



Phase 2A Equipment System Schedules for the Electrical Services

at

**Reading Crematorium
All Hallows Road
Caversham
Berkshire
RG4 5LP**

for

Reading Borough Council

4367/DH/MC
Issue 2 - Tender
29 July 2025
4367-RHB-XX-XX-SH-E-0003

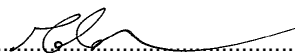


Equipment System Schedules for the Phase 2A Electrical Services
At
Reading Crematorium, All Hallows Road, Caversham, Berkshire, RG4 5LP

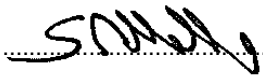
Date	Document Revision History	Revision	Author	Verified By
18.07.25	Schedule No's 1 – 3 - Tender	Issue 1	MC	SA
29.07.25	Schedule No's 1 – 3 – Tender – Schedule No.2 has been amended.	Issue 2	MC	SA



Electrical Equipment/System Schedules

Author 

Date 29.07.2025

Checked 

Date 29.07.2025



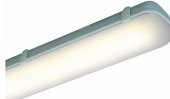
1. Schedule of Luminaires

Notes:

1. All lamps shall be colour temperature 4000K with a colour rendering of group 1B (>RA80) unless stated otherwise.
2. Any luminaire reference may be suffixed with the letter 'E'. This denotes an integral maintained 3 hour emergency version of the luminaire as described.
3. The description of any luminaire shall be deemed to include any additional fixing items required to suit the mounting of the luminaire.
4. All LED luminaires without integral drivers shall be provided with appropriate remote drivers supplied by the luminaire manufacturer.

Reference	Manufacturer	Range	Description	Lamp	Efficacy	Image
A	Whitecroft	Tegan 2 Surface	600x600mm surface mounted luminaire c/w steel body finished in white, surface mounting kit, opal TP(b) diffuser, integral DALI 2 dimmable driver and 3-hour emergency pack.	41W LED 5128lm	125lm/W	
B	Whitecroft	Kolo Surface	IP44, 400mmØ surface mounted bulkhead luminaire c/w cast aluminium body finished in white, polycarbonate opal TP(a) diffuser, trim ring, integral driver and 3-hour emergency pack.	28W LED 3549 lm	128 lm/W	



Reference	Manufacturer	Range	Description	Lamp	Efficacy	Image
C	Whitecroft	ACL Industry	IP66/IK08, Surface mounted linear luminaire c/w GRP body finished in grey, opal polycarbonate diffuser, stainless steel clips, integral driver and 3-hour emergency pack.	25W LED 3970lm 4000K	156lm/W	
D	Thorn Lighting	Piazza II LED	IP65, IK10 Surface wall mounted luminaire c/w die cast aluminium back plate, polycarbonate body finished in anthracite, textured clear polycarbonate diffuser integral driver and 3-hour emergency pack.	15W 1844lm 4000K	116lm/W	



Reference	Manufacturer	Range	Description	Lamp	Efficacy	Image
EX1	IGuzzini	Light Up ES53	IP66, IK09 floor-recessed uplight c/w flush mounted all glass cover, 30° beam flood optic, Installation mounting kit, black serigraphy, stainless steel cable gland, mounting brackets (anchors), remote driver.	4W LED 403lm 4000K	140lm/W	
EXIT	Whitecroft	Egress Exit	Surface mounted, maintained illuminated exit sign c/w polycarbonate body finished in white, ISO legend (direction to suit location), integral driver and 3-hour emergency pack.	3.2 Watt	n/a	



2. Distribution Board Schedules

See attached

Circuits schedule report : Switch panel-LV network	
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ
Designer	Bikram Gurung



Description		Voltage	Phase	Total circuit ways		Spare load	Spare ways				
Switch panel-LV network		400V AC	TP&N	3Ph: 8 / 1Ph: 24		0%	3Ph: 0 , 1Ph: 18				
								L1	L2	L3	
Location:	Electrical Switchroom	Mounting:	Surface	Reference No.:	Ex ccts retained not shown	Connected load (A) Diversified load (A) Diversified+Spare load (A)		36.32	31.75	47.09	
Connected from:	Source-1	IP Rating:	IP 4X	Isolator Rating:	250			36.32	31.75	44.79	
Zs (Ω):	0.2771	Board Rating (A):	250	Fault Rating (kA):	25			36.32	31.75	44.79	
Incomer device	Isolator 250A										

				Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor	Protective devices	L1	L2	L3	L1	L2	L3
1.L3	Existing Lighting DB	2x1Cx35mm ² + 1x25mm ² E XLPE90/S/Cu,LSF	MCCB 1P 63A Ir=63A/25kA Eaton NZMB1-1-AF 25kA (1P)			1 0.5 0			4.6 2.3 2.3
2.L1,L2,L3	Existing Power DB	4x1Cx50mm ² + 1x35mm ² E XLPE90(70)/S/Cu,LSZH	MCCB 3P 100A Ir=100A/25kA Adjustable Eaton NZMB1-A 25kA (3P)	1 1 0	1 1 0	1 1 0	36.32 36.32 36.32	31.75 31.75 31.75	42.49 42.49 42.49
3.L1	Existing Circuit			1 1 0			0 0		
3.L2	Existing Circuit				1 1 0			0 0	
3.L3	Existing Circuit					1 1 0			0 0
4.L1	Existing Circuit			1 1 0			0 0		
4.L2	Existing Circuit				1 1 0			0 0	
4.L3	Existing Circuit					1 1 0			0 0
5.L1	Existing Circuit			1 1 0			0 0		

Circuits schedule report : Switch panel-LV network	
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ
Designer	Bikram Gurung



Way	Description	Conductor	Protective devices	Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
				L1	L2	L3	L1	L2	L3
5.L2	Existing Circuit				1 1 0			0 0	
5.L3	Existing Circuit					1 1 0			0 0
6.L1	Existing Circuit			1 1 0			0 0		
6.L2	Existing Circuit				1 1 0			0 0	
6.L3	Existing Circuit					1 1 0			0 0
7.L1	Spare			1 1 0			0 0		
7.L2	Spare				1 1 0			0 0	
7.L3	Spare					1 1 0			0 0
8.L1	Spare			1 1 0			0 0		
8.L2	Spare				1 1 0			0 0	
8.L3	Spare					1 1 0			0 0
L1,L2,L3	Switch panel-LV network	-	Fuse 3P 250A/80kA Generic BS88 fuses	1 1 0	1 1 0	1 1 0	36.32 36.32 36.32	31.75 31.75 31.75	47.09 44.79 44.79

Circuits schedule report : Existing Lighting DB	
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ
Designer	Bikram Gurung



Description		Voltage	Phase	Total circuit ways		Spare load	Spare ways		Empty ways	
Existing Lighting DB		230V AC	SP&N	12		0%	0		1Ph: 0 (0%)	
							L1	L2	L3	
Location:	Electrical Switchroom	Mounting:	Surface	Reference No.:	Ex ccts retained not shown	Connected load (A) Diversified load (A) Diversified+Spare load (A)			4.6	
Connected from:	Switch panel	IP Rating:	IP 4X	Isolator Rating:	125				2.3	
Zs (Ω):	0.3198	Board Rating (A):	125	Fault Rating (kA):	25				2.3	
Incomer device	Isolator 125A									

				Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor	Protective devices	L1	L2	L3	L1	L2	L3
1.L3	Surge Protection	2x1Cx10mm ² + 1x10mm ² E XLPE90(70)/S/Cu,LSZH	MCB C 1P/40A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.1 0.1
2.L3	Kitchen & WC Lighting	2C+E 1.5mm ² + E 1mm ² cable core FlatTwin+E/XLPE90(70),LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
3.L3	Existing Circuit								
4.L3	Plant Room Lighting	2C+E 1.5mm ² + E 1mm ² cable core FlatTwin+E/XLPE90(70),LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
5.L3	External Wall Lighting	2C+E 1.5mm ² + E 1mm ² cable core FlatTwin+E/XLPE90(70),LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
6.L3	External Ramp Lighting	3Cx2.5mm ² (E cable core) SWA/XLPE90(70)/Cu,LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
7.L3	External Ramp Lighting	3Cx2.5mm ² (E cable core) SWA/XLPE90(70)/Cu,LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
8.L3	External Ramp Lighting	3Cx2.5mm ² (E cable core) SWA/XLPE90(70)/Cu,LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
9.L3	External Courtyard Lighting	3Cx2.5mm ² (E cable core) SWA/XLPE90(70)/Cu,LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5

Circuits schedule report : Existing Lighting DB	
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ
Designer	Bikram Gurung



				Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor	Protective devices	L1	L2	L3	L1	L2	L3
10.L3	External Courtyard Lighting	3Cx2.5mm ² (E cable core) SWA/XLPE90(70)/Cu,LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
11.L3	External RampLighting	3Cx2.5mm ² (E cable core) SWA/XLPE90(70)/Cu,LSZH	MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			0.5 0.5
12.L3	Existing circuit								
L3	Existing Lighting DB	2x1Cx35mm ² + 1x25mm ² E XLPE90/S/Cu,LSF	MCCB 1P 63A Ir=63A/25kA Eaton NZMB1-1-AF 25kA (1P)			1 0.5 0			4.6 2.3 2.3

Circuits schedule report : Existing Power DB		
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ	
Designer	Bikram Gurung	

Description		Voltage	Phase	Total circuit ways		Spare load	Spare ways		Empty ways	
Existing Power DB		400V AC	TP&N	3Ph: 12 / 1Ph: 36		0%	3Ph: 0 , 1Ph: 0		1Ph: 3 (8%)	
							L1	L2	L3	
Location:	Electrical Switchroom	Mounting:	Surface	Reference No.:	Ex ccts retained not shown	Connected load (A) Diversified load (A) Diversified+Spare load (A)	36.32	31.75	42.49	
Connected from:	Switch panel	IP Rating:	IP 4X	Isolator Rating:	125		36.32	31.75	42.49	
Zs (Ω):	0.2782	Board Rating (A):	125	Fault Rating (kA):	25		36.32	31.75	42.49	
Incomer device	Isolator 125A									

				Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor	Protective devices	L1	L2	L3	L1	L2	L3
1.L1,L2,L3	SPD	4x1Cx10mm ² + 1x10mm ² E XLPE90(70)/S/Cu,LSZH	MCB C 3P/40A/10kA Eaton EMCH IEC EN 60898 Type C 10kA	1 1 0	1 1 0	1 1 0	0.1 0.1	0.1 0.1	0.1 0.1
2.L1	Fire Alarm Panel	2C+E 2.5mm ² + E 2.5mm ² cable core Pirelli FP200	MCB B 1P/16A/10kA Eaton EMBH IEC EN 60898 Type B 10kA	1 1 0			1 1		
2.L2	Intruder Alarm Panel	2C+E 2.5mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	MCB B 1P/16A/10kA Eaton EMBH IEC EN 60898 Type B 10kA		1 1 0			1 1	
2.L3	HOB	2C+E 10mm ² + E 4mm ² cable core FlatTwin+E/XLPE90(70),LSZH	RCBO C 1P/40A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA			1 1 0			25 25
3.L1	empty								
3.L2	Hand Dryers	2C+E 4mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	RCBO C 1P/20A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA		1 1 0			15.65 15.65	
3.L3	OVEN	2C+E 4mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	RCBO C 1P/20A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA			1 1 0			17.39 17.39
4.L1	Ring - Kitchen Sockets	2x2C+E 2.5mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	AFDD\RCBO C 1P/32A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA	1 1 0			12 12		
4.L2	Ring - Plant, Lobby Sockets	2x2C+E 2.5mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	AFDD\RCBO C 1P/32A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA		1 1 0			4 4	

Circuits schedule report : Existing Power DB	
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ
Designer	Bikram Gurung



				Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor	Protective devices	L1	L2	L3	L1	L2	L3
4.L3	empty								
5.L1	Plinth Heater	2C+E 2.5mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	RCBO C 1P/20A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA	1 1 0			15.22 15.22		
5.L2	Radial - Cremulator Socket	2C+E 2.5mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	AFDD\RCBO C 1P/20A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA		1 1 0			5 5	
5.L3	empty								
6.L1	Kitchen Extract Fan	2C+E 2.5mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	MCB C 1P/16A/10kA Eaton EMCH IEC EN 60898 Type C 10kA	1 1 0			3 3		
6.L2	WC Extract Fan	2C+E 2.5mm ² + E 1.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	MCB C 1P/16A/10kA Eaton EMCH IEC EN 60898 Type C 10kA		1 1 0			6 6	
6.L3	Existing Circuit								
7.L1	Data Cabinet	2C+E 6mm ² + E 2.5mm ² cable core FlatTwin+E/XLPE90(70),LSZH	MCB C 1P/32A/10kA Eaton EMCH IEC EN 60898 Type C 10kA	1 1 0			5 5		
7.L2	Existing Circuit								
7.L3	Existing Circuit								
8.L1	Existing Circuit								
8.L2	Existing Circuit								
8.L3	Existing Circuit								
9.L1	Existing Circuit								
9.L2	Existing Circuit								
9.L3	Existing Circuit								
10.L1	Existing Circuit								
10.L2	Existing Circuit								
10.L3	Existing Circuit								

Circuits schedule report : Existing Power DB	
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ
Designer	Bikram Gurung



				Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor	Protective devices	L1	L2	L3	L1	L2	L3
11.L1	Existing Circuit								
11.L2	Existing Circuit								
11.L3	Existing Circuit								
12.L1	Existing Circuit								
12.L2	Existing Circuit								
12.L3	Existing Circuit								
L1,L2,L3	Existing Power DB	4x1Cx50mm ² + 1x35mm ² E XLPE90(70)/S/Cu,LSZH	MCCB 3P 100A Ir=100A/25kA Adjustable Eaton NZMB1-A 25kA (3P)	1 1 0	1 1 0	1 1 0	36.32 36.32 36.32	31.75 31.75 31.75	42.49 42.49 42.49

Circuits schedule report : Existing Plantroom DBM-Existing Ccts retained not shown											
Company		RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ									
Designer		Bikram Gurung									
Description		Voltage	Phase	Total circuit ways		Spare load	Spare ways		Empty ways		
Existing Plantroom DBM-Existing Ccts retained not shown		400V AC	TP&N	3Ph: 12 / 1Ph: 36		0%	3Ph: 0 , 1Ph: 0		1Ph: 17 (47%)		
							L1	L2	L3		
Location:	Plantroom	Mounting:	Surface	Reference No.:	Ex ccts retained not shown	Connected load (A) Diversified load (A) Diversified+Spare load (A)	4.6	10.5	13.14		
Connected from:	Switch panel	IP Rating:	IP 4X	Isolator Rating:	125		4.6	10.5	13.14		
Zs (Ω):	0.2011	Board Rating (A):	125	Fault Rating (kA):	25		4.6	10.5	13.14		
Incomer device	Isolator 125A										
						Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor		Protective devices		L1	L2	L3	L1	L2	L3
1.L1,L2,L3	SPD	4x1Cx10mm² + 1x10mm² E XLPE90(70)/S/Cu,LSZH Length: 0.5m		MCB C 3P/40A/10kA Eaton EMCH IEC EN 60898 Type C 10kA		1 1 0	1 1 0	1 1 0	0.1 0.1 0	0.1 0.1 0	0.1 0.1 0
2.L1	Ring - Sockets	2x2C+E 2.5mm² + E 1.5mm² cable core FlatTwin+E/XLPE90(70),LSZH Length: 60m		AFDD\RCBO C 1P/32A/10kA/30mA/Class A (Inst) Eaton EMCH Type C 10kA - 30mA		1 1 0			4 4 0		
2.L2	Cold Water Booster Set	3Cx2.5mm² (E cable core) SWA/XLPE90(70)/Cu,LSZH Length: 10m		MCB C 1P/20A/10kA Eaton EMCH IEC EN 60898 Type C 10kA			1 1 0			10.4 10.4 0	
2.L3	Hot Water Immersions	2C+E 2.5mm² + E 1.5mm² cable core FlatTwin+E/XLPE90(70),LSZH Length: 30m		MCB C 1P/20A/10kA Eaton EMCH IEC EN 60898 Type C 10kA				1 1 0			13.04 13.04 0
3.L1	Plantroom Lighting	2C+E 1.5mm² + E 1mm² cable core FlatTwin+E/XLPE90(70),LSZH Length: 40m		MCB C 1P/10A/10kA Eaton EMCH IEC EN 60898 Type C 10kA		1 1 0			0.5 0.5 0		
3.L2	empty										
3.L3	empty										
4.L1	Existing Circuit										
4.L2	Existing Circuit										
4.L3	Existing Circuit										

Circuits schedule report : Existing Plantroom DBM-Existing Ccts retained not shown		
Company	RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ	
Designer	Bikram Gurung	

Way	Description	Conductor	Protective devices	Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
				L1	L2	L3	L1	L2	L3
5.L1	Existing Circuit								
5.L2	Existing Circuit								
5.L3	Existing Circuit								
6.L1	Existing Circuit								
6.L2	Existing Circuit								
6.L3	Existing Circuit								
7.L1	empty								
7.L2	empty								
7.L3	empty								
8.L1	empty								
8.L2	empty								
8.L3	empty								
9.L1	empty								
9.L2	empty								
9.L3	empty								
10.L1	empty								
10.L2	empty								
10.L3	empty								
11.L1	empty								
11.L2	empty								
11.L3	empty								
12.L1	Existing Circuit								

Circuits schedule report : Existing Plantroom DBM-Existing Ccts retained not shown									
Company		RHB Partnership LLP - The Old Vicarage, Popham, Hampshire, SO21 3BJ							
Designer		Bikram Gurung							
				Power factor Diversity factor 3rd Harmonics %			Connected load (A) Diversified load (A) Diversified+Spare load (A)		
Way	Description	Conductor	Protective devices	L1	L2	L3	L1	L2	L3
12.L2	Existing Circuit								
12.L3	Existing Circuit								
L1,L2,L3	Existing Plantroom DBM-Existing Ccts retained not shown	4x1Cx50mm² + 1x35mm² E XLPE90(70)/S/Cu,LSZH Length: 1m	MCCB 3P 125A Ir=125A/25kA Adjustable Eaton NZMB1-AF 25kA (3P)	1	1	1	4.6	10.5	13.14
				1	1	1	4.6	10.5	13.14
				0	0	0	4.6	10.5	13.14





3. Mounting Heights

General

Unless otherwise indicated, all switchgear, outlets and accessories shall be mounted at the following heights from finished floor level, in accordance with Approved Document M for an M4(1) or M4(2) installation: -

Light switches, thermostats & similar controls	1200mm to top
Socket outlets, data, comms, IRS, etc – generally	450mm to underside
Socket outlets, comms, etc – plant rooms and similar	1000mm to underside
Access control card/fob readers, keypads, wall mounted handsets	1200mm to top
Fire alarm break glass contacts	1200mm to top
Wall mounted fire alarm sounder or visual alarm	2200mm to top
Consumer units to centre of protective devices	1350 – 1450mm
Isolators to individual items of plant or equipment	1000mm to underside
Distribution boards – generally unless stated elsewhere	2000mm to top

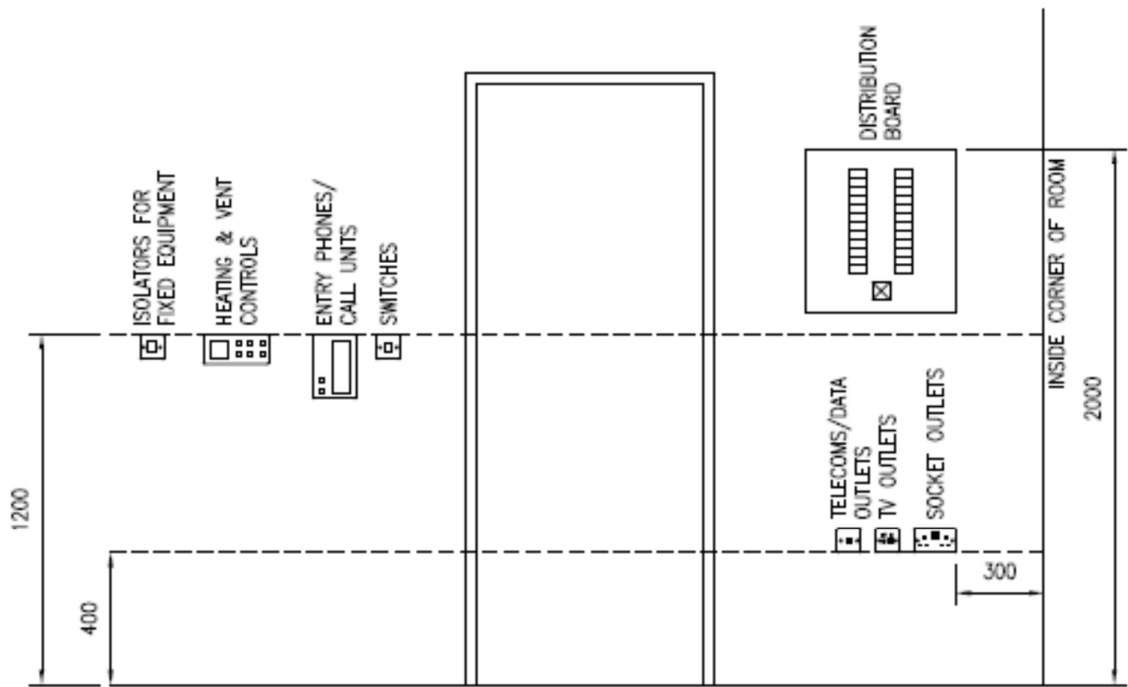
In accordance with Approved Document M for an M4(1) or M4(2) installation all switches, outlets and accessories shall be located a minimum of 300mm clear of any internal corner.

Additional Requirements for M4(3) Installations

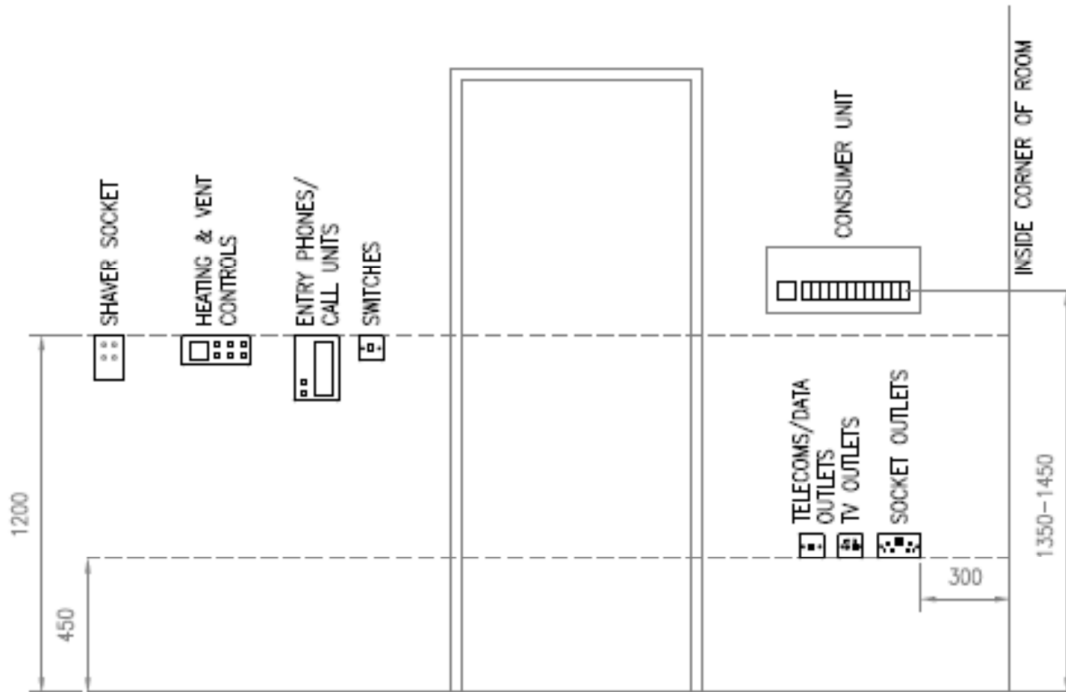
To comply with Approved Document M for an M4(3) wheelchair accessible installation all switchgear, outlets and accessories shall be mounted at the following heights from finished floor level:-

Light switches, thermostats & similar controls	1000mm to top
Socket outlets, data, comms, IRS, etc – generally	700mm to underside
Access control card/fob readers, keypads, wall mounted handsets	1000mm to top
Fire alarm break glass contacts	1000mm to top
Isolators to individual items of plant or equipment	1000mm to top

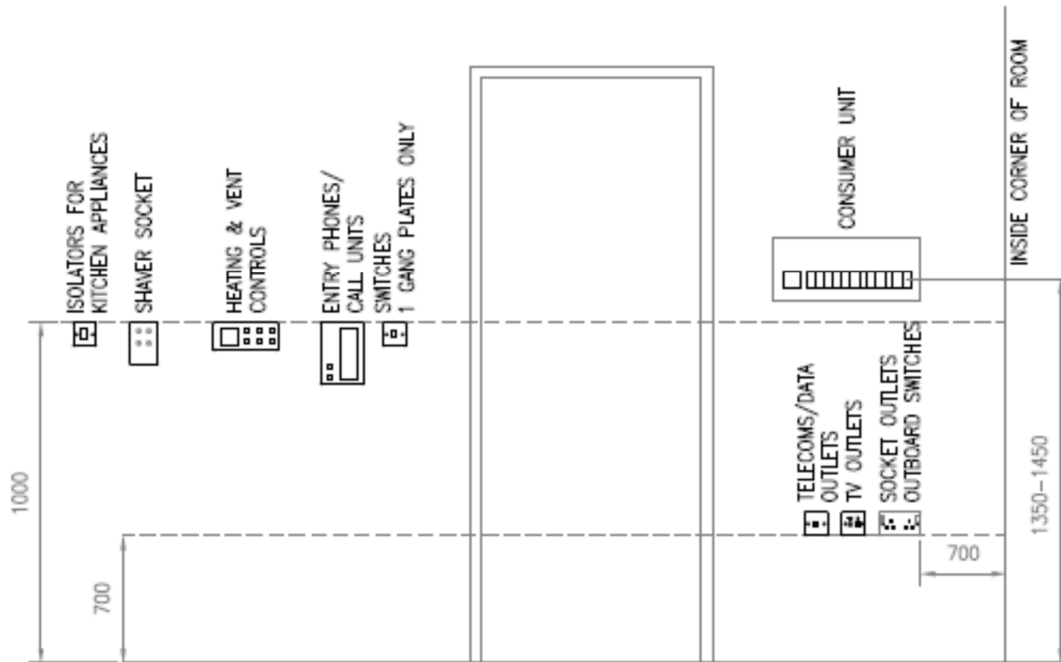
All switches, outlets and accessories shall be located a minimum of 700mm clear of any internal corner.



STANDARD MOUNTING HEIGHTS



STANDARD MOUNTING HEIGHTS
RESIDENTIAL STANDARD MOUNTING HEIGHTS M4(1) & M4(2)



STANDARD MOUNTING HEIGHTS
RESIDENTIAL STANDARD MOUNTING HEIGHTS M4(3)
WHEELCHAIR ACCESSIBLE