

Design and Installation Specification - Mechanical Ventilation with Heat Recovery

The installation has been designed and must be installed in accordance with the following:

- Domestic Ventilation Compliance Guide 2010 Edition
- CIBSE B: Heating, ventilation, air conditioning and refrigeration, 2005.
- Building regulations, Approved Document F: Ventilation, Approved Document L1: Conservation of fuel and power in dwellings, Approved Part B: Fire Safety
- The relevant British Codes of Practice including:
 - BS 5925: Code of Practice for ventilation principles and designing for natural ventilation
- Manufacturer's installation instructions.
- HVCA DW/154 specification of plastics ductwork, 2000

Mechanical Ventilation with Heat Recovery System and Installation notes:

1. System:

- 1.1 The system has been designed to provide the minimum whole house ventilation rate. (Please see table opposite)
- 1.2 The system utilises rigid plastic 125mm circular and 204 x 60mm rectangular ducting.
- 1.3 MVHR system should be installed prior to any other service to ensure optimum layout.
- 1.4 MVHR system to be used and installed in conjunction with a space heating system, although up to 70% of the heat energy in stale air can be recovered, this is not to be used as an alternative to central heating system. A space heating system is still required, and MVHR will contribute significantly to its economic use
- 1.5 When MVHR System is installed, trickle vents to windows are not required
- 1.6 If a cooker hood is to be installed it will need to be set on recirculation mode.
- 1.7 This system has been designed to comply with all relevant and current Building Regulations.

2. Condensate drain

- 2.1 The MVHR unit should incorporate a condensate drain, which should be connected to the nearest waste water network. Where units are sited in a position that makes the connection of piping to allow a fall, impractical a condensate pump may be incorporated as part of the installation.
- 2.2 The condensate drain & hose are to be connected to a self sealing waste valve (i.e. HepVO or similar approved trap - supplied by others) and run to the nearest soil and vent pipe (SVP). All condensation pipe work to have a fall of a minimum of 10°. Pipe to be located below roof insulation where possible otherwise insulation to be provided to pipe in unheated areas (cold loft/void spaces).

3. Ducting and MVHR Unit

- 3.1 Itho ducting is self extinguishing PVC
- 3.2 Where ducting passes through a fire resisting wall or fire compartment, the required measures to ensure compliance with Part B of the building regulations must be taken. If is not shown on this drawing then fire collars/sleeves are not required.
- 3.3 This design assumes that the ceiling void spaces are sufficient to allow for the MVHR Unit and ducting and assumes there are clear paths through the ceiling/floor voids.
- 3.4 Ducting to tile vents and any ducting outside the insulated envelope needs to be insulated, we have available pre-insulated ducting, this has not been quoted for. Should you require us to do this we will be pleased to re-quote you.
- 3.5 Vertical ducts should be located away from any fixings for radiators and shower doors.

4. Floor and Roof

- 4.1 Floor joists and roof trusses should be set out to avoid vertical runs wherever possible and in accordance with the manufacturers design
- 4.2 Any holes within floor decking, ceiling and walls to be sealed using a flexible sealant
- 4.3 If terminating to a tile vent consideration should be paid to the effective equivalent area of the terminal to ensure that this does not adversely affect the fan performance. Please refer to the product installation instructions for further details.

5. Electrical -

- 5.1 A hard wired boost switch should be provided locally to each wet room as indicated on the plans.
- 5.2 A power supply to be located within one meter of the unit, for example isolating fused spur (3 Amp).
- 5.3 We have not quoted for any controllers, however Part F, 2010 Edition states Any manual boost controls should be provided locally to the spaces being served, e.g. bathrooms and kitchen....
- 5.4 **WARNING:** Class II appliances must be earthed. All wiring must conform with BS7671: IEE Wiring Regulations.
The installation must be carried out by a qualified electrician in accordance with prevailing regulations.

6. Ordering

- 6.1 Please refer to Bill of Quantities for all specific ducting models and products before ordering.

The product manual and user manual are supplied with the unit, please leave the product manual with the unit.


Please read additional notes on MVHR Design for specific design details.

Ventilation rates - As per Approved Document Part F

Extract Ventilation Rates						
Room	Minimum l/s Req'd	Grille Quantities	Speed 1 (Constant)		Speed 3 (Boost)	
			Required l/s	Required m³/h	Required l/s	Required m³/h
Kitchen	13	1	16.7	60.2	16.7	60.2
Utility	8	1	10.3	37.0	10.3	37.0
WC	6	1	7.7	27.8	7.7	27.8
En-Suite 1	8	1	10.3	37.0	10.3	37.0
En-Suite 2	8	1	10.3	37.0	10.3	37.0
Bathroom	8	1	10.3	37.0	10.3	37.0
En-Suite	8	1	10.3	37.0	10.3	37.0
Building Total	59.0	7	75.9	273.2	75.9	273.2

Supply Ventilation Rates						
Room Name	Room Size m²	Grille Quantities	Speed 1 (Constant)		Speed 3 (Boost)	
			Required l/s	Required m³/h	Required l/s	Required m³/h
Family/Dining	31.0	1	13.0	46.8	13.0	46.8
Lounge	27.3	1	12.2	43.9	12.2	43.9
Bedroom 1	22.2	1	9.9	35.7	9.9	35.7
Dressing	10.1	1	4.5	16.3	4.5	16.3
Bedroom 2	18.0	1	8.0	29.0	8.0	29.0
Dressing	4.5	1	2.0	7.2	2.0	7.2
Bedroom 3	14.7	1	7.5	27.0	7.5	27.0
Bedroom 4	18.6	1	8.3	29.9	8.3	29.9
Study	7.1	1	3.2	11.4	3.2	11.4
Bedroom 5	16.3	1	7.3	26.3	7.3	26.3
Building Total	169.8	10	76.0	273.5	76.0	273.5

Whole Buildings Ventilation Rates:-			
Minimum Supply Rate (Continuous)		75.9 l/s	273.2 m³/h
Minimum Extract Rate (Boost)		75.9 l/s	273.2 m³/h
Recommended Minimum Extract Rate (Boost) +10%		83.5 l/s	300.6 m³/h

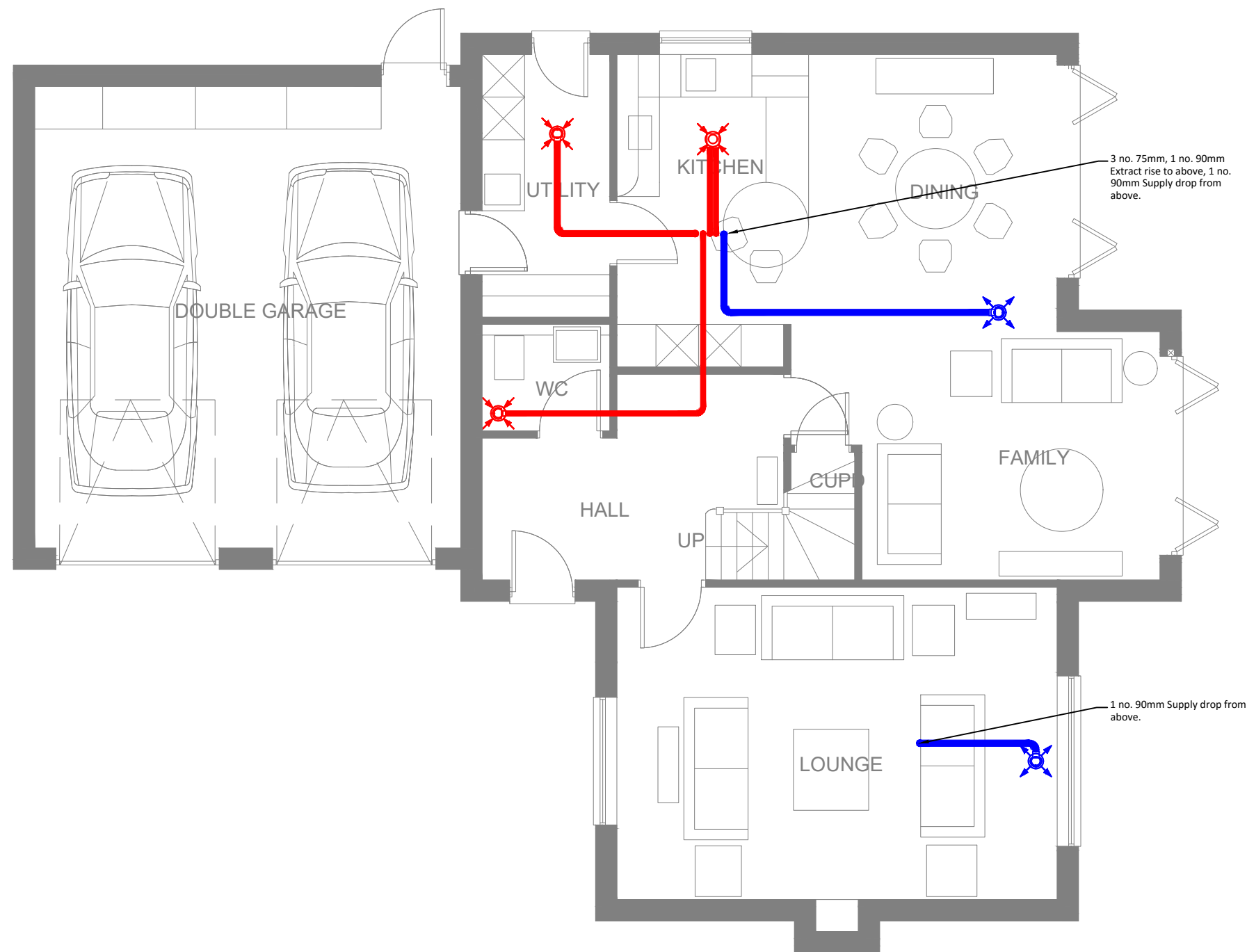
Date:	30-06-2017	Ref No:	MJL170601
Specification Sheet 1 of 1			
			
Drawn By:	NJC	Scale:	1:50 @ A3
Title:	5 Bed Detached House		
Site:	Rear of Old Vicarage, Leeds Rd, Oulton		

Specific Design Details

Ducting layout is designed to suit TJI Joists.

Ducting may be subject to change on site, as we are not be aware of exact joist layouts.

To be read in conjunction with Specification page and installed to manufacturers instructions.



Date: 30-06-2017

Ref No: MJL170601

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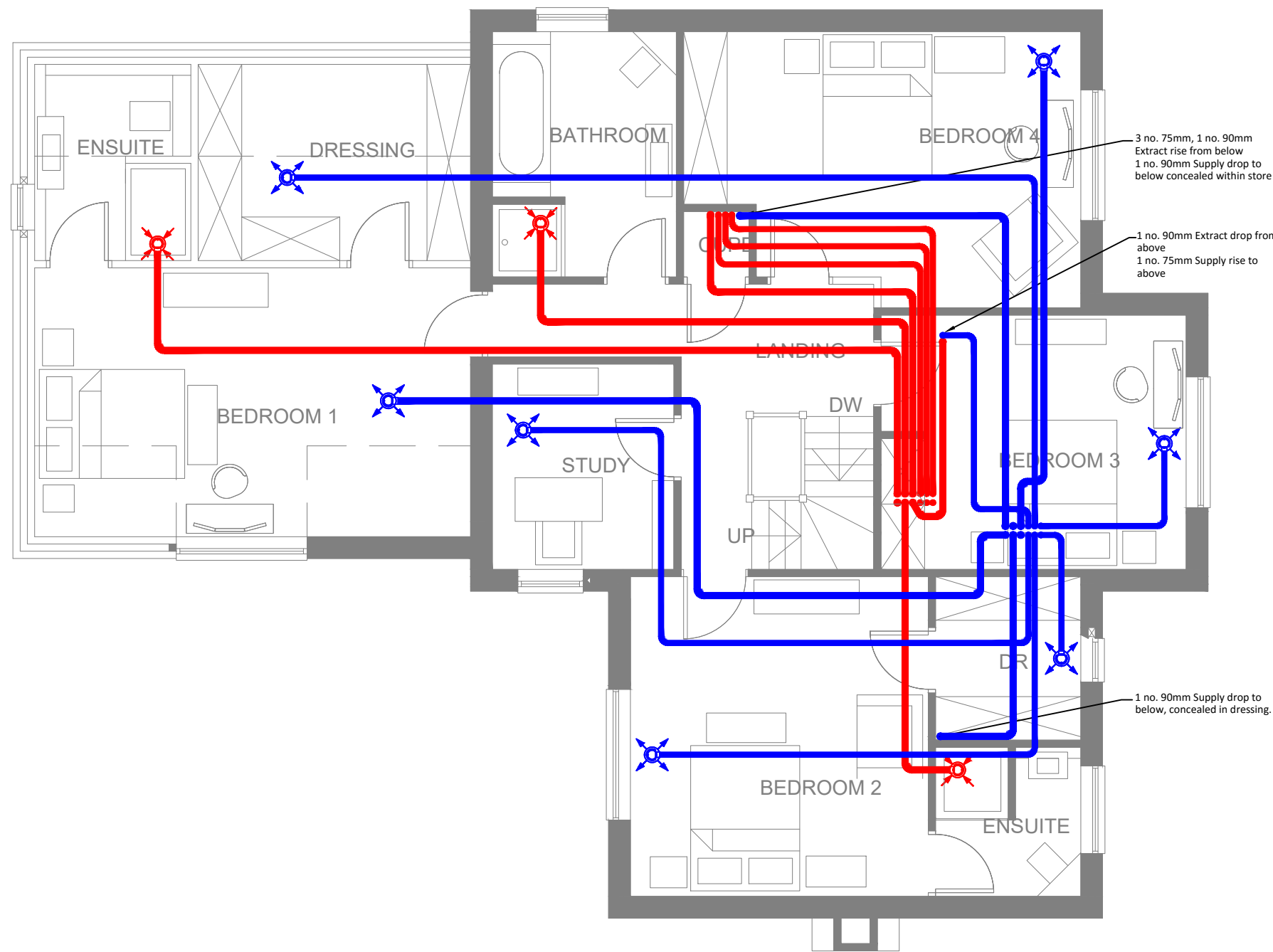


Drawn By: NJC

Scale: 1:50 @ A3

Title: 5 Bed Detached House

Site: Rear of Old Vicarage, Leeds Rd, Oulton



Specific Design Details

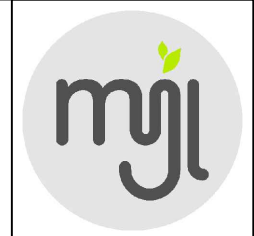
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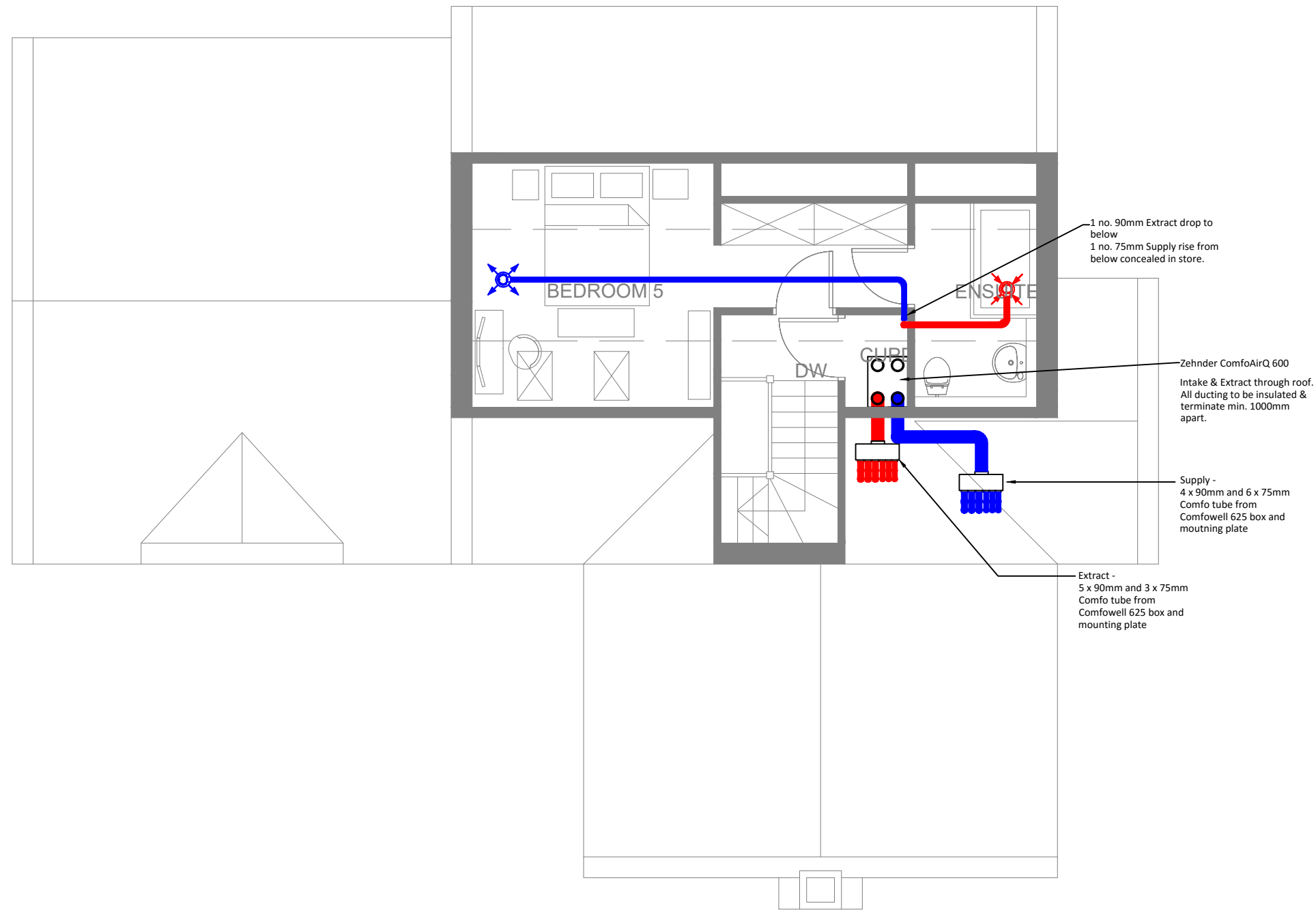
**Mechanical Ventilation Heat Recovery
Sheet 2 of 3**



Drawn By: NJC Scale: 1:50 @ A3

Title: 5 Bed Detached House

Site: Rear of Old Vicarage, Leeds Rd, Oulton



Specific Design Details

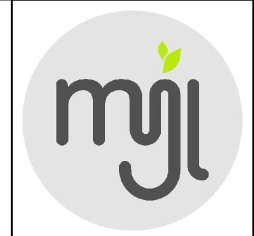
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**Mechanical Ventilation Heat Recovery
Sheet 3 of 3**



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