

SHAW CONTRACT
— MANAGEMENT —



MOSS LANE EAST – STUDENT ACCOM

Lightning Protection Report



Document Information

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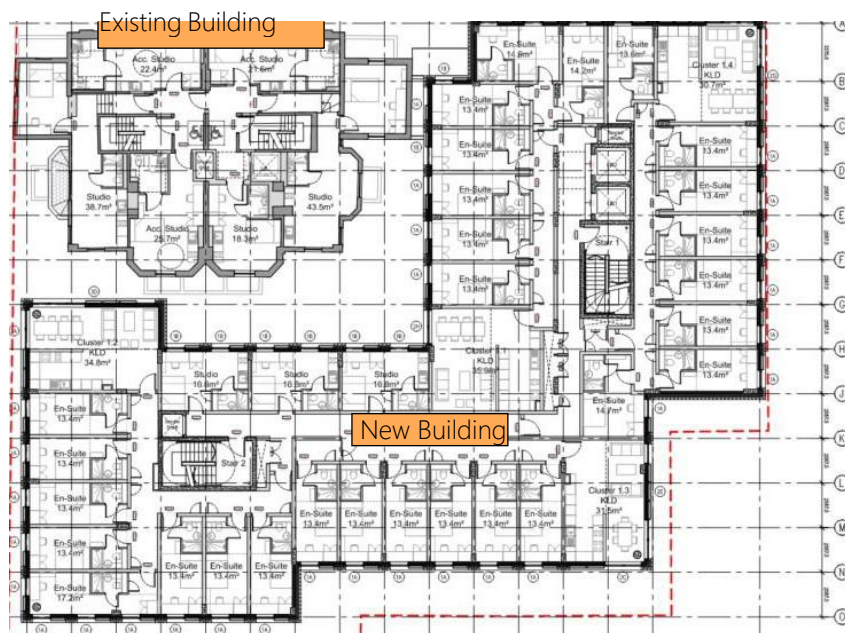
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1.0. Introduction

1.1. Building Description

This report has been prepared in connection with the development of the Moss Lane East Student Accommodation in Rusholme, Manchester. The proposed scheme comprises two distinct buildings, one existing and one newly constructed, which will be linked at ground floor level via a connecting corridor.

- **New Building:**
A newly constructed 10-storey steel-framed structure, consisting of a ground floor, mezzanine level, and eight upper floors.
- **Existing Building:**
A Grade II listed heritage building, comprising a basement, ground floor, and two upper floors.



As part of the development, these two buildings will be functionally and physically linked, increasing their shared infrastructure responsibilities, including fire and electrical safety systems.

1.2. Aim of the Report

The primary aim of this report is to assess the lightning protection requirements for the existing four-storey listed building, and to ensure that the full development complies with the relevant standards and legal obligations.

Lightning protection is not only best practice in construction and electrical safety; it is a legal requirement for many structures in the UK, including: -

- Commercial buildings
- Educational institutions
- Hotels and public accommodations
- Apartment complexes and student housing

- Public facilities and heritage sites

As such, our assessment ensures compliance with the following key regulations and standards: -

- BS EN 62305 – Protection Against Lightning: This is the British Standard covering risk assessment, design, implementation, and maintenance of lightning protection systems.
- Electricity at Work Regulations 1989 – These regulations require all electrical systems, including lightning protection, to be designed and maintained to prevent danger to occupants.
- UK Building Regulations – These include requirements related to structural safety and fire protection, which indirectly reinforce the need for adequate lightning protection.

2.0. Survey of Existing Building

As part of our role as Mechanical and Electrical (M&E) consultants for this development, Shaw Contract Management (SCM) have conducted a full risk assessment in accordance with BS EN 62305 and the Electricity at Work Regulations 1989.

This included the following: -

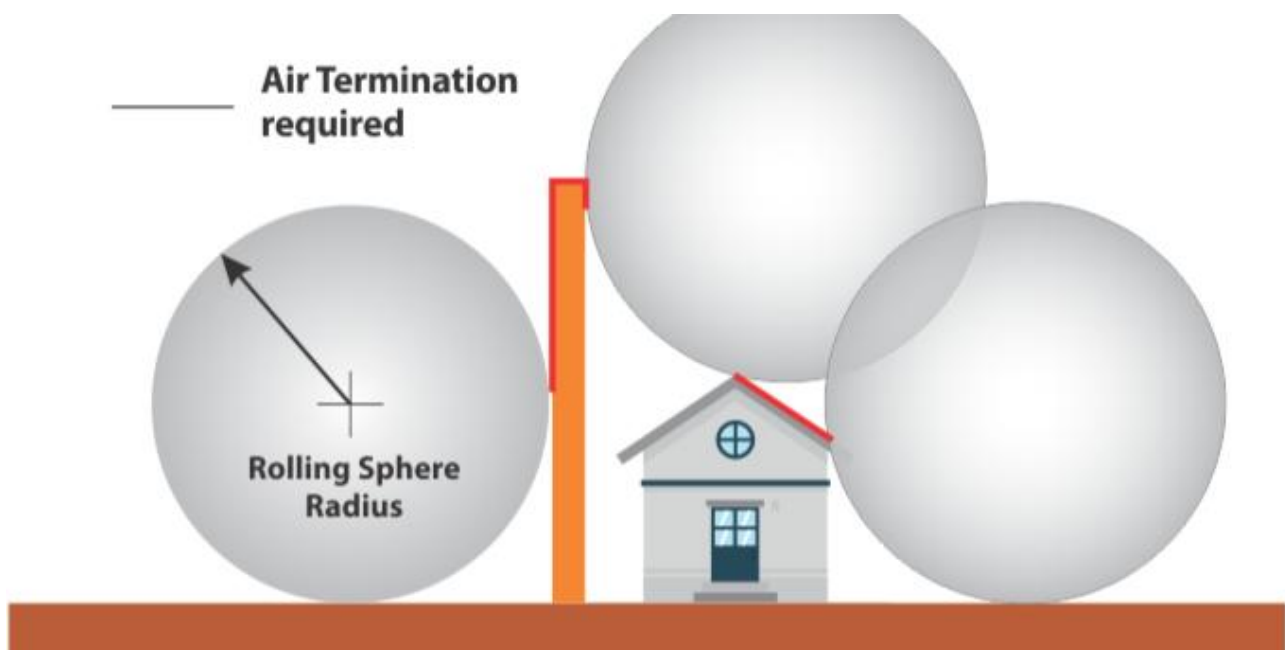
- A Strike Risk Assessment

This assessment was critical for determining whether lightning protection is required for the buildings and a copy of the report have been appended to this document.

The risk assessment has been carried out and concluded a level 2 lightning protection system is recommended to be installed. There was a number of options reviewed regarding the design to see which would be the most suitable and practical to install. These options were the rolled sphere method, protection angle and surfaced fixed

The outcome was that a surfaced fixed system would be best. This was due to the other two methods did not provide the protection needed to comply with current standards.

The outside edge of the existing building was left exposed which lightning protection would need to be installed linking back to all down conductors and earth positions. Due to this a full air termination would still be needed.



Assessment Results:

Our analysis concluded that both the existing listed building and the new building require lightning protection. A key factor influencing this decision is the new link corridor at ground floor level, which physically connects the two structures. This connection increases the shared lightning risk and electrical continuity, making unified protection essential.

3.0. Lightning Protection Options

3.1. New Building (Steel Framed)

Given that the new structure is steel framed, lightning protection measures can be relatively straightforward:

- Air termination systems will be mounted to the steelwork at roof level.
- Down conductors will connect to the earth termination system through strategically placed test pits in the surrounding pavement.
- This solution offers effective protection with minimal visual impact.

3.2. Existing Listed Building

Due to the heritage nature and construction materials of the existing building, additional care is required:

- Down conductors (tapes/cables) will need to be fixed externally to the building.
- Internal routing was evaluated but deemed unviable due to:
 - Increased risk of fire or electric shock.
 - Loss of usable internal space if cable cavities are created in the walls.
 - Conflict with conservation requirements and internal finishes of the listed structure.

While external down cables are not ideal from an aesthetic perspective, every effort has been made to design a discreet installation, minimising visual impact wherever possible.

4.0. Lightning Protection Installation

For proposed design and positioning, refer to the attached drawings: -

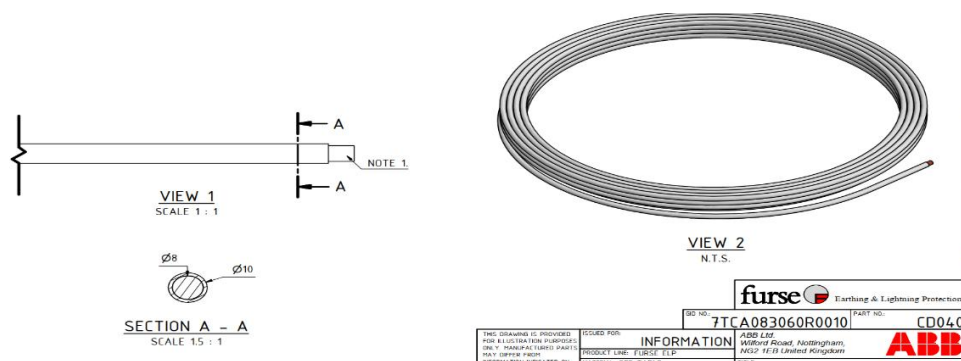
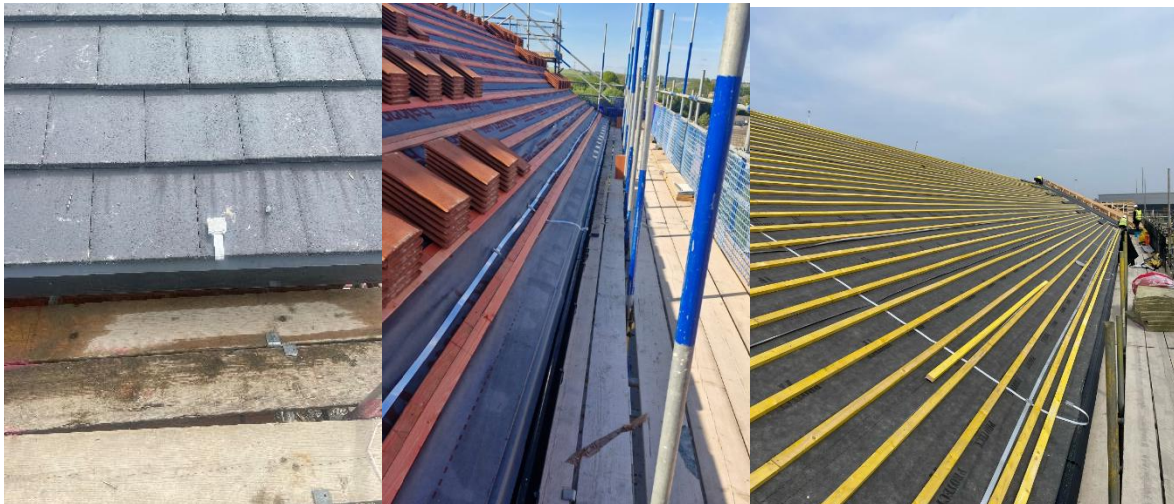
- L047-SHA-69-22-GF-D-E-690001-C02 (Ground Floor)
- L047-SHA-69-22-RF-D-E-690001-C02 (Roof Level)

Copies of these drawing are included in the appendices of this document.

These show proposed locations for all key components: -

- Roof Tapes: Installed underneath roofing tiles and therefore not visible.
- Air Terminals (Strike Points): Positioned along the roof ridge, on the side opposite the road to reduce visibility from public areas.
- Down Conductors: Installed vertically, primarily away from the main road, using 8mm white circular cable housed in neat conduit for a clean finish.

Sample visuals of the strike point and cable installation are included below for client reference.



Solid Circular Conductor



Diameter	Colour range					
	Black 18B29	Green BS 6746C	Grey 00A07	Stone 08B23	White 10B15	Brown 06C39
Copper						
8mm	CD036	-	CD038	CD039	CD040	CD041
Aluminium						
8mm	CD081	-	CD083	CD084	CD085	CD086

Copper to BS EN 13601 (formerly BS 1433). Aluminium to BS 2898-1350.

Other Conductors

Flat tape

Bare, LSOH covered, yellow & green PVC insulated, lead covered and tinned copper tape, hard drawn copper bar, flexible copper braid and bare aluminium tape.

Solid circular

Bare copper and aluminium solid circular.

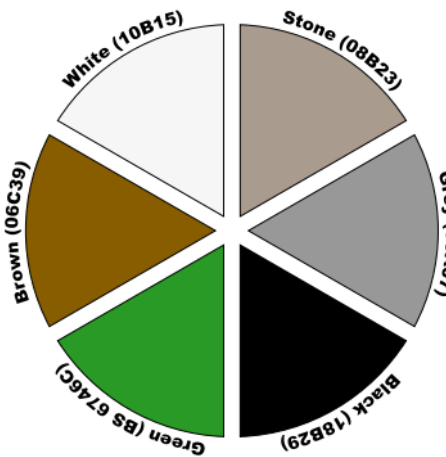
Stranded

Bare and green & yellow PVC insulated stranded copper cable and bimetallic cable.

PVC Covered Copper & Aluminium Conductor Colour Card

For lightning conductor applications where aesthetic impact is an important consideration, choose one of our PVC coverings from the colour swatches below.

Colour Card



Features & Benefits

- ◆ PVC covered options are available for flat tape and solid circular conductors in copper and aluminium.
- ◆ PVC colours are in accordance with BS 5252. (Green to BS 6746C).
- ◆ All PVC coverings are UV stabilised to prevent colour degradation which can be caused by exposure to sunlight.
- ◆ A selection of matching clips are available from stock (details overleaf).

Thomas & Betts

This approach balances regulatory compliance, effectiveness, and aesthetics—especially important given the building's listed status.

5.0. Conclusion

Following a thorough risk assessment and design review, we have concluded the following: -

- Lightning protection is required for both the new and existing buildings.
- Due to their physical connection via the ground floor link, a shared lightning risk now exists, mandating a coordinated system.
- The selected solutions are in full compliance with BS EN 62305, the Electricity at Work Regulations, and relevant Building Regulations.
- While visual concerns were considered, all efforts have been made to minimise the impact of external components, particularly on the listed building.

We recommend proceeding with the installation as proposed in the attached drawings to ensure the long-term safety, compliance, and operational integrity of the Moss Lane East development.

APPENDIX A – Strike Risk Report

Bailey International Lightning Protection Services

Lightning protection risk management calculations
To BS EN 62305-2:2012 (Edition 2)

Full case report

Project name: Moss Lane East, Manchester
Project ref: E17351L
Case name: Original Case
Client:
Prepared by: Adam Dargan
Issue date: 14/11/2024

Project details

Project name: Moss Lane East, Manchester

Client:

Standard: BS EN 62305-2:2012 (Edition 2)

Project address: Moss Lane East,
Manchester

Project ref: E17351L

Calculation ref:

Calculation notes: It is a requirement for compliance with BS EN 62305-3, section 6.2, that all electrical and electronic lines entering or leaving a structure which has a lightning protection system installed on it shall be fitted with Surge Protection Devices (SPDs). These SPDs shall have type 1 ratings appropriate to the LPL, the type of line and the number of additional conductive services associated with the building.

In addition, all electrical and electronic systems within the building which are deemed by the owner/operator of the building to be essential for, or critical to the continued operation of the structure and the level of service that it provides to its occupants, users, and/or the general public, should be further protected via the implementation of a coordinated system of surge protection devices, used to reduce the effects of transient over voltages seen by electronic equipment and the possible loss of service that may result.

All SPDs used in this installation should be sourced from a single manufacturer in order to maximise the level of operational coordination seen between devices.

Project author: Adam Dargan

Created: 14/11/2024

Modified: 14/11/2024

Case details

Case name: Original Case

Case title: Moss Lane East, Manchester

Case notes:

The following primary risks and their relevant tolerable risks have been taken into consideration as part of this risk management calculation

R_1	7.5581E-06	Risk of loss of human life in the structure. The tolerable risk of 1E-05 is not exceeded based on the application of the protection measures listed below.
R_2	1.5156E-07	Risk of loss of service to the public in the structure The tolerable risk of 0.0001 is not exceeded based on the application of the protection measures listed below.

Protection system design parameters

Structural LPS	Requirement for a structural lightning protection system (LPS) and where necessary the chosen Lightning protection level (LPL)
	Lightning protection level (LPL) II
I _{max}	Maximum peak current
	150 kA
ProbI _{max}	Probability that lightning current parameters are smaller than the maximum value defined above
	98%
I _{min}	Minimum peak current
	5 kA
ProbI _{min}	Probability that lightning current parameters are greater than the minimum value defined above
	97%
r	Radius of rolling sphere
	30 m
I _{SPD}	Maximum peak current of SPDs for each of the 2 lines considered (based on the simple current division concept).
	NOTE: The worst case surge that could be expected on a two-wire telephone or data line is 2.5kA (10/350 μs) per line (Category D test to IEC/EN 61643-21) to earth or 5 kA (10/350 μs) per pair.
	37.5 kA

Line 1

Power

Service entrance SPD	Requirement to protect Line 1 at its entrance to the structure with an equipotential bonding SPD (rated to I _{SPD} above) in accordance with BS EN 62305-2:2012 (Edition 2)
	NOTE: Where SPDs are required but an LPS is not (I _{SPD} = 0), protect overhead lines with Type 1 SPDs (mains 12.5kA 10/350μs, data/telecom 2.5kA 10/350μs), protect underground lines with overvoltage or Type 2 SPDs (tested with an 8/20 μs waveform)
	Lightning protection level (LPL) II

Coordinated SPD set Requirement to protect all internal systems connected to Line 1 with a coordinated set of SPDs in accordance with BS EN 62305-2:2012 (Edition 2)

None

Line 2

Data

Service entrance SPD Requirement to protect Line 2 at its entrance to the structure with an equipotential bonding SPD (rated to ISPD above) in accordance with BS EN 62305-2:2012 (Edition 2)

NOTE: Where SPDs are required but an LPS is not (ISPD = 0), protect overhead lines with Type 1 SPDs (mains 12.5kA 10/350µs, data/telecom 2.5kA 10/350µs), protect underground lines with overvoltage or Type 2 SPDs (tested with an 8/20 µs waveform)

Lightning protection level (LPL) II

Coordinated SPD set Requirement to protect all internal systems connected to Line 2 with a coordinated set of SPDs in accordance with BS EN 62305-2:2012 (Edition 2)

None

Zone 1

Fire protection system Automatic extinguishing or alarm installations

Environmental factors

N_G	0.8	Lightning ground flash density (Flashes/km ² /year)
C_D	0.5	Location factor
C_E	0.01	Environmental factor

Primary structure

Structure ID: 1 - Primary Structure

L_b	42 m	Length of structure (metres)
W_b	34 m	Width of structure (metres)
H_b	28.5 m	Height of structure (metres)

Secondary structures

Structure ID: 2 - Substation

Location		Structure surrounded by higher objects
C_{DJ}	0.25	Location factor
L_b	5 m	Length of structure (metres)
W_b	5 m	Width of structure (metres)
H_b	3 m	Height of structure (metres)

Structure ID: 3 - Telephone Exchange

Location		Structure surrounded by higher objects
C_{DJ}	0.25	Location factor
L_b	10 m	Length of structure (metres)
W_b	10 m	Width of structure (metres)
H_b	8 m	Height of structure (metres)

Line factors**Line 1 - Power**

K_{S3}	0.2	Factor relevant to the characteristics of internal wiring
P_{EB}	0.02	Probability of failure of internal systems or a service when SPDs are provided for equipotential bonding (in accordance with BS EN 62305-3)
P_{SPD}	0.02	Probability of failure of internal systems or a service when coordinated SPDs are provided
U_w	4 kV	Rated impulse withstand voltage of a system (kV)
C_{LD}	1	Factor depending on shielding, grounding and isolation conditions of the line for flashes to a line
C_{LI}	1	Factor depending on shielding, grounding and isolation conditions of the line for flashes near a line
Type	1	
Connected structure:	Substation	
L_L (Section 1)	100 m	Length of line section (metres)
L_H (Section 1)	0 m	Height of line section (metres)
C_T (Section 1)	0.2	Factor taking into account the presence of an HV/LV transformer on a line section
C_I (Section 1)	0.5	Factor relating to the routing of a line section

Line 2 - Data

K_{S3}	1	Factor relevant to the characteristics of internal wiring
P_{EB}	0.02	Probability of failure of internal systems or a service when SPDs are provided for equipotential bonding (in accordance with BS EN 62305-3)
P_{SPD}	0.02	Probability of failure of internal systems or a service when coordinated SPDs are provided
U_w	1.5 kV	Rated impulse withstand voltage of a system (kV)
C_{LD}	1	Factor depending on shielding, grounding and isolation conditions of the line for flashes to a line
C_{LI}	1	Factor depending on shielding, grounding and isolation conditions of the line for flashes near a line
Type	1	
Connected structure:	Telephone Exchange	
L_L (Section 1)	100 m	Length of line section (metres)
L_H (Section 1)	0 m	Height of line section (metres)

C_T (Section 1)	1	Factor taking into account the presence of an HV/LV transformer on a line section
C_l (Section 1)	0.5	Factor relating to the routing of a line section

Zone factors

n_{t2}	0	Total number of users served by the structure
Zone 1 -		
Zone Location		Inside the structure LPZ 1...n
r_p	2E-01	Factor reducing the loss due to provisions against fire in zone
r_f	1E-02	Factor reducing the loss due to the risk of fire in zone
r_t	1E-04	Factor reducing the loss due to the type of floor/surface in zone
h_{z1}	5E00	Factor increasing the loss of human life due to presence of special hazard in zone
L_{T1}	1E-02	Loss due to injury due to touch and step voltages in zone
L_{F1}	1E00	Loss to structure due to physical damage in zone
L_{O1}	0E00	Loss to structure due to failure of internal systems in zone
L_{F2}	1E-01	Loss to structure due to physical damage in zone
L_{O2}	0E00	Loss to structure due to failure of internal systems in zone
n_{z2}	0	Number of users served by zone

Assessment of Ax - Collection areas

Primary Structure

A_D	37,389.83 m ²	Collection area of structure (square metres)
A_M	861,398.16 m ²	Collection area of surrounding ground (square metres)
A_L	8,000.00 m ²	Collection area of flashes striking line (square metres)
A_l	800,000.00 m ²	Collection area of flashes near line (square metres)

Substation

A_{DJ}	459.47 m ²	Collection area of structure (square metres)
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Telephone Exchange

A_{DJ}	2,869.56 m ²	Collection area of structure (square metres)
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Line 1 - Power (Section 1)

A_L	4,000.00 m ²	Collection area of flashes striking line (square metres)
A_l	400,000.00 m ²	Collection area of flashes near line (square metres)

Line 2 - Data (Section 1)

A_L	4,000.00 m ²	Collection area of flashes striking line (square metres)
A_l	400,000.00 m ²	Collection area of flashes near line (square metres)

Assessment of N_x - Annual number of dangerous events

Primary Structure

N_D	1.4956E-02	Average number of flashes to main structure
N_M	6.8912E-01	Average number of flashes to surrounding ground

Substation

N_{DJ}	1.8379E-04	Average number of flashes to structure
N_M	6.3632E-01	Average number of flashes to surrounding ground

Telephone Exchange

N_{DJ}	1.1478E-03	Average number of flashes to structure
N_M	6.4432E-01	Average number of flashes to surrounding ground

Line 1 - Power (Section 1)

N_L	3.2E-06	Average number of flashes to line
N_i	3.2E-04	Average number of flashes near line

Line 1 - Power

N_L	3.2E-06	Average number of flashes to line
N_i	3.2E-04	Average number of flashes near line

Line 2 - Data (Section 1)

N_L	1.6E-05	Average number of flashes to line
N_i	1.6E-03	Average number of flashes near line

Line 2 - Data

N_L	1.6E-05	Average number of flashes to line
N_i	1.6E-03	Average number of flashes near line

Assessment of P_x - Probability of damage for a structure

P_B	5E-02	Probability that a flash to a structure will cause physical damages
P_C	1E00	Probability that a lightning flash near to the structure will cause failure of internal systems
K_{S1}	6E-01	Factor relating to screening effectiveness of the structure

Zone 1 -

P_{TA}	1E00	Probability that lightning will cause injuries to living beings
P_A	5E-02	Probability that lightning will cause injuries to living beings present in zone
K_{S2}	1E00	Factor relating to screening effectiveness of shields internal to the structure
P_M	1.6076E-01	Probability that a lightning flash near to the structure will cause failure of internal systems

Zone 1 - (Power)

P_{MS}	9E-04	Probability of failure of internal systems (with protection measures) associated with line
P_M	9E-04	Probability that a lightning flash near to the structure will cause failure of internal systems

P_U	6E-03	Probability that injuries of living beings will be caused by a flash to line
Zone 1 - (Data)		
P_{MS}	1.6E-01	Probability of failure of internal systems (with protection measures) associated with line
P_M	1.6E-01	Probability that a lightning flash near to the structure will cause failure of internal systems
P_U	1.6E-02	Probability that injuries of living beings will be caused by a flash to line
Line 1 - Power		
P_C	1E00	Probability that a lightning flash near to the structure will cause failure of internal systems
K_{S3}	2E-01	Factor relevant to the characteristics of internal wiring
K_{S4}	2.5E-01	Factor relating to the impulse withstand voltage of a system associated with line
P_{LD}	3E-01	Probability of failure of internal systems (flashes to a connected service) associated with line
P_{LI}	1.6E-01	Probability of failure of internal systems (flashes near a connected service) associated with line
P_V	6E-03	Probability that physical damage will be caused by a flash to line
P_W	3E-01	Probability that failure of internal systems will be caused by a flash to line
P_Z	1.6E-01	Probability that failure to internal systems will be caused by a flash near to line
Line 2 - Data		
P_C	1E00	Probability that a lightning flash near to the structure will cause failure of internal systems
K_{S3}	1E00	Factor relevant to the characteristics of internal wiring
K_{S4}	6.6667E-01	Factor relating to the impulse withstand voltage of a system associated with line
P_{LD}	8E-01	Probability of failure of internal systems (flashes to a connected service) associated with line
P_{LI}	5E-01	Probability of failure of internal systems (flashes near a connected service) associated with line
P_V	1.6E-02	Probability that physical damage will be caused by a flash to line
P_W	8E-01	Probability that failure of internal systems will be caused by a flash to line
P_Z	5E-01	Probability that failure to internal systems will be caused by a flash near to line

Assessment of L_x - Amount of loss for a structure

Zone 1 -

L_{A1}	9.9726E-07	Loss related to injury to living beings in zone
L_{B1}	9.9726E-03	Loss in a structure related to physical damage (flashes to structure) in zone
L_{C1}	0E00	Loss related to failure of internal systems (flashes to structure) in zone

L_{M1}	0E00	Loss related to failure of internal systems (flashes near structure) in zone
L_{U1}	9.9726E-07	Loss related to injury of living beings (flashes to service) in zone
L_{V1}	9.9726E-03	Loss in a structure due to physical damage (flashes to service) in zone
L_{W1}	0E00	Loss related to failure of internal systems (flashes to service) in zone
L_{Z1}	0E00	Loss related to failure of internal systems (flashes near a service) in zone
L_{B2}	2E-04	Loss in a structure related to physical damage (flashes to structure) in zone
L_{C2}	0E00	Loss related to failure of internal systems (flashes to structure) in zone
L_{M2}	0E00	Loss related to failure of internal systems (flashes near structure) in zone
L_{V2}	2E-04	Loss in a structure due to physical damage (flashes to service) in zone
L_{W2}	0E00	Loss related to failure of internal systems (flashes to service) in zone
L_{Z2}	0E00	Loss related to failure of internal systems (flashes near a service) in zone

Assessment of Rx - Risk components

Zone 1 -

R_{A1}	7.4575E-10	Risk component of risk R1 due to injury to living beings (D1) caused by flashes to a structure (S1) in zone
R_{B1}	7.4575E-06	Risk component of risk R1 due to physical damage to a structure (D2) caused by flashes to a structure (S1) in zone
R_{C1}	0E00	Risk component of risk R1 due to failure of internal systems (D3) caused by flashes to a structure (S1) in zone
R_{M1}	0E00	Risk component of risk R1 due to failure of internal systems (D3) caused by flashes near a structure (S2) in zone
R_{B2}	1.4956E-07	Risk component of risk R2 due to physical damage to a structure (D2) caused by flashes to a structure (S1) in zone
R_{C2}	0E00	Risk component of risk R2 due to failure of internal systems (D3) caused by flashes to a structure (S1) in zone
R_{M2}	0E00	Risk component of risk R2 due to failure of internal systems (D3) caused by flashes near a structure (S2) in zone

Zone 1 - (Line 1 - Power)

R_{U1}	5.69E-13	Risk component of risk R1 due to injury to living being (D1) caused by flashes to a connected service (S3) associated with line
R_{V1}	5.69E-09	Risk component of risk R1 due to physical damage to structure (D2) caused by flashes to a connected service (S3) associated with line
R_{W1}	0E00	Risk component of risk R1 due to failure of internal systems (D3) caused by flashes to a connected service (S3) associated with line

R_{Z1}	0E00	Risk component of risk R1 due to failure of internal systems (D3) caused by flashes near a service (S4) associated with line
R_{V2}	1.1411E-10	Risk component of risk R2 due to physical damage to structure (D2) caused by flashes to a connected service (S3) associated with line
R_{W2}	0E00	Risk component of risk R2 due to failure of internal systems (D3) caused by flashes to a connected service (S3) associated with line
R_{Z2}	0E00	Risk component of risk R2 due to failure of internal systems (D3) caused by flashes near a service (S4) associated with line
Zone 1 - (Line 2 - Data)		
R_{U1}	9.4127E-12	Risk component of risk R1 due to injury to living being (D1) caused by flashes to a connected service (S3) associated with line
R_{V1}	9.4127E-08	Risk component of risk R1 due to physical damage to structure (D2) caused by flashes to a connected service (S3) associated with line
R_{W1}	0E00	Risk component of risk R1 due to failure of internal systems (D3) caused by flashes to a connected service (S3) associated with line
R_{Z1}	0E00	Risk component of risk R1 due to failure of internal systems (D3) caused by flashes near a service (S4) associated with line
R_{V2}	1.8877E-09	Risk component of risk R2 due to physical damage to structure (D2) caused by flashes to a connected service (S3) associated with line
R_{W2}	0E00	Risk component of risk R2 due to failure of internal systems (D3) caused by flashes to a connected service (S3) associated with line
R_{Z2}	0E00	Risk component of risk R2 due to failure of internal systems (D3) caused by flashes near a service (S4) associated with line

Primary risk totals

R_{1_T}	7.5581E-06	Risk of loss of human life in the structure.
R_{2_T}	1.5156E-07	Risk of loss of service to the public in the structure

Primary risk totals with respect to source of damage

R_{1_D}	7.4582E-06	Risk of loss of human life in the structure due to flashes to the structure (S1)
R_{2_D}	1.4956E-07	Risk of loss of service to the public in the structure due to flashes to the structure (S1)
R_{1_I}	9.9827E-08	Risk of loss of human life in the structure due to flashes influencing, but not striking the structure (S2, S3, & S4)
R_{2_I}	2.0018E-09	Risk of loss of service to the public in the structure due to flashes influencing, but not striking the structure (S2, S3, & S4)

Primary risk totals with respect to type of damage

<i>R</i> _{1_S}	7.5573E-10	Risk of loss of human life in the structure due to injury to living beings (D1)
<i>R</i> _{2_S}	0E00	Risk of loss of service to the public in the structure due to injury to living beings (D1)
<i>R</i> _{1_F}	7.5573E-06	Risk of loss of human life in the structure due to physical damage (D2)
<i>R</i> _{2_F}	1.5156E-07	Risk of loss of service to the public in the structure due to physical damage (D2)
<i>R</i> _{1_o}	0E00	Risk of loss of human life in the structure due to failure of internal systems (D3)
<i>R</i> _{2_o}	0E00	Risk of loss of service to the public in the structure due to failure of internal systems (D3)

APPENDIX B – Lightning Protection Drawings

LIGHTNING PROTECTION NOTES

1. DO NOT SCALE FROM THIS DRAWING.

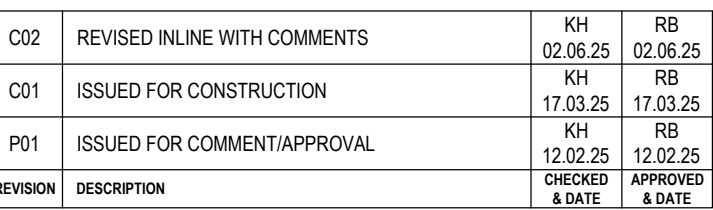
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED.

3. FOR CONNECTION DETAILS PLEASE REFER TO DRAWING NUMBER
LD047-SHA-69-ZZ-ZZ-D-E-60001

4. LIGHTNING PROTECTION WILL BE INSTALLED IN LINE WITH BS EN 62305.

5. THE STRUCTURE HAS BEEN RISK ASSESSED TO BS EN 62305 VIA FURSE
STRIKE RISK ASSESSMENT SOFTWARE.

LEGEND	
	DOWN CONDUCTOR TAPE CONDUCTOR FIXED TO EXTERNAL FACADE
	CONNECTION TO PILE AND COLUMN REINFORCEMENTS
	2000mm FREE STANDING AIR ROD
	25 X 3 ALUMINIUM CONDUCTOR TAPE
	BOUNDED CONNECTION TO PLANT/METAL WORK
	HIGH LEVEL CONNECTION TO REBAR
	STRIKE PLATE INSTALLED ON ROOF TILE



C02	REVISED INLINE WITH COMMENTS	KH 02.06.25	R8 02.06.25
C01	ISSUED FOR CONSTRUCTION	KH 17.03.25	R8 17.03.25
P01	ISSUED FOR COMMENT/APPROVAL	KH 12.02.25	R8 12.02.25
REVISION	DESCRIPTION	CHECKED & DATE	APPROVED & DATE



PROJECT:
MOSS LANE EAST
MANCHESTER
M14 4PJ

DRAWING TITLE:

ROOF LEVEL
PROPOSED LIGHTNING LAYOUT

DRAWING STATUS: CONSTRUCTION		RIBA STAGE: 4
DESIGNED BY: RB	DRAWN BY: RB	CHECKED BY: KH
SCALE (S/A): 1:50	DATE CREATED: OCTOBER 2024	STATUS: A4
DRAWING NUMBER: L047-SHA-69-ZZ RF-D-E-690001		REVISION: C02