

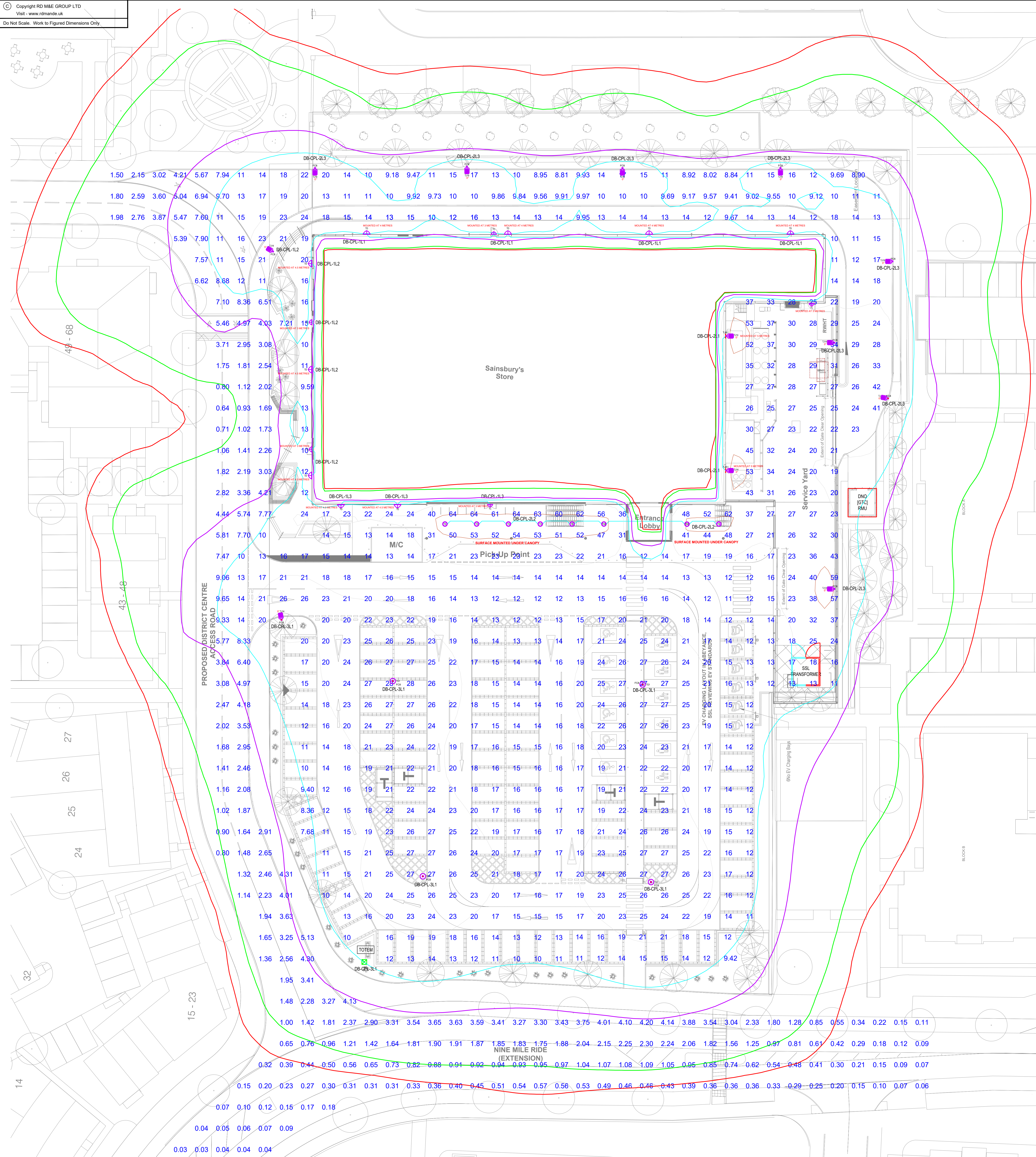


Table 3.1 - Environmental Zones			
Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark (SDM 20.5+)	Astronomical Observatories dark skies, UNESCO night reserves, DO dark sky places
E1	Natural	Dark (SDM 20.1 to 20.5)	Relatively unimpaired rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc.
E2	Rural	Low distant brightness (SDM +15 to 20)	Sparsely inhabited rural areas, village or relatively dark outer suburban locations
E3	Suburban	Medium distant brightness	Well inhabited rural and urban settlements, small town centres of suburban locations
E4	Urban	High distant brightness	Township centres with high levels of night-time activity

Table 3.2 - Maximum Values of Vertical Illuminance on Properties						
Light technical parameter	Application conditions	Environmental Zone				
		E0	E1	E2	E3	E4
		Pre-curtain n/a	2 lx	5 lx	10 lx	25 lx
	Post-curtain	n/a	<0.1 lx*	1 lx	2 lx	5 lx

Table 3.3 - Limits for the Luminous Intensity of Bright Luminaires							
Light technical parameter	Application conditions	Luminance group (projected area Ap in m²)					
		0.4A, ≤0.02	0.02>A, ≤0.01	0.01>A, ≤0.03	0.03>A, ≤0.13	0.13>A, ≤0.50	A>0.5
		0	0	0	0	0	0
Maximum luminous intensity emitted by luminaire (I) in cd	E0 Pre-curtain	0	0	0	0	0	0
	E0 Post-curtain	0	0	0	0	0	0
	E1 Pre-curtain	0.29 d	0.63 d	1.3 d	2.5 d	5.1 d	2,500
	E1 Post-curtain	0	0	0	0	0	0
	E2 Pre-curtain	0.87 d	1.3 d	2.5 d	5.0 d	10 d	7,500
	E2 Post-curtain	0.29 d	0.63 d	1.3 d	2.5 d	5.1 d	500
E3	Pre-curtain	0.86 d	1.9 d	3.8 d	7.5 d	15 d	10,000
	Post-curtain	0.29 d	0.63 d	1.3 d	2.5 d	5.1 d	1,000
E4	Pre-curtain	1.4 d	3.1 d	6.3 d	13 d	26 d	25,000
	Post-curtain	0.29 d	0.63 d	1.3 d	2.5 d	5.1 d	2,500
Aid to gauging Ap		2 to 5cm	5 to 15cm	10 to 30cm	20 to 40cm	40 to 80cm	>80cm
Geometric mean of diameter (cm)		3.2	7.1	14.1	26.3	56.6	>80
Corresponding AP representative area (m²)		0.0008	0.004	0.016	0.063	0.251	>0.5

LEGEND OF LIGHTING SYMBOLS		
SYMBOL	ARTICLE NO.	ARTICLE NAME
	THORLUX - REALTA MICRO - ZZS31134LF	TC
	THORLUX - REALTA - RL19071LF	TD
	THORLUX - JUNO - JUN18031LF	TG1
	THORLUX - STARBEAM - SB17562LF	TJ
	THORLUX - STARBEAM - SB17562LF	TJ12
	THORLUX - STARBEAM - SB17562LF	TJ14
	THORLUX - STARBEAM - SB17562LF	TJ19
	THORLUX - STARBEAM - SB17561LF	TJ19
	THORLUX - ARCADIAN - AN19206L	TS
	THORLUX - ARCADIAN - TAN19206L	TSE
	CABLE TURNING/DRAW CHAMBER	

LIGHT COLUMN HEIGHTS	
FC4.5	4.5M GALVANISED TUBULAR STEEL COLUMN
FC5	5.0M GALVANISED TUBULAR STEEL COLUMN
FC6	6.0M GALVANISED TUBULAR STEEL COLUMN
FC8	8.0M GALVANISED TUBULAR STEEL COLUMN
FC10	10.0M GALVANISED TUBULAR STEEL COLUMN
ISOLINES	
	0.5 LUX
	1 LUX
	5 LUX
	10 LUX
	20 LUX
	50 LUX

- STANDARD NOTES
- THIS DRAWING IS TO INDICATE DESIGN INTENT ONLY AND SHALL BE DEVELOPED FURTHER BY OTHERS AT LATER DESIGN STAGES.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL & STRUCTURAL DRAWINGS.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT BUILDING SERVICES DRAWINGS & THE RELEVANT SECTIONS OF THE SPECIFICATIONS & SCHEDULES.
 - THIS DRAWING IS NOT TO BE SCALED.
 - ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
 - ALL MECHANICAL & ELECTRICAL DESIGNS SHALL BE PRODUCED IN LINE WITH ALL CURRENT REGULATIONS, GUIDANCE & SPECIFICATIONS.
 - GENERAL NOTES
 - ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE SPECIFICATIONS PROVIDED SHALL BE REPORTED TO THE CONTRACT ADMINISTRATOR AS SOON AS POSSIBLE.
 - ALL DESIGNS WILL BE COMPLIANT WITH SAINSBURY'S SPECS AND STANDARDS. SAINSBURY'S SPECS AND STANDARDS PORTAL ACCESS IS AVAILABLE THROUGH THE UPSTREAM MAIN CONTRACTOR. SHOULD THIS DRAWING CONTRADICT THE CURRENT SPECS AND STANDARDS PLEASE REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR.
 - THE MECHANICAL AND ELECTRICAL CONTRACTOR SHALL ALLOW FOR ALL ELECTRICAL ACCESSORIES AND PLANT ITEMS TO BE COMPLIANT WITH SAINSBURY'S SPECS AND STANDARDS PORTAL.
 - CONTAINMENT NOTES
 - THE MECHANICAL & ELECTRICAL CONTRACTOR SHALL MAKE THEMSELVES FULLY AWARE OF THE CONTAINMENT SPECIFICATION WITHIN THE SAINSBURY'S SPECS AND STANDARDS PORTAL.
 - THE MECHANICAL AND ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL SECONDARY CONTAINMENT & BUILDERS WORK HOLES BELOW 50mm² OR 50mm Ø. PLEASE ADVISE THE MAIN CONTRACTOR TO ALLOW FOR FIRE STOPPING THESE HOLES.
 - THE MECHANICAL AND ELECTRICAL CONTRACTOR SHALL ALLOW FOR ALL NECESSARY BONDING TO BE IN COMPLIANCE WITH THE LATEST WIRING REGULATION.
 - ANCILLARY SERVICES NOTES
 - THE LIGHTNING PROTECTION SYSTEM SHALL BE A CONTRACTOR DESIGN PACKAGE.
 - FOR SECURITY DESIGN PLEASE REFER TO THE SEPARATE SPECIALISTS CONTRACTOR DESIGN PACKAGE.
 - FOR CCTV DESIGN PLEASE REFER TO THE SEPARATE SPECIALIST CONTRACTOR DESIGN PACKAGE.
 - FOR SPRINKLER PACKAGE DESIGN PLEASE REFER TO THE SEPARATE SPECIALISTS CONTRACTOR DESIGN PACKAGE.
 - FOR REFRIGERATION PACKAGE PLEASE REFER TO THE SEPARATE SPECIALISTS CONTRACTOR DESIGN PACKAGE.
 - ALL ABOVE GROUND DRAINAGE FOR REFRIGERATION PLEASE SEE THE REFRIGERATION DESIGN PACKAGE.
 - ALL SERVICES WILL BE INSTALLED IN LINE WITH CURRENT BRITISH AND EUROPEAN GUIDANCE DOCUMENTS AND LATEST VERSION OF THE SAINSBURY'S SUPERMARKETS LTD SERVICES DESIGN GUIDANCE.

THIS IS A STAGE 4b TECHNICAL DESIGN DRAWING. IT ILLUSTRATES THE DESIGN PHILOSOPHY AND SHOWS THE EXTENT OF THE SERVICES INSTALLATIONS. THE LOCATIONS OF HORIZONTAL AND VERTICAL RUNS ARE APPROXIMATE. THE CONTRACTOR SHALL MAKE ALLOWANCE TO COMPLETE STAGE 4b/c TECHNICAL DESIGN & STAGE 5 CONSTRUCTION DRAWINGS / DESIGN AND FINALISE ANY COORDINATION BETWEEN BUILDING SERVICES, STRUCTURE AND ARCHITECTURE.

THE CONTRACTOR SHALL MAKE ALLOWANCE TO SUPPLY, INSTALL, TEST AND COMMISSION AND PROVIDE A FULLY OPERATIONAL SYSTEM IN ORDER TO ACHIEVE THE EMPLOYERS' REQUIREMENTS DETAILED IN THE SERVICES SPECIFICATION, SCHEDULES & DRAWINGS.

C01	02.04.25	CONTRACT ISSUE	IB	MD
REV	DATE	DESCRIPTION	BY	CK

RD GROUP
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Client: **MPE** ENGINEERING SERVICES LTD

Project: **Sainsbury's** ARBORFIELD

Title: **ELECTRICAL SERVICES**
PROPOSED EXTERNAL LIGHTING LAYOUT

Scale at A0:	Suitability:	Designed:	Drawn:	Design:
1:200	S2	MD	MD	CAD CK:
Drawing No:	XA-0000_2040-SVM-ZZZZ-00-DR-E-0011	Rev:		C01

CONTRACT