCALE @ A1 1:250	STATUS S2
STATUS DESCRIPTION SUITABLE FOR PLANNING	REVISION P03	
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 22690-HYD-XX-XX-DR-E-9101		







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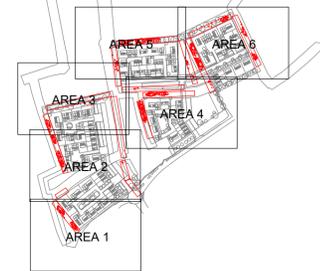




LYNCHMEAD FARM ADOPTABLE LIGHTING SPECIFICATIONS

- (A)** Wall Light 73lm wall mounted external downlighter
- (C)** Column Light 842lm column head luminaire mounted at 4m

KEY PLAN



NOTES

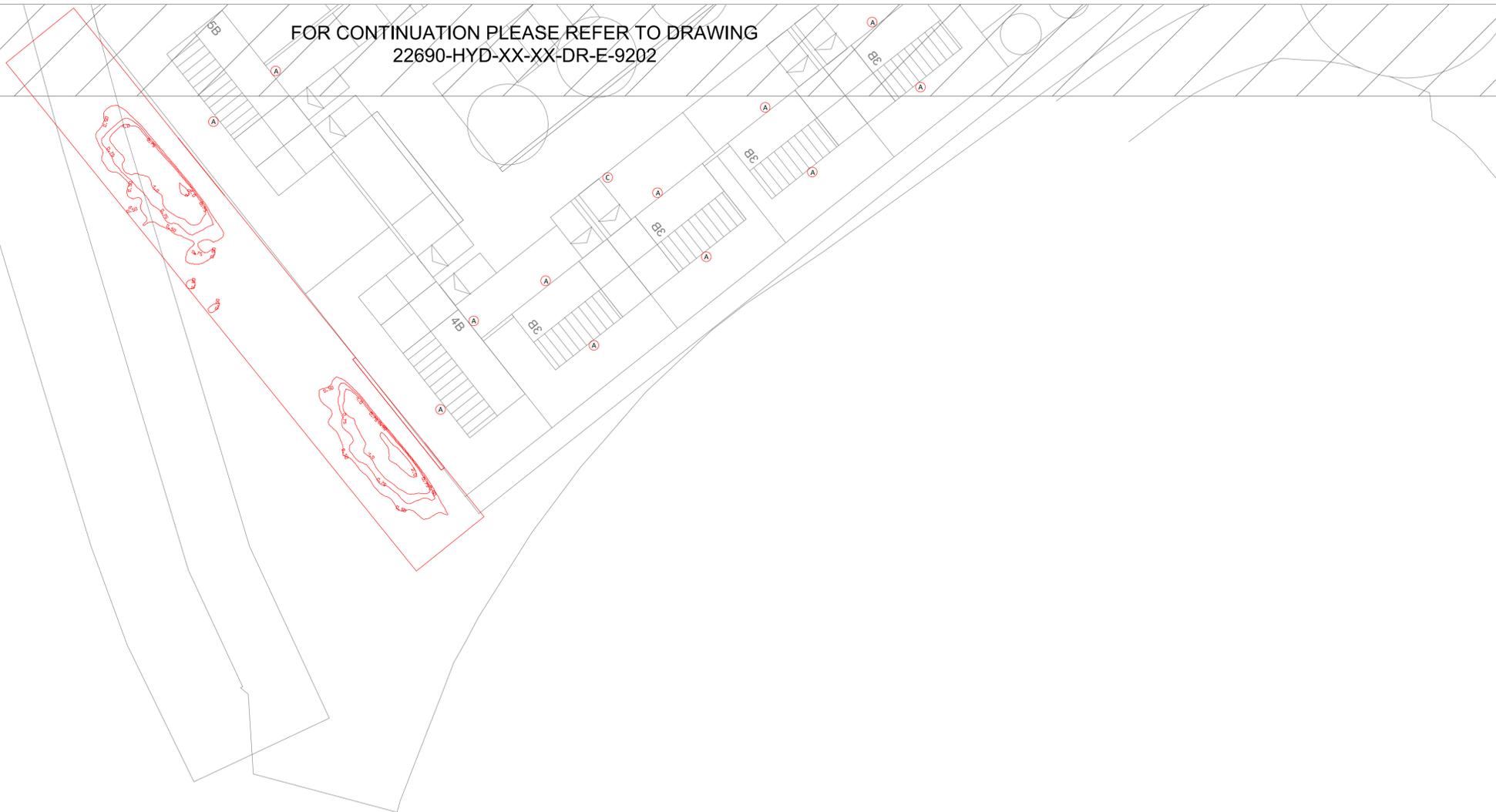
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5. For horizontal isoline layouts please refer to 22690-HYD-XX-XX-DR-E-9100 series.

KEY:

VERTICAL CALCULATION PLANE

This illustrates the 8m high vertical calculation plane (flattened for illustration on plan). With the garden 2m high garden fence directly in front of the bat corridor, this provides a dark zone from ground up to 2m above ground level.

FOR CONTINUATION PLEASE REFER TO DRAWING
22690-HYD-XX-XX-DR-E-9202



REVISIONS

PO3	PRELIMINARY					
	JB	03/03/22	ES	03/03/22	ES	03/03/22
PO2	PRELIMINARY					
	JB	22/02/22	ES	22/02/22	ES	22/02/22
PO1	PRELIMINARY					
	JB	10/02/22	ES	10/02/22	ES	10/02/22
REV	REVISION NOTES/COMMENTS					
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CLIENT

BAKER ESTATES

PROJECT

LYNCHMEAD FARM

TITLE

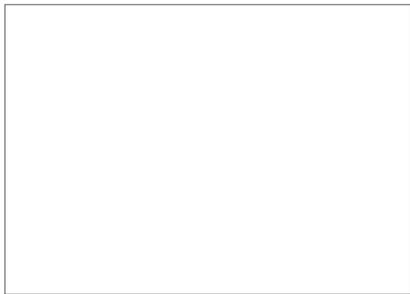
ELECTRICAL SERVICES - VERTICAL
 ADOPTABLE LIGHTING ISOLINES LAYOUT
 AREA 1

HYDROCK PROJECT NO. C-22690	SCALE @ A1 1:250
STATUS DESCRIPTION SUITABLE FOR PLANNING	STATUS S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 22690-HYD-XX-XX-DR-E-9201	REVISION P03



This illustrates the 8m high vertical calculation plane (flattened for illustration on plan). With the garden 2m high garden fence directly in front of the bat corridor this provides a dark zone from ground up to 2m above ground level.





This illustrates the 8m high vertical calculation plane (flattened for illustration on plan). With the garden 2m high garden fence directly in front of the bat corridor, this provides a dark zone from ground up to 2m above ground level.



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This illustrates the 8m high vertical calculation plane (flattened for illustration on plan). With the garden 2m high garden fence directly in front of the bat corridor, his provides a dark zone from ground up to 2m above ground level.

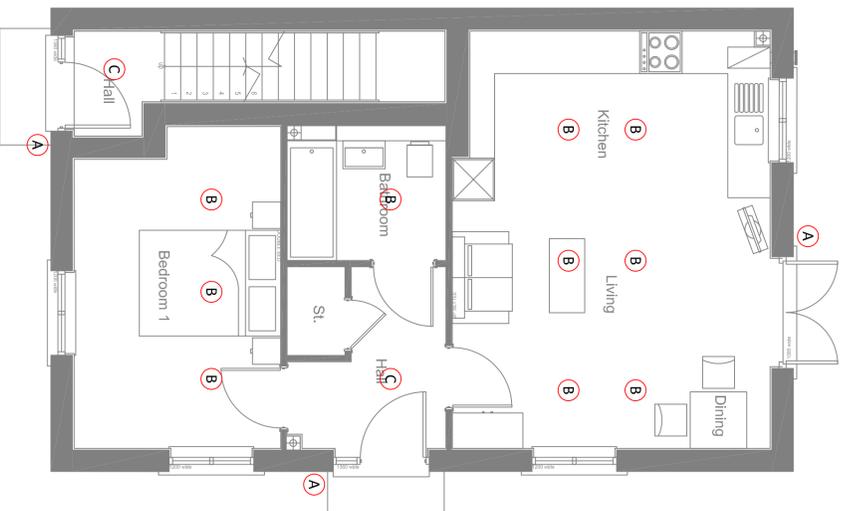


Appendix D House Types

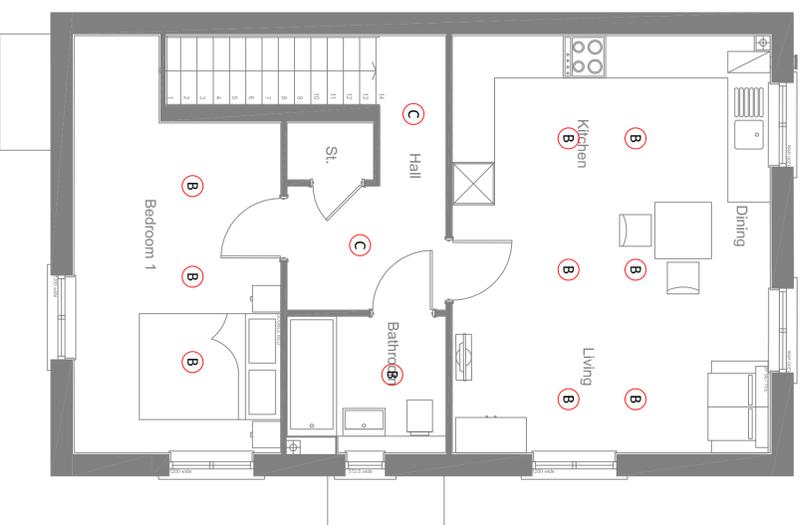
LYNCHMEAD FARM ADOPTABLE LIGHTING SPECIFICATIONS

- (A)** Wall Light 731m wall mounted external downlighter
- (B)** Downlight Internal 600mm recessed downlighter
- (C)** Pendant Internal 600mm downlighter

- NOTES**
- All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figure dimensions only are to be taken from this drawing.
 - This drawing is to be read in conjunction with all relevant engineers' and service engineers' drawings and specifications. This drawing is copyright.
 - This drawing is designed with a luminaire maintenance factor of 1.00



Ground Floor Plan



First Floor Plan

REV	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	JR	03/02/22	ES	02/02/22	ES	02/02/22

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CLIENT
MEAD Realisations Ltd.

PROJECT
LYNCHMEAD FARM

TITLE
ELECTRICAL SERVICES
1 BED LIGHTING HOUSING LAYOUT
SKETCH 2

HYDROCK PROJECT NO
C-22690

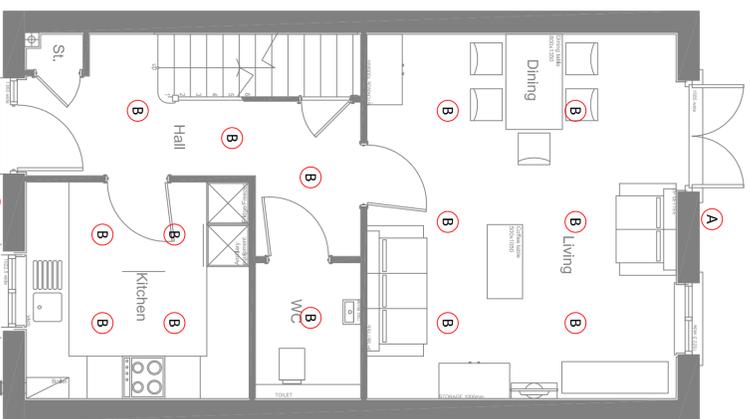
SCALE @ A1
1:50

STATUS
SUITABLE FOR PLANNING
S2

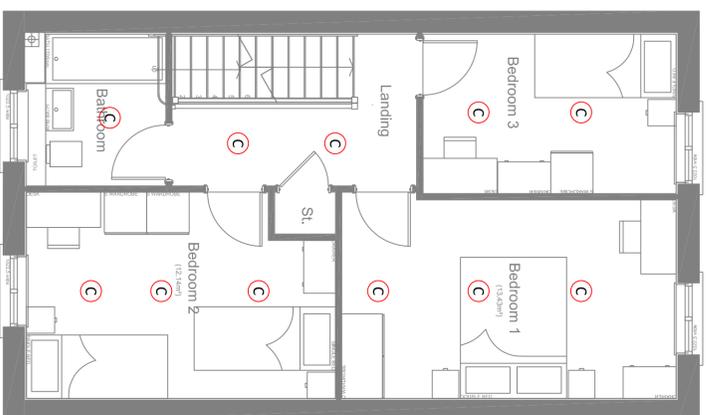
REVISION
DRAWING NO. (PROJECT CODE ORIGINATOR ZONE LEVEL TYPE CODE NUMBER)
22690-HYD-XX-XX-DR-E-2102
P01

LYNCHMEAD FARM ADOPTABLE LIGHTING SPECIFICATIONS

- (A) Wall Light 731m wall mounted external downlighter
- (B) Downlight Internal 600/1m recessed downlighter
- (C) Pendant Internal 600/1m downlighter



Ground Floor Plan



First Floor Plan

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 - This drawing is designed with a luminaire maintenance factor of 1.00

REVISIONS

REV	DATE	BY	DATE	REVISION NOTES/COMMENTS
P01	03/02/22	JS	02/02/22	JS
Planning				


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CLIENT
MEAD Realisations LTD.

PROJECT
LYNCHMEAD FARM

TITLE
ELECTRICAL SERVICES
3 BED LIGHTING HOUSING LAYOUT
SKETCH 4

HYDROCK PROJECT NO
C-22690

SCALE @ A1
1:50

STATUS
SUITABLE FOR PLANNING
S2

REVISION
DRAWING NO. (PROJECT CODE ORIGINATOR ZONE LEVEL TYPE CODE NUMBER)
22690-HYD-XX-XX-DR-E-2104
P01

LYNCHMEAD FARM ADOPTABLE LIGHTING SPECIFICATIONS

- (A)** Wall Light 731m wall mounted external downlighter
- (B)** Downlight Internal 600lm recessed downlighter
- (C)** Pendant Internal 600lm downlighter



NOTES

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- This drawing is designed with a luminaire maintenance factor of 1.00

REVISIONS

REV	DATE	BY	DATE	DESCRIPTION
P01	03/02/22	IS	02/02/22	IS

PREPARED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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PROJECT
 LYNCHMEAD FARM

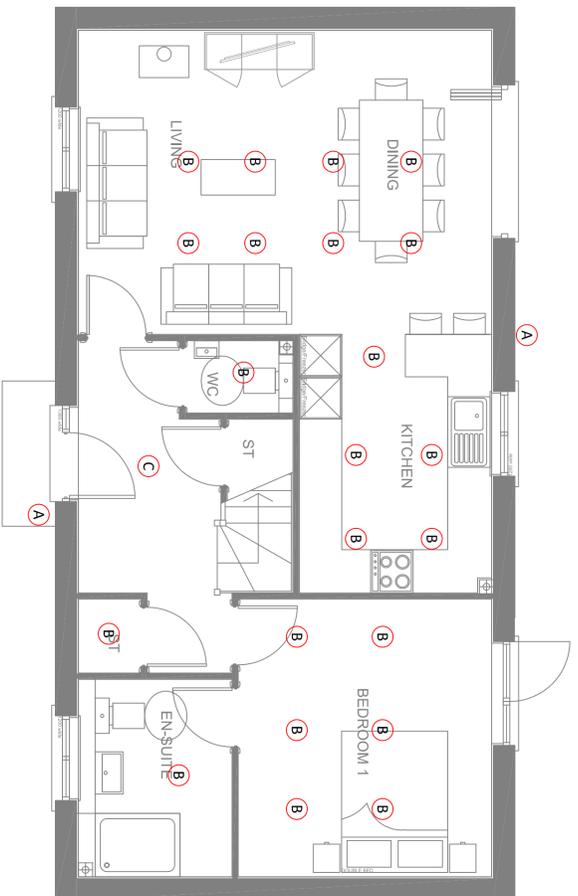
TITLE
 ELECTRICAL SERVICES
 2 BED LIGHTING HOUSING LAYOUT
 SKETCH 3

HYDROCK PROJECT NO	SCALE	STATUS
C-22690	@ A1 1:50	S2
STATUS DESCRIPTION	SUITABLE FOR PLANNING	REVISION
		P01
DRAWING NO. (PROJECT CODE ORIGINATOR ZONE LEVEL TYPE CODE NUMBER)	22690-HYD-XX-XX-DR-E-2103	

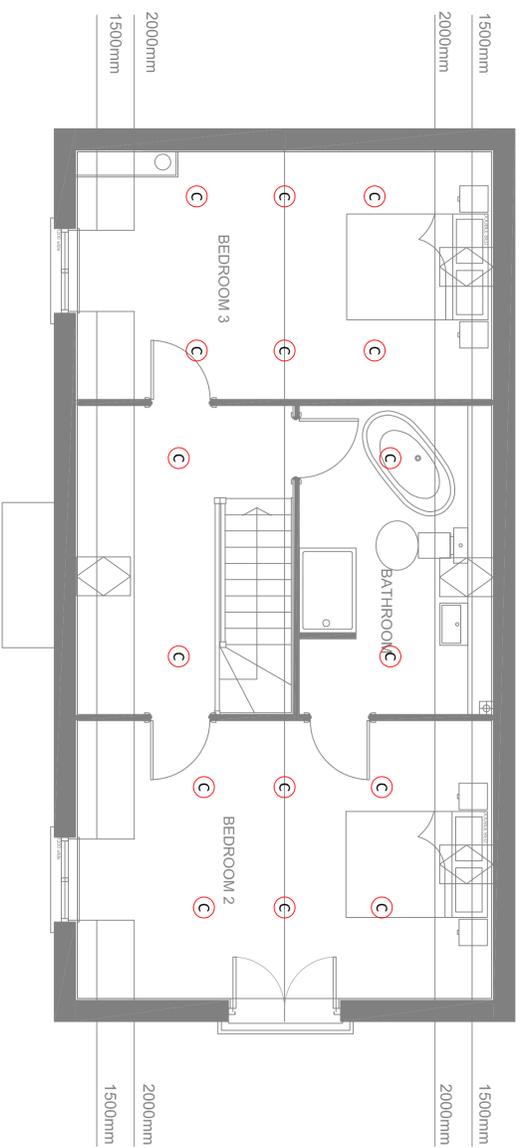
LYNCHMEAD FARM ADOPTABLE LIGHTING SPECIFICATIONS

- (A) Wall Light 731m wall mounted external downlighter
- (B) Downlight Internal 600mm recessed downlighter
- (C) Pendant Internal 600mm downlighter

- NOTES
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 - This drawing is designed with a luminaire maintenance factor of 1.00



GROUND FLOOR PLAN



FIRST FLOOR PLAN



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PROJECT
LYNCHMEAD FARM

TITLE

ELECTRICAL SERVICES
4 BED LIGHTING HOUSING LAYOUT
SKETCH 1

HYDROCK PROJECT NO. C-22690 SCALE @ A1 1:50

STATUS DESCRIPTION
SUITABLE FOR PLANNING

DRAWING NO. (PROJECT CODE ORIGINATOR ZONE LEVEL TYPE CODE NUMBER)
22690-HYD-XX-XX-DR-E-2101

REVISION
P01