



TPS.LLP 4 Bloomsbury Place, Bloomsbury, London, WC1A 2QA

Planning Issue Drawings – November 2017 – Rev 0

PLANNING

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WC1B 5BL
t: 0171 636 2885
x: 0171 255 1729

4 BLOOMSBURY PLACE
BLOOMSBURY, LONDON
WC1A 2QA

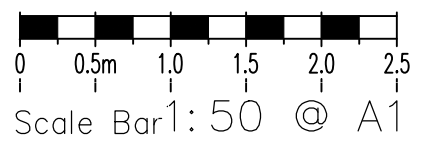
LOWER GROUND FLOOR
M&E SERVICES LAYOUT

checked G.N.T

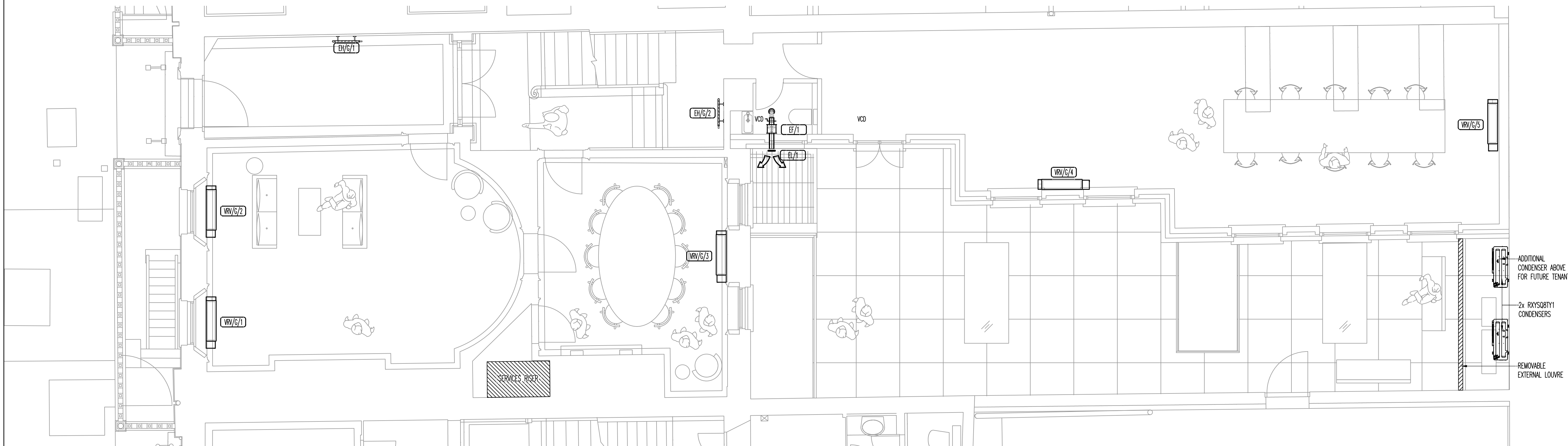
PLANNING

PC / 4DD / LG / MAF

Drawing No. TPS/4BP/LG/M&E



GENERAL NOTES



ADDITIONAL
CONDENSER ABOVE
FOR FUTURE TENANT

2x RXY508Y1
CONDENSERS

REMOVABLE
EXTERNAL LOUVRE

PLANNING

Rev	Date	Description
0	NOV.17	PLANNING ISSUE

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Project

4 BLOOMSBURY PLACE
BLOOMSBURY, LONDON
WC1A 2QA

Drawing Title

GROUND FLOOR
M&E SERVICES LAYOUT

Scale 1:50 @ A1 Date 17.11.17

Drawn L.R. Checked G.N.T

Drawing Status

PLANNING

Revision 0

Drawing No. TPS/4BP/G/M&E

0 0.5m 1.0 1.5 2.0 2.5
Scale Bar 1: 50 @ A1

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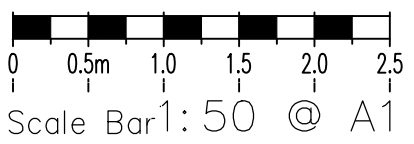
Montague Street
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t: 0171 636 2885
x: 0171 238 1729

4 BLOOMSBURY PLACE
BLOOMSBURY, LONDON
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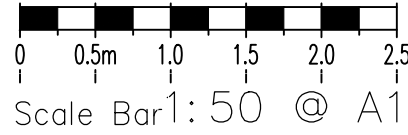
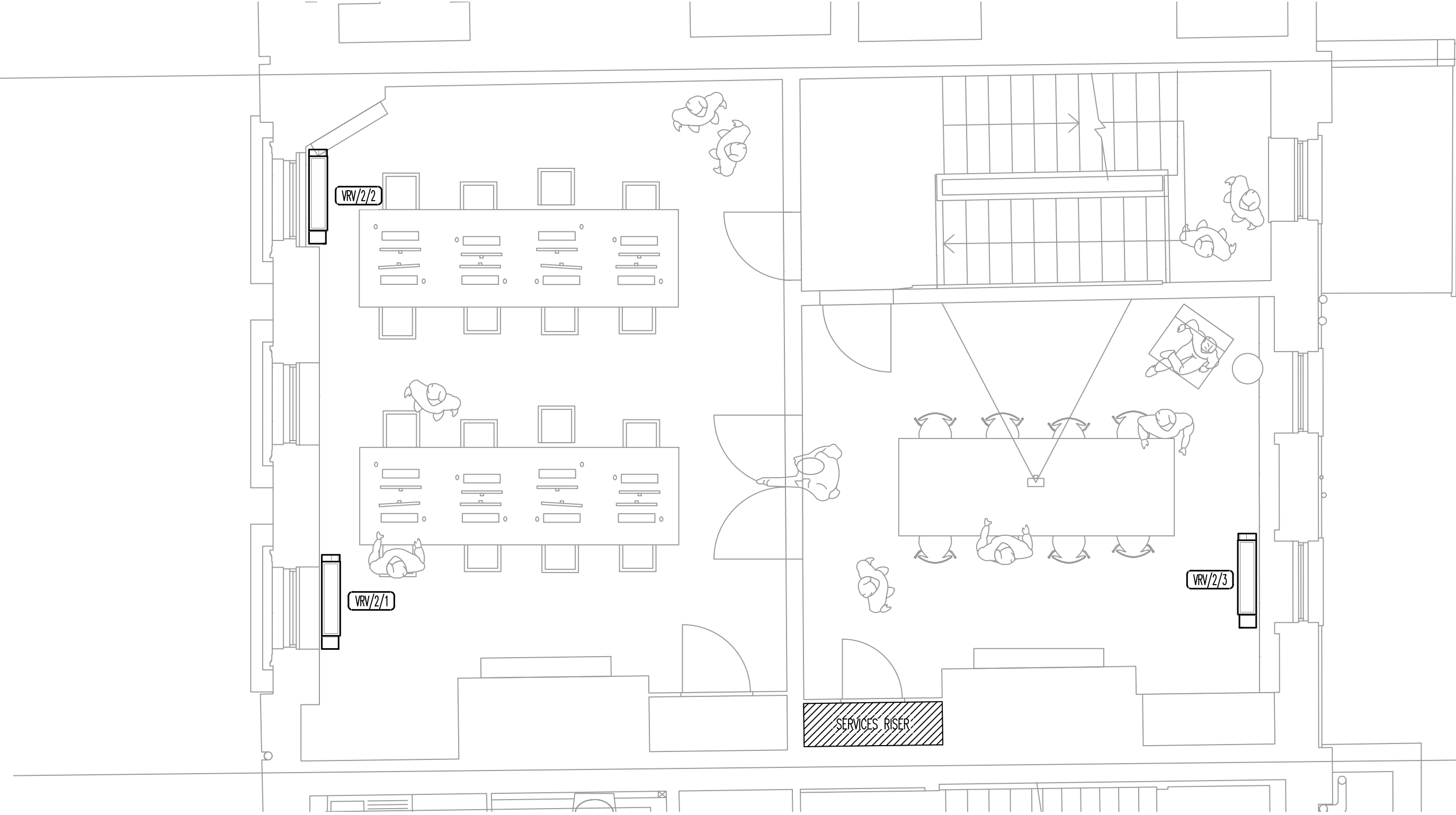
FIRST FLOOR
M&E SERVICES LAYOUT

Drawing Status **PLANNING**

Drawing No. TPS/4BP/1/M&E



GENERAL NOTES



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0	NOV.17	PLANNING ISSUE
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Project
4 BLOOMSBURY PLACE
BLOOMSBURY, LONDON
WC1A 2QA

Drawing Title
SECOND FLOOR
M&E SERVICES LAYOUT

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Drawn	L.R.	Checked	G.N.T

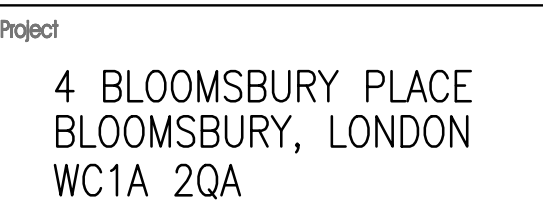
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Drawing No.
TPS/4BP/2/M&E

PLANNING

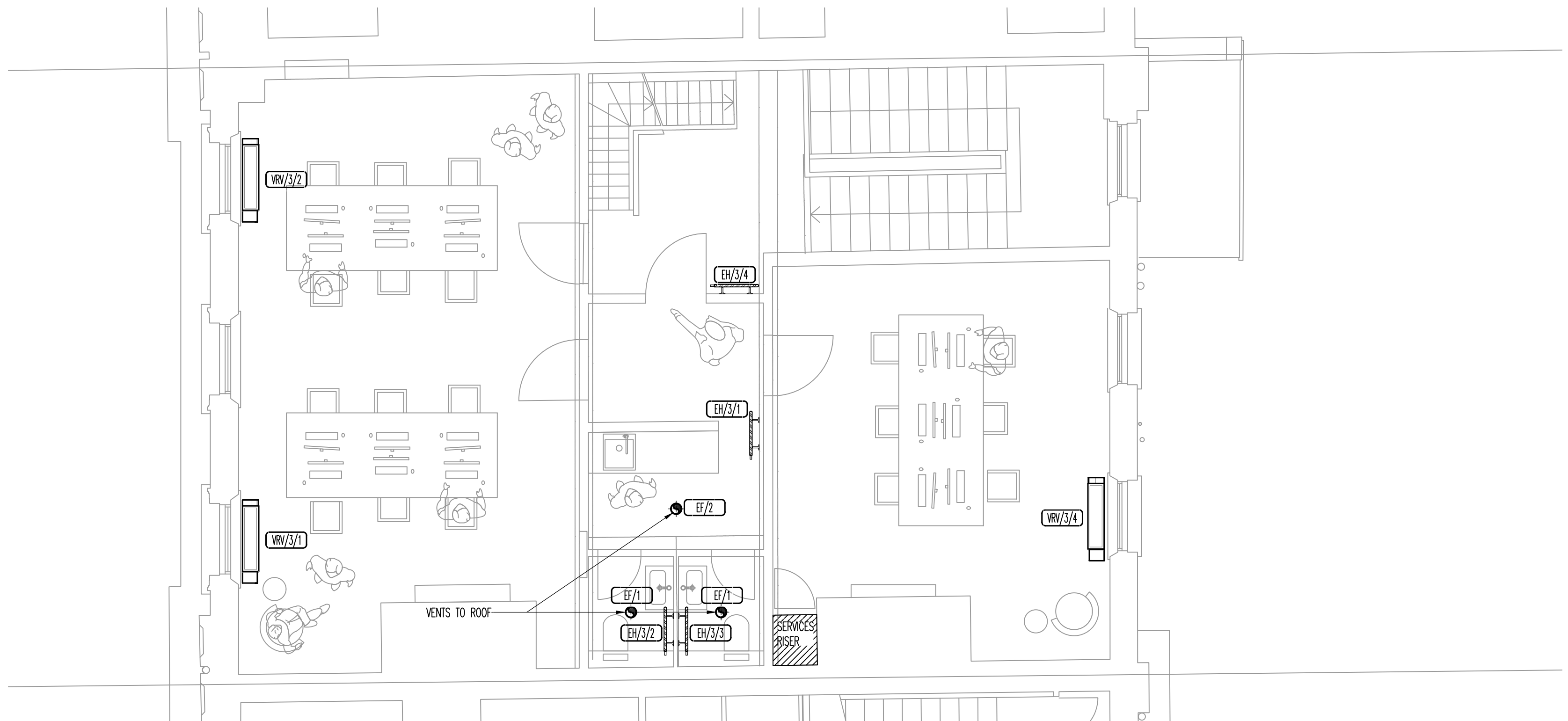
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Scale 1:50@A1	Date 17.11.17
Drawn L.R.	Checked G.N.T

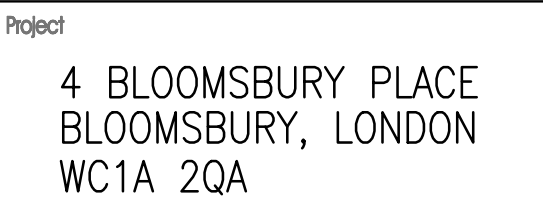
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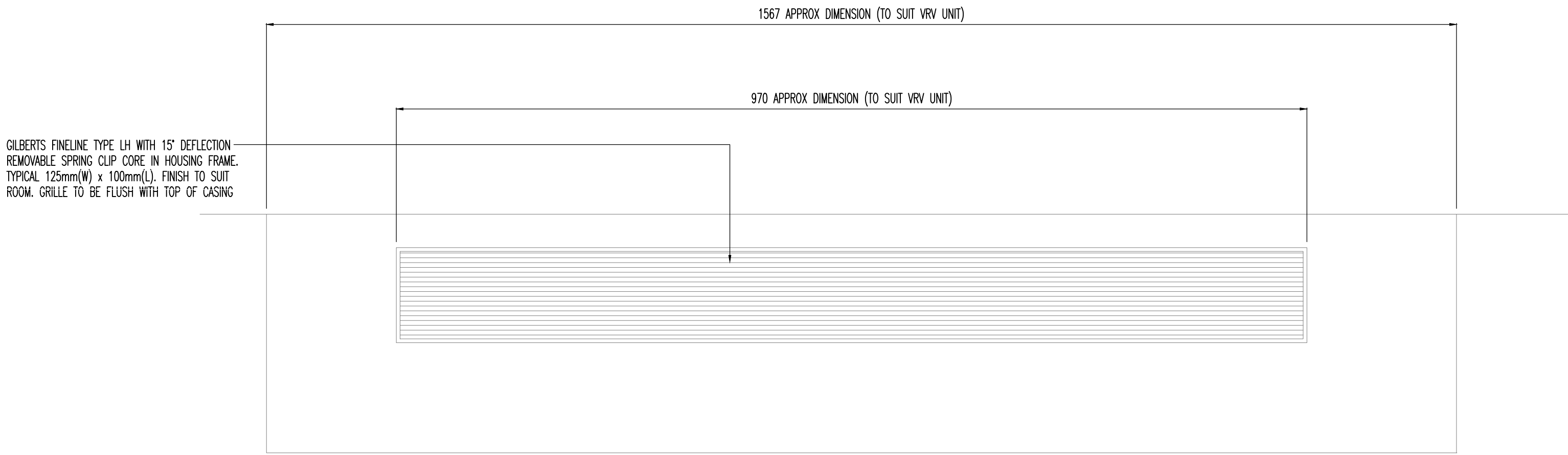
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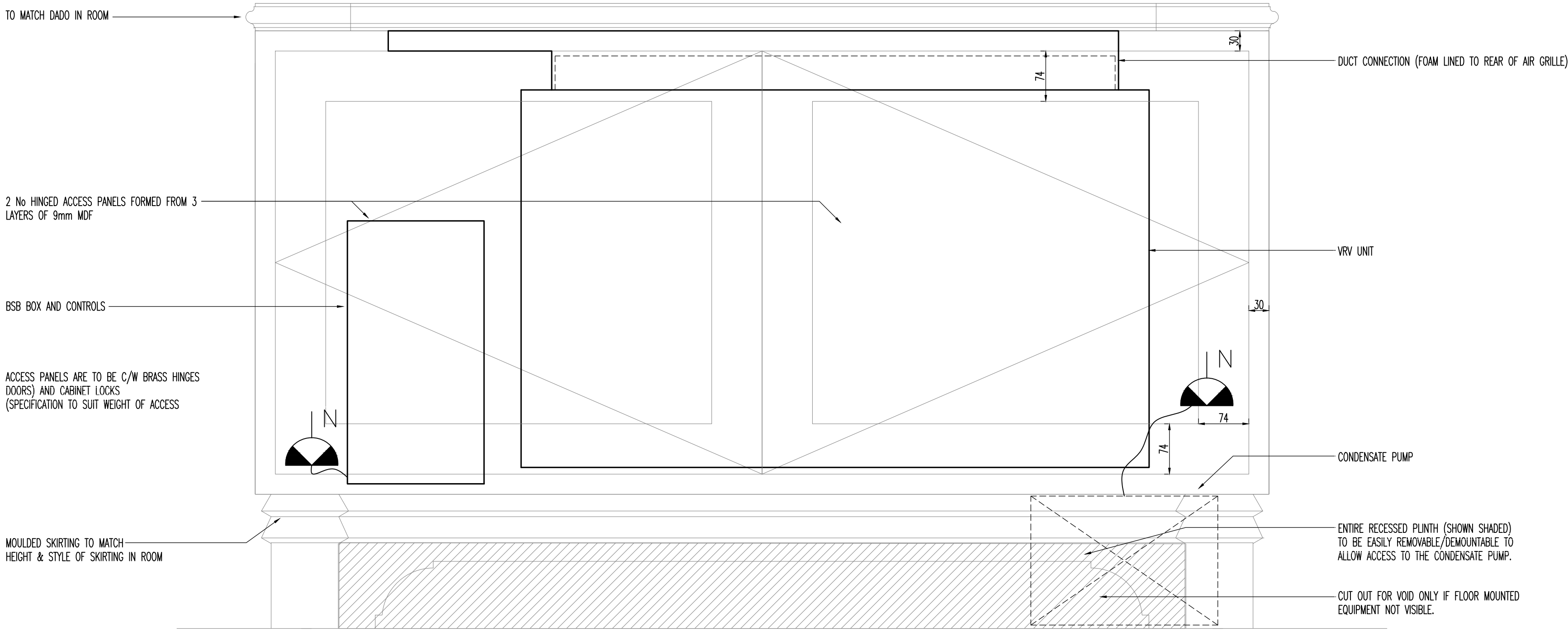
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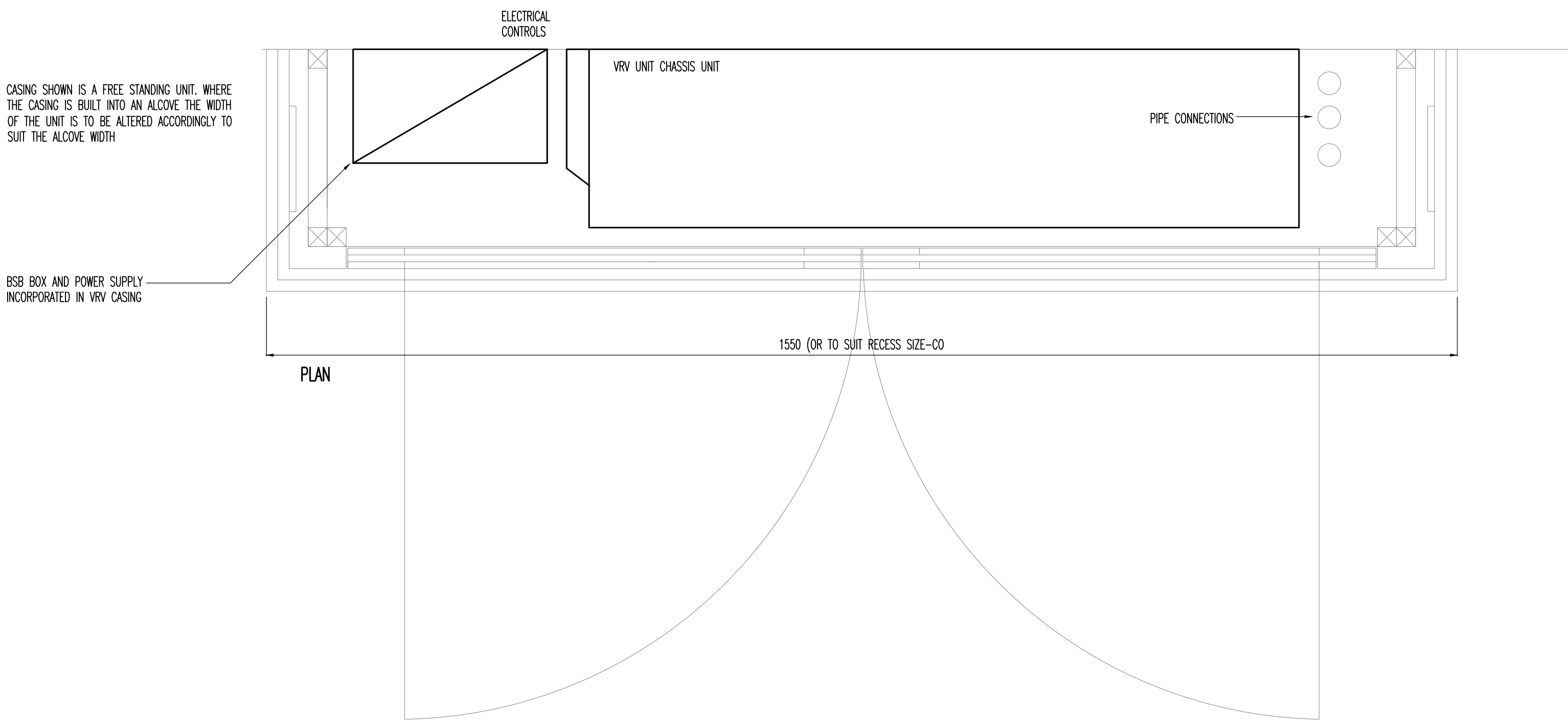
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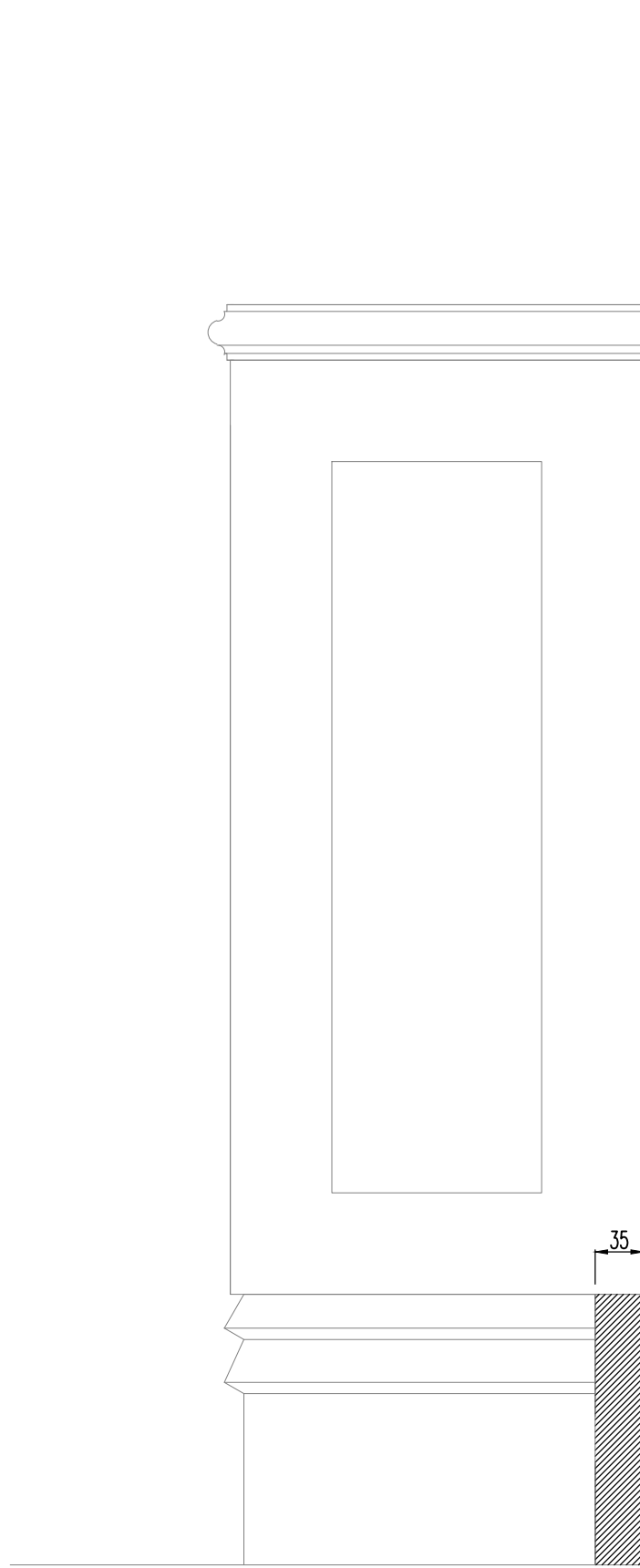
TOP VIEW



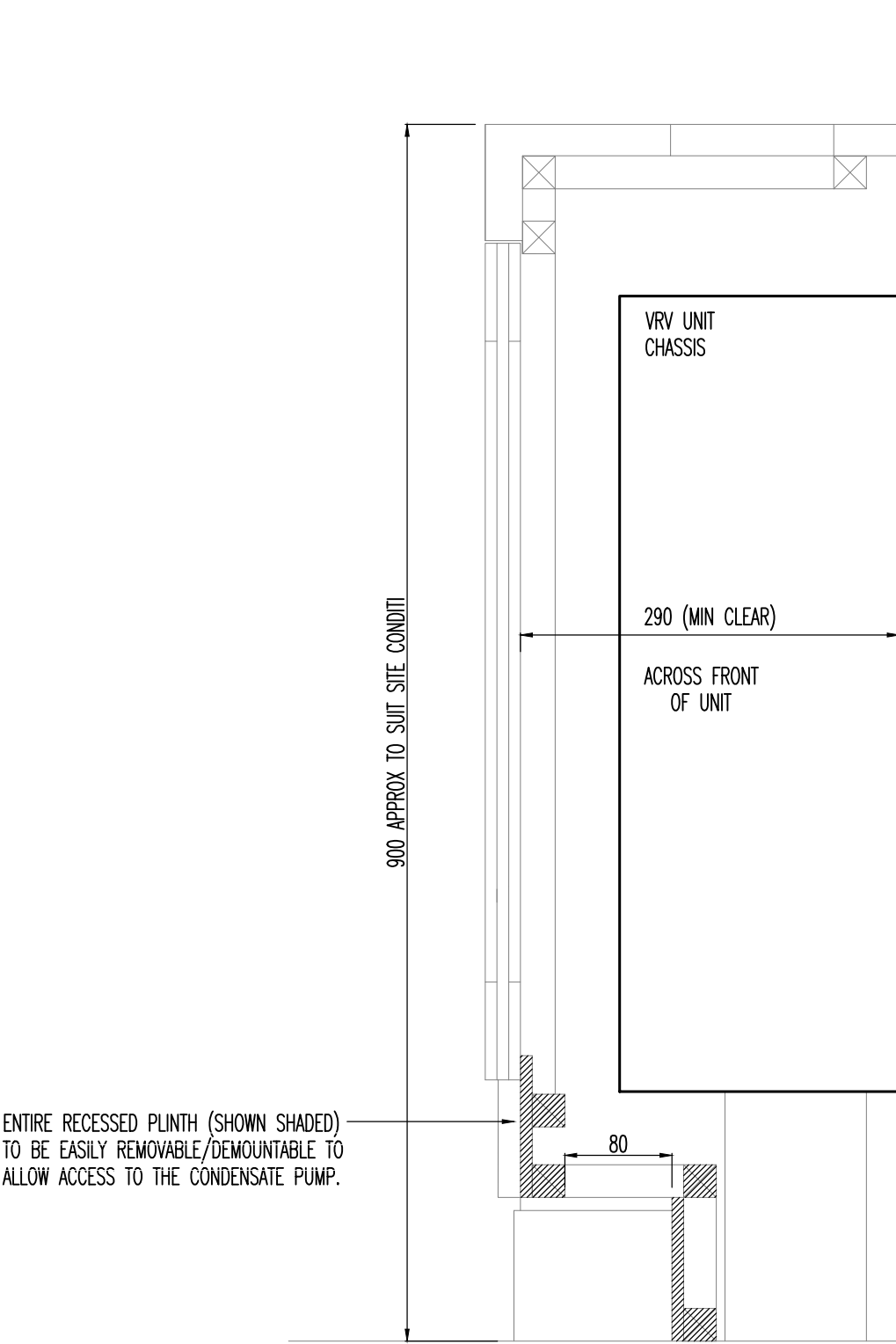
FRONT VIEW



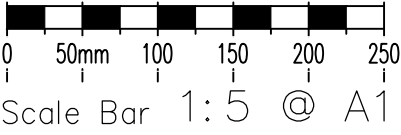
PLAN



SIDE VIEW



SECTION



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GENERAL NOTES

1. DETAILS ARE INDICATIVE – GRILLE HEIGHTS, ACCESS PANELS & WALLS SHALL BE AS ARCHITECTS DETAILS.

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Rev	Date	Description
0	NOV.17	PLANNING ISSUE

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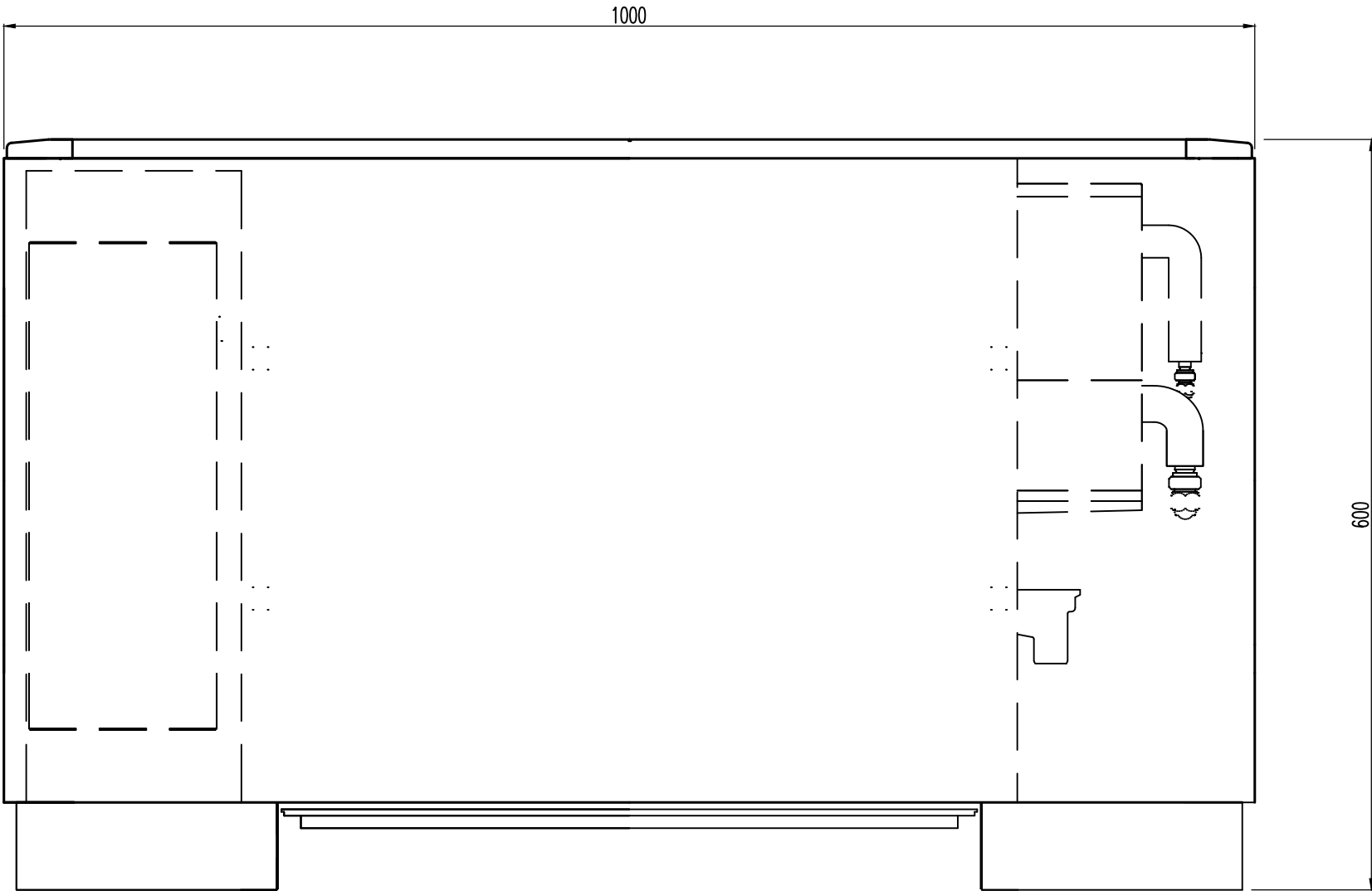
Drawing Title

TYPICAL VRV JOINERY CASING DETAIL

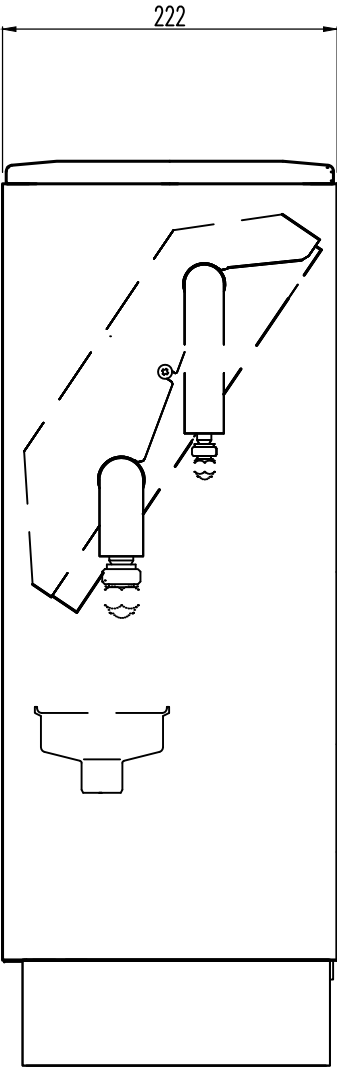
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Drawing Status	PLANNING		
Revision	0		
Drawing No.	TPS/VRVC		

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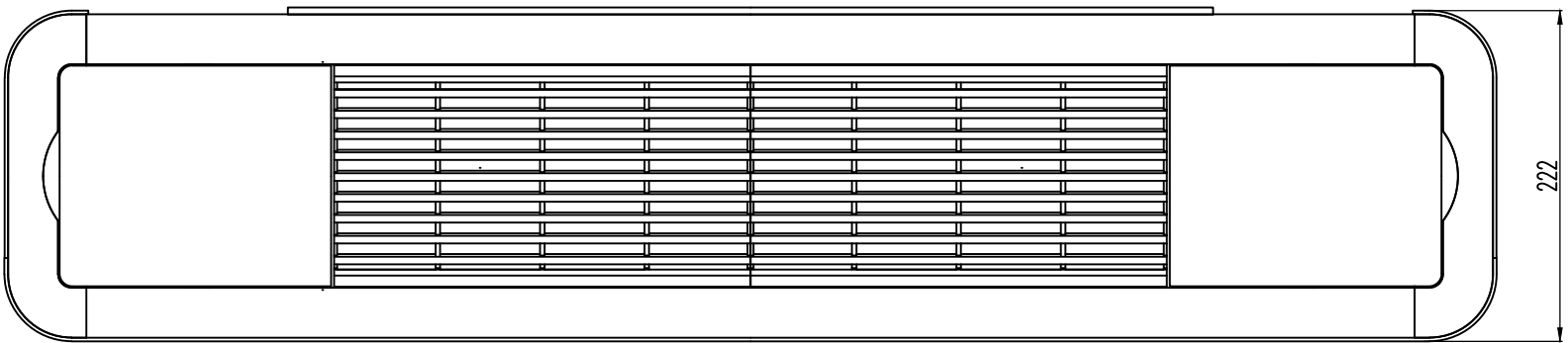
GENERAL NOTES



FRONT VIEW

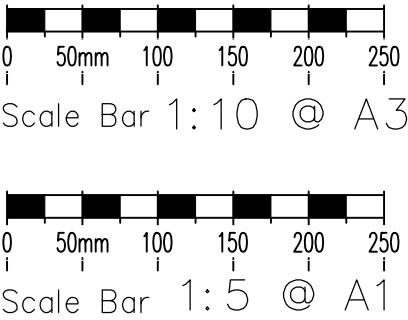


SECTION



PLAN

DAIKIN PROPRIETARY METAL CASED VRV UNITS



TENDER ISSUE

0	JUL-13	TENDER ISSUE
Rev	Date	Description

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Project

1 GOWER STREET
LONDON
WC1

Drawing Title

VRV STANDARD CASING DETAIL

Scale	1:5 @ A1	Date	07.02.13
Drawn	R.J.L.	Checked	G.N.T.

Drawing Status

TENDER

Revision	0																		
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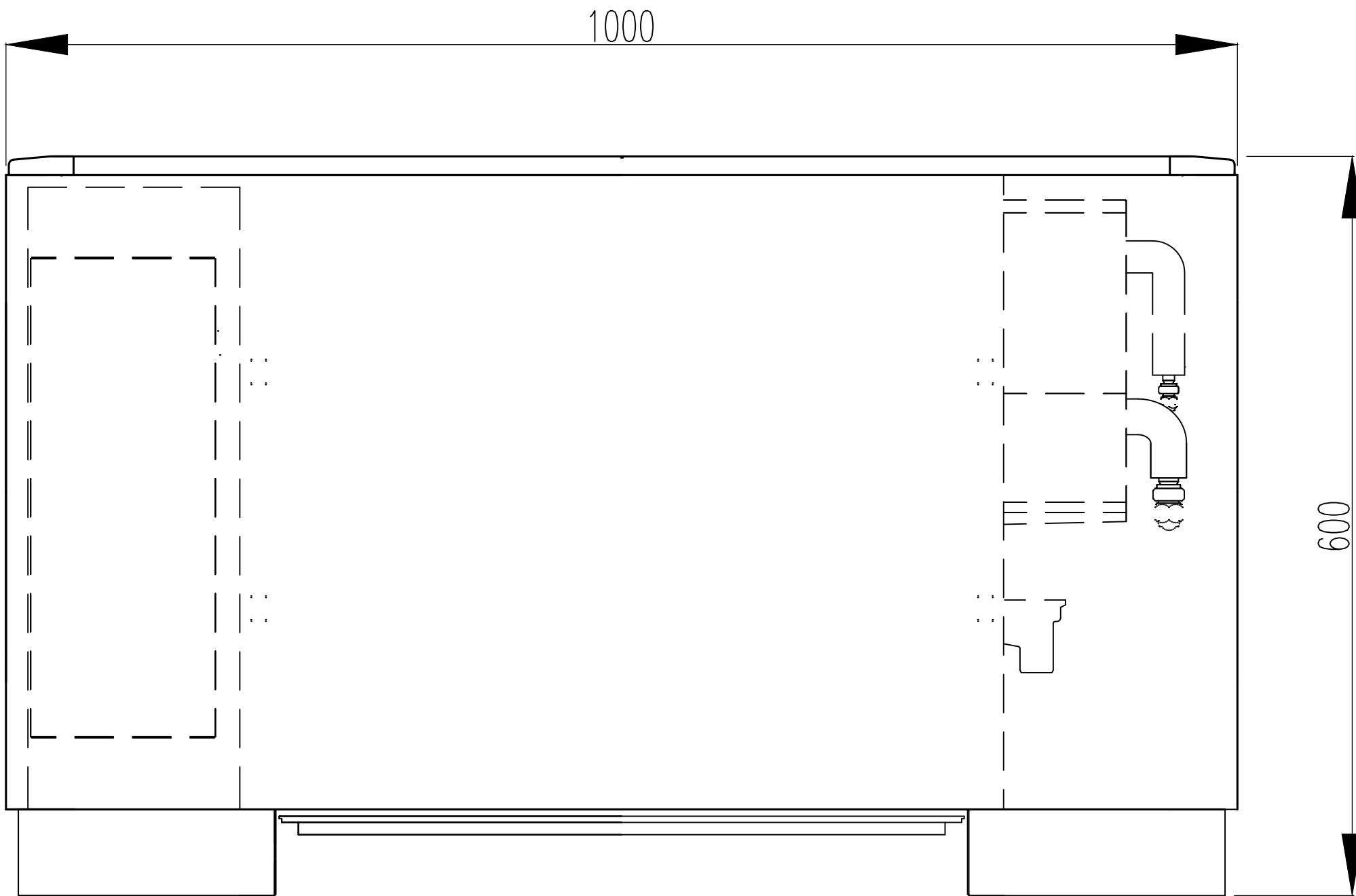
Drawing No.

TPS/1GS/VRV/M

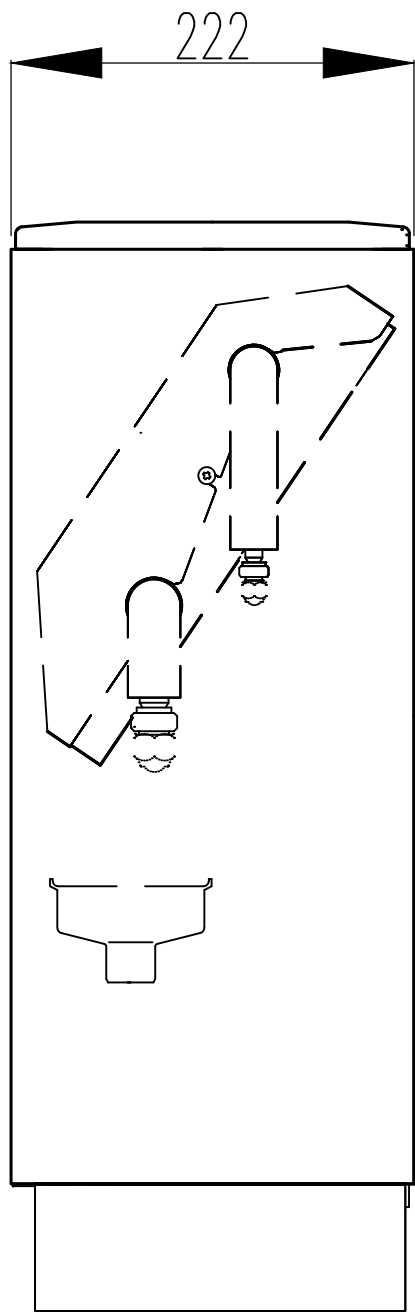
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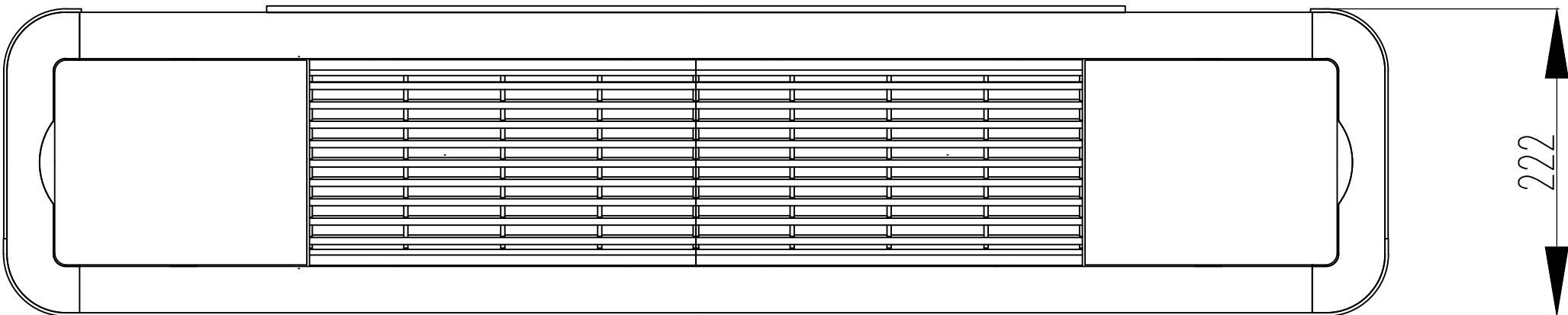
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FRONT VIEW



SECTION



PLAN

PLANNING

0	NOV.17	PLANNING ISSUE
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Drawing Title

VRV STANDARD CASING DETAIL

Scale	NTS @ A1	Date	17.11.17
Drawn	L.R.	Checked	G.N.T.
Drawing Status	PLANNING		
Revision	0		
Drawing No.	TPS/VRVJ		

GENERAL NOTES

ROOF

THIRD FLOOR

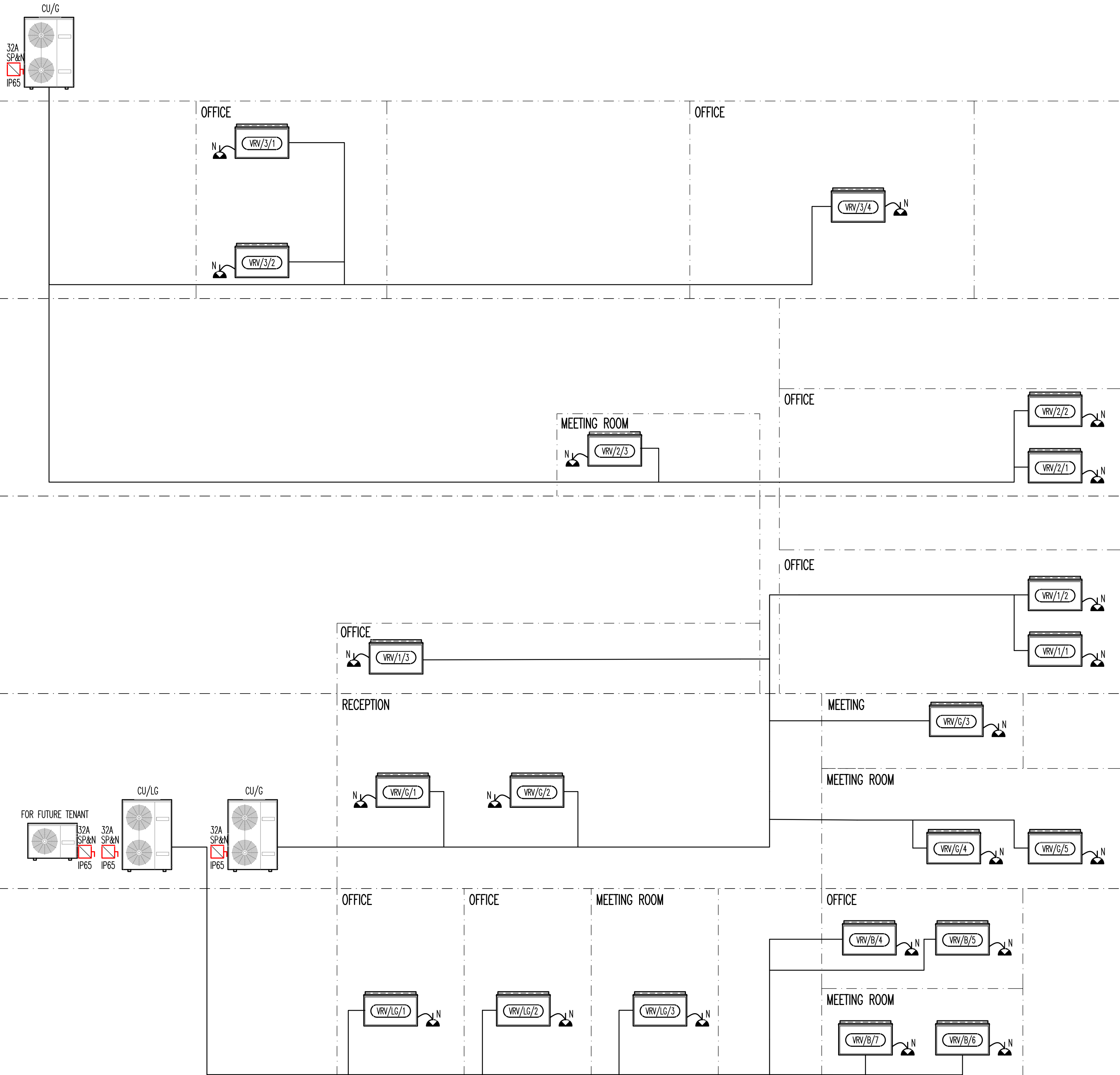
SECOND FLOOR

FIRST FLOOR

GROUND

BASEMENT

PLANTROOM



PLANNING

0	NOV.17	PLANNING ISSUE
Rev	Date	Description

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Project
4 BLOOMSBURY PLACE
BLOOMSBURY, LONDON
WC1A 2QA

Drawing Title
VRV SCHEMATIC

Scale 1:50@A1 Date 20.06.17

Drawn L.R. Checked G.N.T

Drawing Status
PLANNING

Revision 0

Drawing No. TPS/4BP/VRVS



TPS.LLP 4 Bloomsbury Place, Bloomsbury, London, WC1A 2QA

Planning Issue Schedules – November 2017 – Rev 0

4 Bloomsbury Place - Basement-First Floor - Heat Recovery VRV

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75 To be confirmed by FCU manufacturer	

Cooling capacities to be selected against external condenser sized at 35°C ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

							Estimated	Cooling		Heating	Indoor Unit Data*						
Unit Ref	Room Reference	FCU Area m²	Sens Cooling W/m²	Heating Load W/m²	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	Sens Duty kW	Total Duty kW	Heating kW	Air Flow l/s	Fan Coil Sel.Ref.	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	Spigot Configuration		Indoor Unit Type
															No. Off	Blanked	
VRV/B/1	Meeting Room	28	100	80	0	22	14.4	2.80	3.73	2.24	300	40	FXNQ	620x750x200			
VRV/B/2	Office	28	100	80	0	22	14.4	2.80	3.73	2.24	300	40	FXNQ	620x750x200			
VRV/B/3	Office	26	100	80	0	22	14.9	2.60	3.47	2.08	300	40	FXNQ	620x750x200			
VRV/B/4	Meeting Room	12	100	80	0	22	18.7	1.20	1.60	0.96	300	25	FXNQ	620x750x200			
VRV/B/5	Office	22	100	80	0	22	16.0	2.20	2.93	1.76	300	32	FXNQ	620x750x200			
VRV/B/6	Office	22	100	80	0	22	16.0	2.20	2.93	1.76	300	32	FXNQ	620x750x200			
VRV/B/7	Office	22	100	80	0	22	16.0	2.20	2.93	1.76	300	32	FXNQ	620x750x200			
		160						16.00	21.33	12.80		241	0				

Notes

1. System to include Daikin itouch central controller
2. Air Flow selected on Nom setting
3. Percentage of design selected on Total Cooling
4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C
5. All plant selected against Daikin.
6. Each room to be provided with premium wired remote controller
7. Each unit to have separate condensate pump.

Condenser Details - RXYSQ8TY1			Percentage of Design
External Ambient Conditions	°C S/°C W	35/-4	
Capacity Index Limit		260	93%
Nominal Cooling	kW	22.4	95%
Nominal Heating	kW	22.4	57%
Limiting Dimensions (HxWxD)	mm		
1430x940x320			
Limiting Weight	kg	144	
Electrical Supply	V/Ph/Hz	400/3/50	
Power Input	kW		
Running Current	Amps	9.6	
HRC Fuse Rating	Amps	25	
Max Pipe Length (indoor / outdoor)	m	300	
Max. Pipe lift	m	-	
SPL	dBa @ m	55	

4 Bloomsbury Place - Ground + First Floor - Heat Recovery VRV

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75	To be confirmed by FCU manufacturer

Cooling capacities to be selected against external condenser sized at 35°C ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

							Estimated	Cooling		Heating		Indoor Unit Data*					Spigot Configuration		Indoor Unit Type
Unit Ref	Room Reference	FCU Area m ²	Sens Cooling W/m ²	Heating Load W/m ²	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	Sens Duty kW	Total Duty kW	Heating kW	Air Flow l/s	Fan Coil Sel.Ref.	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	No. Off				
VRV/G/1	Reception	15	100	80	0	22	17.9	1.50	2.00	1.20	300	32	FXNQ	620x750x200					
VRV/G/2	Reception	15	100	80	0	22	17.9	1.50	2.00	1.20	300	32	FXNQ	620x750x200					
VRV/G/3	Meeting Room	18	100	80	0	22	17.1	1.80	2.40	1.44	300	25	FXNQ	620x750x200					
VRV/G/4	Office	20	100	80	0	22	16.6	2.00	2.67	1.60	300	32	FXNQ	620x750x200					
VRV/G/5	Office	20	100	80	0	22	16.6	2.00	2.67	1.60	300	32	FXNQ	620x750x200					
VRV/1/1	Office	20	100	80	0	22	16.6	2.00	2.67	1.60	300	32	FXNQ	620x750x200					
VRV/1/2	Office	20	100	80	0	22	16.6	2.00	2.67	1.60	300	32	FXNQ	620x750x200					
VRV/1/3	Meeting Room	25	100	80	0	22	15.2	2.50	3.33	2.00	300	40	FXNQ	620x950x200					
		153						15.30	20.40	12.24		257	0						

Notes

1. System to include Daikin itouch central controller

2. Air Flow selected on Nom setting

3. Percentage of design selected on Total Cooling

4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C

5. All plant selected against Daikin.

6. Each room to be provided with premium wired remote controller

7. Each unit to have separate condensate pump.

Condenser Details - RXYSQ8TY1			Percentage of Design	
External Ambient Conditions	°C S/°C W	35/-4		
Capacity Index Limit		260	99%	
Nominal Cooling	kW	22.4	91%	
Nominal Heating	kW	22.4	55%	
Limiting Dimensions (HxWxD)	mm			
1430x940x320				
Limiting Weight	kg	144		
Electrical Supply	V/Ph/Hz	400/3/50		
Power Input	kW			
Running Current	Amps	9.6		
HRC Fuse Rating	Amps	25		
Max Pipe Length (indoor / outdoor)	m	300		
Max. Pipe lift	m	-		
SPL	dBA @ m	55		

4 Bloomsbury Place - Second + Third Floor - Heat Recovery VRV

Summer Room Conditions 22 °C DB 50% RH
Winter Room Conditions 20 °C DB 30% RH
Minimum FCU Supply Temperature 12 °C DB Min 11.2 °C WB Min
Fan Coil Cooling S.H.R 0.75 To be confirmed by FCU manufacturer

Cooling capacities to be selected against external condenser sized at 35°C ambient.
Heating capacities to be selected against -4°C external ambient temperature.
Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.
Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.
Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

							Estimated	Cooling		Heating	Indoor Unit Data*							
Unit Ref	Room Reference	FCU Area m ²	Sens Cooling W/m ²	Heating Load W/m ²	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	Sens Duty kW	Total Duty kW	Heating kW	Air Flow l/s	Fan Coil Sel.Ref.	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	Spigot Configuration		Indoor Unit Type	
															No. Off	Blanked		
VRV/2/1	Meeting Room	25	100	80	0	22	15.2	2.50	3.33	2.00	300	32	FXLQP	600x1140x232				
VRV/2/2	Office	20	100	80	0	22	16.6	2.00	2.67	1.60	300	32	FXLQP	600x1140x232				
VRV/2/3	Office	20	100	80	0	22	16.6	2.00	2.67	1.60	300	40	FXLQP	600x1140x232				
VRV/3/1	Office	22	100	80	0	22	16.0	2.20	2.93	1.76	300	40	FXLQP	600x1140x232				
VRV/3/3	Office	22	100	80	0	22	16.0	2.20	2.93	1.76	300	40	FXLQP	600x1140x232				
VRV/3/4	Office	22	100	80	0	22	16.0	2.20	2.93	1.76	300	40	FXLQP	600x1140x232				
		131						13.10	17.47	10.48		224	0					

Notes

1. System to include Daikin itouch central controller
2. Air Flow selected on Nom setting
3. Percentage of design selected on Total Cooling
4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C
5. All plant selected against Daikin.
6. Each room to be provided with premium wired remote controller
7. Each unit to have separate condensate pump.

Condenser Details - RXYSCQ5TV1		Percentage of Design	
External Ambient Conditions	°C S/°C W	35/-4	
Capacity Index Limit		162.5	138%
Nominal Cooling	kW	14	125%
Nominal Heating	kW	14	75%
Limiting Dimensions (HxWxD)	mm		
823x940x460			
Limiting Weight	kg	94	
Electrical Supply	V/Ph/Hz	230/1/50	
Power Input	kW		
Running Current	Amps	19	
HRC Fuse Rating	Amps	32	
Max Pipe Length (indoor / outdoor)	m	70	
Max. Pipe lift	m	30	
SPL	dBA @ m	52	

4 Bloomsbury Place - Tennant Future Split Unit

Summer Room Conditions 23 °C DB 50% RH
Winter Room Conditions 21 °C DB 30% RH
Minimum FCU Supply Temperature 12 °C DB Min 11.2 °C WB Min
Fan Coil Cooling S.H.R 0.75 To be confirmed by FCU manufacturer
Cooling capacities to be selected against external condenser sized at 35°C ambient.
Heating capacities to be selected against -4°C external ambient temperature.
Internal units to be supplied with controller to facilitate heating / cooling.
Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.
Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

						Estimated	Cooling		Heating	Indoor Unit Data*						
Unit Ref	FCU Area m ²	Sens Cooling W/m ²	Heating Load W/m ²	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	Sens Duty kW	Total Duty kW	Heating kW	Air Flow l/s	Manufacturer	Model / Speed	Notes / Dimensions HxWxD - kg (With Decoration Panel)	Spigot Configuration		Indoor Unit Type
														No. Off	Blanked	
AC1	TBC	125	70	N/A	-	-	#VALUE!	1.40	#VALUE!	-	-	-	-	-	-	Wall mounted
	0						#VALUE!	1.40	#VALUE!			180				
													Condenser Details - 3MXS52E			Percentage of Design
													External Ambient Conditions	°C S/°C W	35/-4	
													Capacity Index Limit			
													Nominal Cooling	5.2		
													Nominal Heating	6.8		
													Limiting Dimensions (HxWxD)			
													735x936x300			
													Limiting Weight KG	49		
													Electrical Supply	1/50/230V		
													Power Input			
													Running Current	4		
													HRC Fuse Rating	20		
													Max Pipe Length (indoor / outdoor)	50		
													Max. Pipe lift	15		
													SPL	46		

- Notes**
1. System to include Daikin itouch central controller installed in back of house area.
 2. Air Flow selected on Low setting
 3. Percentage of design selected on Total Cooling
 4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C
 5. All plant selected against Daikin.
 6. Each room to be provided with premium wired remote controller
 7. Each unit to have separate condensate pump.



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PLANNING ISSUE - METHOD STATEMENT (Revision O)

Camden Development Control Planning Services Details

Description of Works

A variable refrigerant volume (VRV), heat pump system is to be installed at 4 Bloomsbury Place, London. This will require the removal of the existing boiler and radiators throughout the building and the installation of indoor VRV units with externally mounted condenser units and associated pipe work connections.

New, plain electric panel heaters shall be installed in the common parts.

The Basement and Ground to First Floor will be supplied by 2no Daikin RXYSQ8TY1 VRV condenser unit sited at the Ground level within an louvered acoustic enclosure, within the rear courtyard and the Second to Third Floors will be served from 1no Daikin RXYSQ8TY1 condenser units be sited on the roof within an acoustic enclosure. A fourth Daikin 3MXS52E condenser within the Ground Floor acoustic enclosure will be allowed for tenant's future comms room fit out. These units will not be visible from street level.

The indoor units are to be chassis type; floor-mounted around the building perimeter of the building within joinery casings in the Basement, Ground and First floor. The units on the Second and Third floor are to be proprietary chassis mounted units with steel casings. The indoor units will be installed over five floors, from the basement to the third floor, utilising existing risers and joist notches for the refrigerant pipework distribution.

Refrigerant and condensate pipework runs to and from the VRV units will be placed in notches and/or between the floor joists. The pipe runs will not show any external features and any notches made, will be made good and structurally sound via the addition of a metal plate, fitted and secured to the joist over the notch position.

Existing, redundant pipe work running across the joists will be removed associated notch repairs will be made.

An environmental noise survey will be undertaken at 4 Bloomsbury Place, in order to establish any noise implications from the VRV plant. Compliance with the noise emissions design criteria requirements of Camden Council has been demonstrated so that no further mitigation measures are required in order for the external noise emissions to be kept within the required levels.