



H20 Urban (No.2) LLP

Store Street Residential, Manchester

Residential Ventilation Proposals

MEP Services Installation

Last Updated 19/03/2021

Contents

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- 2.0 Limiting Overheating Strategy
- 3.0 Stage 3 Developed Design Mechanical Services Layouts
- 4.0 MVHR Product Information

1.0 Executive Summary

Introduction

This report has been produced in support of the planning application (Ref 126608/FO/2020) for the Store Street development.

The contents of the report aim to provide a comprehensive overview of the residential ventilation strategy and the measures taken during the design development to achieve the requirements of the Employer's Brief, Building Regulations, local planning requirements and other relevant British Standards/design guides.

Project Description

The new development comprises 63nr apartments and 3nr townhouses and is to be constructed over G+10nr residential storeys, with main entrance, car park, cycle storage and BOH areas provided at ground floor level.

The site is positioned between Store Street and the Ashton Canal towpath, to the rear of Piccadilly Train Station, in the centre of Manchester.

Ventilation Strategy

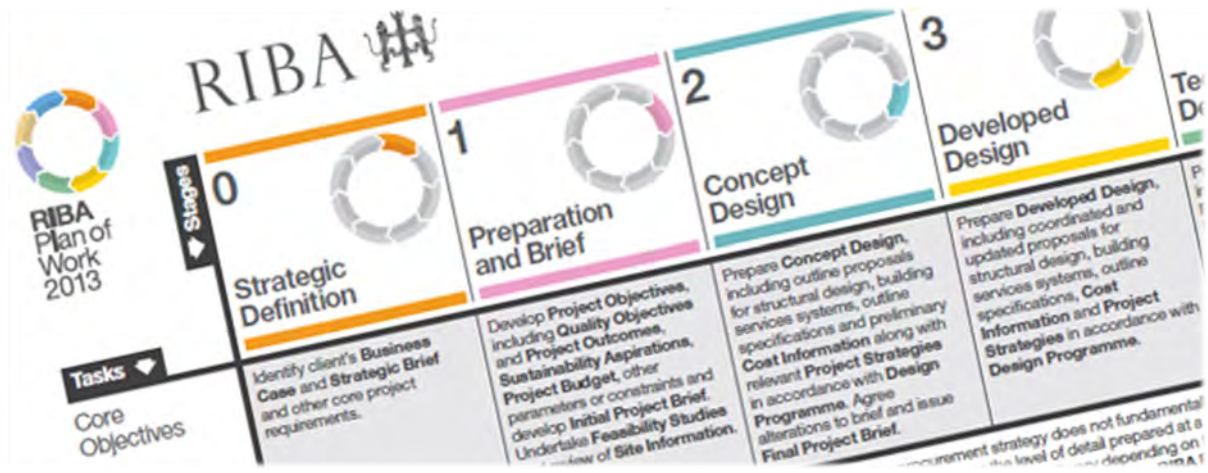
Mechanical ventilation systems shall be provided in accordance with the requirements & guidance given in Building Regulations Approved Document F (2010 inc 2013 amendments).

General ventilation (trickle & boost) within each apartment shall be achieved via a whole-house, low power continuous supply and extract ventilation (MVHR) units. MVHR units are to be mounted on either a solid block wall, full height timber pattress or suspended from the floor slab above, in line with the unit manufacturer's recommendations. 1nr unit will be installed within the utility cupboard of each dwelling and will be independently supported to comply with the noise and vibration requirements as detailed within the project specification.

Limiting overheating in accordance with CIBSE TM59 is achieved by either openable windows or enhanced MVHR units, as defined on the limiting overheating ventilation strategy drawings.

Where limiting overheating is achieved by enhanced MVHR units, increased size supply and extract ventilation ducting shall be provided to match the higher air volumes together with any additional acoustic measures to the MVHR unit and the construction of the utility cupboard where necessary to comply with the limiting noise design criteria detailed within the Acoustic Report provided by the Acoustic Consultant.

Purge ventilation is provided to all habitable rooms by either openable windows or external balcony/Juliette balcony doors.



2.0 Limiting Overheating Strategy

Drawings on the following pages have been provided to demonstrate the extent of building façade identified to be subject to increased noise levels.

Limiting overheating in accordance with CIBSE TM59 is achieved by either openable windows or enhanced MVHR units, as defined on the following drawings:

* As recommended for the purpose of Limiting Overheating

Legend

Colour	Strategy for Limiting Overheating
	Natural Ventilation via Openable Windows
	Mechanical Ventilation via MVHR Unit Type 1
	Mechanical Ventilation via MVHR Unit Type 2
	Natural Infiltration
	No Requirement to Comply with CIBSE TM59
	Rooms where blinds are required to be provided as a minimum (as part of base build works)

MVHR Schedule

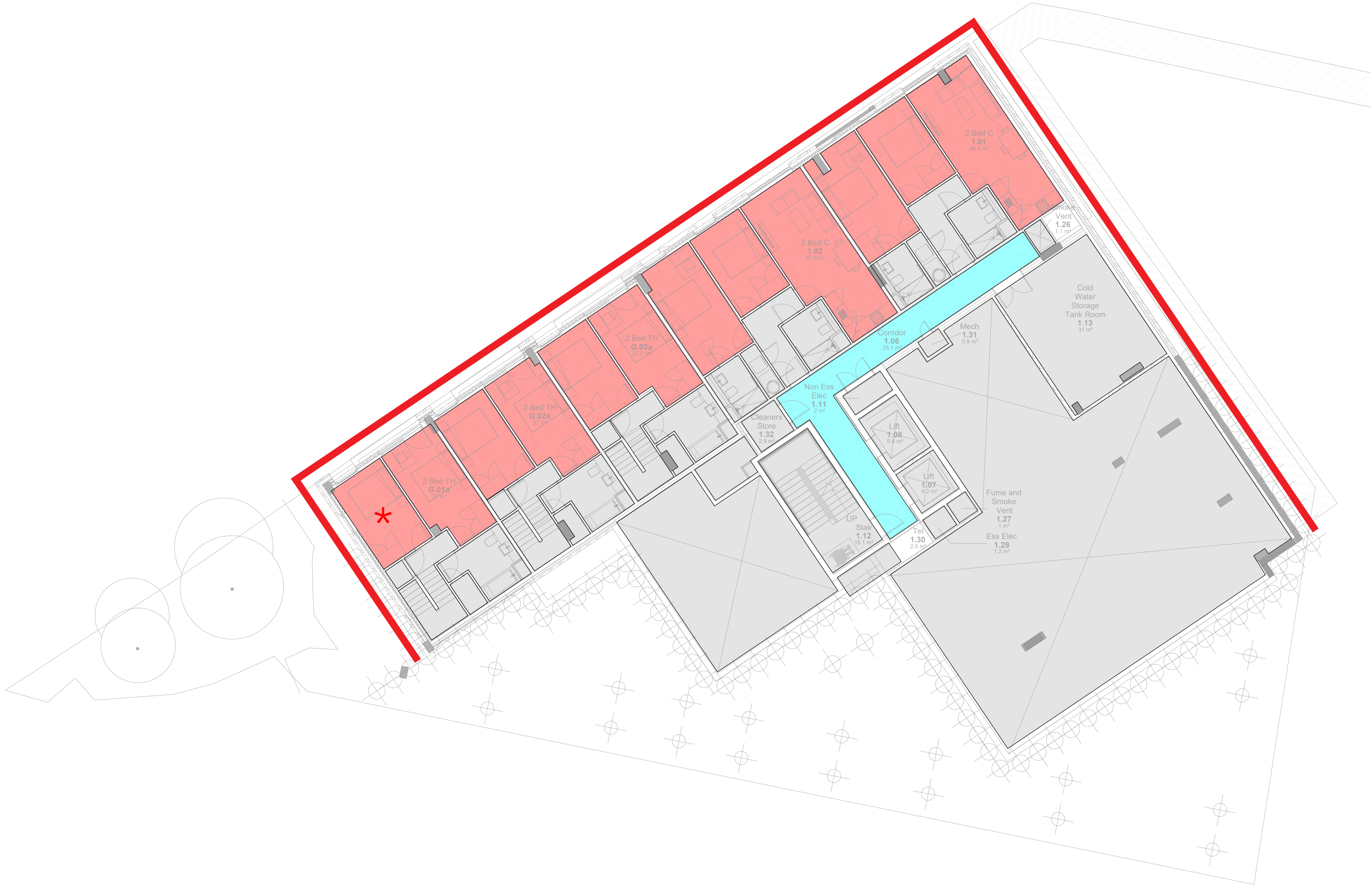
Reference	Product Specification
Type 1	Vent Axia Sentinel Kinetic Advance S
Type 2	Vent Axia Sentinel Kinetic High Flow

Notes:

1. This drawing is to be read in conjunction with the Overheating Analysis Report & Noise Impact Assessment - Refer to report contents for further details.
2. Where blinds have been assumed; these must be provided under the base build.
3. Apartments located on acoustically restricted facades and therefore subject to full mechanical ventilation strategy for limiting overheating shall be provided with 'enhanced summer boost' function via manual switch located in the respective apartment utility cupboard - Refer to Typical Apartment Ventilation Layouts and MEP Performance Specification for further details.



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Level 01

This drawing was produced in AutoCAD, DO NOT change manually.
DO NOT scale from this drawing. The contractor must verify all site dimensions.

Legend

- | Colour | Acoustic Strategy |
|--------------------------------------|-------------------------------|
| ■ | Denotes Openable Windows* |
| ■ | Denotes Non-Openable Windows* |

* As recommended for the purpose of Limiting Overheating

Legend

- | Colour | Strategy for Limiting Overheating |
|---------------------------------------|---|
| ■ | Natural Ventilation via Openable Windows |
| ■ | Mechanical Ventilation via MVHR Unit Type 1 |
| ■ | Mechanical Ventilation via MVHR Unit Type 2 |
| ■ | Natural Infiltration |
| ■ | No Requirement to Comply with CIBSE TM59 |
| ✱ | Rooms where blinds are required to be provided as a minimum (as part of base build works) |

MVHR Schedule

Reference	Product Specification
Type 1	Vent Axia Sentinel Kinetic Advance S
Type 2	Vent Axia Sentinel Kinetic High Flow

Notes:

- This drawing is to be read in conjunction with the Overheating Analysis Report & Noise Impact Assessment - Refer to report contents for further details.
- Where blinds have been assumed; these must be provided under the base build.
- Apartments located on acoustically restricted facades and therefore subject to full mechanical ventilation strategy for limiting overheating shall be provided with 'enhanced summer boost' function via manual switch located in the respective apartment utility cupboard - Refer to Typical Apartment Ventilation Layouts and MEP Performance Specification for further details.

T1	27 11 20	Tender Issue	TC	JH
Rev	Date	Description	Drawn	Checked
 Hannan Associates MEP Design Solutions Hannan Associates Ltd Beta House, Alphagate Drive, Manchester Road, Denton M34 3SH Tel : +44 (0)161 337 2200 Email : info@hannan-uk.com Web : www.hannan-uk.com				
Client		H20 Urban (No.2) LLP		
Project		Store Street Residential Manchester		
Design Stage		Stage 3 - Developed Design		
Drawing Title		Limiting Overheating Strategy Level 01		
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3727 - HAN - ZZ		01 - DR - M - 03 13		
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Legend

- Colour Acoustic Strategy
- Denotes Openable Windows*
- Denotes Non-Openable Windows*

* As recommended for the purpose of Limiting Overheating

Legend

- Colour Strategy for Limiting Overheating
- Natural Ventilation via Openable Windows
- Mechanical Ventilation via MVHR Unit Type 1
- Mechanical Ventilation via MVHR Unit Type 2
- Natural Infiltration
- No Requirement to Comply with CIBSE TM59
- ✱ Rooms where blinds are required to be provided as a minimum (as part of base build works)

MVHR Schedule

Reference	Product Specification
Type 1	Vent Axia Sentinel Kinetic Advance S
Type 2	Vent Axia Sentinel Kinetic High Flow

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- Apartments located on acoustically restricted facades and therefore subject to full mechanical ventilation strategy for limiting overheating shall be provided with 'enhanced summer boost' function via manual switch located in the respective apartment utility cupboard - Refer to Typical Apartment Ventilation Layouts and MEP Performance Specification for further details.



Level 02 - 03
Typical Lower Floor

T1	27	11	Tender Issue	TC	JH
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MEP Design Solutions

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Client	H2O Urban (No.2) LLP		
Project	Store Street Residential Manchester		
Design Stage	Stage 3 - Developed Design		
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Colour	Acoustic Strategy
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 Denotes Openable Windows*

 Denotes Non-Openable Windows*

* As recommended for the purpose of Limiting Overheating

Legend

Colour	Strategy for Limiting Overheating
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Natural Ventilation via Openable Windows

 Mechanical Ventilation via MVHR Unit Type 1

 Mechanical Ventilation via MVHR Unit Type 2

 Natural Infiltration

☐ No Requirement to Comply with CIBSE TM5.

* Rooms where blinds are required to be provided as a minimum (as part of base build works)

MVHR Schedule

Reference	Product Specification
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Type 1 Vent Axia Sentinel Kinetic Advance S

Type 2 Vent Axia Sentinel Kinetic High Flow

Notes:

1. This drawing is to be read in conjunction with the Overheating Analysis Report & Noise Impact Assessment - Refer to report contents for further details.
2. Where blinds have been assumed; these must be provided under the base build.
3. Apartments located on acoustically restricted facades and therefore subject to full mechanical ventilation strategy for limiting overheating shall be provided with 'enhanced summer boost' function via manual switch located in the respective apartment utility cupboard - Refer to Typical Apartment Ventilation Layouts and MEP Performance Specification for further details.



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Client H2O Urban (No.2) LLP

Project **Store Street Residential**

Manchester

Design Stage

Stage 3 - Developed Design

Drawing Title

Limiting Overheating Strategy

Level 04

Scale	Page Size
1:100	A1L

TENDER ISSUE

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Level 05

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Legend

- Colour Acoustic Strategy
- Denotes Openable Windows*
 - Denotes Non-Openable Windows*

* As recommended for the purpose of Limiting Overheating

Legend

- Colour Strategy for Limiting Overheating
- Natural Ventilation via Openable Windows
 - Mechanical Ventilation via MVHR Unit Type 1
 - Mechanical Ventilation via MVHR Unit Type 2
 - Natural Infiltration
 - No Requirement to Comply with CIBSE TM59
 - Rooms where blinds are required to be provided as a minimum (as part of base build works)

MVHR Schedule

- Reference Product Specification
- Type 1 Vent Axia Sentinel Kinetic Advance S
 - Type 2 Vent Axia Sentinel Kinetic High Flow

Notes:

- This drawing is to be read in conjunction with the Overheating Analysis Report & Noise Impact Assessment - Refer to report contents for further details.
- Where blinds have been assumed; these must be provided under the base build.
- Apartments located on acoustically restricted facades and therefore subject to full mechanical ventilation strategy for limiting overheating shall be provided with 'enhanced summer boost' function via manual switch located in the respective apartment utility cupboard - Refer to Typical Apartment Ventilation Layouts and MEP Performance Specification for further details.

T1	27 11 20	Tender Issue	TC	JH
Rev	Date	Description	Drawn	Checked
				
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Client				
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Project				
Store Street Residential Manchester				
Design Stage				
Stage 3 - Developed Design				
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* As recommended for the purpose of Limiting Overheating

Legend

MVHR Schedule

Notes:

- In order to comply with TM59 Criteria; this window is required to be opened to 100mm restricted condition, in addition to the enhanced mechanical ventilation rate provided by the MVHR Unit.

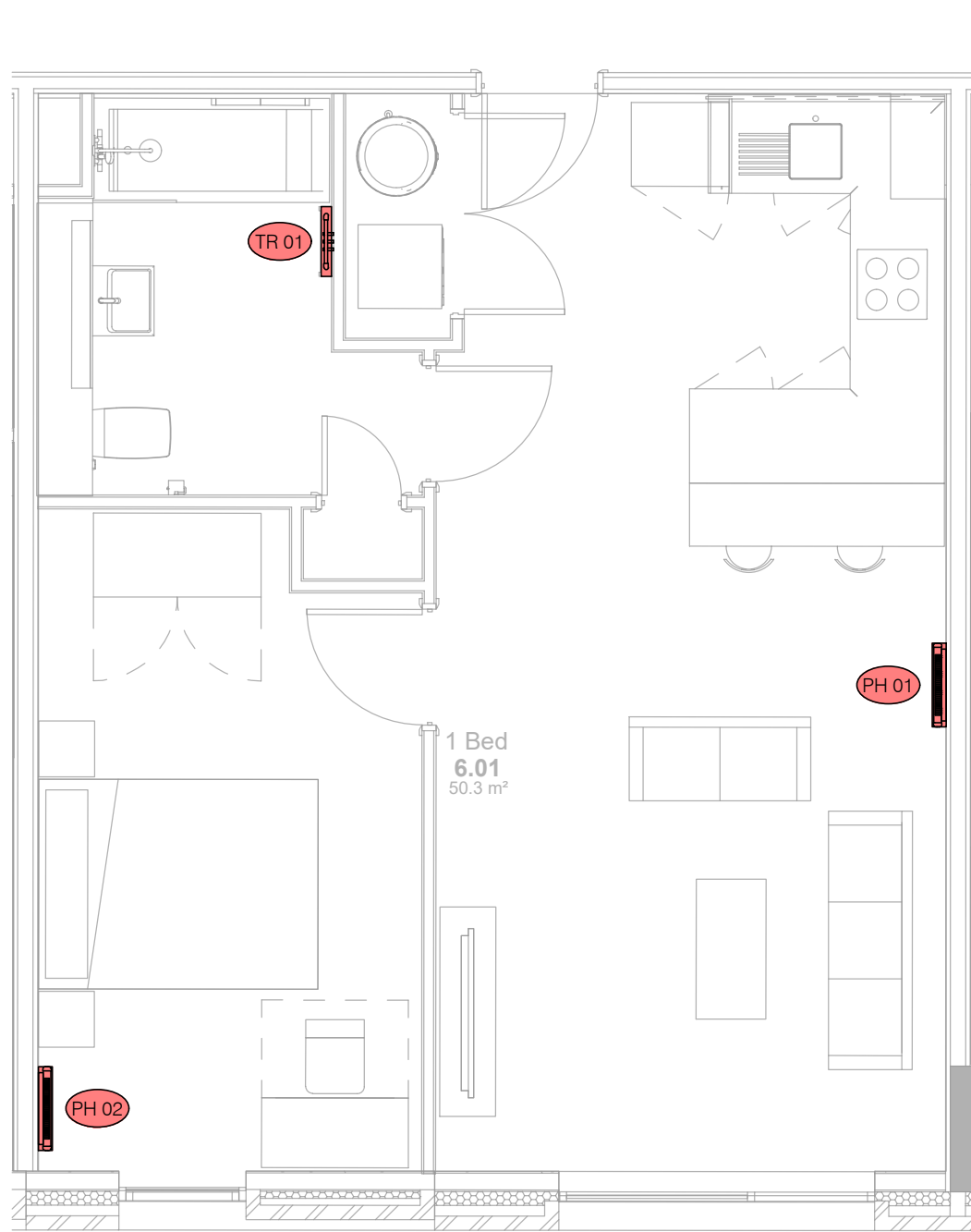
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21								
11								
Rev	Client	Description		Drawn	Checked			
								
Hannan Associates MEP Design Solutions			Hannan Associates Ltd Bela House, Alphagate Drive, Manchester Road, Denton M34 3SH Tel : +44 (0)161 337 2200 Email : info@hannan-uk.com Web : www.hannan-uk.com					
Client								
H2O Urban (No.2) LLP								
Project								
Store Street Residential Manchester								
Design Stage								
Stage 3 - Developed Design								
Drawing Title								
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3.0 Stage 3 Developed Design Mechanical Services Layouts

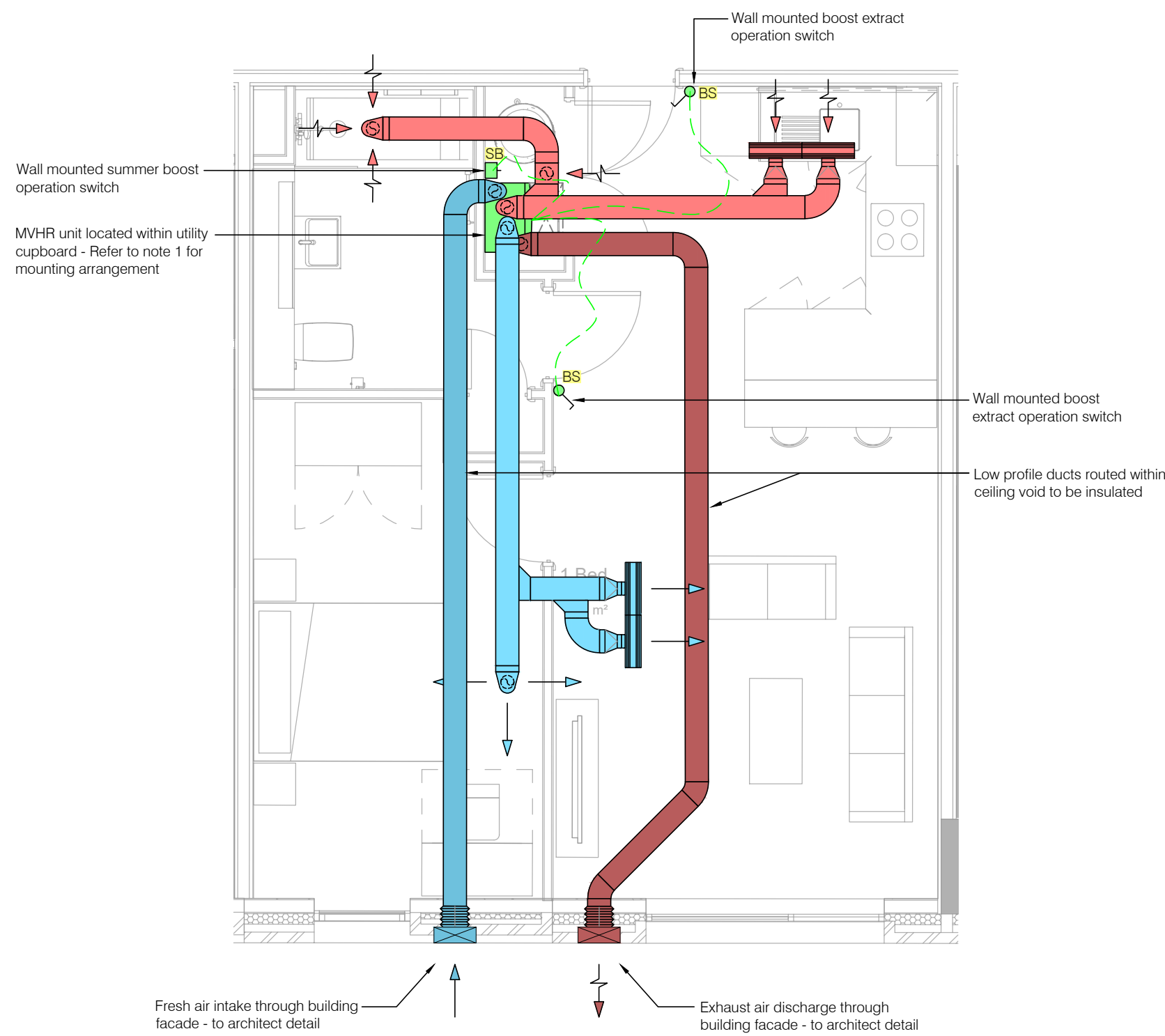
The mechanical services layouts presented in this section demonstrate the proposed location for MVHR units and approximate locations for intake & discharge penetrations through the building façade for the various apartment types throughout the development.

1nr MVHR unit will be provided to serve each dwelling and will be installed within the utility cupboard.

The Acoustic Consultant's initial review indicates that it is unlikely that specific mitigation measures (i.e. attenuators) will be required to control environmental noise intrusion, however additional acoustic measures to the MVHR unit, the construction of the utility cupboard and/or room-side attenuation will be provided where necessary to comply with the limiting noise design criteria detailed within the Acoustic Report - See *Hann Tucker Stage 3 Acoustic Design Report 26756/ADR1 (Nov 2020)*.



Heating Layout



Ventilation Layout

Legend

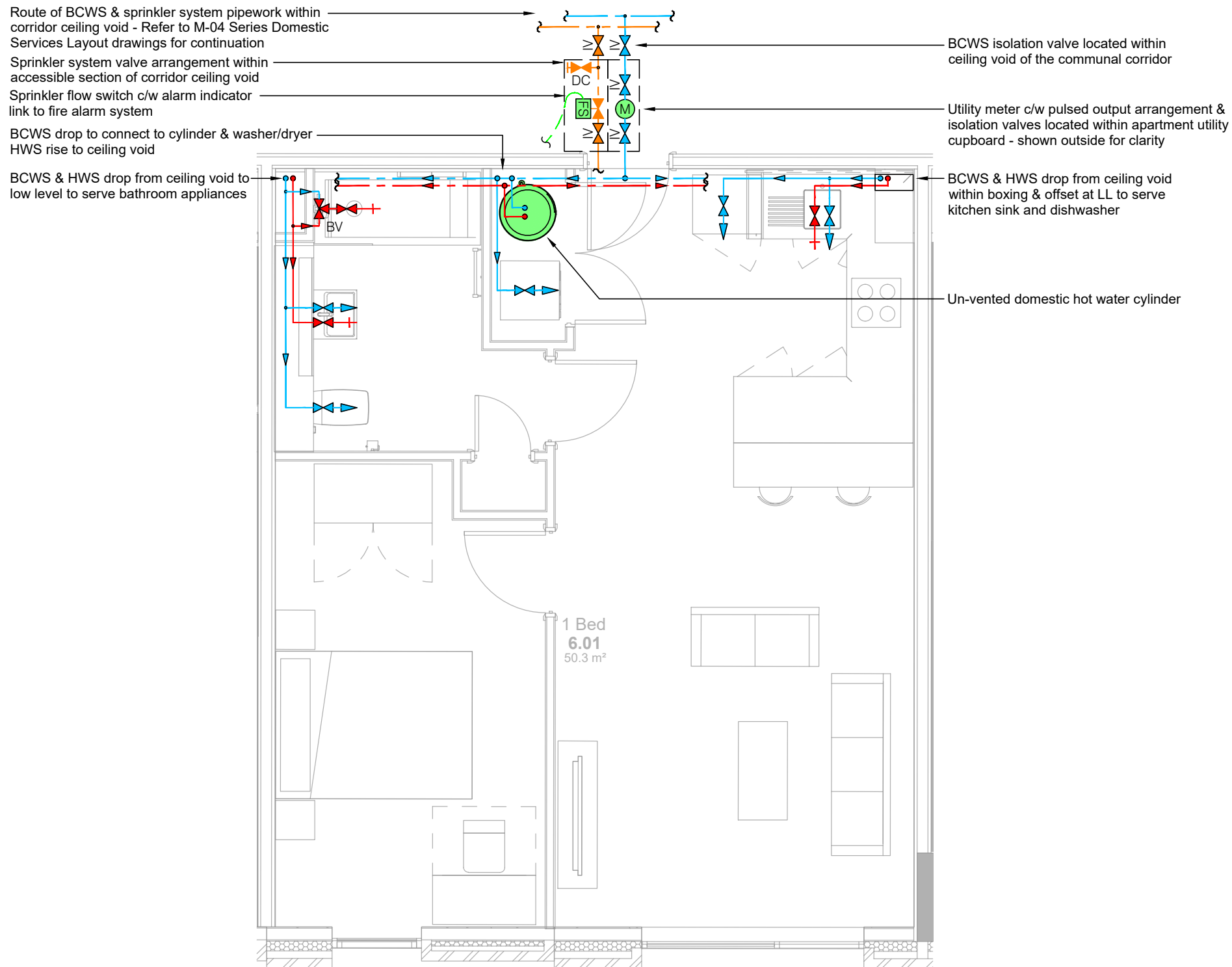
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- Pipework Routed within Ceiling Void
- Sprinkler Pipework
- Hot Water Pipework
- Cold Water Pipework
- Hot Water Outlet
- Cold Water Outlet
- Above Ground Drainage Pipework
- BS Ventilation Boost Switch
- SB Ventilation 'Summer Boost' Switch
- Fresh Air Ventilation Ductwork
- Exhaust Air Ventilation Ductwork
- Supply Air Ventilation Ductwork
- Extract Air Ventilation Ductwork
- Linear Supply Air Grille
- Linear Extract Air Grille
- Circular Supply Air Grille
- Circular Extract Air Grille
- PH Electric Panel Heater
- TR Electric Towel Rail

Abbreviations

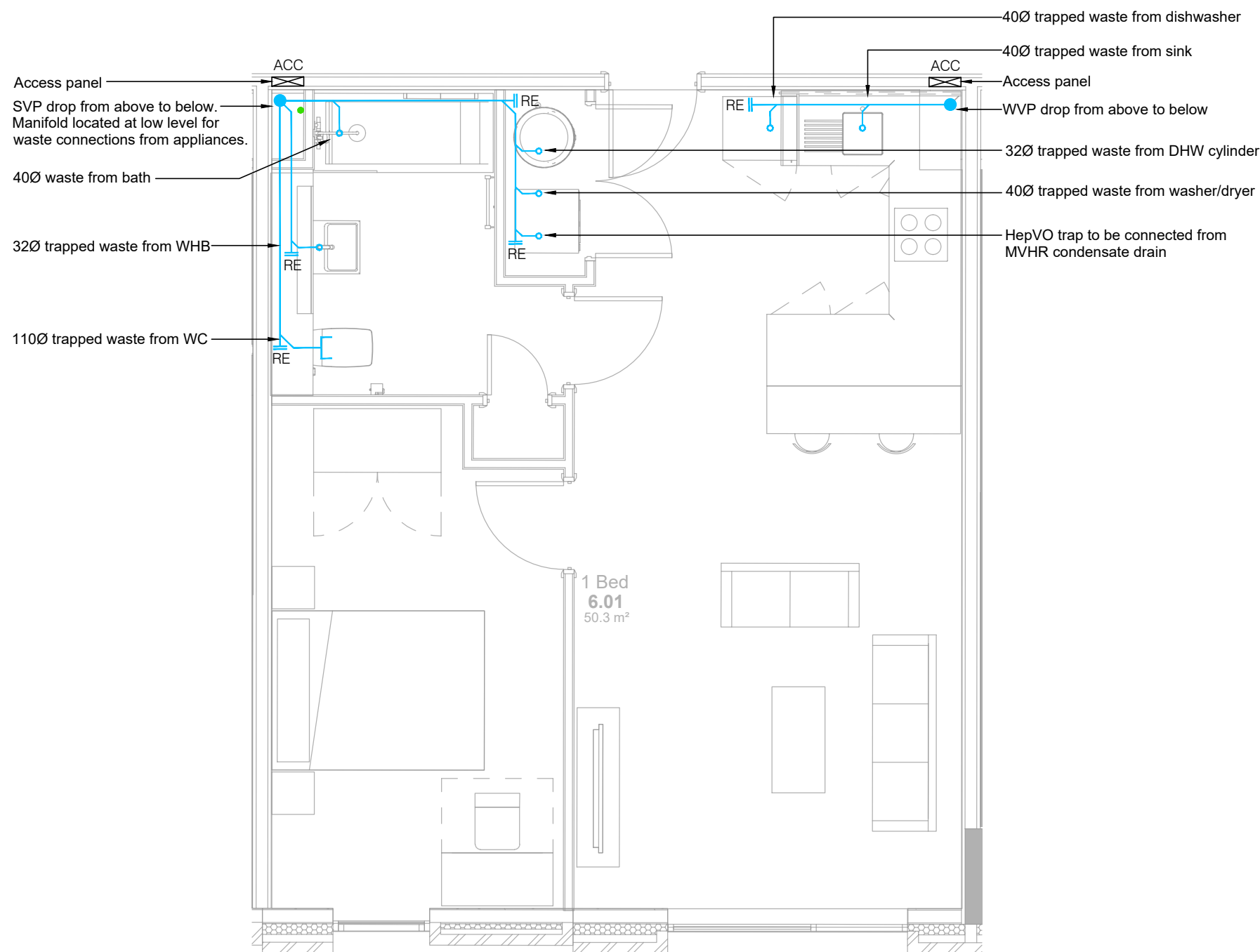
- IV Isolation Valve
- BV Blending Valve
- SVP Soil Vent Pipe
- WVP Waste Vent Pipe
- RE Rodding Eye
- ACC Access Panel

Notes

- MVHR units are to be mounted on either a solid block wall, full height timber pattress or suspended from the floor slab above, in line with the unit manufacturer's recommendations.
- All ductwork routes and grille positions must be checked and set out against a fully detailed reflected ceiling layout, structural engineering and electrical services drawings.
- All ductwork shall be manufactured, installed, tested and commissioned in strict accordance with DW154 and CIBSE Commissioning Codes.
- All fresh air and exhaust ductwork is to be insulated.
- The Contractor shall make allowance for the provision of fire & smoke dampers in accordance with the Building Fire Strategy and Building Control requirements.
- The design, installation and testing of the hot and cold water services installation shall comply with the requirements of the Water Supply (Water Fittings) Regulations 1999 and the local water undertakers representative. All parts of the installation shall comply with ACOF (L8), BS EN 806, CIBSE TM13 and any other appropriate British Standards, Codes of Practice and Health and Safety documents.
- Domestic services pipework routed within inaccessible areas shall be un-jointed to reduce risk of leaks.
- The sanitary pipework installation shall comply with the requirements of the Building Regulations 2000 Approved Document H and the recommendations outlined in BS EN 12056-2. The sanitary pipework shall be installed strictly in accordance with the manufacturers recommendations.
 - Access must be provided to soil stacks & waste vent pipes at the following locations to facilitate testing and cleaning of the systems:
 - At the base of each stack/pipe.
 - At every floor level.
 - Above all branch connections.
 - At all changes in direction.
- Access panels are to be provided in service ducts and areas where access is required to rodding points on soil / vent and waste pipework.
- Fire sleeves to be installed on all PVC pipework greater than 40mmØ (i.e. 50mmØ and above) where passing through a fire compartment, in accordance with the Building Fire Strategy and Building Control requirements.
- All horizontal soil and waste pipework to be laid with a fall of 1-40, minimum 1-80 unless otherwise stated. Horizontal vent pipework may be run flat.
- Where pipes pass through roofs of external walls, they shall be adequately weathered using a suitable connector.
- All pipes passing through floor slabs are to be sealed against water penetration with polysulphide flexible sealant.
- Wash hand basin, sink, shower and bath traps are to be anti-siphon type.

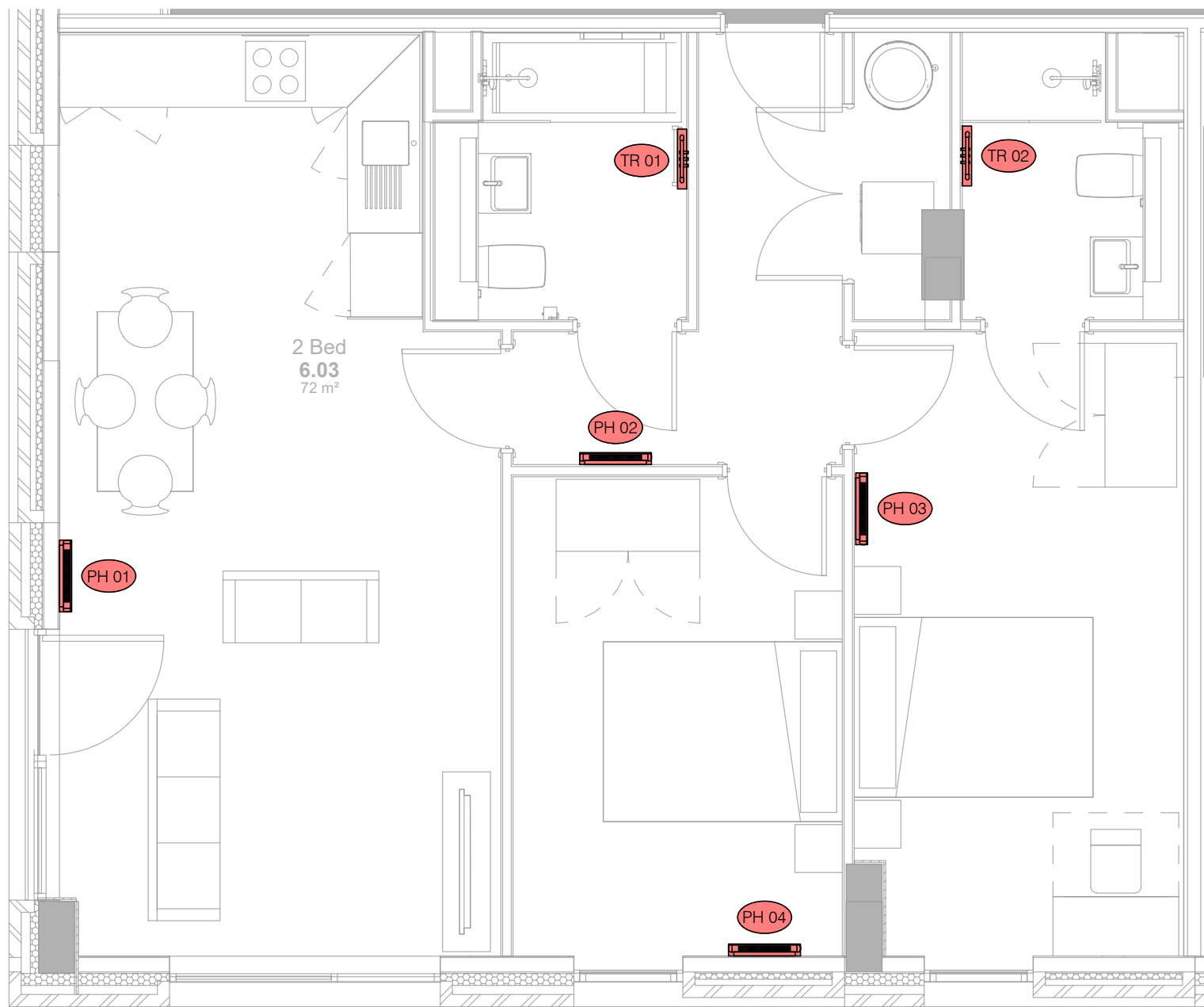


Domestic Services Layout

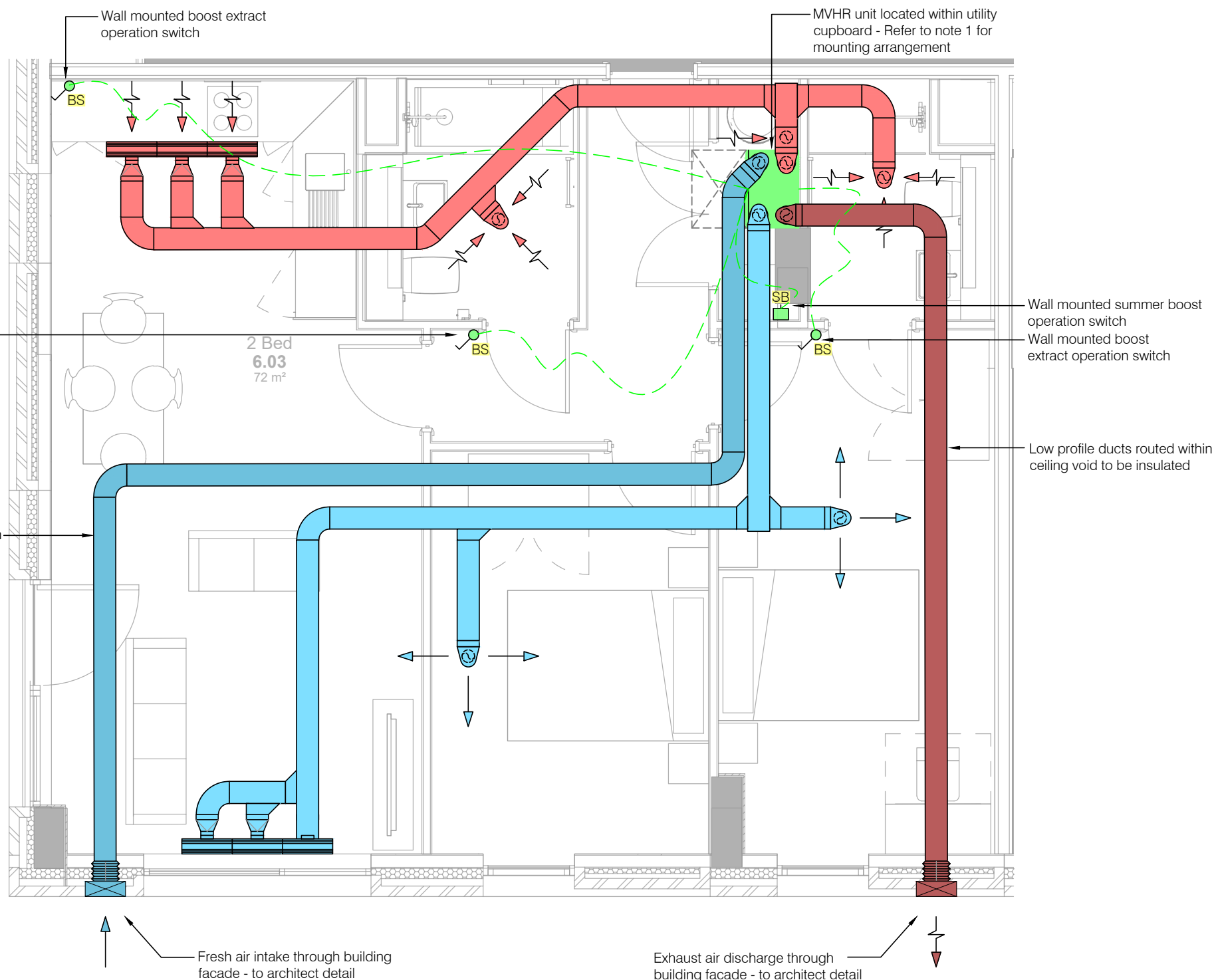


Above Ground Drainage Layout

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Rev	11	Description	Drawn	Checked
Date	20			
				
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Client				
H2O Urban (No.2) LLP				
Project				
Store Street Residential Manchester				
Design Stage				
Stage 3 - Developed Design				
Drawing Title				
Notional Mechanical Services Layout Typical 1-Bed Apartment				
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Heating Layout



Ventilation Layout

Legend

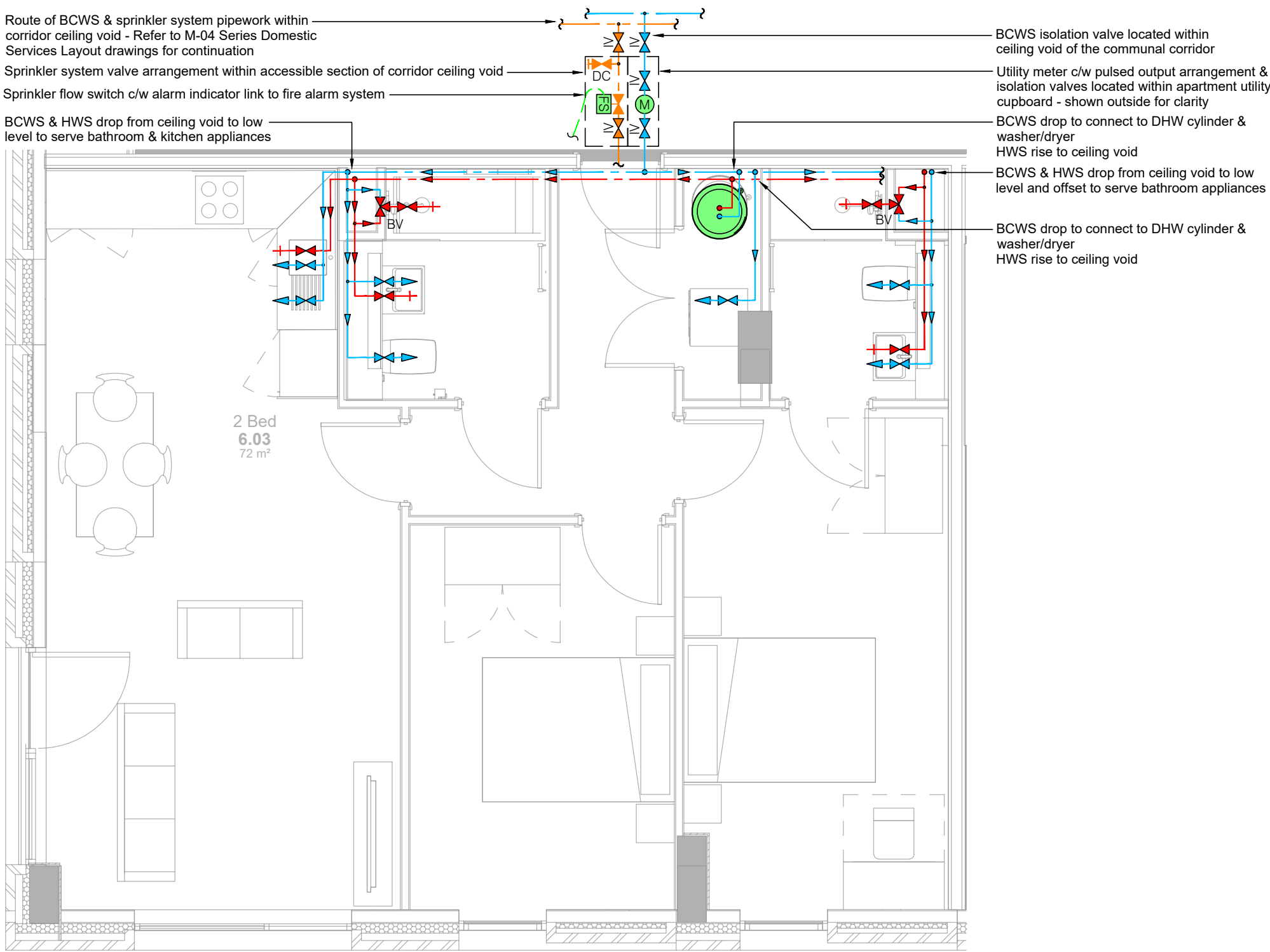
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- Pipework Routed within Ceiling Void
- Sprinkler Pipework
- Hot Water Pipework
- Cold Water Pipework
- Hot Water Outlet
- Cold Water Outlet
- Above Ground Drainage Pipework
- BS Ventilation Boost Switch
- SB Ventilation 'Summer Boost' Switch
- Fresh Air Ventilation Ductwork
- Exhaust Air Ventilation Ductwork
- Supply Air Ventilation Ductwork
- Extract Air Ventilation Ductwork
- Linear Supply Air Grille
- Linear Extract Air Grille
- Circular Supply Air Grille
- Circular Extract Air Grille
- PH Electric Panel Heater
- TR Electric Towel Rail

Abbreviations

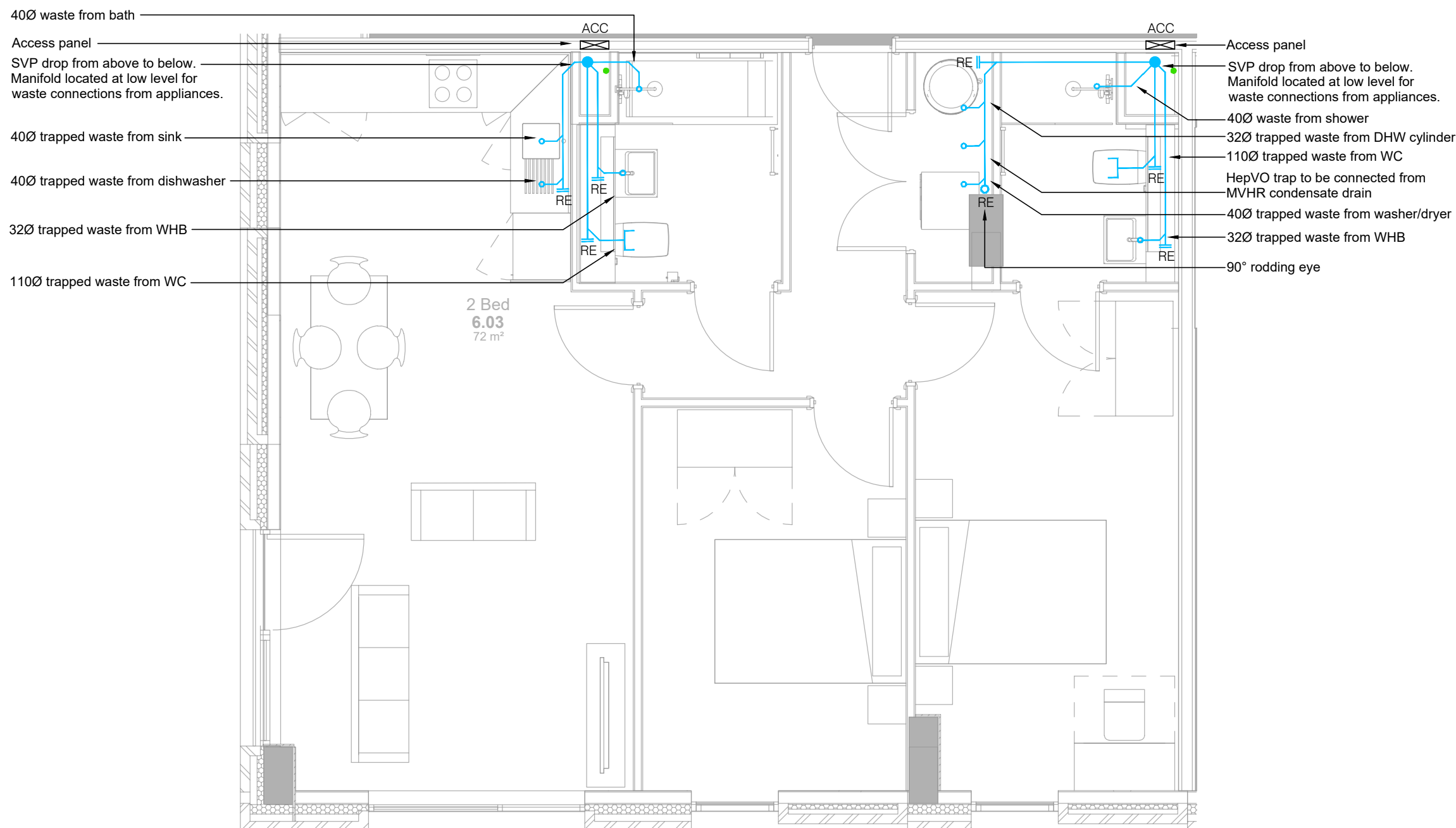
- IV Isolation Valve
- BV Blending Valve
- SVP Soil Vent Pipe
- WVP Waste Vent Pipe
- RE Rodding Eye
- ACC Access Panel

Notes

- MVHR units are to be mounted on either a solid block wall, full height timber pattress or suspended from the floor slab above, in line with the unit manufacturer's recommendations.
- All ductwork routes and grille positions must be checked and set out against a fully detailed reflected ceiling layout, structural engineering and electrical services drawings.
- All ductwork shall be manufactured, installed, tested and commissioned in strict accordance with DW154 and CIBSE Commissioning Codes.
- All fresh air and exhaust ductwork is to be insulated.
- The Contractor shall make allowance for the provision of fire & smoke dampers in accordance with the Building Fire Strategy and Building Control requirements.
- The design, installation and testing of the hot and cold water services installation shall comply with the requirements of the Water Supply (Water Fittings) Regulations 1999 and the local water undertakers representative. All parts of the installation shall comply with ACOP (L8), BS EN 806, CIBSE TM13 and any other appropriate British Standards, Codes of Practice and Health and Safety documents.
- Domestic services pipework routed within inaccessible areas shall be un-jointed to reduce risk of leaks.
- The sanitary pipework installation shall comply with the requirements of the Building Regulations 2000 Approved Document H and the recommendations outlined in BS EN 12056-2. The sanitary pipework shall be installed strictly in accordance with the manufacturers recommendations.
- Access must be provided to soil stacks & waste vent pipes at the following locations to facilitate testing and cleaning of the systems:
 - At the base of each stack/pipe.
 - At every floor level.
 - Above all branch connections.
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- Access panels are to be provided in service ducts and areas where access is required to rodding points on soil / vent and waste pipework.
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- Where pipes pass through roofs of external walls, they shall be adequately weathered using a suitable connector.
- All pipes passing through floor slabs are to be sealed against water penetration with polysulphide flexible sealant.
- Wash hand basin, sink, shower and bath traps are to be anti-siphon type.



Domestic Services Layout

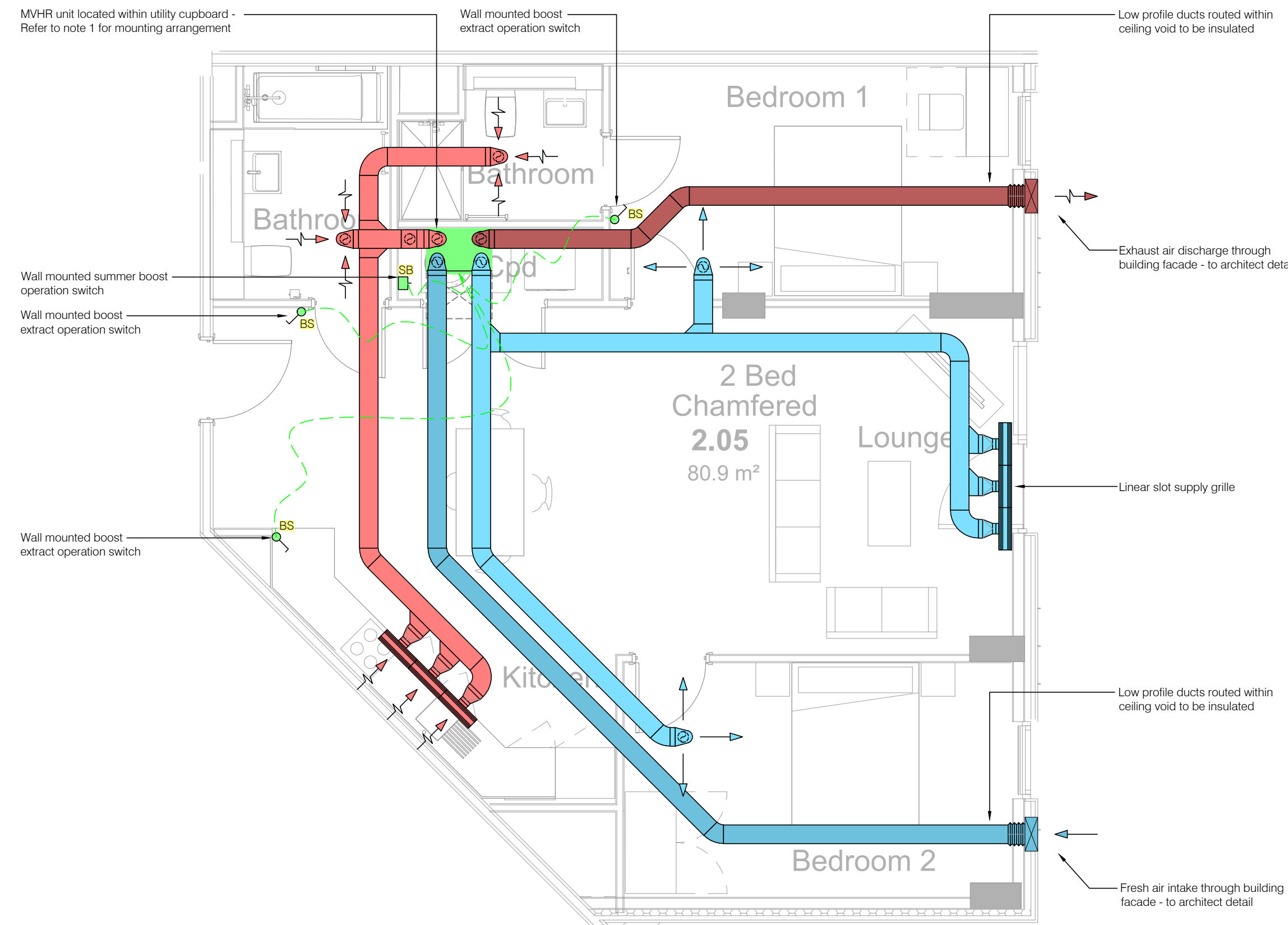


Above Ground Drainage Layout

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Rev	Date	Description	Drawn	Checked
				
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Client				
H2O Urban (No.2) LLP				
Project				
Store Street Residential Manchester				
Design Stage				
Stage 3 - Developed Design				
Drawing Title				
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Scale	1:50		Page Size	A1L
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Heating Layout



Ventilation Layout

Legend

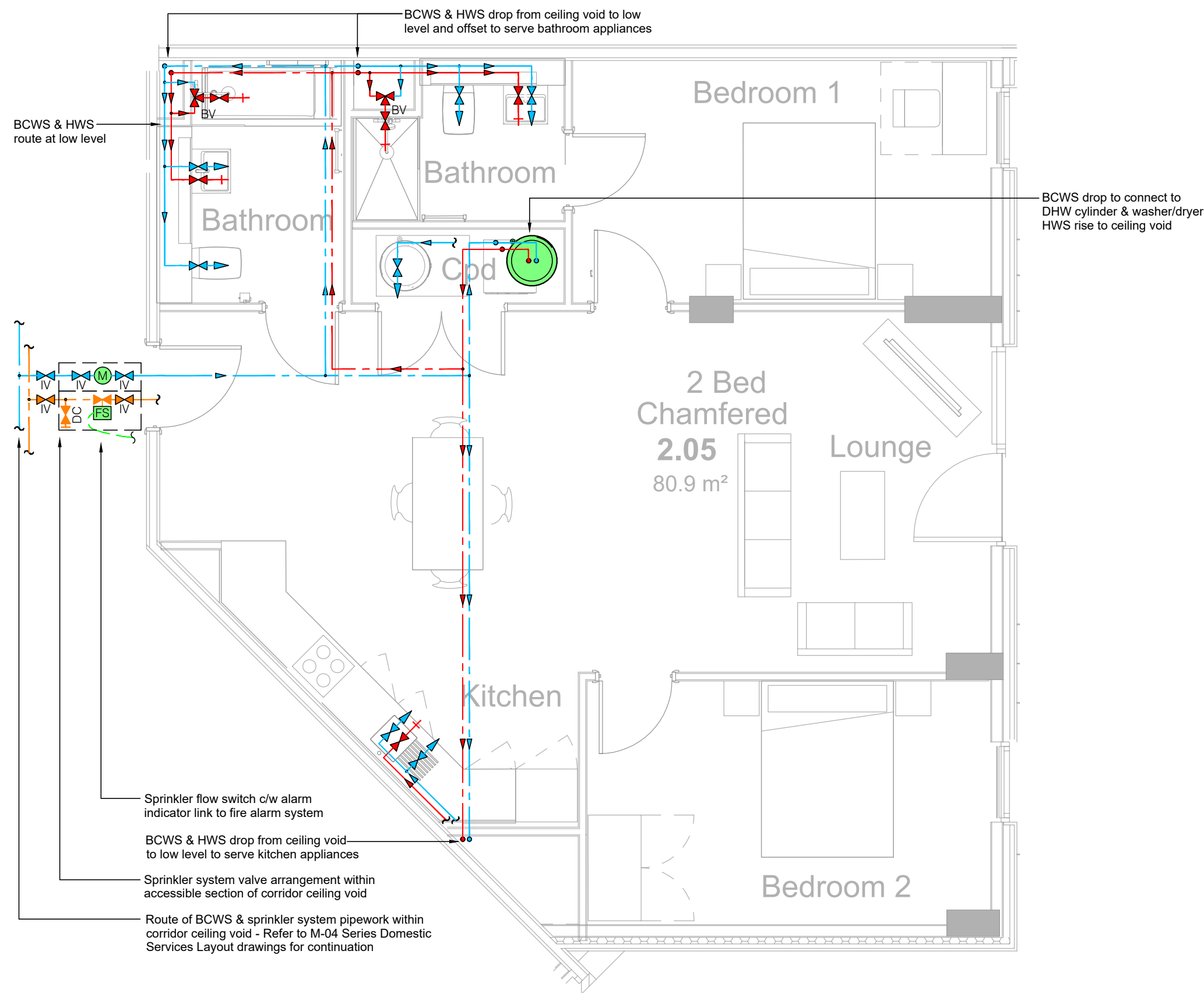
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- Circular Supply Air Grille
- Circular Extract Air Grille
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- Electric Towel Rail

Abbreviations

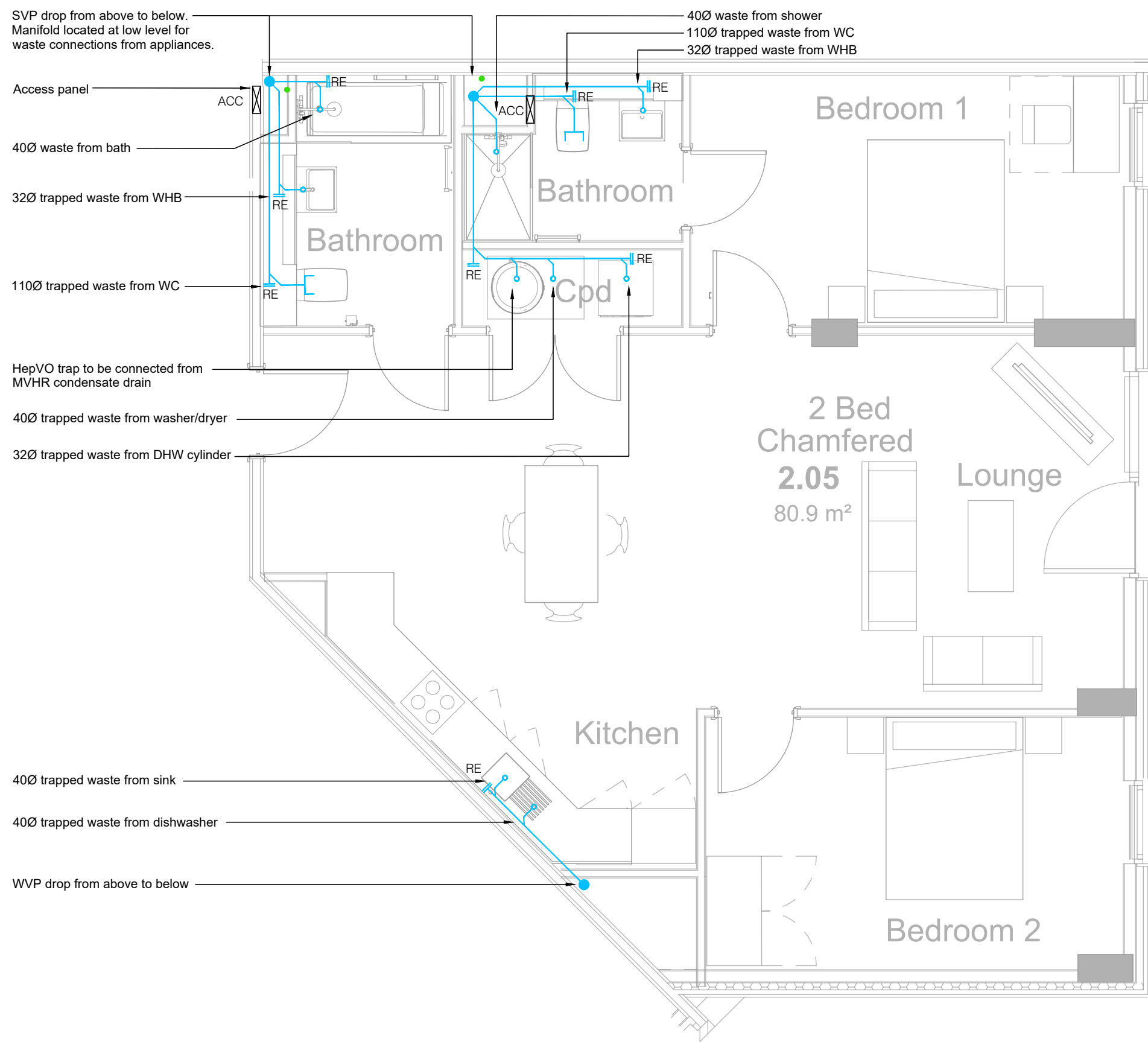
- | | |
|-----|-----------------|
| IV | Isolation Valve |
| BV | Blending Valve |
| SVP | Soil Vent Pipe |
| WVP | Waste Vent Pipe |
| RE | Rodding Eye |
| ACC | Access Panel |

Notes

- MVHR units are to be mounted on either a solid block wall, full height timber pattress or suspended from the floor slab above, in line with the unit manufacturer's recommendations.
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- The Contractor shall make allowance for the provision of fire & smoke dampers in accordance with the Building Fire Strategy and Building Control requirements.
- The design, installation and testing of the hot and cold water services installation shall comply with the requirements of the Water Supply (Water Fittings) Regulations 1999 and the local water undertakers representative. All parts of the installation shall comply with ACOP (L8), BS EN 806, CIBSE TM13 and any other appropriate British Standards, Codes of Practice and Health and Safety documents.
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- Wash hand basin, sink, shower and bath traps are to be anti-siphon type.



Domestic Services Layout



Above Ground Drainage Layout

T1	27 11 20	Tender Issue	TC	JH
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Client				
H2O Urban (No.2) LLP				
Project				
Store Street Residential Manchester				
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Stage 3 - Developed Design				
Drawing Title				
Notional Mechanical Services Layout Typical 2-Bed Apartment (Type B - Chamfered)				
Scale		Page Size		
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Notes

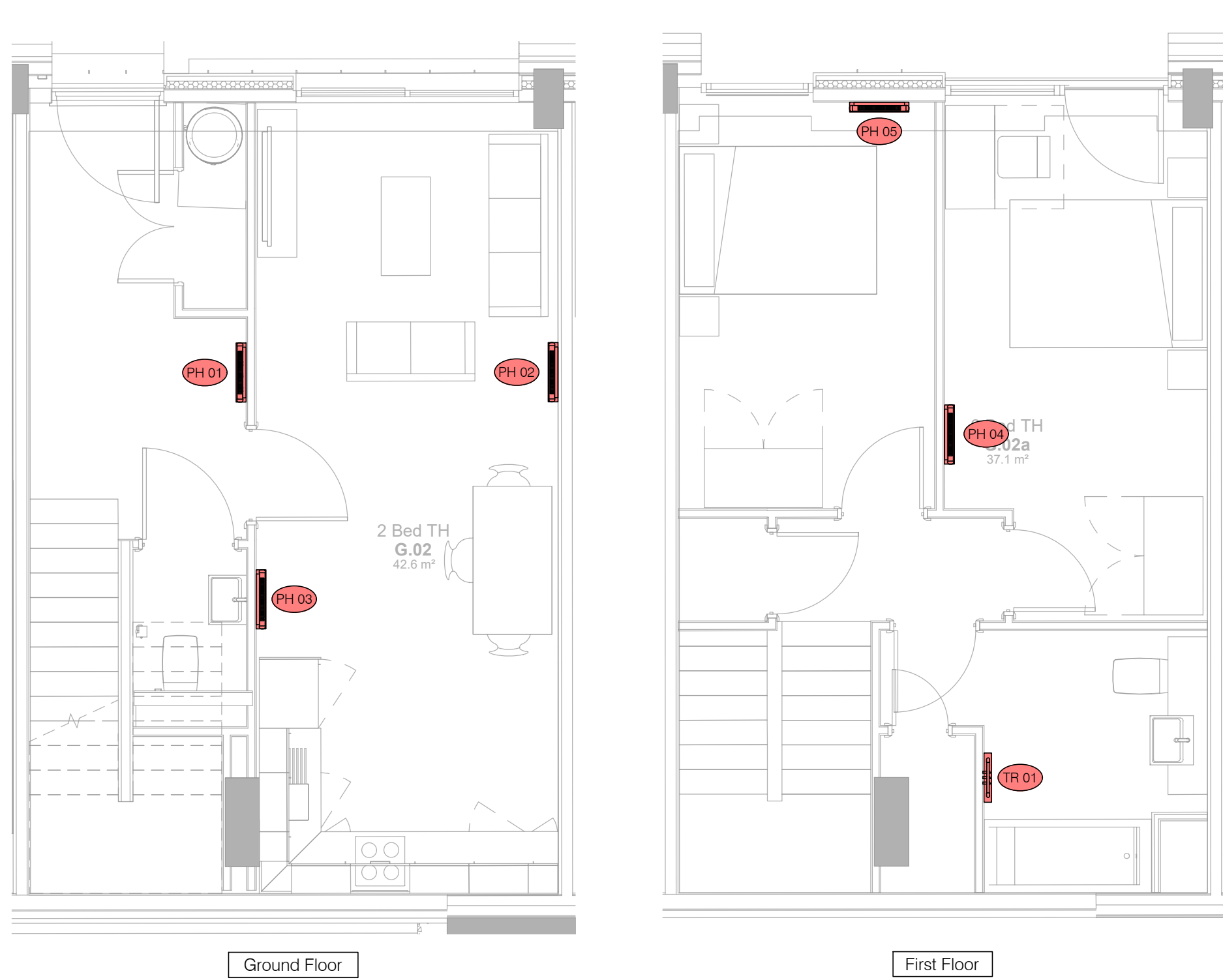
- MVHR units are to be mounted on either a solid block wall, full height timber pattress or suspended from the floor slab above, in line with the unit manufacturer's recommendations.
- All ductwork routes and grille positions must be checked and set out against a fully detailed reflected ceiling layout, structural engineering and electrical services drawings.
- All ductwork shall be manufactured, installed, tested and commissioned in strict accordance with DW154 and CIBSE Commissioning Codes.
- All ductwork is to be insulated.
- The Contractor shall make allowance for the provision of fire & smoke dampers in accordance with the Building Fire Strategy and Building Control requirements.
- The design, installation and testing of the hot and cold water services installation shall comply with the requirements of the Water Supply (Water Fittings) Regulations 1999 and the local water undertakers representative. All parts of the installation shall comply with ACOP (L8), BS EN 806, CIBSE TM13 and any other appropriate British Standards, Codes of Practice and Health and Safety documents.
- Domestic services pipework routed within inaccessible areas shall be un-jointed to reduce risk of leaks.
- The sanitary pipework installation shall comply with the requirements of the Building Regulations 2000 Approved Document H and the recommendations outlined in BS EN 12056-2. The sanitary pipework shall be installed strictly in accordance with the manufacturers recommendations.
- Access must be provided to soil stacks & waste vent pipes at the following locations to facilitate testing and cleaning of the systems:
 - At the base of each stack/pipe.
 - At every floor level.
 - Above all branch connections.
 - At all changes in direction.
- Access panels are to be provided in service ducts and areas where access is required to rodding points on soil / vent and waste pipework.
- Fire sleeves to be installed on all PVC pipework greater than 40mmØ (i.e. 50mmØ and above) where passing through a fire compartment, in accordance with the Building Fire Strategy and Building Control requirements.
- All horizontal soil and waste pipework to be laid with a fall of 1-40, minimum 1-80 unless otherwise stated. Horizontal vent pipework may be run flat.
- Where pipes pass through roofs of external walls, they shall be adequately weathered using a suitable connector.
- All pipes passing through floor slabs are to be sealed against water penetration with polysulphide flexible sealant.
- Wash hand basin, sink, shower and bath traps are to be anti-siphon type.

Legend

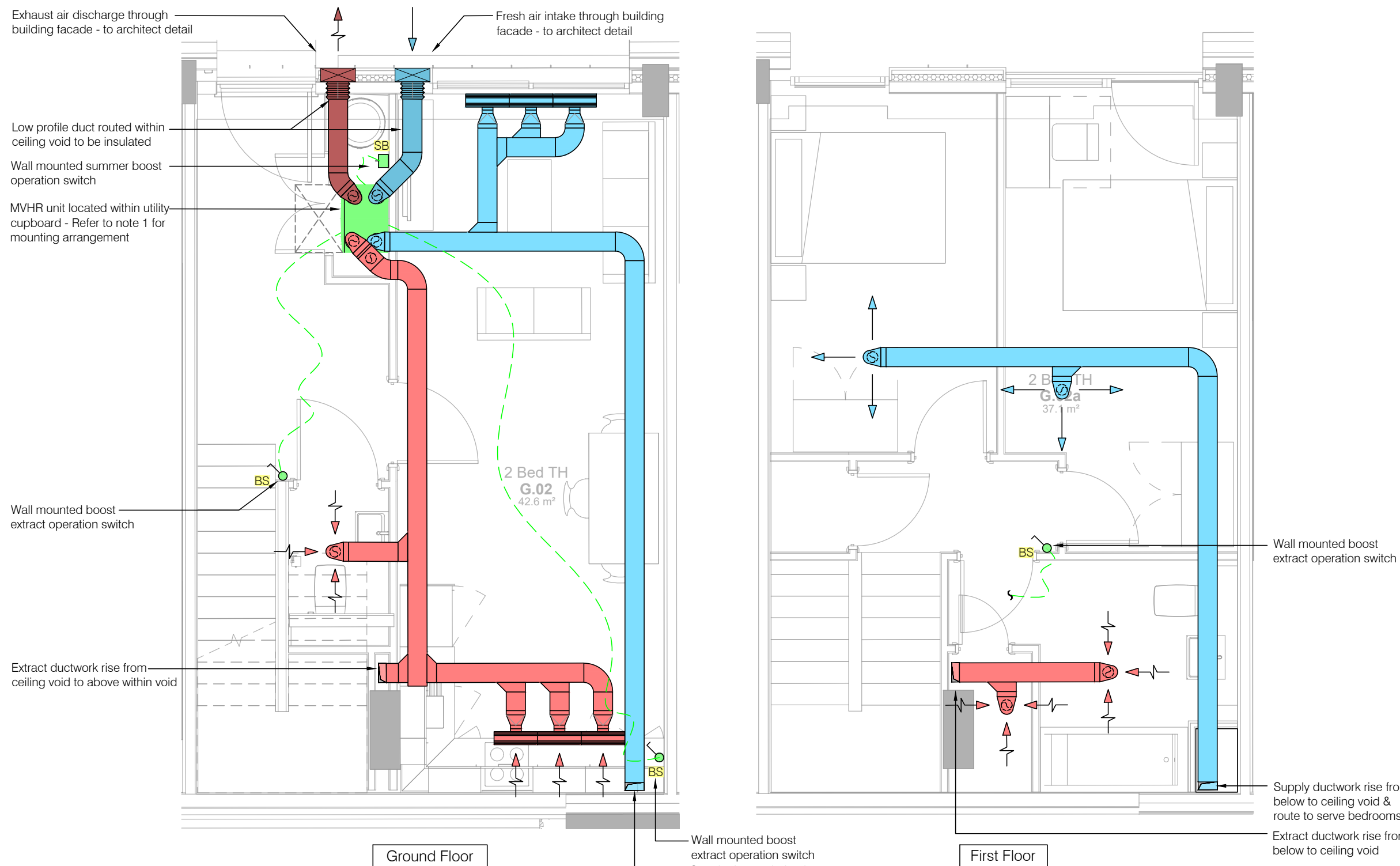
- Pipework Routed at Low Level
- Pipework Routed Below
- Pipework Routed within Ceiling Void
- Sprinkler Pipework
- Hot Water Pipework
- Cold Water Pipework
- Hot Water Outlet
- Cold Water Outlet
- Above Ground Drainage Pipework
- Ventilation Boost Extract Switch
- Ventilation 'Summer Boost' Switch
- Fresh Air Ventilation Ductwork
- Exhaust Air Ventilation Ductwork
- Supply Air Ventilation Ductwork
- Extract Air Ventilation Ductwork
- Linear Supply Air Grille
- Linear Extract Air Grille
- Circular Supply Air Grille
- Circular Extract Air Grille
- Electric Panel Heater
- Electric Towel Rail

Abbreviations

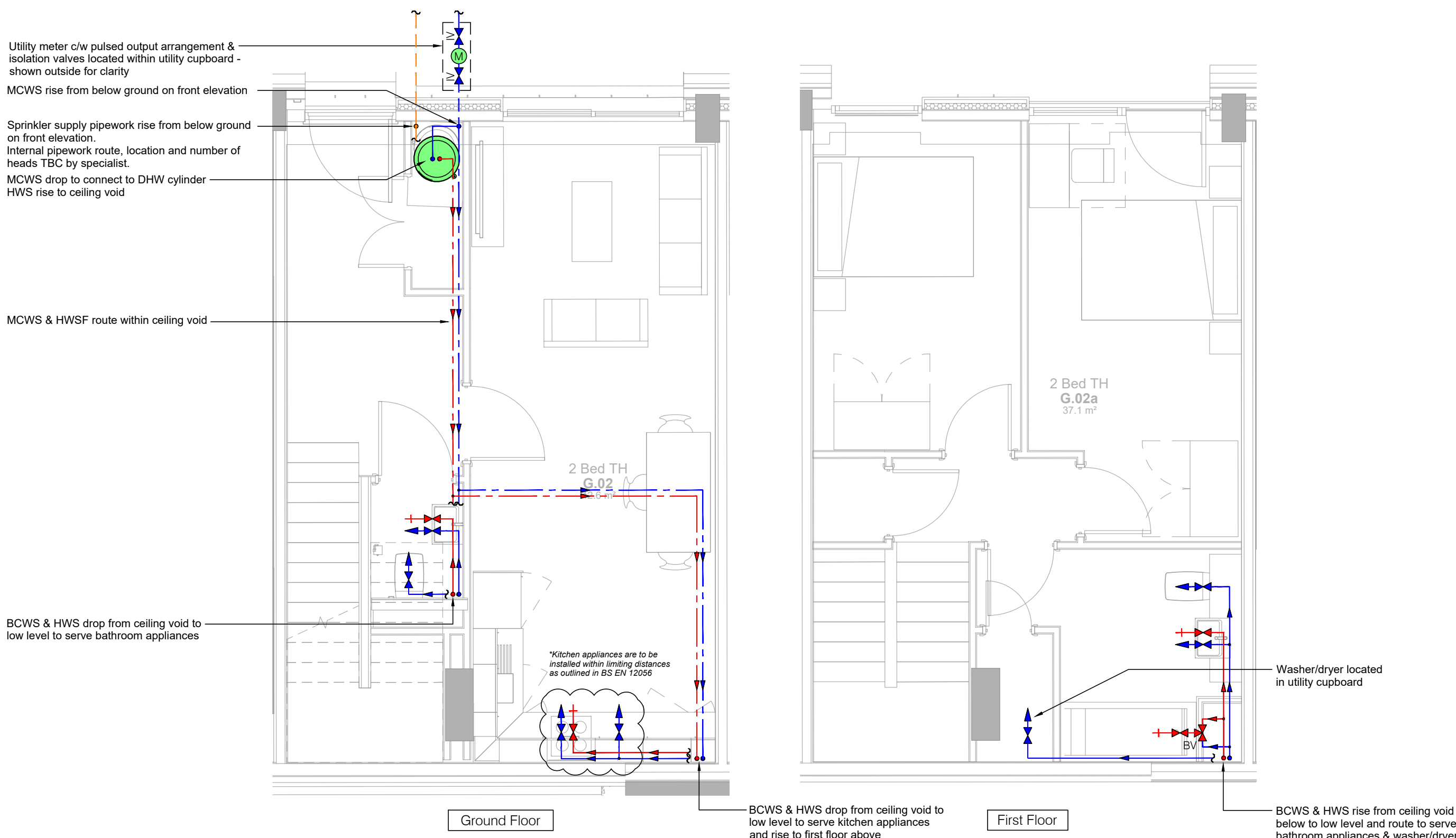
- IV Isolation Valve
- BV Blending Valve
- SVP Soil Vent Pipe
- WVP Waste Vent Pipe
- RE Rodding Eye
- ACC Access Panel
- AAAV Automatic Air Admittance Valve



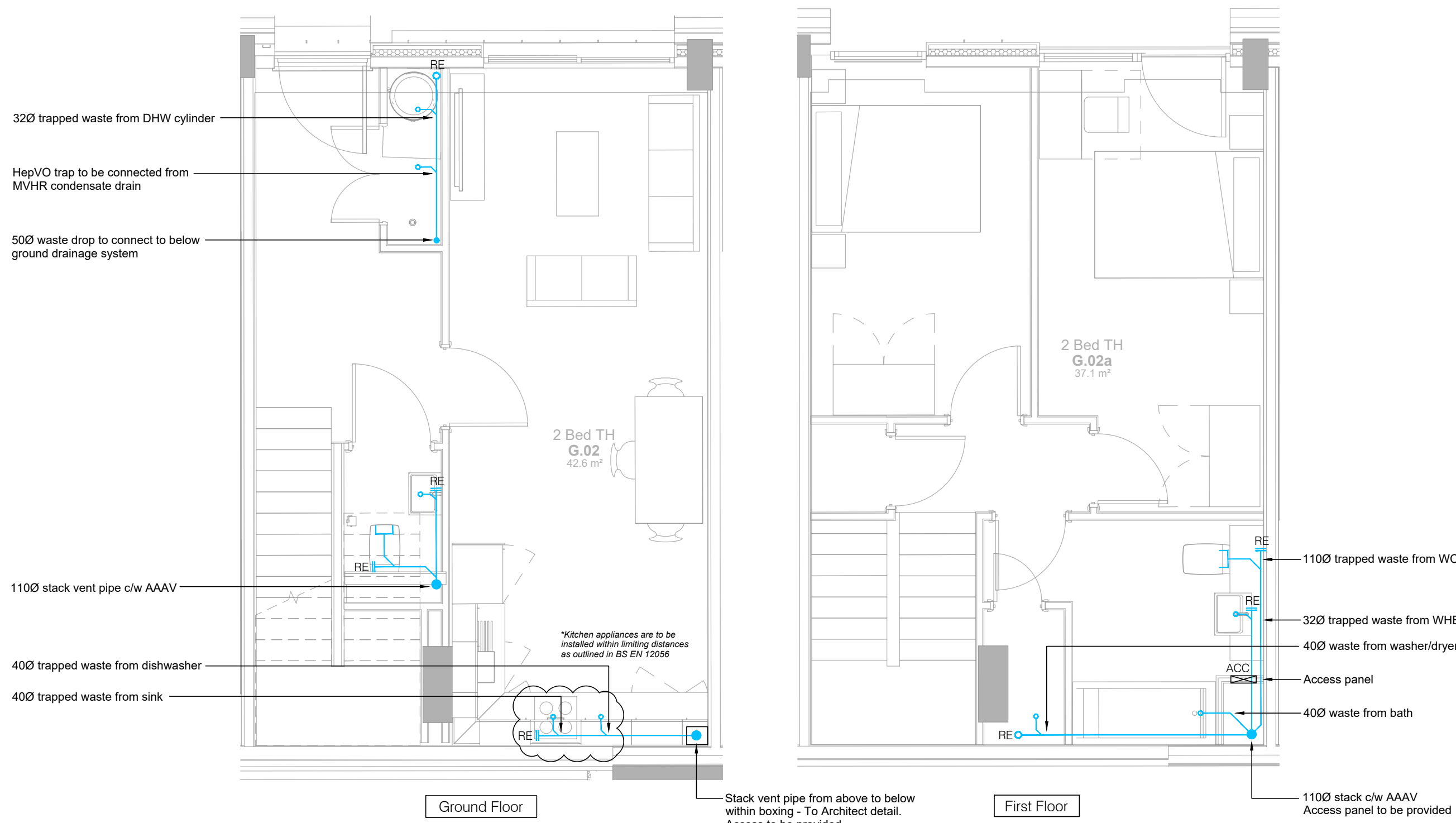
Heating Layout



Ventilation Layout



Domestic Services Layout



Above Ground Drainage Layout

T1	27 11 20	Tender Issue	TC	JH
Rev	Date	Description	Drawn	Checked
				
Hannan Associates MEP Design Solutions		Hannan Associates Ltd Beta House, Alphagate Drive, Manchester Road, Denton M34 3SH Tel : +44 (0)161 337 2200 Email : info@hannan-uk.com Web : www.hannan-uk.com		
Client				
H2O Urban (No.2) LLP				
Project				
Store Street Residential Manchester				
Design Stage				
Stage 3 - Developed Design				
Drawing Title				
Notional Mechanical Services Layout Typical Townhouse				
Scale	1:50		Page Size	A1L
Status				
TENDER ISSUE				
Project : Originator : Volume		Level : File Type : Role : Number		
3727 - HAN - ZZ		ZZ - DR - M - 60 01		
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5.0 MVHR Product Information

Data sheets have been provided overleaf to demonstrate the MVHR units proposed to be installed within the dwellings:

Type 1:- Vent Axia Sentinel Kinetic Advance S

Type 2:- Vent Axia Sentinel Kinetic High Flow

Lo-Carbon Sentinel Kinetic Advance

- Touch screen controller
- Lightweight for easier installation
- Full summer bypass
- Wi-Fi connectivity option
- Wireless commissioning
- Pre-commissioning via USB
- App control option
- Left/Right handing through the controller
- Pre-heater option for cold climates
- Post-heater control option
- Developed and manufactured in the UK
- ISO ePM10 and ePM2.5 filter options
- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise



The award winning Sentinel Kinetic® Advance from Vent-Axia is the next generation of heat recovery ventilation systems. It is designed to offer the highest level of comfort and control available ensuring the best possible customer experience.

A whole new experience

The highly sculpted interior surfaces, designed using the latest CFD techniques, ensures airflows are maximised through the unit, minimising noise and energy use. This feature alone provides an experience which we are confident will delight home owners and fulfil our ambition of providing the most discrete and efficient ventilation available.

With the widest range of options available, installers can now order a system that is tailored to their client’s needs.

Air Quality and Health

We have strived to make the Advance system the most flexible solution available on the market. Optimisation has been targeted in every aspect of the design to ensure that it really does improve quality of life. Whatever the outside environment, we have a method to help reduce air pollution from entering the living space. Our range of filter options, up to and including ePM2.5 (F7), ensures that even homes in heavily urbanised areas have the opportunity to filter out the impurities and help protect their family from respiratory issues.

Low noise levels

The most common concern with home owners is that ventilation devices create noise. With Advance, absolute optimisation of every element does everything possible to minimise generation and transmission of both motor and airflow noise. We believe that we have one of the quietest units available. The Sentinel Kinetic Advance Acoustic Solution is also available for scenarios where noise is critical; an Acoustic Enclosure will reduce breakout noise and the Top Box will reduce in-duct noise at key frequencies.

Ventilation how you want it

We have spent our time considering every element of the ventilation control. Should you want to run the system at certain times and at certain speeds, all of the options are available for you. With a programmable controller, it is possible to boost the unit if required, for example during hot periods in the summer, or even reduce the speed if needed, perhaps when a baby is due to go to bed. Whatever the situation, Advance can be made to operate as needed.

At the same time, automatic functions such as frost protection and summer bypass even have a choice of algorithms designed to suit different climates and lifestyles.

Controllability

With building services often hidden away in cupboards or in lofts we have developed a number of options for system control. From an App which provides instant access wherever you are, to full on-board touch screen controls, an option will be available to suit your needs.



Airtight Buildings

Low energy buildings typically have very low leakage rates (below 3m³/(h.m²) at 50Pa). This reduces the effectiveness of the standard frost protection strategy which imbalances the airflows. For airtight buildings in cold climates it is advisable to use the Sp models with built-in pre-heater.

SEC Class

Model	SEC Class
Advance S/SX	A+

Model

Model	Stock Ref
Advance S	405215
Advance S with Acoustic Top Box & Enclosure	479550
Advance S with Acoustic Top Box	479549
Advance S with Acoustic Enclosure	479548
Advance SX	405216
Advance SX with Acoustic Top Box & Enclosure	479553
Advance SX with Acoustic Top Box	479552
Advance SX with Acoustic Enclosure	479551
Advance Sp LH	476808
Advance Sp RH	476809

Accessories

Model	Stock Ref
Wifi Controller	409195
Docking Kit for Wired Controller	474491
Volt-free Expansion (Four additional inputs)	472697
Switched Live Expansion (Two additional inputs)	472699
OV - 10V Input Board (Two inputs)	472701
Acoustic Purge Fan	477988

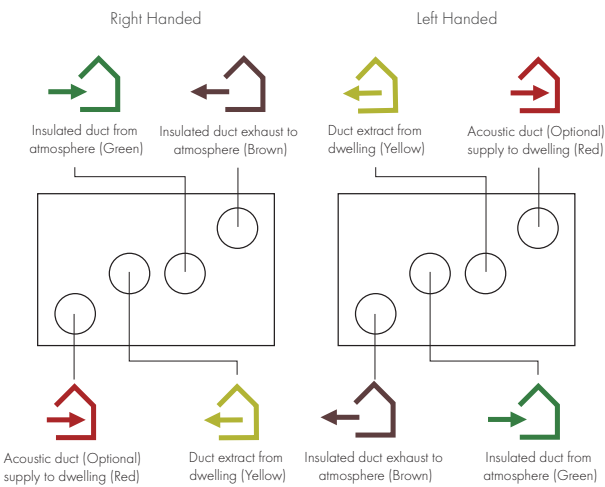
Spare Filters

Model	Stock Ref
ISO 45% Coarse (G3) (2 pack)	472667
ISO ePM10 50% (M5) Pollen Filter (1 pack)	472669
ISO ePM2.5 70% (F7) (1 Pack)	472671

SAP PCDB Test Results

	SAP 2009		SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K+1	93	0.38	93	0.39
K+2	93	0.38	92	0.46
K+3	92	0.42	91	0.55
K+4	92	0.50	91	0.70
K+5	91	0.58	90	0.85
K+6	91	0.68	89	1.07
K+7	90	0.82	89	1.31

Spigot Configuration

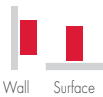


Hand-able through controller (except if pre-heater fitted)

Model Range Overview

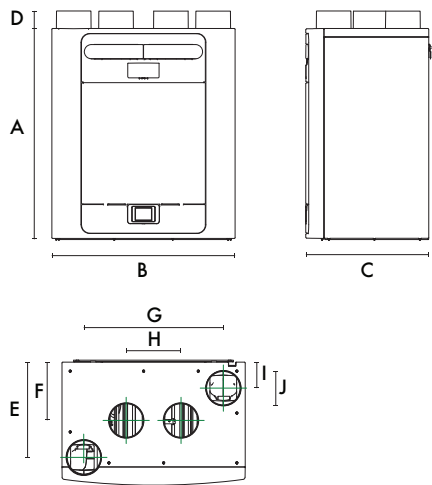
Models	Advance S	Advance SX	Advance Sp
Acoustic Enclosure	○	○	X
Acoustic Top Box	○	○	X
Sentinel Touch Screen Controller	✓	✓	✓
App Control	○	✓	○
App Commissioning	○	✓	○
Auto Summer Bypass	✓	✓	✓
Easy Access Filters	✓	✓	✓
ISO 45% Coarse (G3) Filter	✓	✓	✓
ISO ePM10 50%, ePM2.5 70% Filter Options	✓	✓	✓
Very Low Noise Levels	✓	✓	✓
Built-In Humidistat	✓	✓	✓
Active Frost Protection to -20°C	✓	✓	✓
Delay-On	✓	✓	✓
Clean Filter Indicator (Time)	✓	✓	✓
Clean Filter Indicator (Pressure)	X	✓	X
Fault Code Indicator	✓	✓	✓
Switched Live	✓	✓	✓
Volt Free	✓	✓	✓
OV - 10V Proportional Control	○	○	○
Lightweight	✓	✓	✓
22mm or 32mm Condensate Connection	✓	✓	✓
Left/Right Orientation Through Control	✓	✓	✓
PIN Number Lock	✓	✓	✓
Running Time Indicator	✓	✓	✓
External Pre-Heater Controller	○	○	○
External Post-Heater Controller	○	○	○
Built-in Pre-Heater	X	X	✓
Enthalpy Heater Exchanger	○	○	○
Fan Curve Flow	✓	✓	✓
Constant Volume	X	✓	X
Email Status Notifications	X	✓	X
Soft-Start Boost	✓	✓	✓

Mounting Options



○ - Optional extra. Contact us for more information.

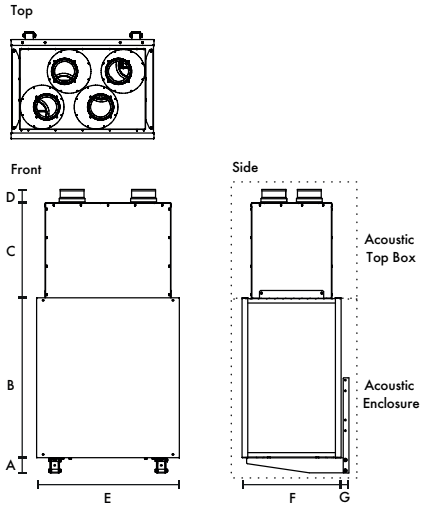
Dimensions (mm)
Unit



A	B	C	D	E	F	G	H	I	J	kg
760	660	443	63	343	210	503	197	93	125	27

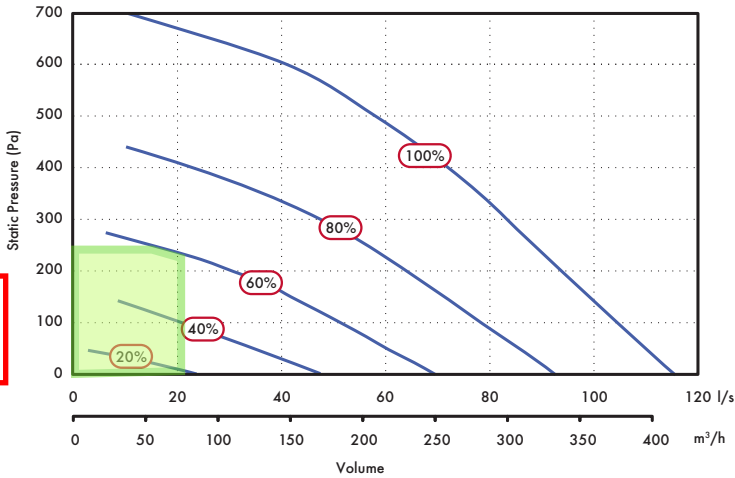
Packed weight: 32kg

Acoustic Solution



A	B	C	D	E	F	G	kg	kg	Spigot
80	840	501	68	750	520	40	14	27	125

Performance



Typical operating range under normal conditions

Sound Spectrum (Unit only)

		Octave Band (Hz) Sound Power Levels, dB								SPL dB(A) @ 3m	
Speed	Test mode	63	125	250	500	1k	2k	4k	8k	LwA	@ 3m
20%	Supply	52.9	50.9	46.8	43.0	34.6	27.1	19.2	25.4	43.9	26.4
	Extract	50.3	49.0	36.0	31.5	23.6	16.1	18.9	25.3	36.4	18.9
	Breakout	34.6	34.8	35.7	34.9	29.6	25.1	21.0	25.3	36.0	15.5
40%	Supply	59.5	56.5	59.4	55.0	48.2	42.6	31.8	26.1	55.9	38.4
	Extract	51.9	51.3	50.4	41.2	35.0	25.3	19.8	25.4	44.8	27.3
	Breakout	40.2	42.6	46.5	45.4	41.0	36.2	25.5	25.3	46.5	26.0
60%	Supply	66.9	62.4	63.3	62.0	57.9	53.5	43.4	34.2	63.2	45.7
	Extract	60.6	60.3	54.2	49.5	44.4	36.2	27.9	26.3	51.7	34.2
	Breakout	45.5	49.8	52.5	53.1	49.7	46.7	36.2	26.9	54.5	34.0
80%	Supply	82.4	67.6	65.2	67.6	64.2	60.8	50.8	43.2	69.2	51.7
	Extract	75.5	68.6	59.3	56.0	48.3	44.2	36.9	31.3	58.6	41.1
	Breakout	59.2	55.0	56.8	60.0	55.4	53.9	44.1	33.4	61.0	40.5
100%	Supply	79.4	69.6	66.6	75.1	64.9	63.6	53.4	45.7	73.7	56.2
	Extract	72.4	70.5	60.5	56.4	49.8	46.3	39.0	33.4	59.5	42.0
	Breakout	63.0	57.1	58.5	63.7	56.8	55.9	46.4	36.2	63.5	43.0

Sound Spectrum (Unit with Acoustic Solution)

		Octave Band (Hz) Sound Power Levels, dB								SPL dB(A) @ 3m	
Speed	Test mode	63	125	250	500	1k	2k	4k	8k	LwA	@ 3m
20%	Supply	54.7	50.5	41.5	30.8	18.6	14.7	18.2	24.0	38.0	20.5
	Extract	54.8	41.7	31.4	20.2	15.2	13.8	18.3	24.3	31.9	14.4
	Breakout	36.6	47.3	38.0	24.7	19.3	16.6	19.1	23.6	34.0	13.5
40%	Supply	61.0	57.7	56.0	39.0	27.5	16.6	18.4	24.1	48.9	31.4
	Extract	55.7	50.8	44.6	26.8	19.1	15.0	18.2	24.0	39.2	21.7
	Breakout	55.9	55.2	48.2	35.5	29.9	20.9	20.4	25.3	42.6	22.1
60%	Supply	64.5	64.3	56.2	48.6	36.0	22.8	19.0	24.2	52.3	34.8
	Extract	59.4	57.3	46.6	36.0	25.6	17.4	18.6	24.5	43.9	26.4
	Breakout	43.5	60.5	49.5	43.5	39.0	32.0	23.8	23.7	47.6	27.1
80%	Supply	68.9	65.9	59.9	53.9	41.4	29.3	21.6	24.7	55.9	38.4
	Extract	63.1	69.3	52.6	43.0	33.4	23.7	20.2	24.6	54.5	37.0
	Breakout	48.3	69.8	52.7	48.3	44.7	39.8	33.2	25.9	57.1	36.6
100%	Supply	72.5	70.5	63.1	56.1	43.9	33.0	23.7	25.2	59.3	41.8
	Extract	70.3	61.9	56.2	45.4	36.6	28.0	22.9	24.6	51.5	34.0
	Breakout	54.3	67.1	63.3	51.3	47.9	43.9	38.5	28.7	57.7	37.2

Tested according to BS EN 13141-7:2010. Breakout quoted spherical. Supply and Extract quoted hemispherical. For in-duct data, end reflections are added based on the spigot size of the unit.

Lo-Carbon Sentinel Kinetic High Flow

- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise
- Recognised in SAP PCDB
- 180mm/200mm spigots
- Horizontal duct option for space-saving installations
- High airflow, ideal for student accommodation clusters
- Unique folding filter for removal when access is restricted
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidstat, Wireless Remote
- BMS connectivity
- LS inputs (Light Switch)
- Volt-free inputs



Increased Performance

The Sentinel Kinetic High Flow benefits from the latest high efficiency, backward curved impeller design, ensuring the lowest possible energy consumption, and an exceptional performance range covering small one bed apartments to the largest of houses.

For scenarios where noise is a critical issue, an Acoustic Enclosure is available to reduce breakout noise and the Acoustic Top Box will reduce in-duct noise at key frequencies.

Care Homes & Student Accommodation

The Sentinel Kinetic High Flow is ideal for larger homes and multiple occupancy units such as care homes and student accommodation. Capable of 175l/s at 150Pa, the unit can extract from up to fourteen bathrooms and a communal kitchen while still achieving almost 90% heat recovery. The fully automatic capability of the Kinetic range means that adequate ventilation is always achieved.

The Kinetic’s BMS capability is also ideal for those commercial applications where landlords or property managers want to monitor and optimise building performance and maintenance. The Kinetic BMS can provide status information and its self diagnostics can report if any fault is found.

Spigot Options

180mm/200mm Spigots may be re-positioned to give horizontal connection or a combination of vertical and horizontal connection.

Quick Change Filter

As many systems are placed within cupboards the unique filter design folds as you remove it to ensure easy access in restricted spaces.

Integral Humidity Sensor

The integral humidity sensor increases speed in proportion to relative humidity levels, saving energy and reducing noise. The sensor also reacts to small but rapid increases in humidity, even if the normal trigger threshold is not reached. This unique feature ensures adequate ventilation, even for the smallest wet room. The night time relative humidity setback feature suppresses nuisance tripping as humidity gradually increases with falling temperature.

Models

Model	Stock Ref
Kinetic High Flow Right	408449
Kinetic High Flow Right with Acoustic Top Box & Enclosure	479544
Kinetic High Flow Right with Acoustic Top Box	479543
Kinetic High Flow Right with Acoustic Enclosure	479542
Kinetic High Flow Left	408451
Kinetic High Flow Left with Acoustic Top Box & Enclosure	479547
Kinetic High Flow Left with Acoustic Top Box	479546
Kinetic High Flow Left with Acoustic Enclosure	479545

For further details, see Sentinel Kinetic Plus.

Accessories

Model	Stock Ref
Wired Remote Controller	443283
Wireless Enable Kit	441865
Wireless Transmitter Controller	437827
LED Alarm with 15m cable	448356
Opto-coupler for volt-free bms connection	447340
ISO 45% Coarse (G3) Filter 2pk	403702
ISO ePM10 50% (M5) Filter 2pk	444201
Anti Vibration Mounts	68MP033G
Acoustic Purge Fan	477988

SAP PCDB Test Results

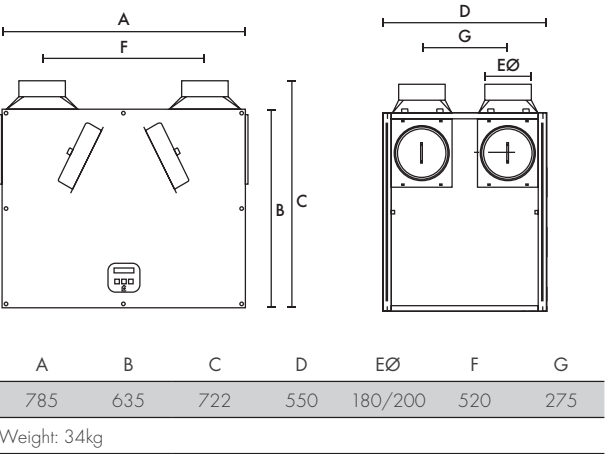
	SAP 2009		SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K + 1	88	0.65	88	0.58
K + 2	88	0.54	90	0.55
K + 3	90	0.52	91	0.60
K + 4	90	0.55	91	0.69
K + 5	91	0.6	90	0.78
K + 6	91	0.66	90	0.92
K + 7	90	0.74	90	1.09

SEC Rating

Model	SEC Class
Kinetic High Flow	A

Dimensions (mm)

Unit

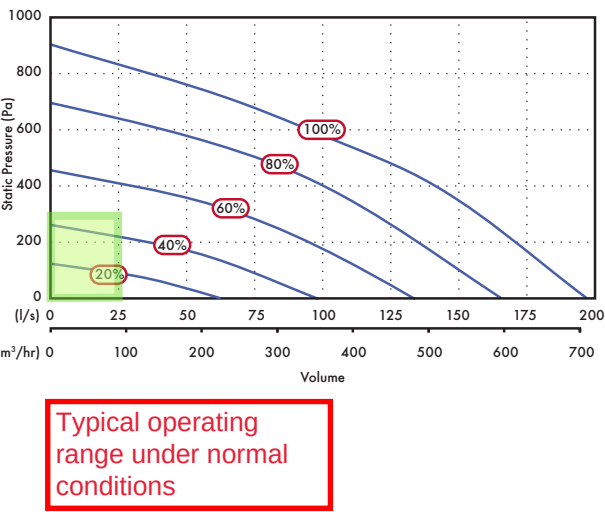


Sound Data (Unit only)

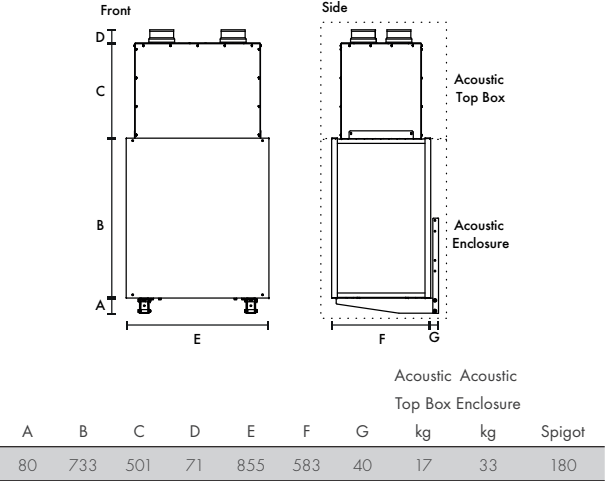
Flow %	Test	Octave band, Hz, dB SWL								SPL dB(A)	
		63	125	250	500	1K	2K	4K	8K	LwA	@ 3m
20	Supply	55.1	65.9	55.2	53.8	44.4	37.4	25.3	24.9	16.9	37.4
	Extract	58.2	57.4	48.0	45.6	43.8	34.5	20.0	24.5	13.6	31.1
	Breakout	43.3	46.6	44.9	44.7	41.8	30.4	21.6	22.5	7.5	25.0
40	Supply	63.1	69.0	67.1	64.0	55.0	51.6	39.7	32.4	26.3	46.8
	Extract	58.6	58.4	60.1	53.7	41.9	41.5	31.7	25.1	20.0	37.5
	Breakout	55.4	49.6	60.6	53.8	46.5	41.5	33.2	27.4	16.5	34.0
60	Supply	70.3	74.3	81.4	71.5	63.6	59.9	49.6	43.1	36.9	57.4
	Extract	64.4	64.2	72.6	59.1	48.7	45.7	37.8	29.3	30.1	47.6
	Breakout	62.8	54.6	65.7	57.2	55.5	49.2	41.4	36.4	23.0	40.5
80	Supply	75.3	77.9	88.1	78.7	68.4	65.1	56.0	50.1	43.5	64.0
	Extract	71.1	68.2	73.6	61.8	51.9	49.5	42.7	37.6	31.6	49.1
	Breakout	66.2	59.0	73.4	61.8	57.0	54.6	47.3	43.1	30.0	47.5
100	Supply	90.9	80.9	84.4	80.1	71.5	68.0	59.3	54.5	42.8	63.3
	Extract	92.4	71.8	78.1	67.4	54.9	51.5	44.6	41.4	37.6	55.1
	Breakout	69.3	62.9	74.9	67.5	59.2	56.6	49.1	44.7	32.0	49.5

Tested according to BS EN 13141-7:2010. Breakout quoted spherical. Supply and Extract quoted hemispherical.

Performance



Acoustic Solution



Sound Data (Unit with Acoustic Enclosure)

Flow %	Test	Octave band, Hz, dB SWL								SPL dB(A)	
		63	125	250	500	1K	2K	4K	8K	LwA	@ 3m
20	Supply	55.2	57.0	46.1	38.8	24.0	15.4	18.0	23.2	43.6	26.1
	Extract	50.4	53.6	37.0	32.3	18.2	15.1	18.0	23.2	38.7	21.2
	Breakout	41.3	51.8	39.2	32.3	20.5	15.8	18.1	23.2	37.7	17.2
40	Supply	64.1	59.6	59.7	51.9	35.5	22.8	19.9	23.5	53.3	35.8
	Extract	56.6	50.7	49.0	41.9	24.5	17.7	18.1	23.2	43.3	25.8
	Breakout	46.7	50.5	53.0	44.8	32.2	22.2	18.5	23.3	45.6	25.1
60	Supply	67.3	64.0	67.7	58.6	43.2	30.6	26.5	25.9	61.0	43.5
	Extract	61.6	56.7	55.5	49.0	32.2	25.3	19.7	23.4	50.2	32.7
	Breakout	53.0	54.4	60.2	48.8	40.6	33.2	23.4	23.4	53.0	32.5
80	Supply	70.3	67.7	74.6	61.8	48.5	36.2	33.0	31.4	67.5	50.0
	Extract	66.7	60.0	67.2	50.9	38.1	32.8	24.0	24.1	59.7	42.2
	Breakout	58.0	58.0	64.7	52.4	45.7	39.9	31.2	24.3	58.7	38.2
100	Supply	73.0	70.1	77.1	65.1	51.4	39.5	37.0	36.4	70.1	52.6
	Extract	69.6	62.5	67.3	56.2	41.7	37.0	28.1	25.3	60.5	43.0
	Breakout	61.0	61.2	65.9	57.7	48.5	43.8	36.3	26.3	60.7	40.2

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