

Project name	Weldale Street, Reading
Design note title	Plant Noise Impact Assessment – Condition 17 Discharge (ref. 170326)
Document reference	WDS-HYD-ZZ-XX-TQ-Y-0002-P02
Author	Steffan Davies
Revision	P02
Date	8 April 2021

1. INTRODUCTION

Hydrock Acoustics has been appointed by Henry Construction to carry out a noise impact assessment for the proposed development at Weldale Street, Reading, relating to fixed plant and services noise to demonstrate compliance with Planning Condition 17 (ref. 170326), as follows:

“No mechanical plant shall be installed until a noise assessment of the proposed mechanical plant has been submitted and approved by this Council. The assessment shall be carried out for in accordance with BS4141 :2014 methodology. The predicted specific sound level ($L_{Aeq, TR}$) as measured at a point 1 metre external to sensitive facades shall be at least 10dB below the existing background sound level, $L_{A90, T}$ when all plant/equipment (or any part of it) is in operation. The predicted rating level, $L_{Ar, Tr}$ (specific sound level plus any adjustment for the characteristic features of the sound) as measured at a point 1 metre external to sensitive facades shall not exceed the existing background sound level, $L_{A90, T}$ when all plant/equipment (or any part of it) is in operation. The plant shall thereafter only be installed in accordance with the assessment.”

This design note summarizes the manufacturers noise data for proposed plant units as well as the assessment to the nearest noise sensitive receptors. Results of the assessment show that the planning condition can be discharged.

2. ENVIRONMENTAL NOISE SURVEY SUMMARY

An environmental noise survey was conducted at the site of the proposed development in February 2016.

Measurements were undertaken to the guidance outlined in BS 7445-1:2003. Noise monitoring was undertaken at multiple positions in order to quantify the variation in noise across the site and at the nearest noise sensitive receptors. The dominant noise source was noted to be vehicle noise emissions emanating from Caversham Road, Chatham Street, and Weldale Street.

The prevailing background sound levels were determined to be the following:

- $L_{A90(15mins)}$ 42 dB daytime (0700hrs to 2300hrs)
- $L_{A90(15mins)}$ 28 dB night time (2300hrs to 0700hrs)

The nearest noise sensitive properties have been identified as:

- Residential properties located on Stratheden Place to the West;
- Existing 'Weldale Street Apartments' located on the North East corner of the proposed development site;
- Residential properties located on Chatham Street to the South.

Further details of the noise monitoring methodology and results are outlined in the Hydrock Consultants report: 'C16 1063-ACO-ND-20160309-Planning Report-PO8'.

3. PLANT SUMMARY

There is no external plant associated with the development. All plant items are enclosed within the ground floor plant rooms or in apartments.

The majority of duct terminations for units within the plant rooms are located within the car park or refuse store and are not within the external façade of the development. The exceptions are: the Boiler and CHP exhausts, and the emergency generator exhaust.

Noise from internal plant with duct terminations within the car park or refuse store will not be significant and is not considered further.

There are local ventilation units within dwellings that terminate at facades, these have been included within the assessment.

3.1 Exhaust Terminations

The CHP and Boiler units located within the ground floor plant room 'A2:-01.BR Boiler & CHP' terminate on the roof of the proposed development. Sound Power data for the exhaust terminations of these units has been obtained from the manufacturer and is summarised in Table 1. The full data sheet can be found in Appendix A, proposed roof layout drawings can be found in Appendix B.

Table 1: Manufacturers Sound Power Levels for CHP Exhaust Termination

Proposed Unit	Source Type	Sound Power Level (dB)							
		63	125	250	500	1000	2000	4000	dB(A)
Energimizer Natural Gas Fired EM 33NG	Exhaust	53.6	52.6	54	53.3	52.7	53.2	47.4	62
Hoval Ultragas 350	Exhaust	-	-	-	-	-	-	-	71 ¹

¹The manufacturer was only able to provide single figure sound power level data for this unit

Duct losses of 5 dBA have been applied to both exhaust termination sound power levels within the assessment based on proposed ventilation layouts. Source directivity has been taken into account within the acoustic model.

3.1.1 Emergency Generator

Although the exhaust for the Emergency Generator is located externally, this will only be used in case of emergencies and during testing. It is therefore not seen to contribute to operational noise associated with normal use of the development. This has therefore been excluded from the assessment.

3.2 Local Ventilation Units

Hydrock have calculated the resultant sound power level for each local ventilation supply and exhaust termination on outward facing facades of the development. These have been calculated based on manufacturers data received for the units at the design background ventilation duty rating, and typical mechanical services layouts for each flat type, such that any attenuation provided by ductwork and louvres can be taken into account.

Table 2 shows the calculated sound power levels at ventilation terminations on outward facing facades. Manufacturers' data for the Mechanical Ventilation and Heat Recovery (MVHR) units and the typical mechanical services layouts can be found in Appendix A and Appendix C respectively.

Table 2: Calculated Sound Power Levels at Local Ventilation Terminations

Flat Type	Proposed Ventilation Unit	Source Type	Calculated Sound Power Level at façade termination (dB)							
			63	125	250	500	1000	2000	4000	dB(A)
1 Bed	Vent Axia Lo-Carbon Sentinel Kinetic Plus B Right MVHR unit	Inlet	39	45	45	18	-3	6	9	37
		Outlet	31	46	37	24	6	11	13	33
2 Bed	Vent Axia Lo-Carbon Sentinel Kinetic Plus B Right MVHR unit	Inlet	39	45	36	19	-2	7	9	31
		Outlet	42	49	43	33	17	17	13	38
3 Bed	Vent Axia Lo-Carbon Sentinel Kinetic Plus B Right MVHR unit	Inlet	38	42	35	18	-3	6	8	29
		Outlet	39	46	40	27	8	12	9	34

4. ASSESSMENT METHODOLOGY

4.1 Noise Mapping

CadnaA is an industry standard noise propagation modelling software tool. The software calculates how sound travels over distance. The model takes into account reflections off hard surfaces, ground absorption and geometrical spreading. Calculations are performed in accordance with ISO 9613: *"Attenuation of sound during propagation outdoors"*.

Hydrock have built a noise model within CadnaA to predict noise contribution from the proposed plant units at the nearest receptors.

In the model the following parameters have been used:

- Reflection losses have been set to 1 dB on all buildings, and two orders of reflection have been taken into account;
- Sound absorption within air has been taken from Table 2 in ISO 9613 – 2 (10°C and 70% humidity);
- Ground absorption has been taken to equal zero throughout the entire model.

4.1.1 Topography

The topography of the surrounding area is considered relatively flat therefore no DTM has been included within the acoustic model.

4.2 Acoustic Feature Correction

No acoustic feature correction has been added to specific noise levels in accordance with BS4142:2014. Plant noise from the multiple sources considered is expected to be virtually continuous, non-tonal and without any particular distinguishing characteristics at the receptors.

4.3 Source Directivity

Source directivity has been applied to the rooftop exhausts within the noise model based on guidance within OAL 28 as specified by CadnaA. Exhaust terminations will be pointed North-West, facing away from nearby receptors.

5. ASSESSMENT RESULTS

Noise level data for all units as presented above has been inputted into the CadnaA noise model. Noise levels have been predicted at the receptor positions described in Section 2.0.

It can be seen that both specific noise and rating levels at all receptors are predicted to be at least 10 dB below existing background sound levels, therefore a low impact is predicted and Planning Condition 17, as presented in Section 1, should be discharged.

Table 3: Assessment of predicted noise levels

Receptor	Night-time plant noise limit (L _{Ar,15} , dB)	Specific Noise Level (L _{Aeq, 15} , dB)	Acoustic Feature Level	Rating Level (L _{Ar,15} , dB)	Assessment Outcome
Stratheden Place	28	17	-	17	-11
Weldale St Apartments	28	18	-	18	-10
Chatham Street	28	18	-	18	-10



Figure 1: Noise map of contribution from plant noise associated with the development

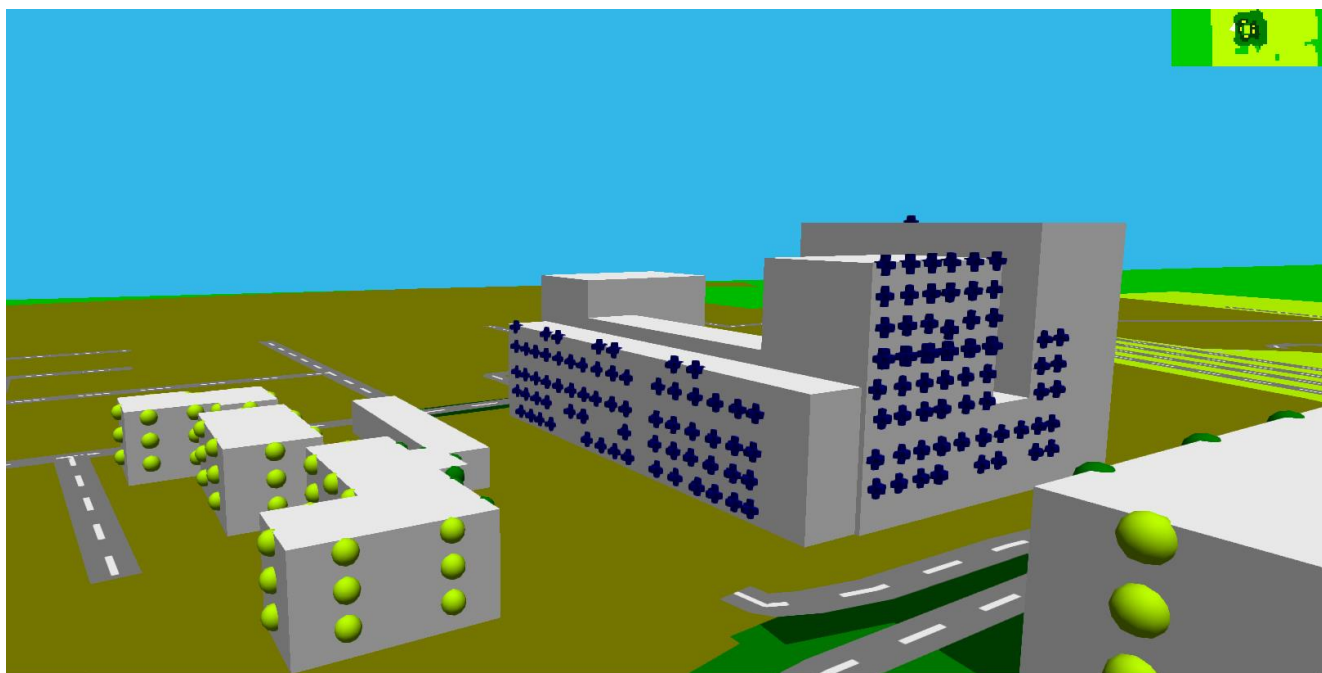
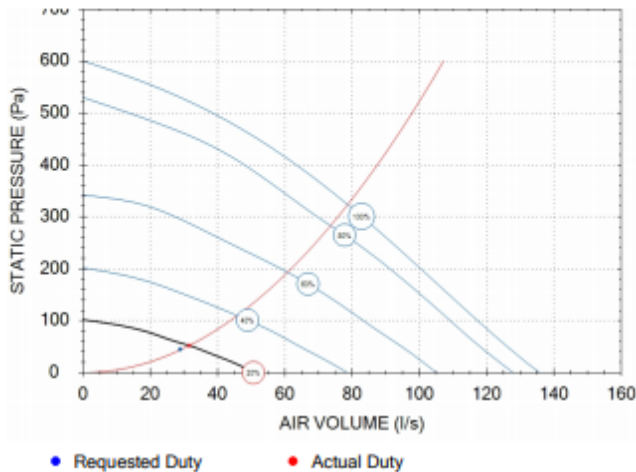


Figure 2: 3D View showing noise sources positioned on the building

Appendix A – Plant Noise Data Sheets

MVHR Unit

Performance Chart



443028

Tech Ref File:
 Requested Duty: 29 l/s @ 44 Pa
 Actual Duty: 109% match
 Stock Reference: 443028
 Product Description: Lo-Carbon Sentinel Kinetic Plus B Right
 Product Type: Ventilation
 Product Range: Heat Recovery
 Impeller: Backward Curved
 Casing: ABS
 Speed: Variable
 Airstream Temperature: -20°C to 45°C
 Specific Fan Power: 0.6 W/(l/s)
 dBA: 20
 Specific Fan Power & dB(A) shown are at duty point.

Warranty: Up to 5 years

Acoustic Information

	63	125	250	500	1k	2k	4k	8k	Total	dBA@3m
Inlet	46	52	42	38	27	24	24	31	53	23
Outlet	46	54	46	44	36	28	24	31	56	24
Breakout	48	42	43	38	35	29	23	30	50	20

Sound Power Level Spectra dB (re 10^{-12} Watts)

For ducted units, sound power is given as In Duct with end reflections added.

Stated dB(A) levels at 3m with spherical propagation at a reference level of 2×10^{-12} Pa

Electrical Information

Watts: 21
 Supply Voltage: 220-240V/1/50Hz
 Motor IP Rating: IP22
 S.T.O.P. Protection: Yes
 Speed Controllable: In Built

TECHNICAL DESIGN NOTE

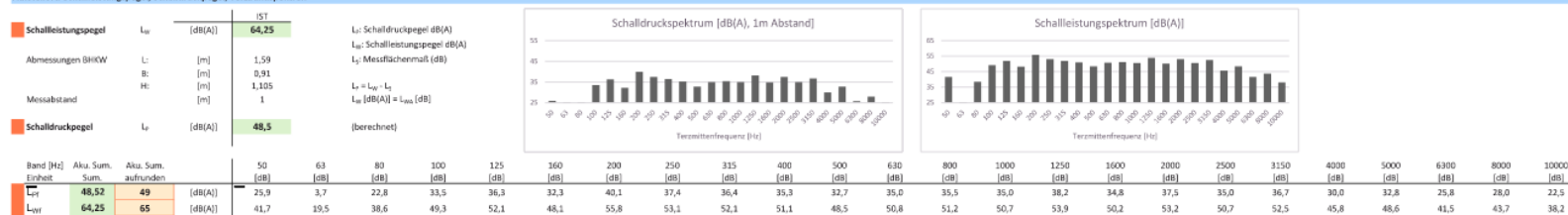
CHP Exhaust

smartblock 33 (NG)

ERDGAS

* EN ISO 9614-2:2015 7.6.1.1 - DB

Aufstellort: Schallleistungspegel, Schalldruckpegel, Terzbandspektren



Abgas: Schallleistungspegel, Schalldruckpegel, Terzbandspektren



TECHNICAL DESIGN NOTE

Boiler Exhaust

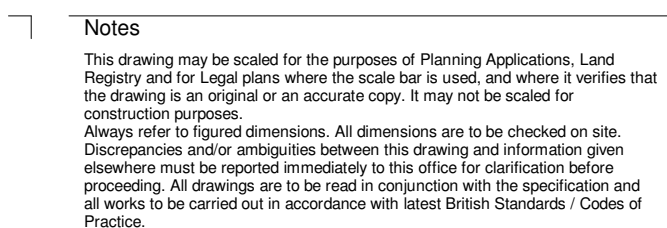
Hoval UltraGas® (350-650)

Type		(350)	(400)	(450)	(500)	(575)	(650)
• Nominal heat output at 80/60 °C, natural gas	kW	51-324	87-371	87-417	87-463	122-533	122-603
• Nominal heat output at 40/30 °C, natural gas	kW	58-350	97-400	97-450	97-500	136-575	136-650
• Nominal heat output at 80/60 °C, propane ²⁾	kW	95-320	139-370	139-410	139-455	169-524	169-592
• Nominal heat output at 40/30 °C, propane ²⁾	kW	109-350	154-400	154-450	154-500	185-575	185-650
• Nominal load with natural gas ¹⁾	kW	53-330	89-377	89-424	89-471	125-542	125-613
• Nominal load with propane ²⁾	kW	100-330	144-377	144-424	144-471	175-542	175-613
• Operating pressure heating min./max. (PMS)	bar	1/6	1/6	1/6	1/6	1/6	1/6
• Operating temperature max. (T _{max})	°C	90	90	90	90	90	90
• Boiler water content (V _(H2O))	l	428	411	387	375	549	529
• Flow resistance boiler		see diagram					
• Minimum circulation water quantity	l/h	-	-	-	-	-	-
• Boiler weight (without water content, incl. casing)	kg	881	922	972	991	1277	1303
• Boiler efficiency at 80/60 °C in full-load operation (NCV/GCV)	%	98.2/88.5	98.3/88.6	98.3/88.6	98.3/88.6	98.3/88.6	98.3/88.6
• Boiler efficiency at 30 % partial load (EN 15502) (NCV/GCV)	%	108.0/97.3	108.1/97.4	108.0/97.3	108.0/97.3	108.1/97.4	108.0/97.3
• NOx class (EN 15502)		6	6	6	6	6	6
• Nitrogen oxide emissions (EN 15502) (GCV) NOx	mg/kWh	34	33	33	33	32	35
• Content of CO ₂ in the flue gas minimum/maximum output	%	8.8/9.0	8.8/9.0	8.8/9.0	8.8/9.0	8.8/9.0	8.8/9.0
• Heat loss in standby mode	Watt	750	750	750	750	1000	1000
• Dimensions		see table of dimensions					
• Gas flow pressure minimum/maximum							
- Natural gas E/LL	mbar	17.4-80	17.4-80	17.4-80	17.4-80	17.4-80	17.4-80
- Propane	mbar	37-57	37-57	37-57	37-57	37-57	37-57
• Gas connection value at 15 °C/1013 mbar:							
- Natural gas E (Wo = 15.0 kWh/m ³) NCV = 9.97 h/m ³	m ³ /h	5.3-33.1	8.9-37.8	8.9-42.5	8.9-47.2	12.5-54.4	12.5-61.5
- Natural gas LL (Wo = 12.4 kWh/m ³) NCV = 8.57 h/m ³	m ³ /h	6.2-38.5	10.4-44.0	10.4-49.5	10.4-55.0	14.6-63.2	14.6-71.5
- Propane (NCV = 25.9 kWh/m ³)	m ³ /h	3.9-12.7	5.6-14.6	5.6-16.4	5.6-18.2	6.8-20.9	6.8-23.7
• Operation voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50
• Electrical power consumption min./max.	Watt	46/328	58/442	58/580	68/790	59/720	59/1030
• Stand-by	Watt	12	12	12	12	12	12
• IP rating (integral protection)	IP	20	20	20	20	20	20
• Permitted ambient temperature during operation	°C	5-40	5-40	5-40	5-40	5-40	5-40
• Sound power level							
- Heating noise (EN 15036 part 1) (room air dependent)	dB(A)	74	71	73	75	72	75
- Exhaust noise is radiated from the mouth (DIN 45635 part 47)	dB(A)	71	72	73	74	69	72
- Sound pressure level (depending on install. conditions) ³⁾	dB(A)	64	61	63	65	62	65

TECHNICAL DESIGN NOTE

Appendix B – Roof Layout





E	18.03.21	JAP	Flues terminating at roof level	JC
D	04.03.21	JAP	Flipped in Rio	JC
C	28.01.21	JAP	PV panels temporarily hidded to allow coordination of RWO and SVP locations	JC
B	31.01.20	JAP	PV Panels shown on upper roof of Block A2	JC
A	5/11/19	AM	RWP & RWO references, roof slopes and spot levels added. Rio Architect's comments incorporated	JC
Rev	Date	Int	Notes	Checked

Client _____

Drawing Originator

AWW inspired environments

London - 105 Wilsdon Street, SE1 3QB C20 7160 8008
Plymouth - East Quay House, PL4 0HX 01752 261 281
Bristol - pivot + mark, 48 - 52 Baldwin Street, BS1 1QB 0117 923 2538

RIBA Chartered Practice www.aww-uk.com

Project Title
**Weldale Street, Reading
Buildings A1 & A2**

Drawing Title
GA Roof

Scale 1 : 100	Sheet A0	Drawn JAP	Checked JC	Date 30/09/19
Status CONTRACT			Project No. 3622	
Drawing Reference			Drawing No. 2012	Revision E

Appendix C - Typical Apartment Mechanical Services Layouts

1. ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
2. HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS EN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
3. HEAT, COLD AND MIXED PIPING SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES. HW & R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
4. ALL PIPEWORK IN CEILING VOIDS, RISERS ETC. SHALL BE THERMALLY INSULATED USING KINERL WOOL, ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
5. BRANCH TAKE-OFFS FROM MAINRUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
6. ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALLCOCK ISOLATING VALVES.
7. REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
8. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ARCHITECT IN CONSULTATION WITH ALL EMPLOYERS AND LOCAL AUTHORITY SUE ASSESSMENTS & DESIGN Criteria

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER MAJOR SERVICES AND SPECIFICATIONS, INCLUDING THE PROJECT'S STRUCTURE, DRAWINGS AND ASSOCIATED SPECIFICATIONS.

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ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.

ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTE, REGULATIONS, STANDARDS, CODES OF PRACTICE AND ANY ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION BODY TO COMPLEMENT THE ABOVE.

ALL DRAWINGS TO BE APPROVED BY THE RELEVANT STATUTORY BODY TO CONFIRM COMPLIANCE WITH ALL RELEVANT REGULATIONS AND STATUTORY REQUIREMENTS.

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FINAL PROJECT CO-ORDINATION OF ALL SERVICES, STRUCTURE, ARCHITECTURE AND FIRE STRATEGY IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/ENGINEER/CONTRACTOR.

EMEC DESIGN AND CONSULTANTS LTD HAVE NO RESPONSIBILITY FOR ANY DISCREPANCIES OR OMISSIONS OTHER THAN THAT WHICH IT HAS PREPARED AND ISSUED.

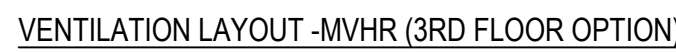
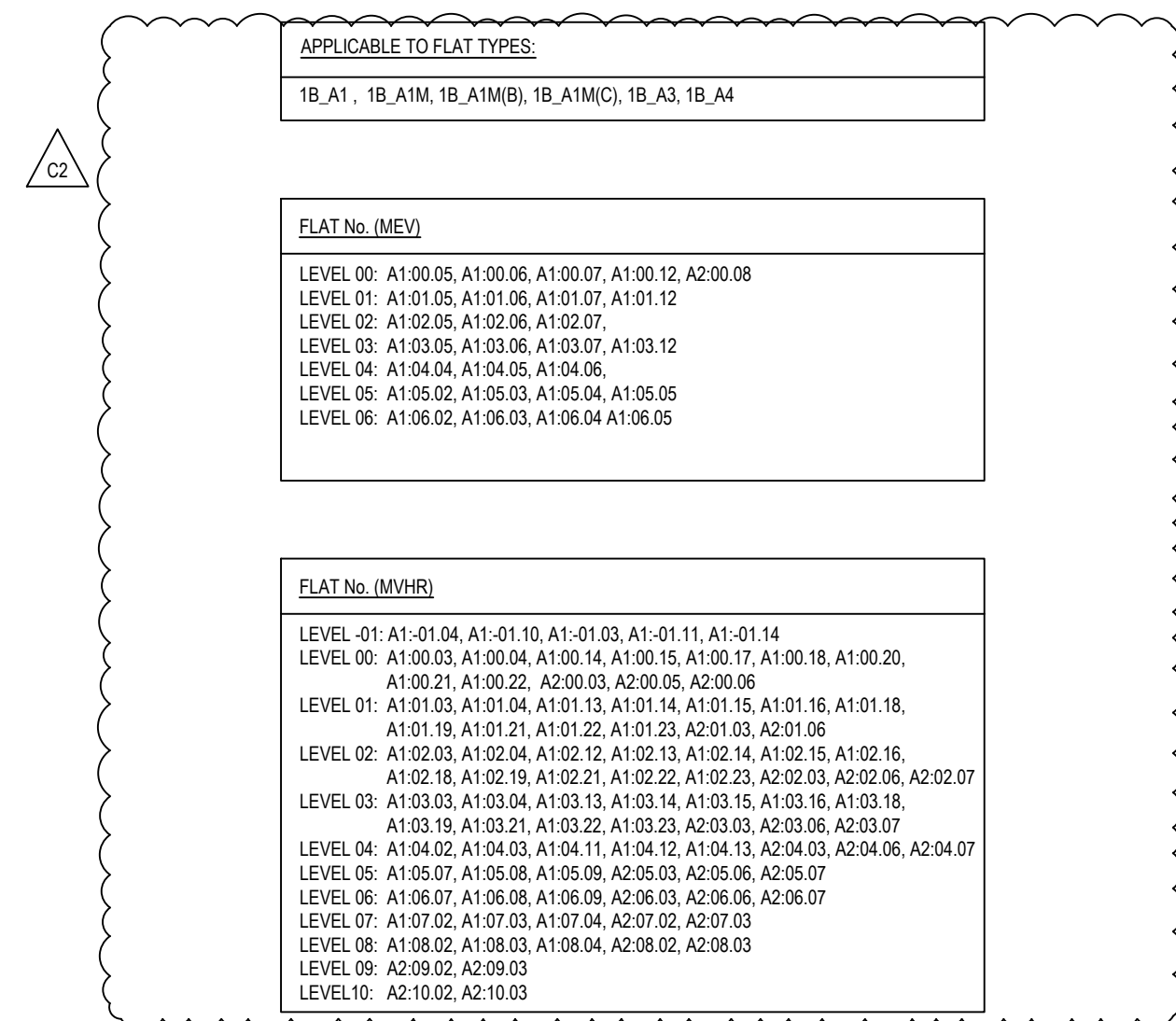
IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/ENGINEER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER, ENVIRONMENTAL HEALTH OFFICER AND ANY OTHER RELEVANT OFFICIAL.

FINAL DESIGN OF ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION AND FIRE ALARMS TO BE THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/ENGINEER/CONTRACTOR.

FINAL PROJECT CO-ORDINATION OF ALL SERVICES, STRUCTURE, ARCHITECTURE AND FIRE STRATEGY IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/ENGINEER/CONTRACTOR.

1. DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW132.
2. FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. DAMPERS TO BE OF THE AIR-TIGHT TYPE.
3. ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION, A BRITISH STANDARD.
4. A BACK DRAUGHT DAMPER TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
5. ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT ADJACENT TO ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
6. FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
7. THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
8. ALL PLANT / EQUIPMENT / SERVICE SELECTIONS TO BE VERIFIED BY THE MECHANICAL CONTRACTOR IN CONJUNCTION WITH THE BUILDING EMPLOYERS AND LOCAL AUTHORITY / NURSERY ASSESSMENTS & DESIGN CERTIFICATES.

2. ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE SATISFIED BY THE REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC
4. FOR VARYING ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC
5. ALL BRANCH PEWPOK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR HEATING STATION ON THE RETURN (REFER TO THE HEATING SCHEMATIC)
6. ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS
7. BRANCH TAKES OFF FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM
8. THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE SERVICES SYSTEM IS ASSIGNED TO THE PEWPOK CONTRACTOR
9. ANY PROVISION FOR PEWPOK EXPANSION, PEWPOK GUIDES AND/OR ANCHORS ARE SHOWN FOR GUIDANCE PURPOSES. THE ACTUAL REQUIREMENT SHALL BE DETERMINED BY THE SERVICES CONTRACTOR
10. REFER TO SCHEDULES FOR EQUIPMENT DETAILS
11. ALL PLANT / EQUIPMENT / SERVICE SELECTIONS TO BE VERIFIED BY THE PEWPOK CONTRACTOR TO BE IN LINE WITH COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA
12. ALL PEWPOK IN CEILING VENTS, RISERS, SHALL BE THERMALLY INSULATED USING MINERAL WOOL, ROCKWOOL (OR EQUIVALENT) AND FINALLY INSULATED WITH POLYURETHANE FOAM



ALL SIZES ARE D

	HEAT INTERFACE UNIT		RADIATOR
	EXTRACT GRILLE		SOIL VENT PIPE
	MECHANICAL EXTRACT VENTILATION UNIT		THERMOSTATIC MIXING VALVE
	MECHANICAL VENTILATION HEAT RECOVERY UNIT		BOOST SWITCH (FINAL LOCATION)
			ROOM THERMOSTAT
	ATTENUATOR		RODING EYE
			LOCKSHIELD VALVE
			THERMOSTATIC RADIATOR VALVE



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Drawing Status

CONSTRU

Client: 



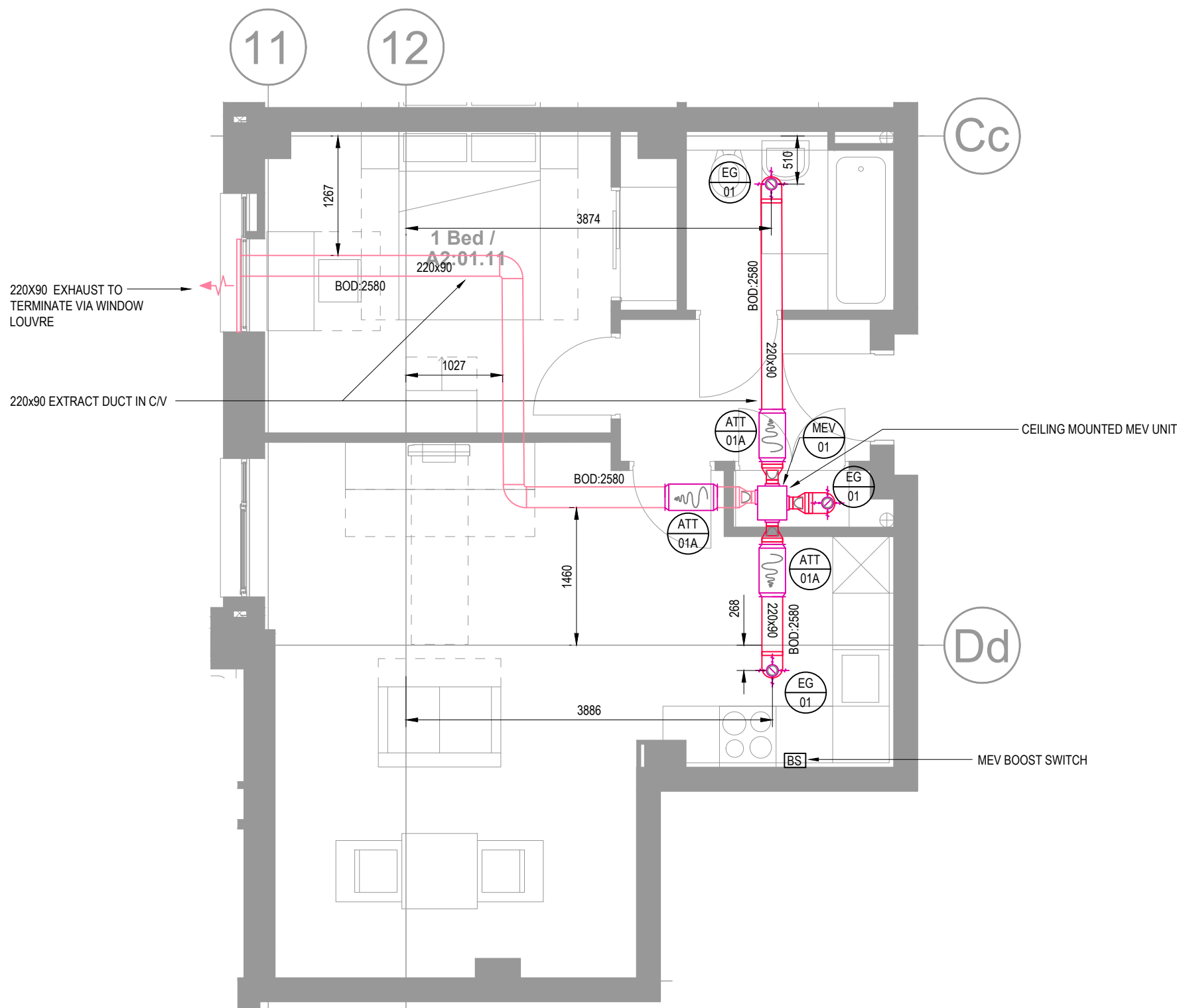
Project Title:
WELDALE STREET

Drawing Title:

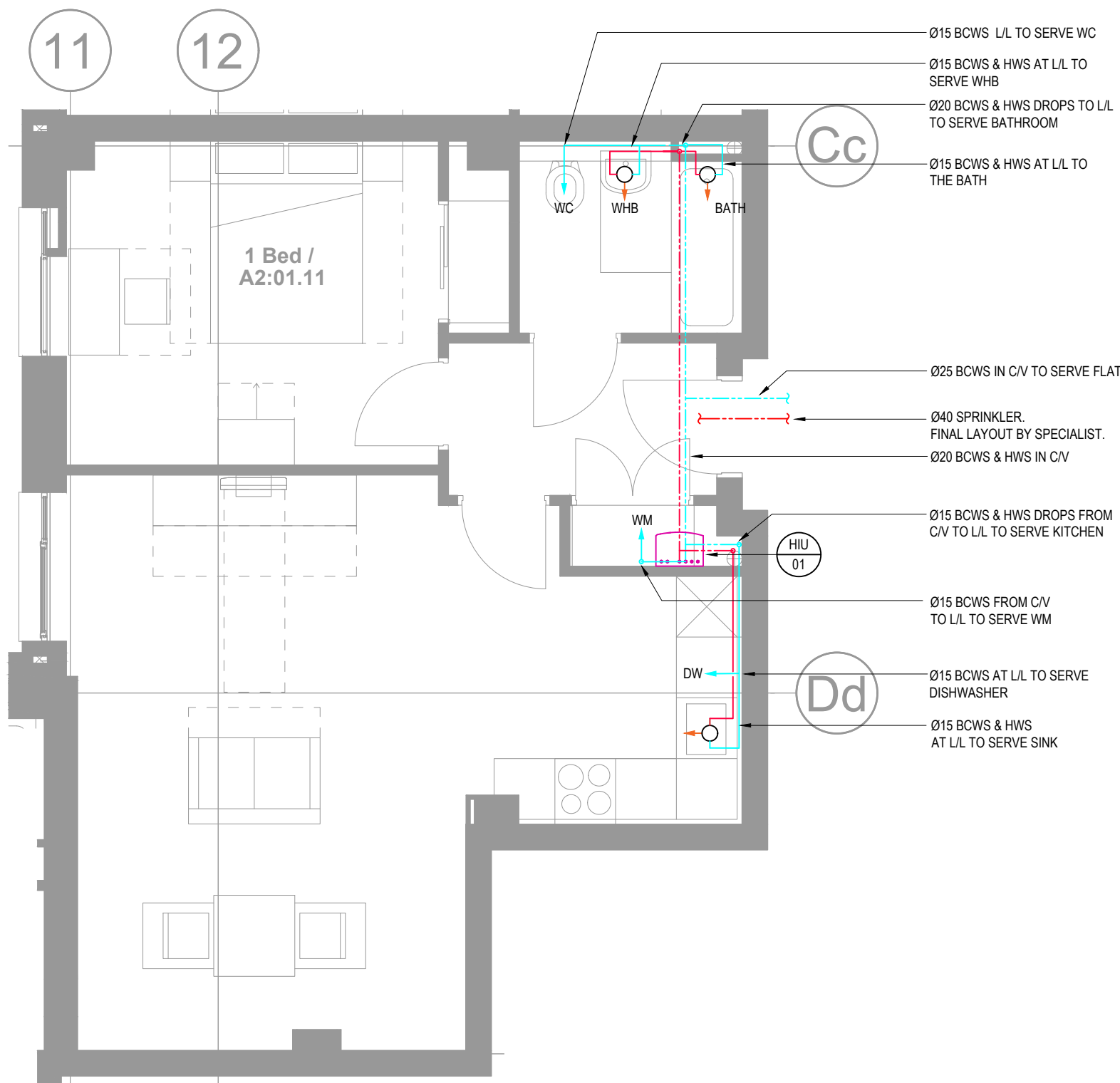
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TYPICAL MECHANICAL SERVICES

J20070-M-28-XX-01 C2

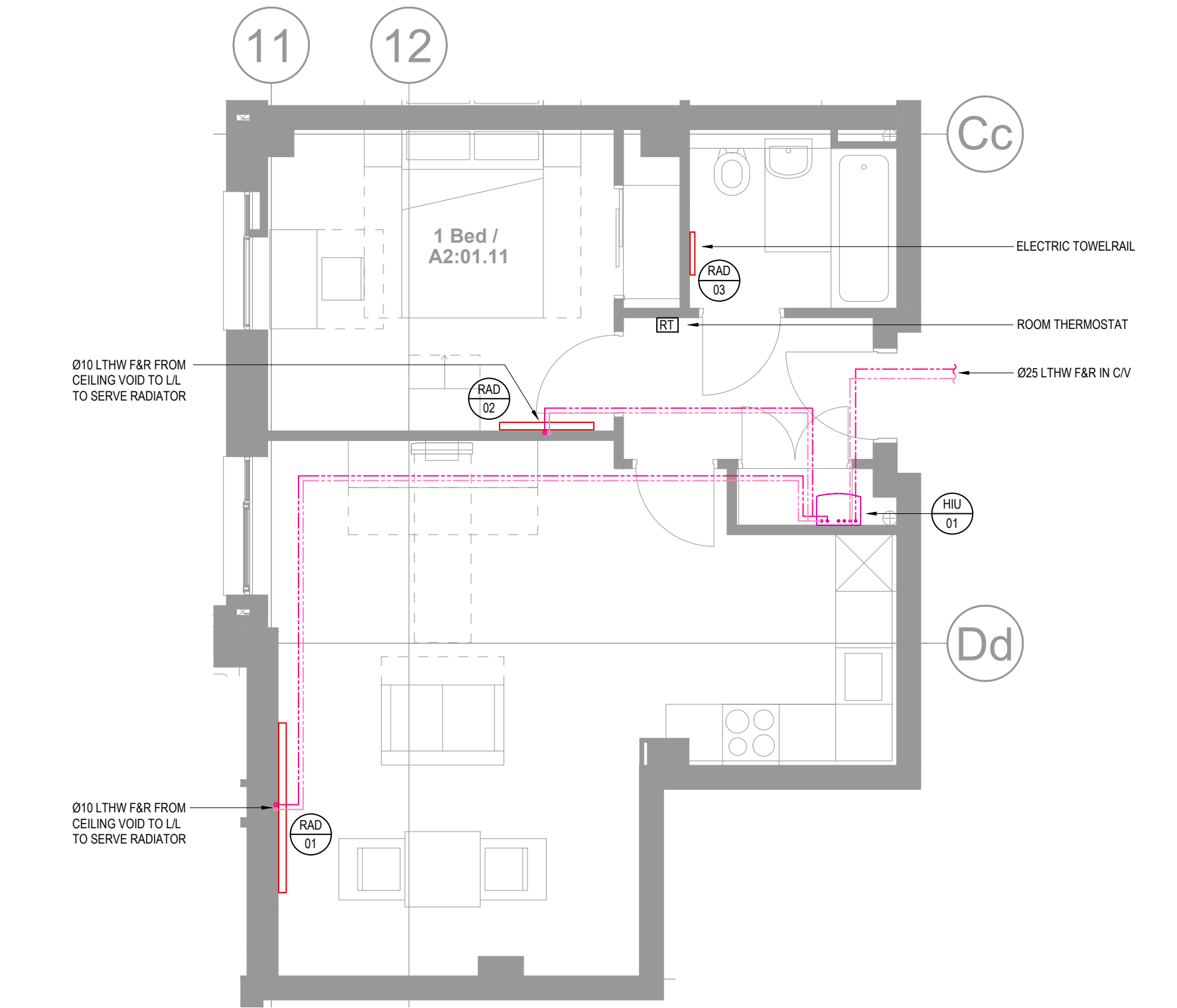
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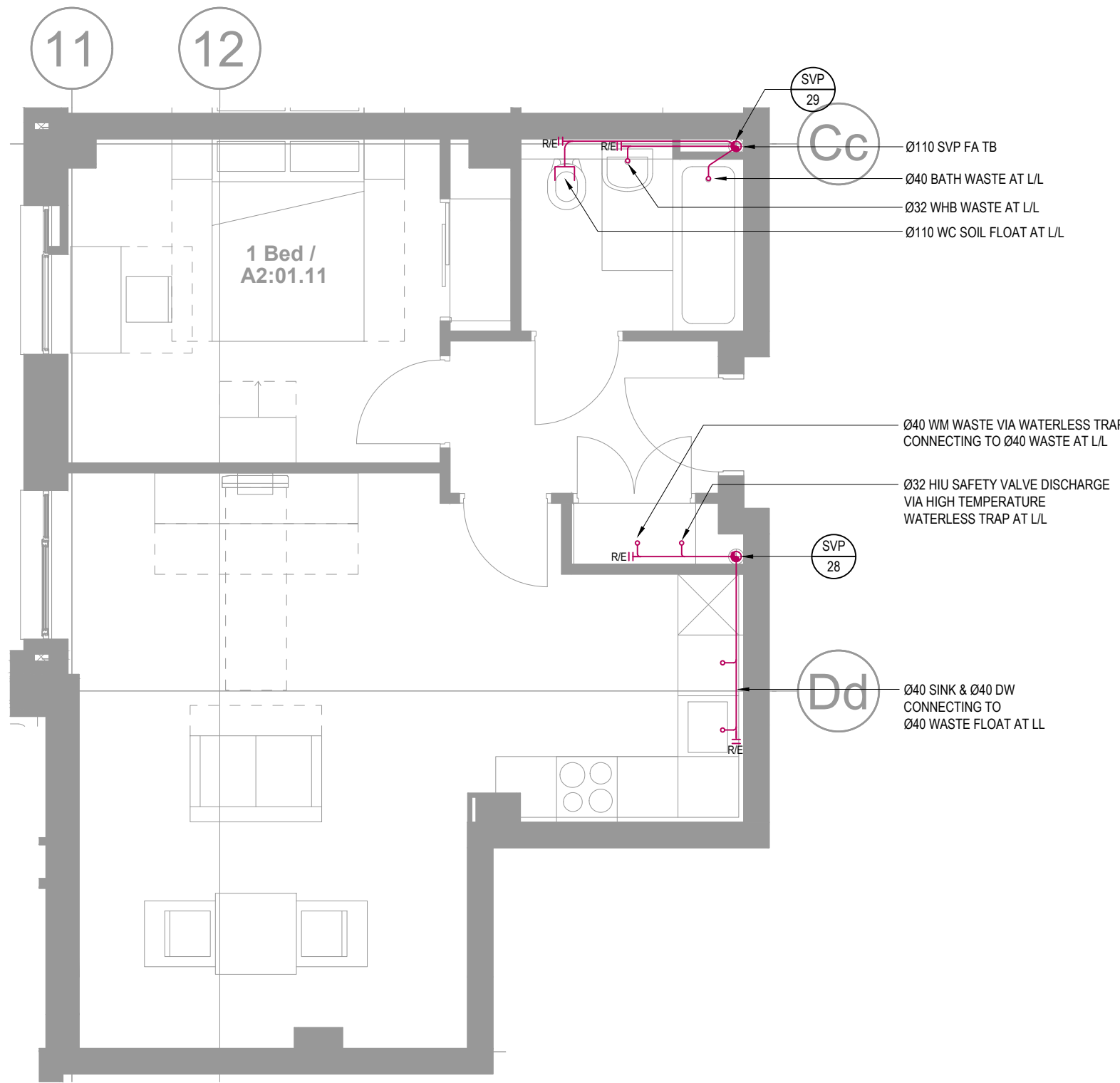
VENTILATION LAYOUT



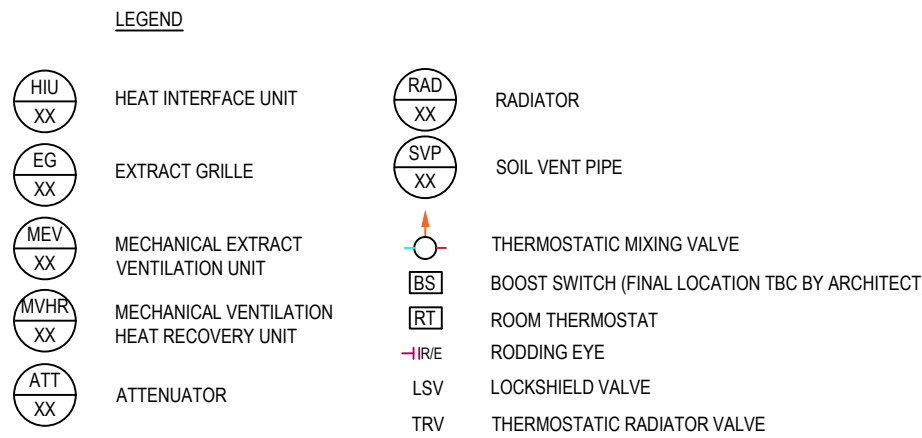
DOMESTIC WATER LAYOUT



HEATING LAYOUT



DRAINAGE LAYOUT



DOMESTIC WATER SERVICES NOTES:

- ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
- HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS EN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
- HW, CF, CWS AND CWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES, HWS R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALL OFF ISOLATING VALVES.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUAISTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

VENTILATION NOTES:

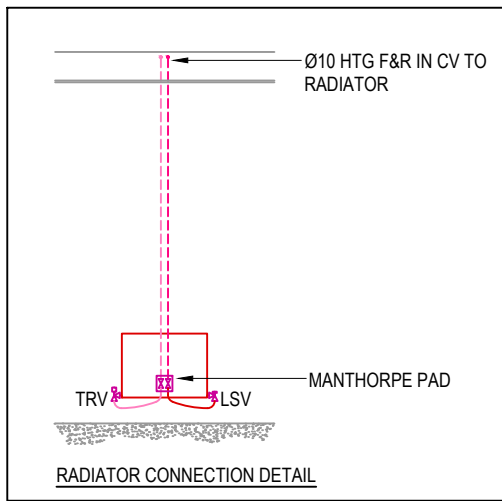
- DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW122.
- FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
- A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
- ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
- FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUAISTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

HEATING NOTES:

- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
- FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
- ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
- ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE SERVICES SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE SERVICES CONTRACTOR.
- ANY PROVISIONS FOR PIPEWORK EXPANSION, PIPEWORK GUIDES AND/OR ANCHORING ARE SHOWN FOR GUIDANCE PURPOSES. THE ACTUAL REQUIREMENT SHALL BE DETERMINED BY THE SERVICES CONTRACTOR.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUAISTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.

PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN



MEV VENTILATION RATES		
ROOM	EXTRACT AIR (l/s)	
	TRICKLE	BOOST
LIVING/KITCHEN	13	30
UTILITY	8	10
BATHROOM 1	8	10

GENERAL NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER M&E SERVICES DRAWINGS, TOGETHER WITH THE ARCHITECTS & STRUCTURAL DRAWINGS AND ASSOCIATED SPECIFICATIONS.
- EMEC DESIGN AND CONSULTANCY LIMITED HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DRAWING OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.
- DO NOT SCALE FROM THIS DRAWING. WORK TO MEASURED DIMENSIONS ONLY.
- ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
- ALL DRAWINGS TO BE APPROVED BY THE RELEVANT STATUTORY BODY TO CONFIRM COMPLIANCE WITH BUILDING REGULATIONS AND STATUTORY REQUIREMENTS.
- EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY DESIGN WHICH HAS NOT BEEN APPROVED BY THE RELEVANT STATUTORY BODY.
- IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER & ANY OTHER RELEVANT STATUTORY BODY.
- FINAL DESIGN FOR ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION & FIRE ALARM TO BE THE RESPONSIBILITY OF THE SPECIALIST SUB-CONTRACT DESIGNER/INSTALLER.
- FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE DESIGNER/CONTRACTOR.
- EMEC DESIGN & CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY CO-ORDINATION ISSUES THAT HAVE NOT BEEN REVIEWED/ADDRESSED BY THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.

ABOVE-GROUND DRAINAGE NOTES:

- SOIL PIPEWORK SHALL BE GREY uPVC TO BS 4514. WASTE PIPEWORK SHALL BE DE26 UNLESS OTHERWISE STATED.
- CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
- INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
- ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
- HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
- TRAP SIZES TO BE AS FOLLOWS:-
SINK - Ø40 76 TUBULAR P" TRAP
DISHWASHER/WASHING MACHINE - Ø40 76 DEEP SEAL TRAP AND STANDPIPE
WASHBASIN - Ø32 76 DEEP SEAL TRAP
SHOWER - Ø40 50 TRAP SEAL
URINAL - Ø40 76 TUBULAR P" TRAP
BATH - Ø40 50 TRAP SEAL
- RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
- MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
- ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
- FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
- EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUAISTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

FLAT TYPE 1B_A5			
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LEVEL 02:	A2:02:12	LEVEL 06:	A2:06:12
LEVEL 03:	A2:03:12		

C1	CONSTRUCTION ISSUE	RT	JP	RT	30.11.20
No:	Description:	Orig'r:	Drawn:	Chk'd:	Date:

Revisions:

emec
Environmental, Mechanical and Electrical Consultancy

EMEC Design and Consultancy Ltd
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Drawing Status:

CONSTRUCTION

Client:

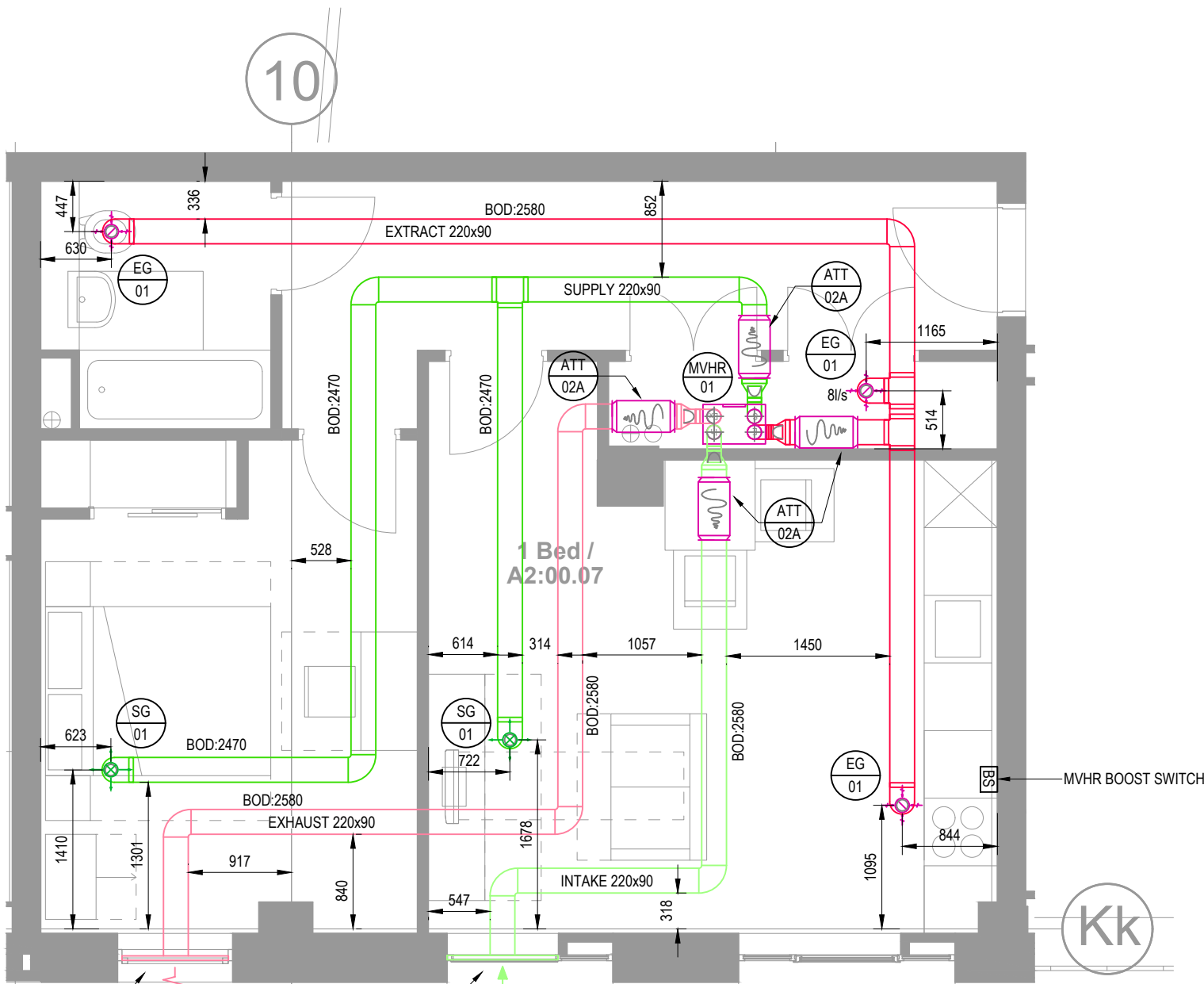


Project Title:
WELDALE STREET

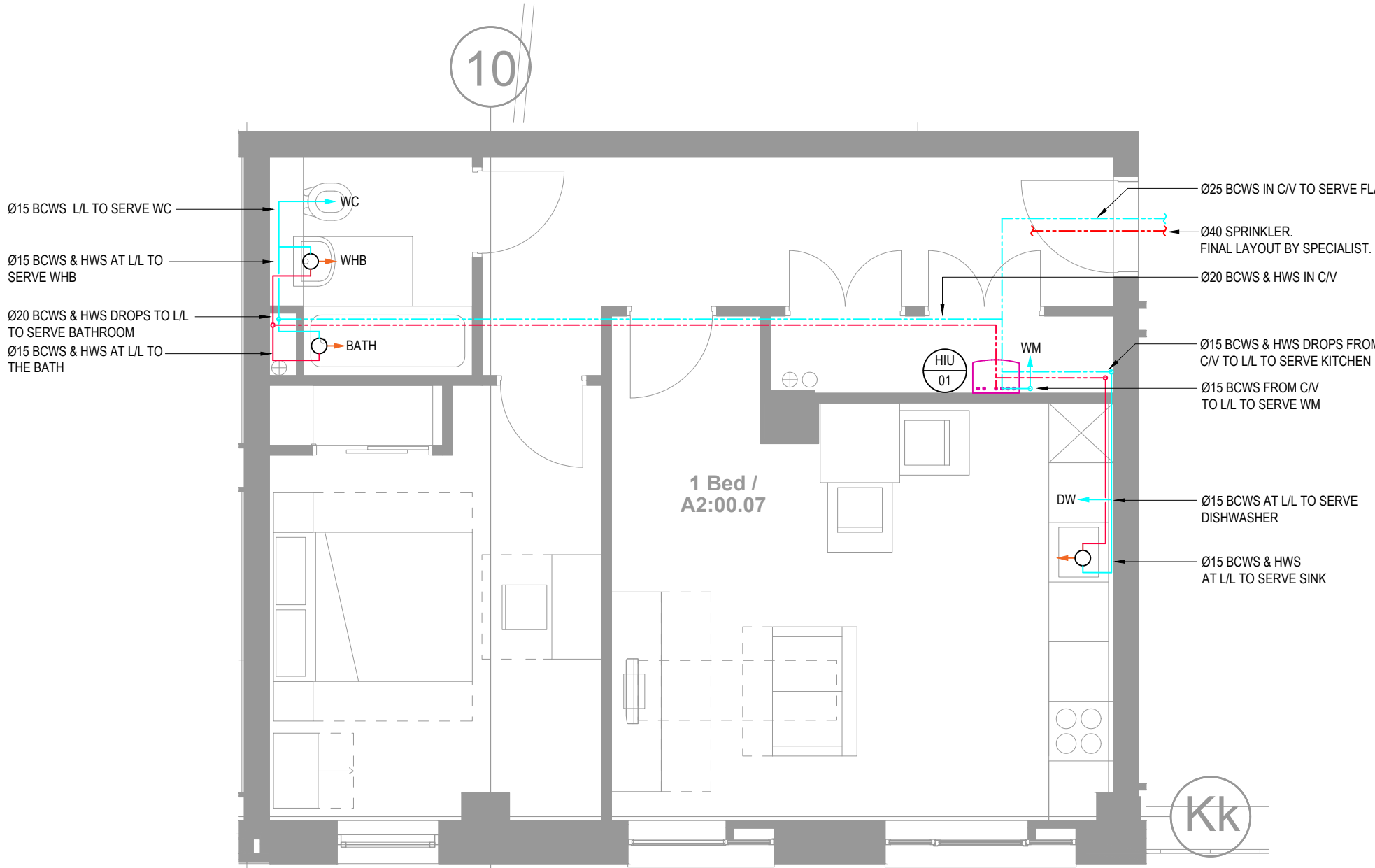
Drawing Title:
FLAT TYPE 1B_A5
TYPICAL MECHANICAL SERVICES

Scale @ A1:	Originator:	Drawn by:	Checked:
1:50	RB	JP	CB
Project No.:			Date:
J20070			NOV '20
Drawing No.:			Revision:
J20070-M-28-XX-02			C1

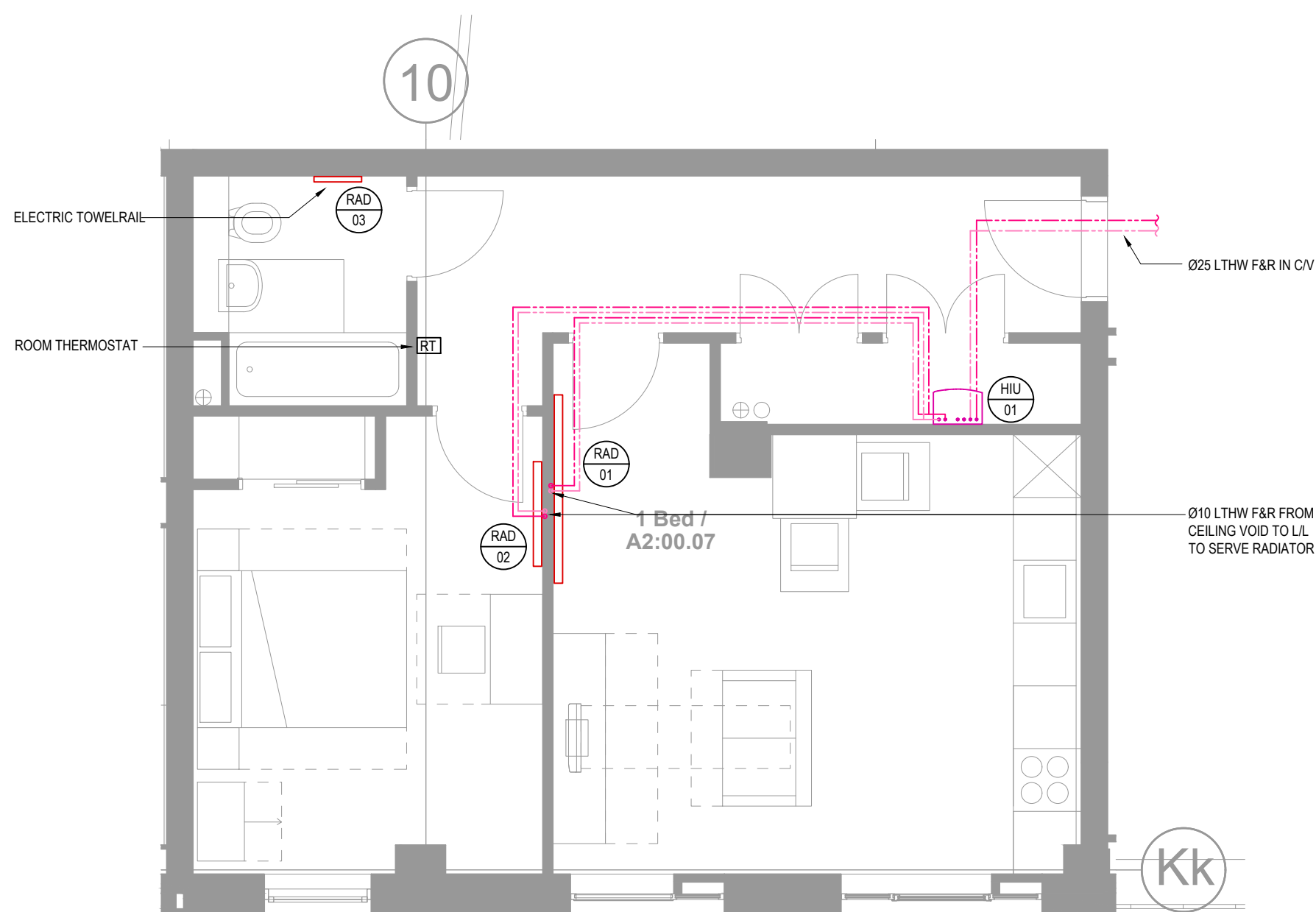
DO NOT SCALE THIS DRAWING



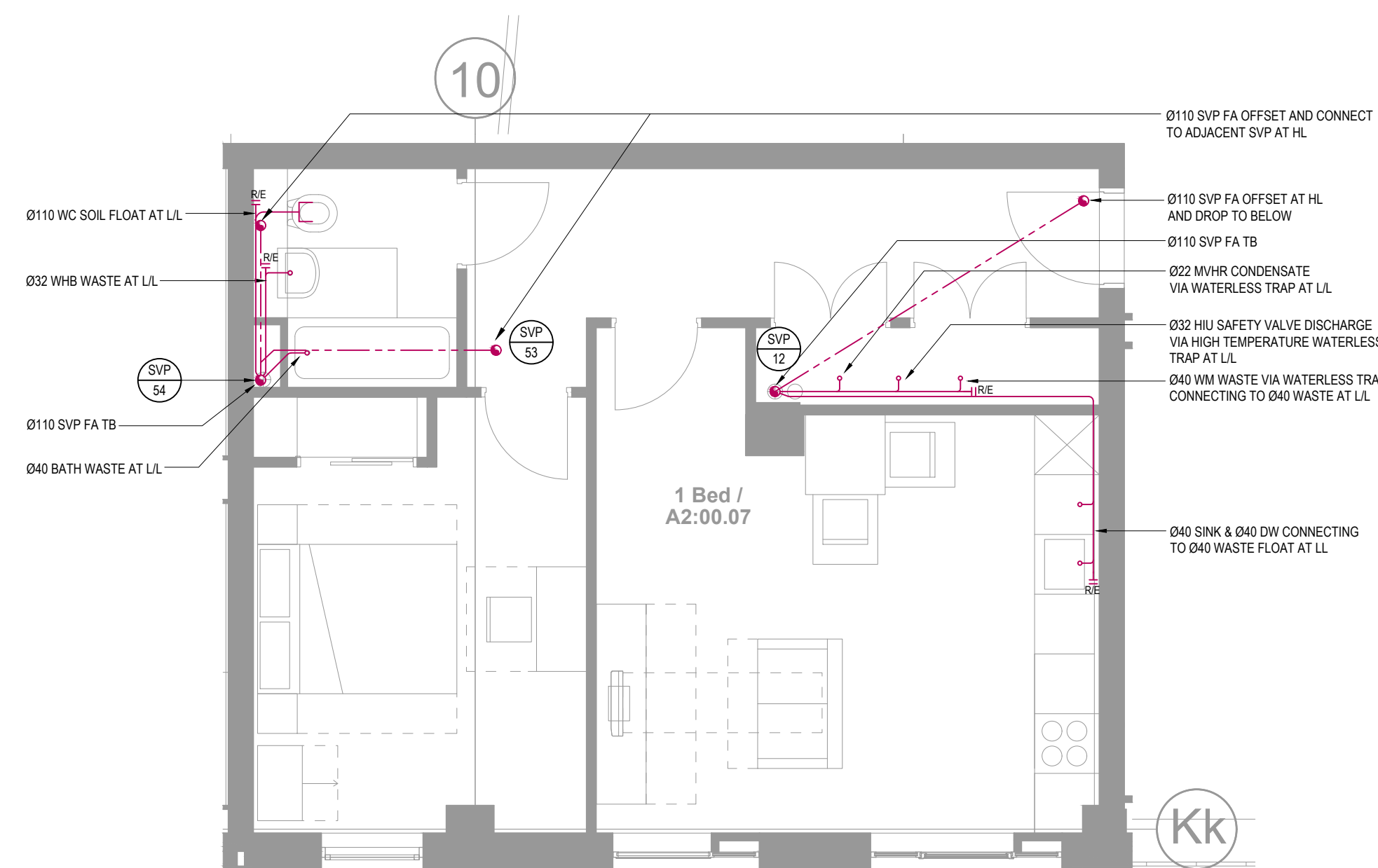
VENTILATION LAYOUT



DOMESTIC WATER LAYOUT



HEATING LAYOUT



DRAINAGE LAYOUT

DOMESTIC WATER SERVICES NOTES:

- ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
- HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS EN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
- HWFS, CWS AND CWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES, HWFS R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALLOPEX ISOLATING VALVES.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUISITION TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

VENTILATION NOTES:

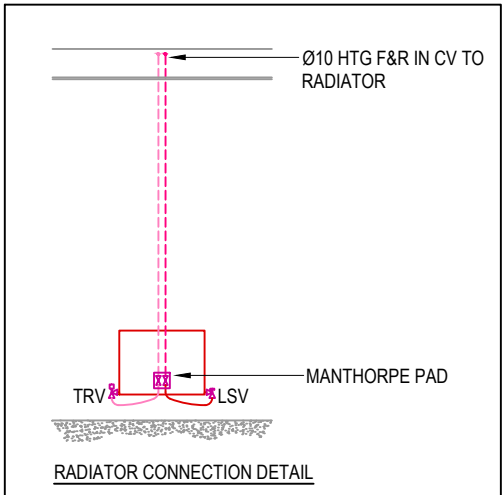
- DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW122.
- FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
- A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
- ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
- FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUISITION TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

HEATING NOTES:

- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
- FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
- ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
- ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE SERVICES SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE SERVICES CONTRACTOR.
- ANY PROVISIONS FOR PIPEWORK EXPANSION, PIPEWORK GUIDES AND/OR ANCHORING ARE SHOWN FOR GUIDANCE PURPOSES. THE ACTUAL REQUIREMENT SHALL BE DETERMINED BY THE SERVICES CONTRACTOR.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUISITION TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.

PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN



MVR VENTILATION RATES				
ROOM	SUPPLY AIR (l/s)		EXTRACT AIR (l/s)	
	TRICKLE	BOOST	TRICKLE	BOOST
LIVING/KITCHEN	19	58	13	50
BEDROOM 1	8	12	-	-
UTILITY	-	-	6	10
BATHROOM 1	-	-	8	10

GENERAL NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER M&E SERVICES DRAWINGS, TOGETHER WITH THE ARCHITECTS & STRUCTURAL DRAWINGS AND ASSOCIATED SPECIFICATIONS.
- EMEC DESIGN AND CONSULTANCY LIMITED HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DRAWING OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.
- DO NOT SCALE FROM THIS DRAWING. WORK TO MEASURED DIMENSIONS ONLY.
- ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
- ALL DRAWINGS TO BE APPROVED BY THE RELEVANT STATUTORY BODY TO CONFIRM COMPLIANCE WITH BUILDING REGULATIONS AND STATUTORY REQUIREMENTS.
- EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY DESIGN WHICH HAS NOT BEEN APPROVED BY THE RELEVANT STATUTORY BODY.
- IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER & ANY OTHER RELEVANT STATUTORY BODY.
- FINAL DESIGN FOR ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION & FIRE ALARM TO BE THE RESPONSIBILITY OF THE SPECIALIST SUB-CONTRACT DESIGNER/INSTALLER.
- FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE AND FIRE STRATEGY IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN & CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY CO-ORDINATION ISSUES THAT HAVE NOT BEEN REVIEWED/ADDRESSED BY THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.

ABOVE-GROUND DRAINAGE NOTES:

- SOIL PIPEWORK SHALL BE GREY UPVC TO BS 4514. WASTE PIPEWORK SHALL BE DE26 UNLESS OTHERWISE STATED.
- CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
- INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
- ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
- HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
- TRAP SIZES TO BE AS FOLLOWS:-
SINK - Ø40 76 TUBULAR 'P' TRAP
DISHWASHER/WASHING MACHINE - Ø40 76 DEEP SEAL TRAP AND STANDPIPE
WASHBASIN - Ø32 76 DEEP SEAL TRAP
SHOWER - Ø40 50 TRAP SEAL
URINAL - Ø40 76 TUBULAR 'P' TRAP
BATH - Ø40 50 TRAP SEAL
- RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
- MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
- ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
- FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
- EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUISITION TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

FLAT TYPE 1B_B1

LEVEL 00: A2:00.07

C1	CONSTRUCTION ISSUE	RT	JP	RT	30.11.20
No:	Description:	Orig'r:	Drawn:	Chk'd:	Date:

Revisions:

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and Electrical Consultancy

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Drawing Status:

CONSTRUCTION

Client:



Project Title:

WELDALE STREET

Drawing Title:

FLAT TYPE 1B_B1
TYPICAL MECHANICAL SERVICES

Scale @ A1:	Originator:	Drawn by:	Checked:
1:50	RB	JP	CB
Project No.:			Date:
J20070			NOV '20
Drawing No.:			Revision:
J20070-M-28-XX-03			C1

DO NOT SCALE THIS DRAWING

DOMESTIC WATER SERVICES NOTES:

- ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
- HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS 1555 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
- HOT, CWS AND CWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES. HWS PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
- ALL PIPEWORK IN CEILING VOIDS, RISERS AND RISERS SHALL BE THERMALLY INSULATED USING MINERAL WOOL, ROCKWOOL OR EQUIVALENT AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE ENTIRE DUCTWORK SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALLLOXK ISOLATING VALVES.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACUSTOCIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA.

VENTILATION NOTES:

- DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DWT145. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DWT132.
- FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR FLOW TYPE.
- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
- A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVE.
- ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND TIME OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
- FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 300mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEMS) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACUSTOCIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA.

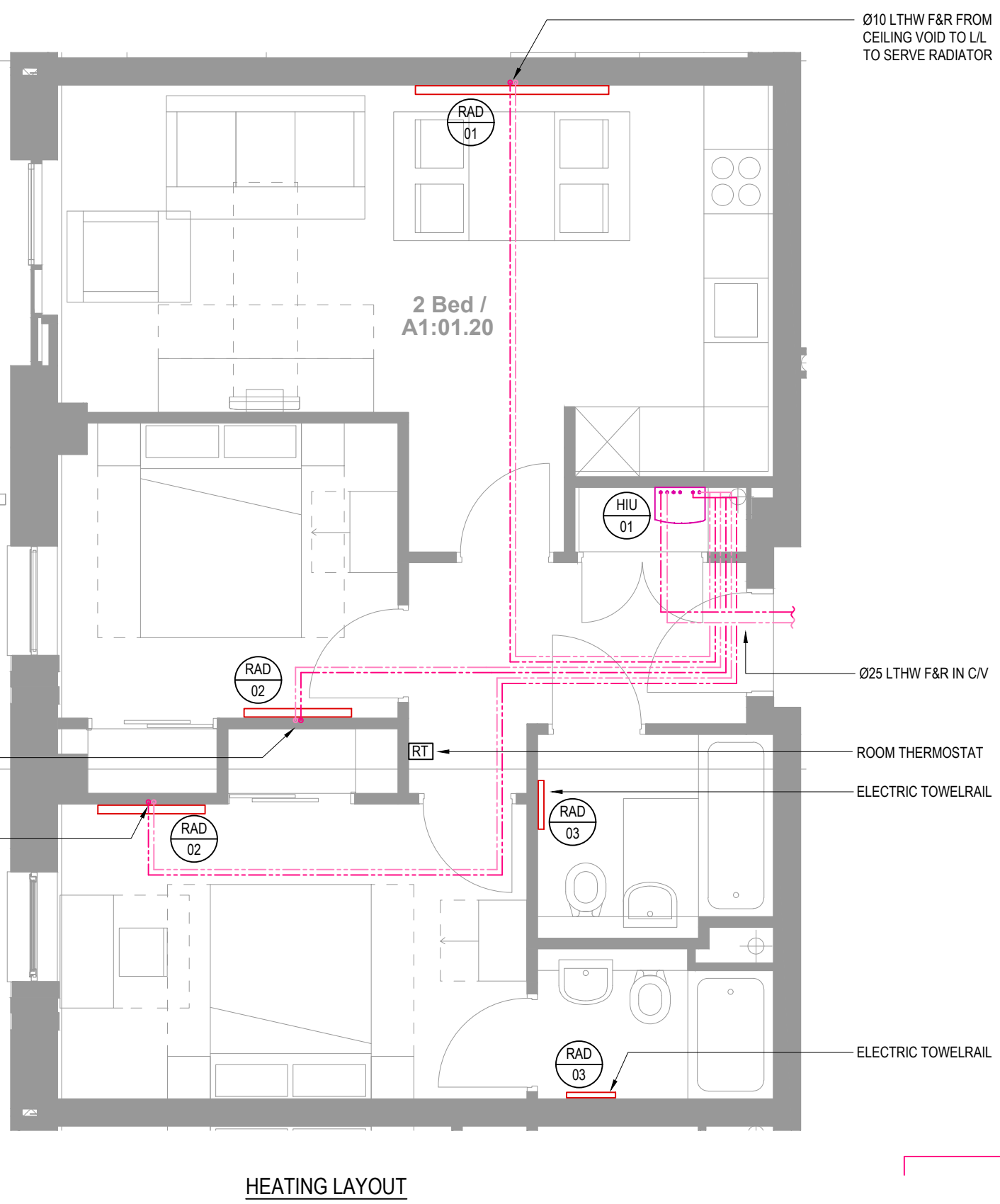
- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
- FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
- ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
- ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ANY PROVISIONS FOR PIPEWORK EXPANSION, PIPEWORK GUIDES AND/OR ANCHORING ARE SHOWN FOR GUIDANCE PURPOSES, THE ACTUAL REQUIREMENT SHALL BE DETERMINED BY THE SERVICES CONTRACTOR.
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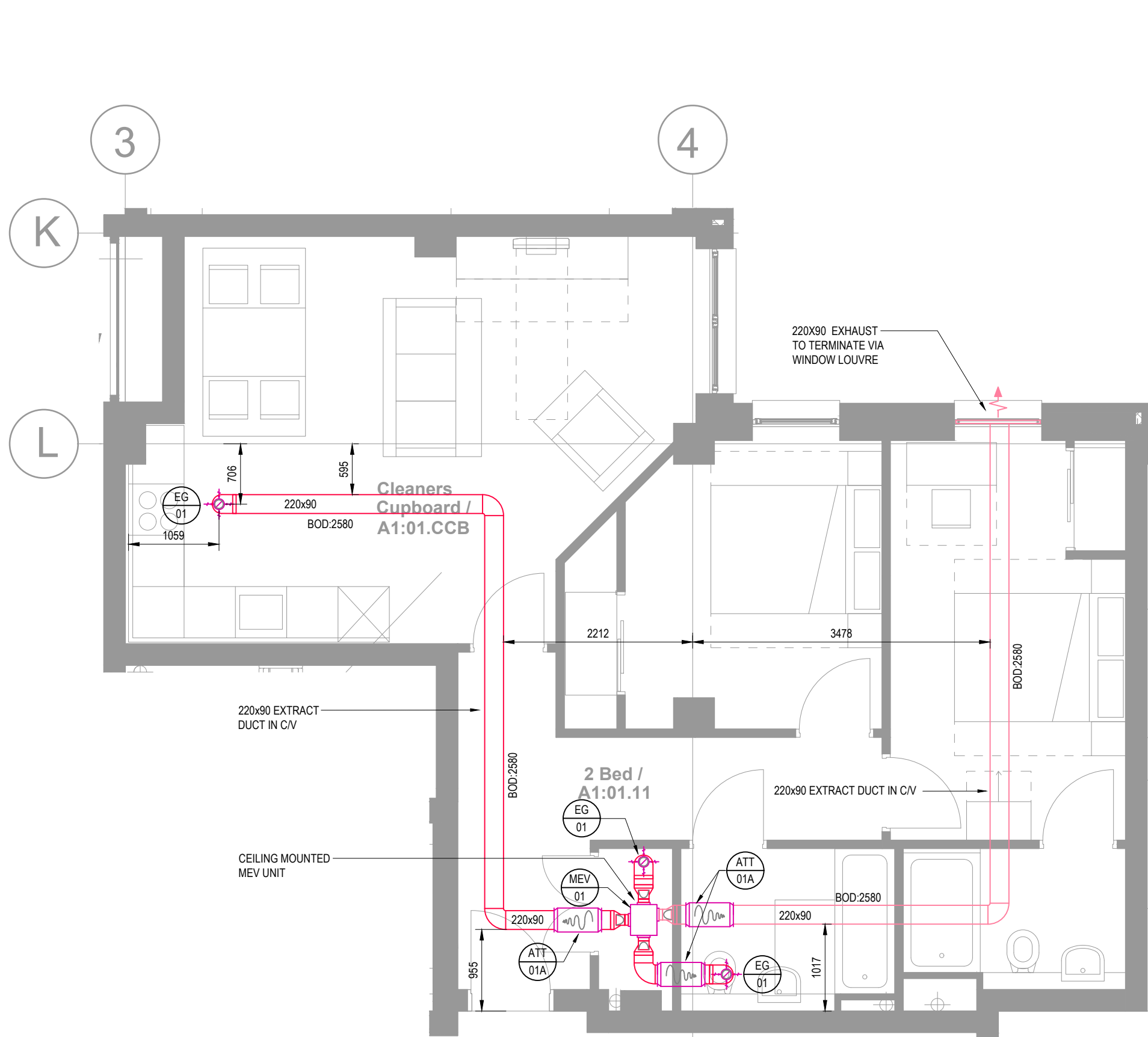
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- IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER OR ANY OTHER RELEVANT STATUTORY BODY.
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- EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.
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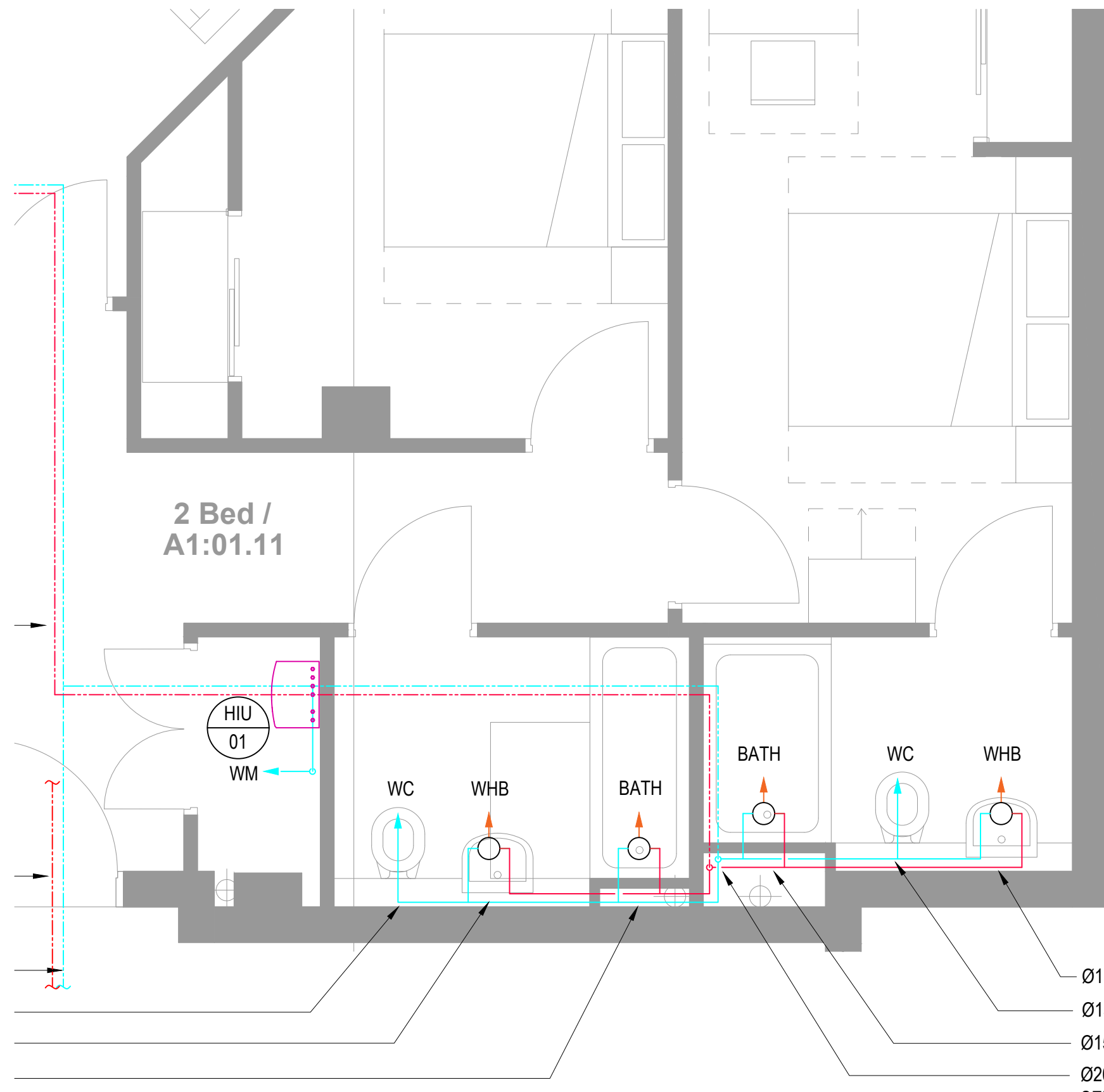
ABOVE-GROUND DRAINAGE NOTES:

- SOIL PIPEWORK SHALL BE GREY UPVC TO BS 4514. WASTE PIPEWORK SHALL BE DGB UNLESS OTHERWISE STATED.
- CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
- INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
- ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
- HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
- TRAP SIZES TO BE AS FOLLOWS:-
SINK - Ø60 1/2" TUBULAR P" TRAP
DISHWASHER/WASHING MACHINE - Ø40 7/8" DEEP SEAL TRAP AND STANDPIPE
WASHBOSIN - Ø32 7/8" DEEP SEAL TRAP
SHOWER - Ø40 3/4" TRAP SEAL
URINAL - Ø40 7/8" TUBULAR P" TRAP
BATH - Ø40 3/4" TRAP SEAL
- RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
- MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
- ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
- FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
- EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACUSTOCIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA.

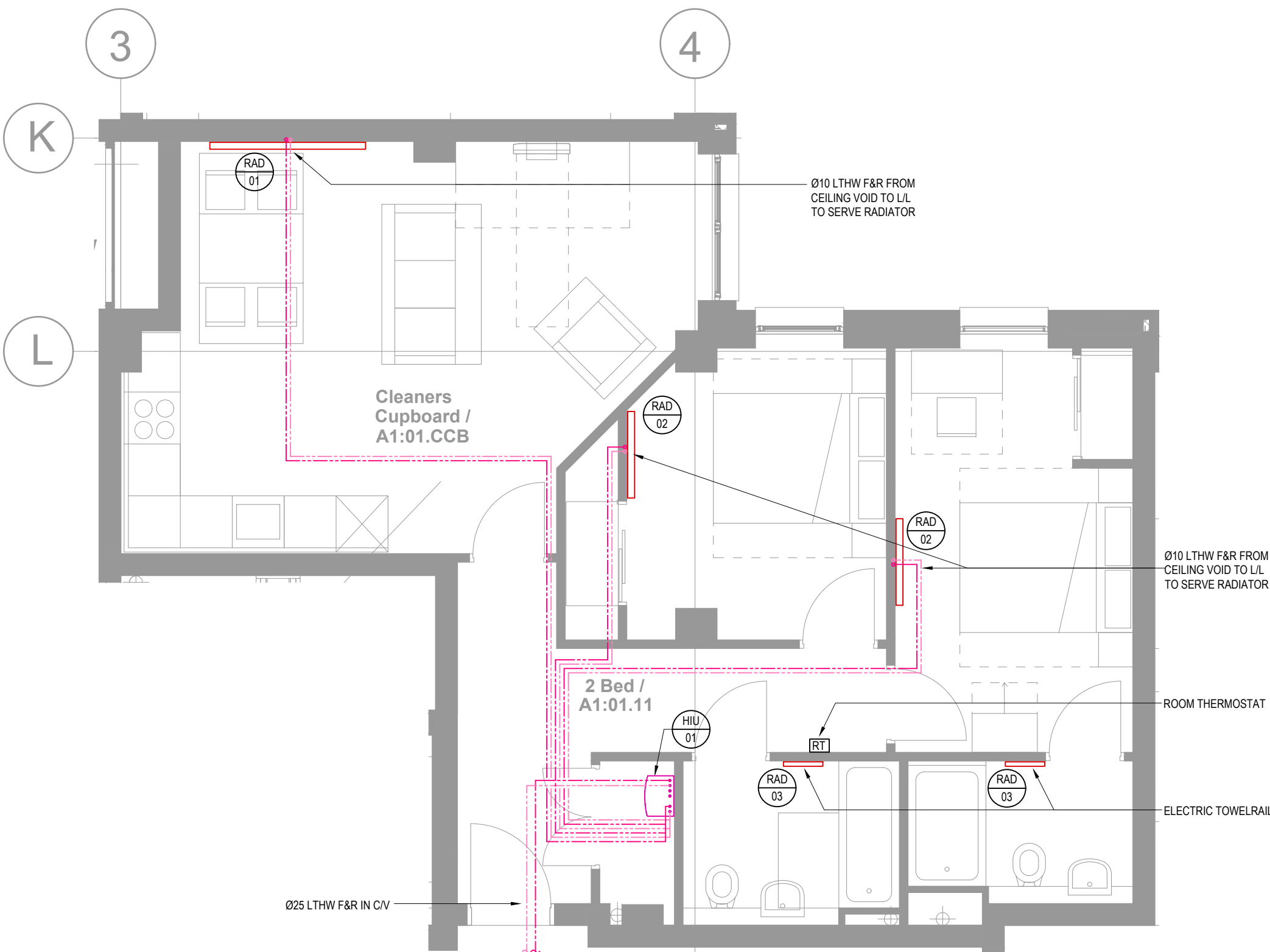




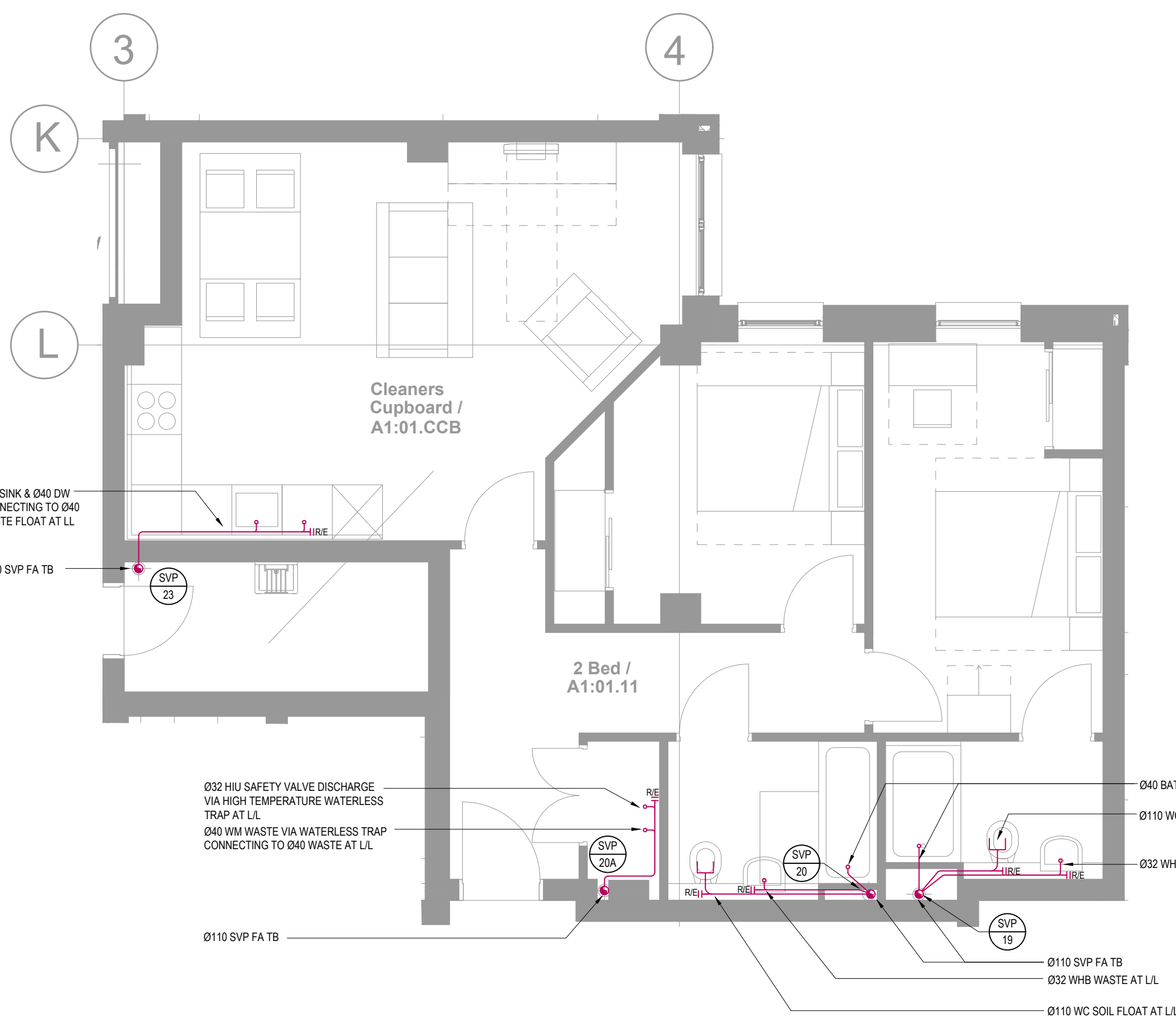
VENTILATION LAYOUT



DOMESTIC WATER LAYOUT



HEATING LAYOUT



DRAINAGE LAYOUT

MEV VENTILATION RATES	
ROOM	EXTRACT AIR (l/s)
LIVING/KITCHEN	13
UTILITY	8
BATHROOM 1	8

DOMESTIC WATER SERVICES NOTES:

- ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
- HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS EN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
- HWFS, CWS AND CWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES, HWS R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALLOFIX ISOLATING VALVES.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

VENTILATION NOTES:

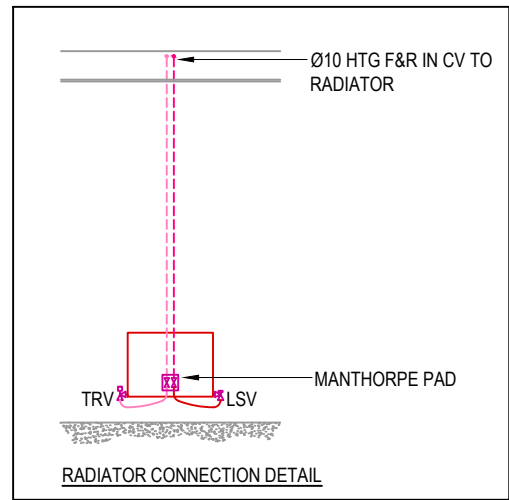
- DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW121.
- FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
- A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
- ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
- FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

HEATING NOTES:

- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
- FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
- ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
- ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE SERVICES SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE SERVICES CONTRACTOR.
- ANY PROVISIONS FOR PIPEWORK EXPANSION, PIPEWORK GUIDES AND/OR ANCHORING ARE SHOWN FOR GUIDANCE PURPOSES. THE ACTUAL REQUIREMENT SHALL BE DETERMINED BY THE SERVICES CONTRACTOR.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.

PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN



LEGEND

- | | | | |
|--------|---|--------|--|
| HIU XX | HEAT INTERFACE UNIT | RAD XX | RADIATOR |
| EG XX | EXTRACT GRILLE | SVP XX | SOIL VENT PIPE |
| MEV XX | MECHANICAL EXTRACT VENTILATION UNIT | BS | BOOST SWITCH (FINAL LOCATION TBC BY ARCHITECT) |
| RT | MECHANICAL VENTILATION HEAT RECOVERY UNIT | RT | ROOM THERMOSTAT |
| ATT XX | ATTENUATOR | LSV | LOOKSHIELD VALVE |
| | | TRV | THERMOSTATIC RADIATOR VALVE |

GENERAL NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER M&E SERVICES DRAWINGS, TOGETHER WITH THE ARCHITECTS & STRUCTURAL DRAWINGS AND ASSOCIATED SPECIFICATIONS.
- EMEC DESIGN AND CONSULTANCY LIMITED HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DRAWING OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.
- DO NOT SCALE FROM THIS DRAWING. WORK TO MEASURED DIMENSIONS ONLY.
- ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
- ALL DRAWINGS TO BE APPROVED BY THE RELEVANT STATUTORY BODY TO CONFIRM COMPLIANCE WITH BUILDING REGULATIONS AND STATUTORY REQUIREMENTS.
- EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY DESIGN WHICH HAS NOT BEEN APPROVED BY THE RELEVANT STATUTORY BODY.
- IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER & ANY OTHER RELEVANT STATUTORY BODY.
- FINAL DESIGN FOR ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION & FIRE ALARM TO BE THE RESPONSIBILITY OF THE SPECIALIST SUB-CONTRACT DESIGNER/INSTALLER.
- FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE DESIGNER/CONTRACTOR.
- EMEC DESIGN & CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY CO-ORDINATION ISSUES THAT HAVE NOT BEEN REVIEWED/ADDRESSED BY THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.

ABOVE-GROUND DRAINAGE NOTES:

- SOIL PIPEWORK SHALL BE GREY uPVC TO BS 4514. WASTE PIPEWORK SHALL BE D26 UNLESS OTHERWISE STATED.
- CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
- INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
- ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
- HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
- TRAP SIZES TO BE AS FOLLOWS:- SINK - Ø40 76 TUBULAR 'P' TRAP DISHWASHER/WASHING MACHINE - Ø40 76 DEEP SEAL TRAP AND STANDPIPE WASHBASIN - Ø32 76 DEEP SEAL TRAP SHOWER - Ø40 50 TRAP SEAL URINAL - Ø40 76 TUBULAR 'P' TRAP BATH - Ø40 50 TRAP SEAL
- RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
- MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
- ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
- FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
- EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

FLAT TYPE 2B_B1	
LEVEL -01: A1-01.08	LEVEL 03: A1.03.11
LEVEL 00: A1:00.11	LEVEL 04: A1:04.10
LEVEL 01: A1:01.11	
LEVEL 02: A1:02.11	

C1	CONSTRUCTION ISSUE	RT	JP	RT	30.11.20
No:	Description:	Orig'r:	Drawn:	Chk'd:	Date:

Revisions:

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Environmental, Mechanical
and Electrical Consultancy

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E: info@emec-consulting.co.uk
www.emec-consulting.co.uk



Drawing Status:

CONSTRUCTION

Client:



Project Title:
WELDALE STREET

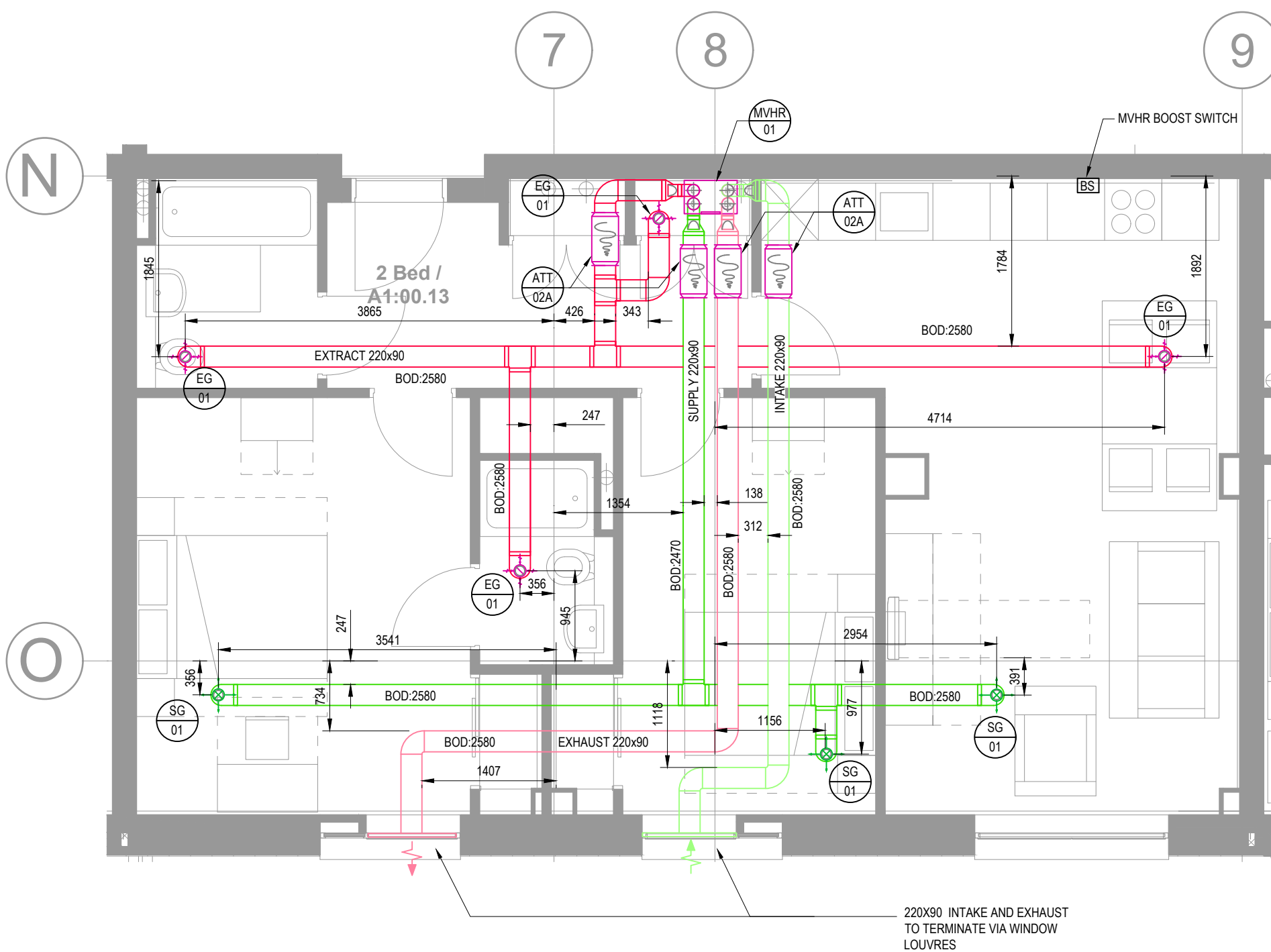
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**FLAT TYPE 2B_B1
TYPICAL MECHANICAL SERVICES**

Scale @ A1:	Originator:	Drawn by:	Checked:
1:50	RB	JP	CB
Project No.:			Date:
J20070			NOV '20
Drawing No.:			Revision:

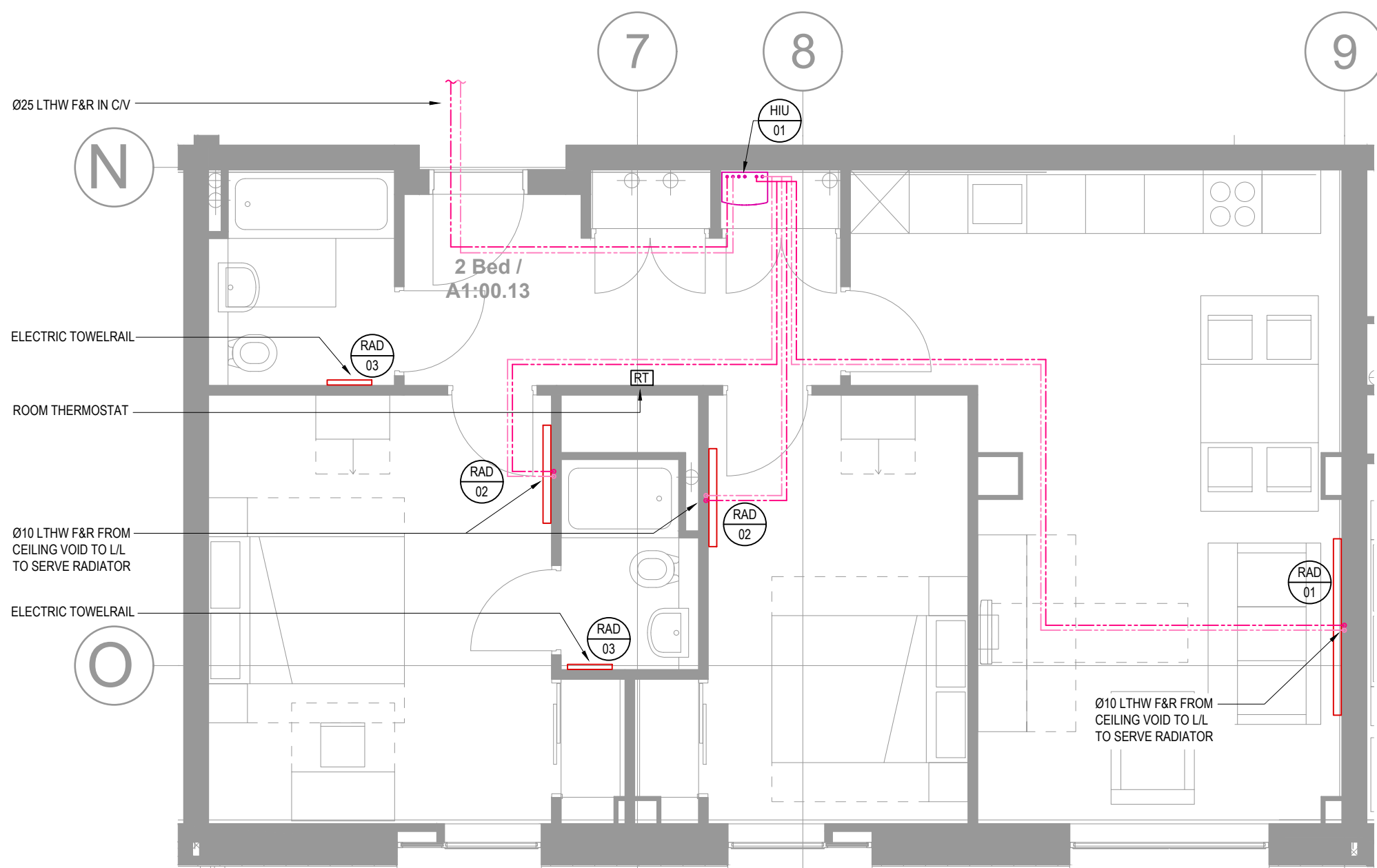
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C1

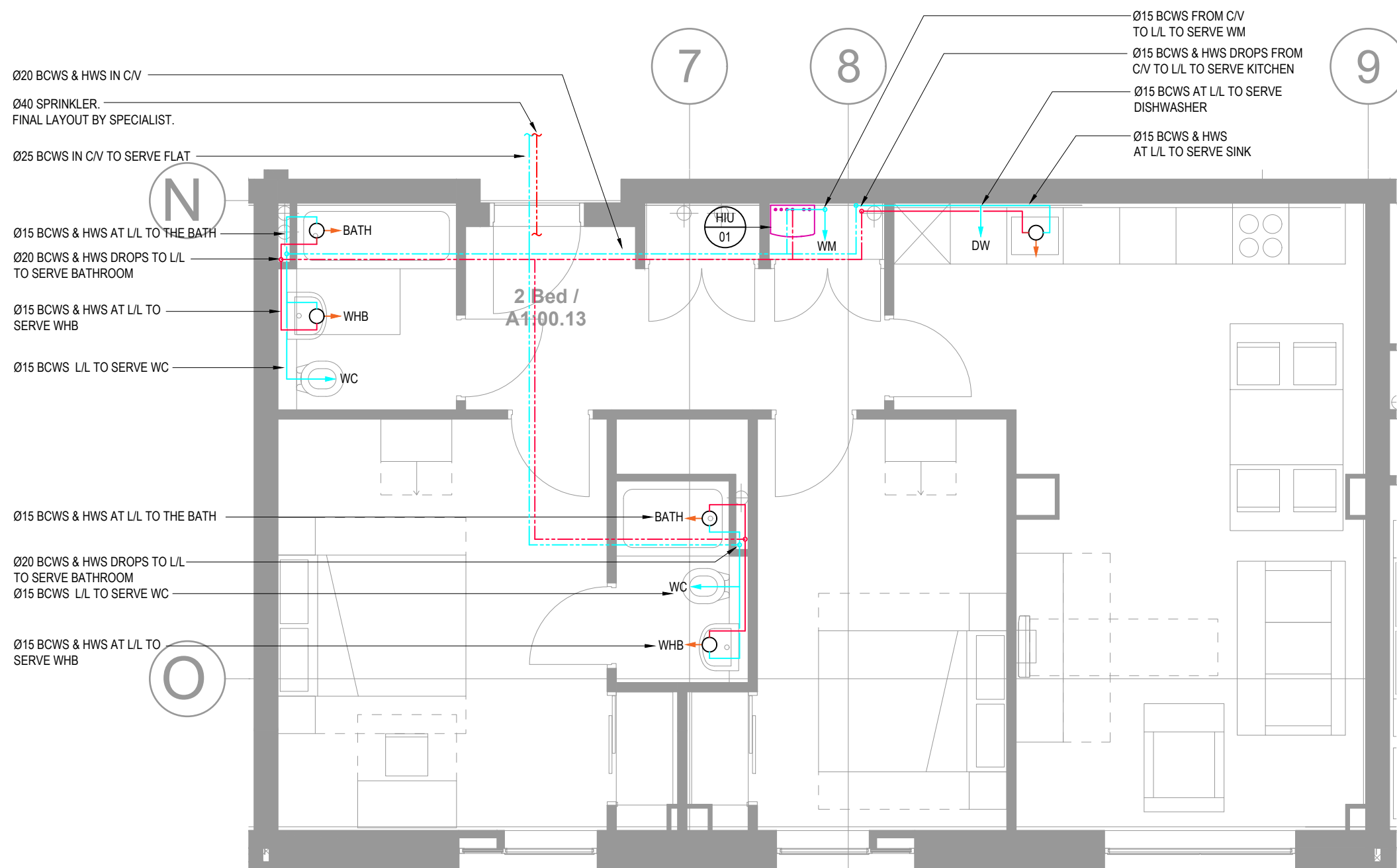
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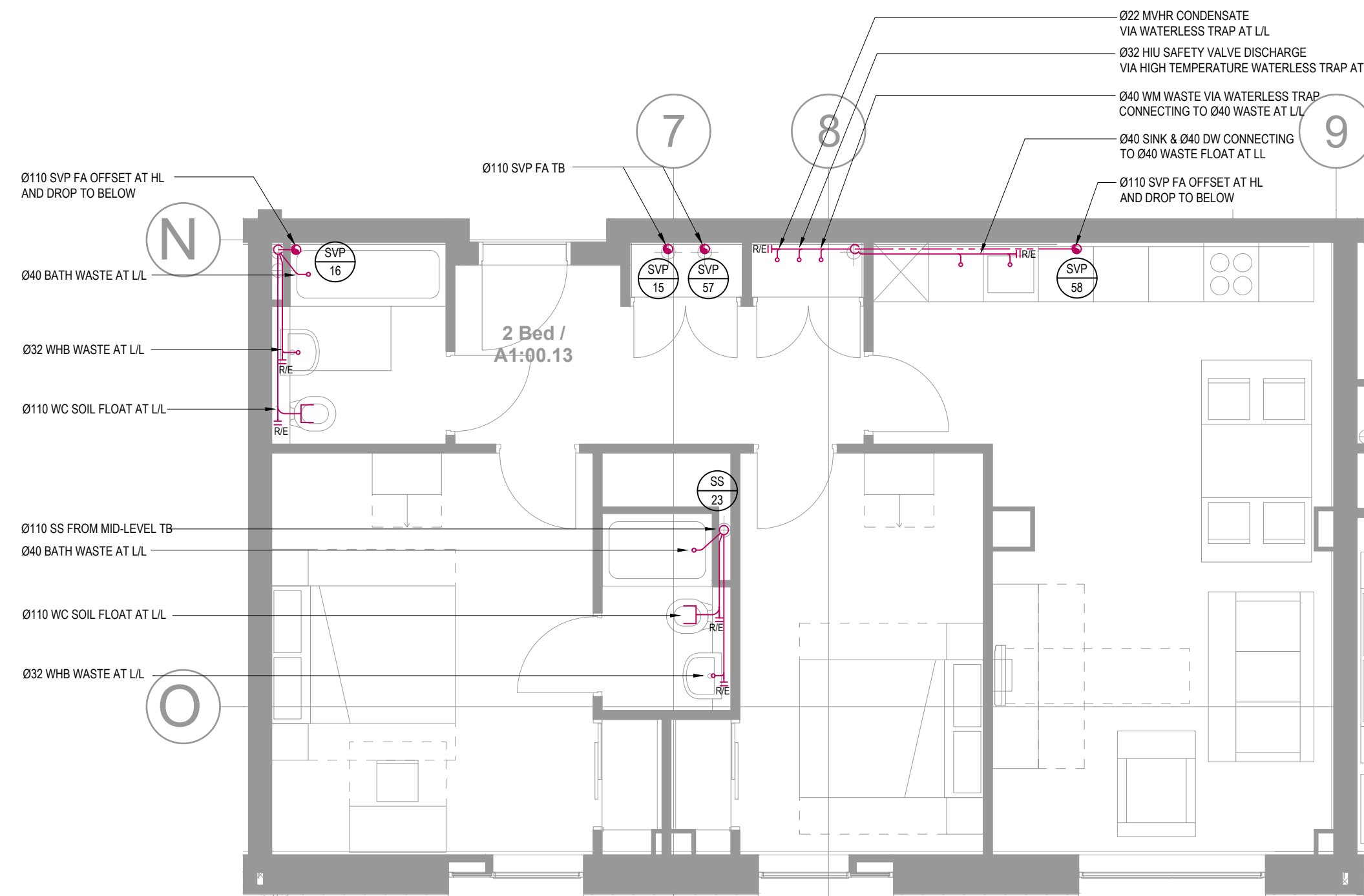
VENTILATION LAYOUT



HEATING LAYOUT



DOMESTIC WATER LAYOUT



DRAINAGE LAYOUT

DOMESTIC WATER SERVICES NOTES:

1. ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
2. HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS EN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
3. HWSF, CWS AND MOWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES. HWS R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
4. ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
5. BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
6. ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALLOPRIX ISOLATING VALVES.
7. REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
8. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACOUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

VENTILATION NOTES:

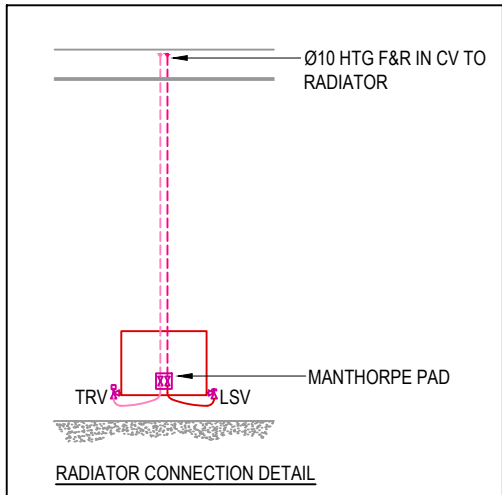
1. DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW122.
2. FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
3. ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
4. A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
5. ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
6. FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
7. THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
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HEATING NOTES:

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2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
3. FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
4. ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
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PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN



- LEGEND
- HIU XX HEAT INTERFACE UNIT
 - EG XX EXTRACT GRILLE
 - MEV XX MECHANICAL EXTRACT VENTILATION UNIT
 - MVHR XX MECHANICAL VENTILATION HEAT RECOVERY UNIT
 - ATT XX ATTENUATOR
 - RAD XX RADIATOR
 - SVP XX SOIL VENT PIPE
 - TMV THERMOSTATIC MIXING VALVE
 - BS BOOST SWITCH (FINAL LOCATION TRC BY ARCHITECT)
 - RT ROOM THERMOSTAT
 - IRE RODDING EYE
 - LSV LOCKSHIELD VALVE
 - TRV THERMOSTATIC RADIATOR VALVE

ROOM	MVHR VENTILATION RATES			
	SUPPLY AIR (l/s)		EXTRACT AIR (l/s)	
	TRICKLE	BOOST	TRICKLE	BOOST
LIVING/KITCHEN	13	46	13	46
BEDROOM 1	8	12	-	-
BEDROOM 2	8	12	-	-
UTILITY	-	-	8	12
BATHROOM 1	-	-	8	12

GENERAL NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER M&E SERVICES DRAWINGS, TOGETHER WITH THE ARCHITECTS & STRUCTURAL DRAWINGS AND ASSOCIATED SPECIFICATIONS.
2. EMEC DESIGN AND CONSULTANCY LIMITED HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DRAWING OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.
3. DO NOT SCALE FROM THIS DRAWING. WORK TO MEASURED DIMENSIONS ONLY.
4. ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.
5. ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
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9. FINAL DESIGN FOR ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION & FIRE ALARM TO BE THE RESPONSIBILITY OF THE SPECIALIST SUB-CONTRACT DESIGNER/INSTALLER.
10. FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE AND FIRE STRATEGY IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR.
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ABOVE-GROUND DRAINAGE NOTES:

1. SOIL PIPEWORK SHALL BE GREY UPVC TO BS 4514. WASTE PIPEWORK SHALL BE DE26 UNLESS OTHERWISE STATED.
2. CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
3. INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
4. ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
5. HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
6. TRAP SIZES TO BE AS FOLLOWS:-
SINK - Ø40 76 TUBULAR "P" TRAP
DISHWASHER/WASHING MACHINE - Ø40 76 DEEP SEAL TRAP AND STANDPIPE
WASHBASIN - Ø32 76 DEEP SEAL TRAP
SHOWER - Ø40 50 TRAP SEAL
URINAL - Ø40 76 TUBULAR "P" TRAP
BATH - Ø40 50 TRAP SEAL
7. RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
8. MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
9. ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
10. FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
11. EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
12. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACOUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

FLAT TYPE 2B_C1				
LEVEL 00: A1:00.13				

C1	CONSTRUCTION ISSUE	RT	JP	RT	30.11.20
No:	Description:	Orig'r:	Drawn:	Chk'd:	Date:

Revisions:

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Drawing Status:

CONSTRUCTION

Client:

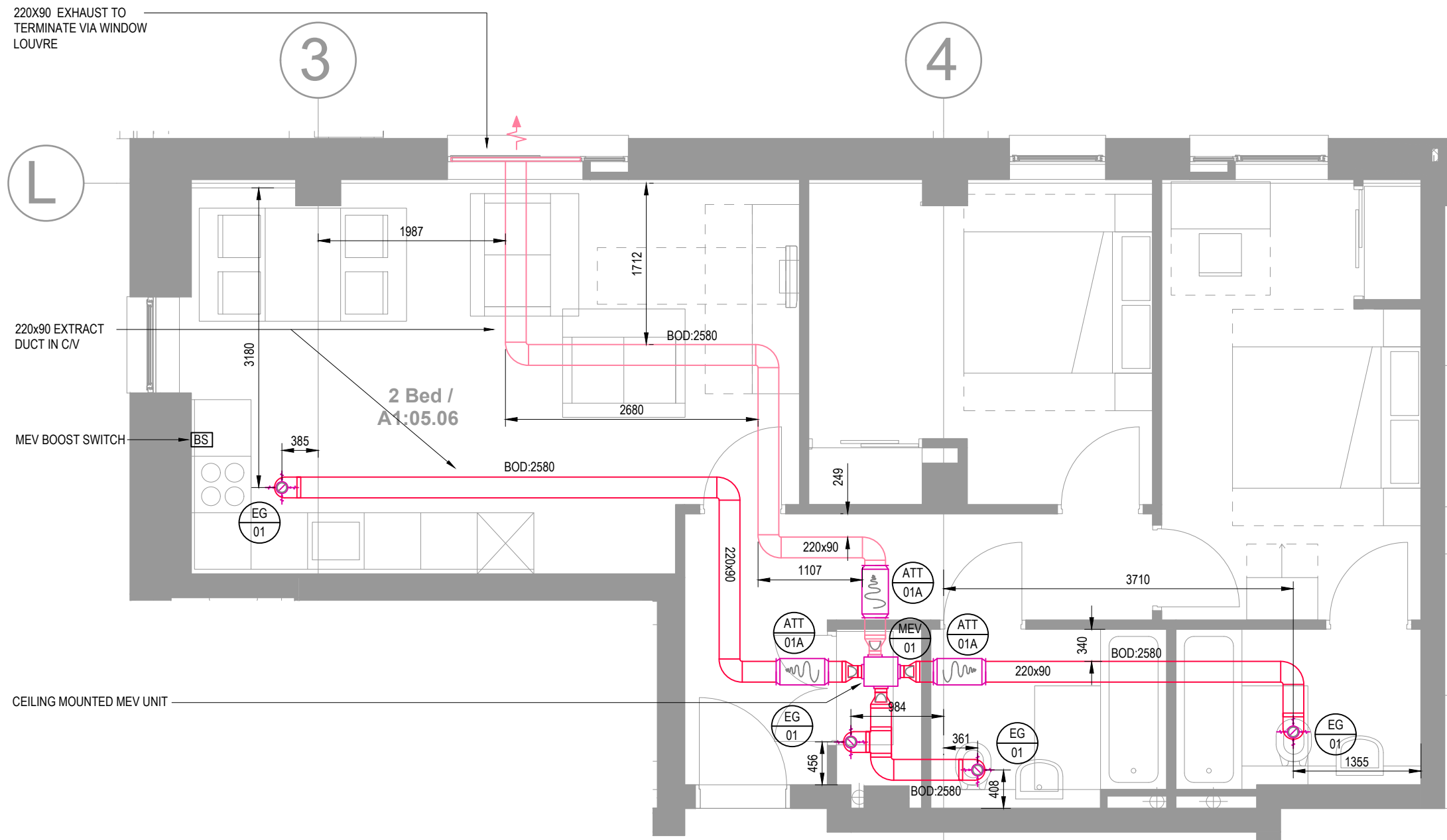


Project Title:
WELDALE STREET

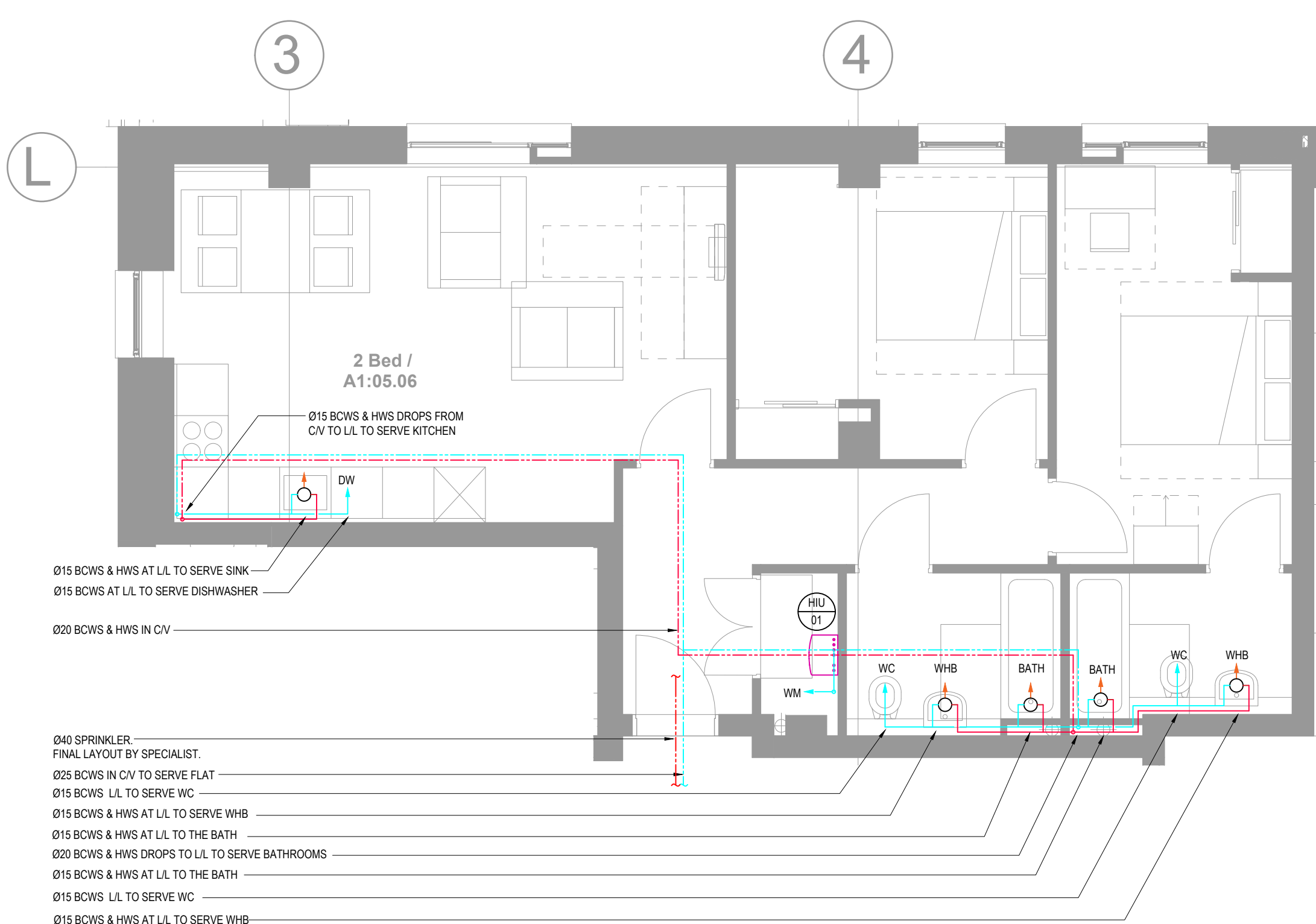
Drawing Title:
FLAT TYPE 2B_C1
TYPICAL MECHANICAL SERVICES

Scale @ A1:	Originator:	Drawn by:	Checked:
1:50	RB	JP	CB
Project No.:			Date:
J20070			NOV '20
Drawing No.:			Revision:
J20070-M-28-XX-07			C1

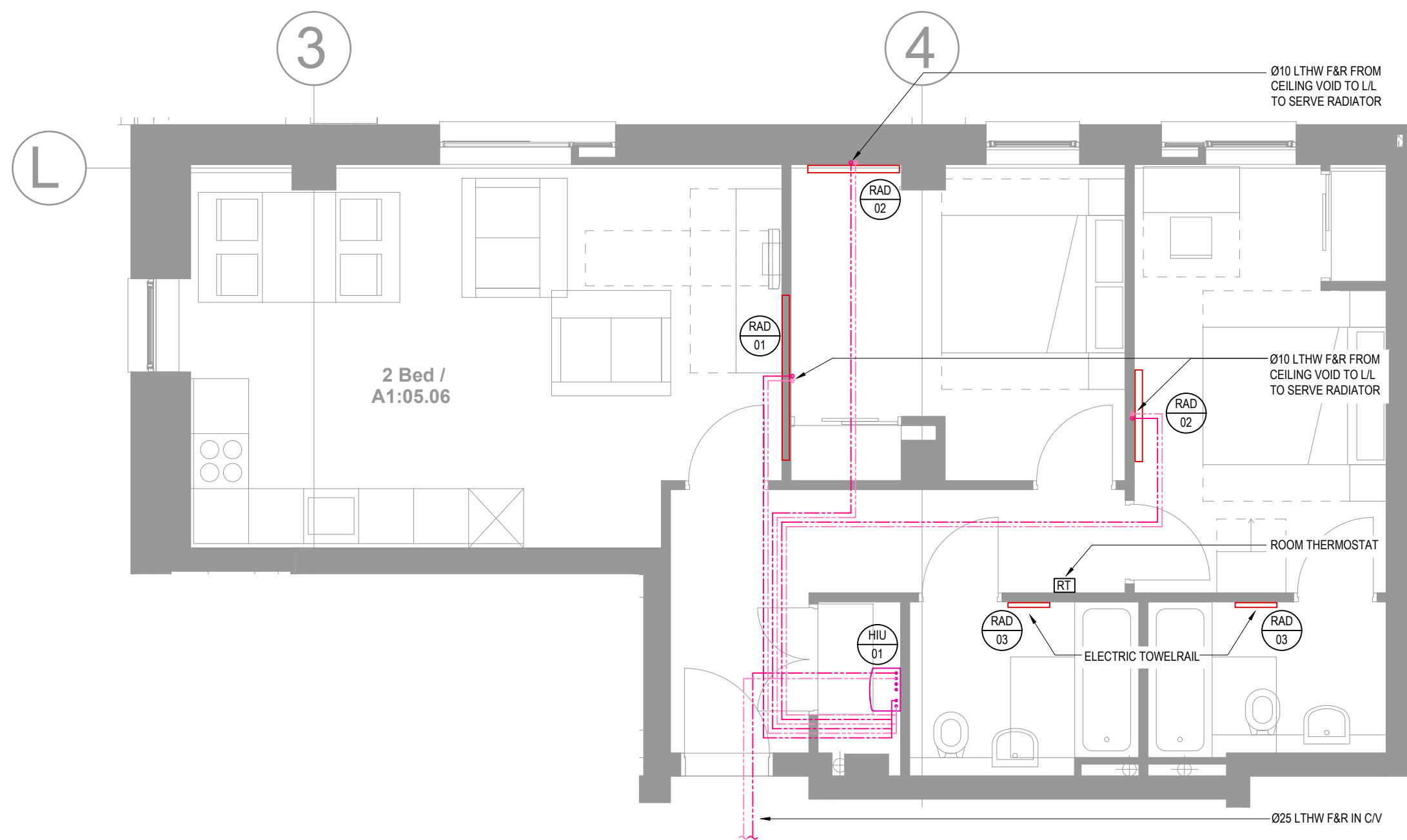
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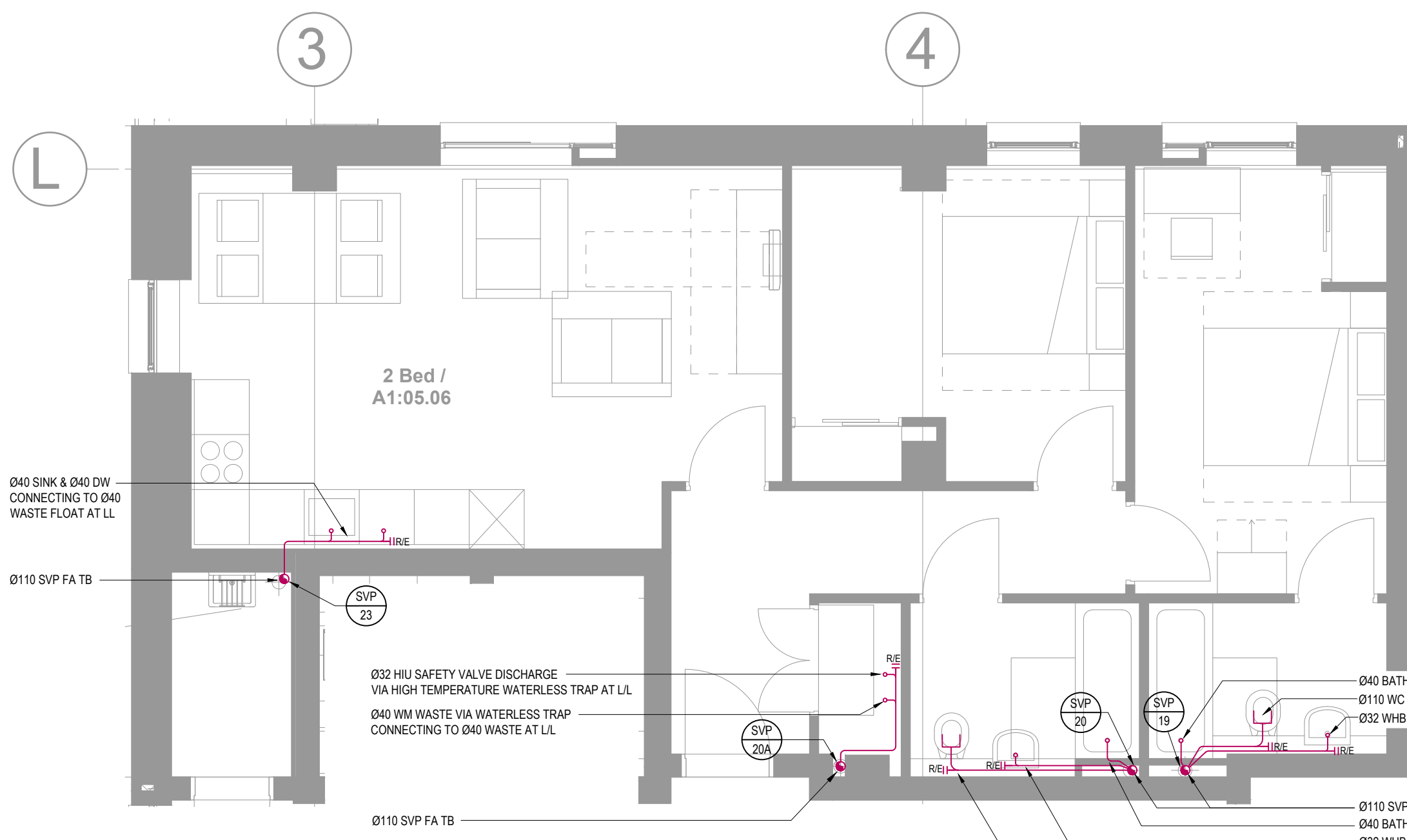
VENTILATION LAYOUT



DOMESTIC WATER LAYOUT



HEATING LAYOUT



DRAINAGE LAYOUT

DOMESTIC WATER SERVICES NOTES:

1. ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
2. HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS EN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
3. HWS, CWS AND CWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES, HWS R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
4. ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
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7. REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
8. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

VENTILATION NOTES:

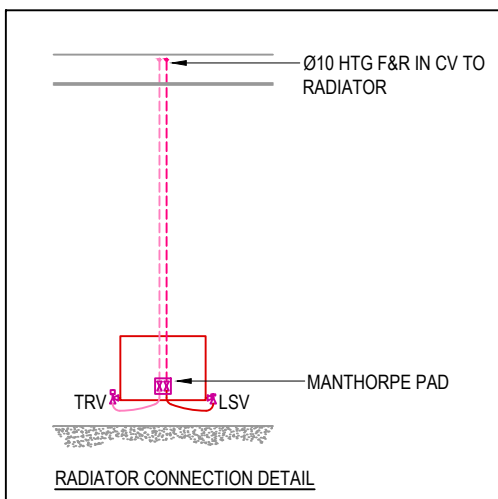
1. DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW122.
2. FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
3. ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
4. A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
5. ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
6. FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
7. THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
8. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

HEATING NOTES:

1. ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
3. FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
4. ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
5. ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS.
6. BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
7. THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE SERVICES SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE SERVICES CONTRACTOR.
8. ANY PROVISIONS FOR PIPEWORK EXPANSION, PIPEWORK GUIDES AND/OR ANCHORING ARE SHOWN FOR GUIDANCE PURPOSES. THE ACTUAL REQUIREMENT SHALL BE DETERMINED BY THE SERVICES CONTRACTOR.
9. REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
10. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA
11. ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.

PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN



LEGEND

- HEAT INTERFACE UNIT
- EXTRACT GRILLE
- MECHANICAL EXTRACT VENTILATION UNIT
- MECHANICAL VENTILATION HEAT RECOVERY UNIT
- ATTENUATOR
- RADIATOR
- SOIL VENT PIPE
- THERMOSTATIC MIXING VALVE
- BOOST SWITCH (FINAL LOCATION TBC BY ARCHITECT)
- ROOM THERMOSTAT
- RODDING EYE
- LOCKSHIELD VALVE
- THERMOSTATIC RADIATOR VALVE

MEV VENTILATION RATES		
ROOM	EXTRACT AIR (l/s)	
	TRICKLE	BOOST
LIVING/KITCHEN	13	30
UTILITY	8	10
BATHROOM 1	8	10

GENERAL NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER M&E SERVICES DRAWINGS, TOGETHER WITH THE ARCHITECTS & STRUCTURAL DRAWINGS AND ASSOCIATED SPECIFICATIONS.
2. EMEC DESIGN AND CONSULTANCY LIMITED HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DRAWING OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.
3. DO NOT SCALE FROM THIS DRAWING. WORK TO MEASURED DIMENSIONS ONLY.
4. ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.
5. ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
6. ALL DRAWINGS TO BE APPROVED BY THE RELEVANT STATUTORY BODY TO CONFIRM COMPLIANCE WITH BUILDING REGULATIONS AND STATUTORY REQUIREMENTS.
7. EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY DESIGN WHICH HAS NOT BEEN APPROVED BY THE RELEVANT STATUTORY BODY.
8. IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER & ANY OTHER RELEVANT STATUTORY BODY.
9. FINAL DESIGN FOR ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION & FIRE ALARM TO BE THE RESPONSIBILITY OF THE SPECIALIST SUB-CONTRACT DESIGNER/INSTALLER.
10. FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE DESIGNER/CONTRACTOR.
11. EMEC DESIGN & CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY CO-ORDINATION ISSUES THAT HAVE NOT BEEN REVIEWED/ADDRESSED BY THE PRINCIPLE DESIGNER/CONTRACTOR.
12. EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.

ABOVE-GROUND DRAINAGE NOTES:

1. SOIL PIPEWORK SHALL BE GREY uPVC TO BS 4514. WASTE PIPEWORK SHALL BE DE26 UNLESS OTHERWISE STATED.
2. CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
3. INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
4. ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
5. HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
6. TRAP SIZES TO BE AS FOLLOWS:-
SINK - Ø40 76 TUBULAR P" TRAP
DISHWASHER/WASHING MACHINE - Ø40 76 DEEP SEAL TRAP AND STANDPIPE
WASHBASIN - Ø32 76 DEEP SEAL TRAP
SHOWER - Ø40 50 TRAP SEAL
URINAL - Ø40 76 TUBULAR P" TRAP
BATH - Ø40 50 TRAP SEAL
7. RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
8. MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
9. ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
10. FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
11. EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
12. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUATICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

FLAT TYPE 2B_D1				
LEVEL 05	A1:05.06			
LEVEL 06	A1:06.06			
LEVEL 07	A1:07.01			
LEVEL 08	A1:08.01			

C1	CONSTRUCTION ISSUE	RT	JP	RT	30.11.20
No:	Description:	Orig'r:	Drawn:	Chk'd:	Date:

Revisions:

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and Electrical Consultancy

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Drawing Status:

CONSTRUCTION

Client:

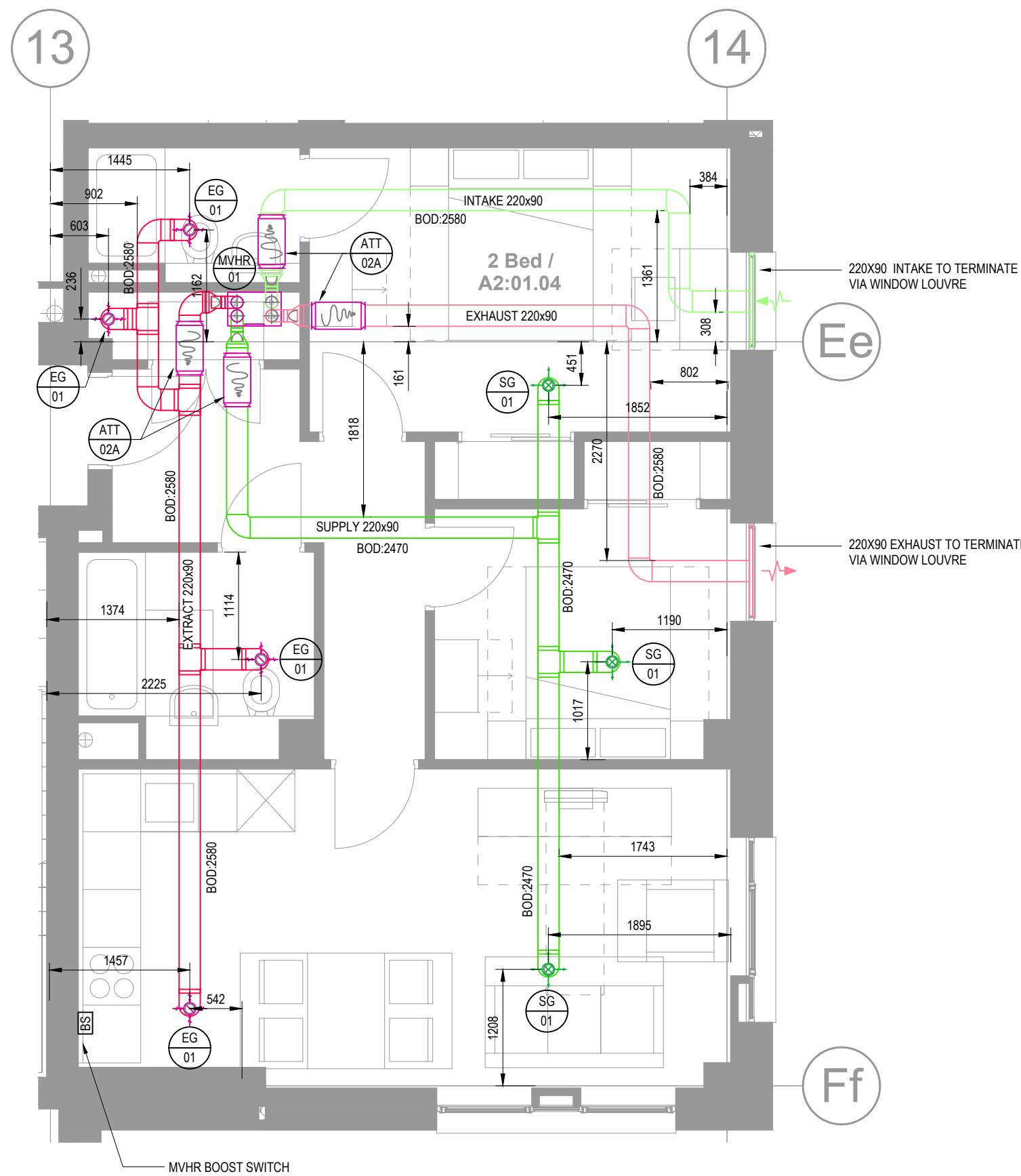


Project Title:
WELDALE STREET

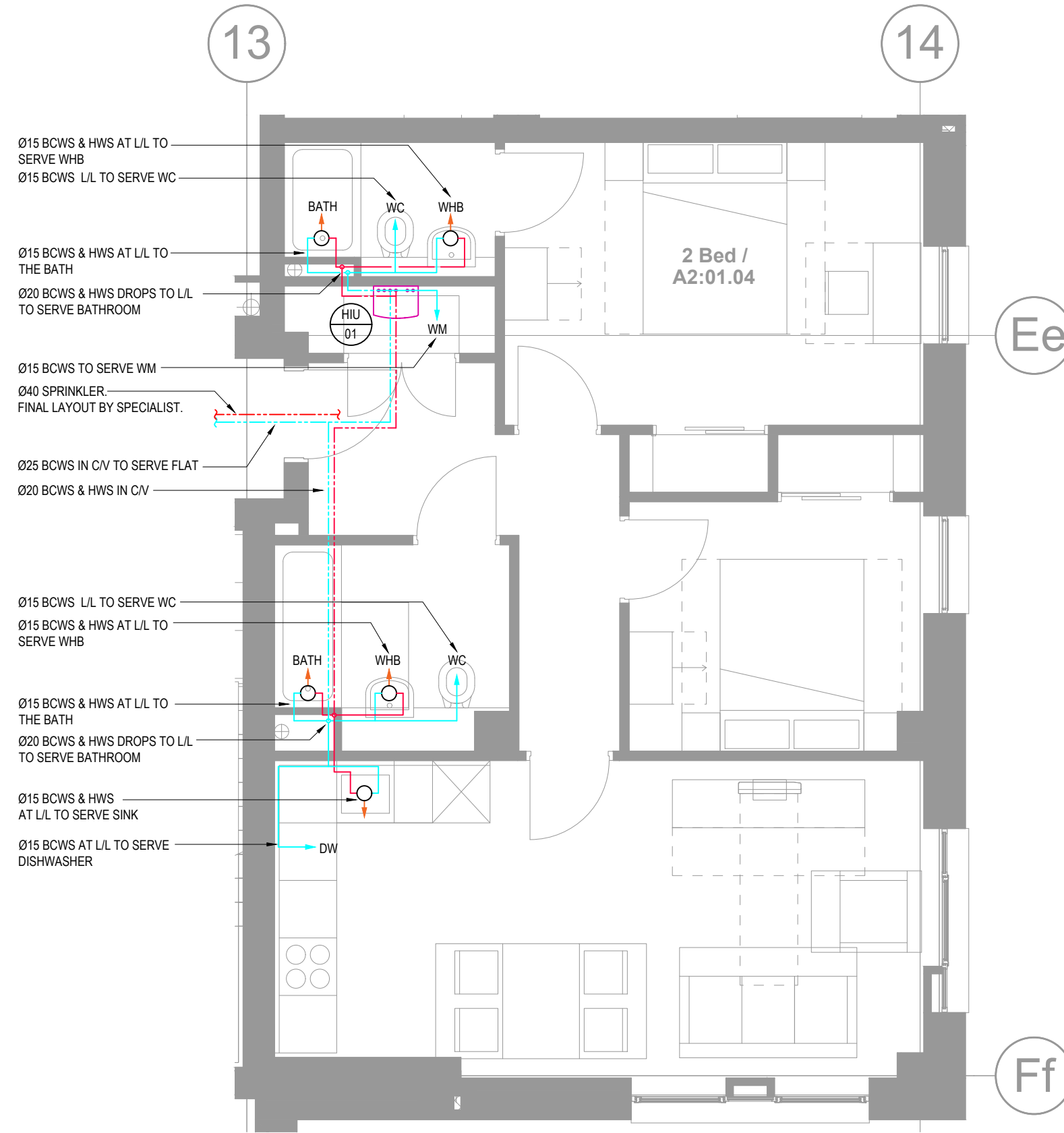
Drawing Title:
**FLAT TYPE 2B_D1
TYPICAL MECHANICAL SERVICES**

Scale @ A1:	Originator:	Drawn by:	Checked:
1:50	RB	JP	CB
Project No.:	Date:		Revision:
J20070	NOV '20		
Drawing No.:	Revision:		
J20070-M-28-XX-08	C1		

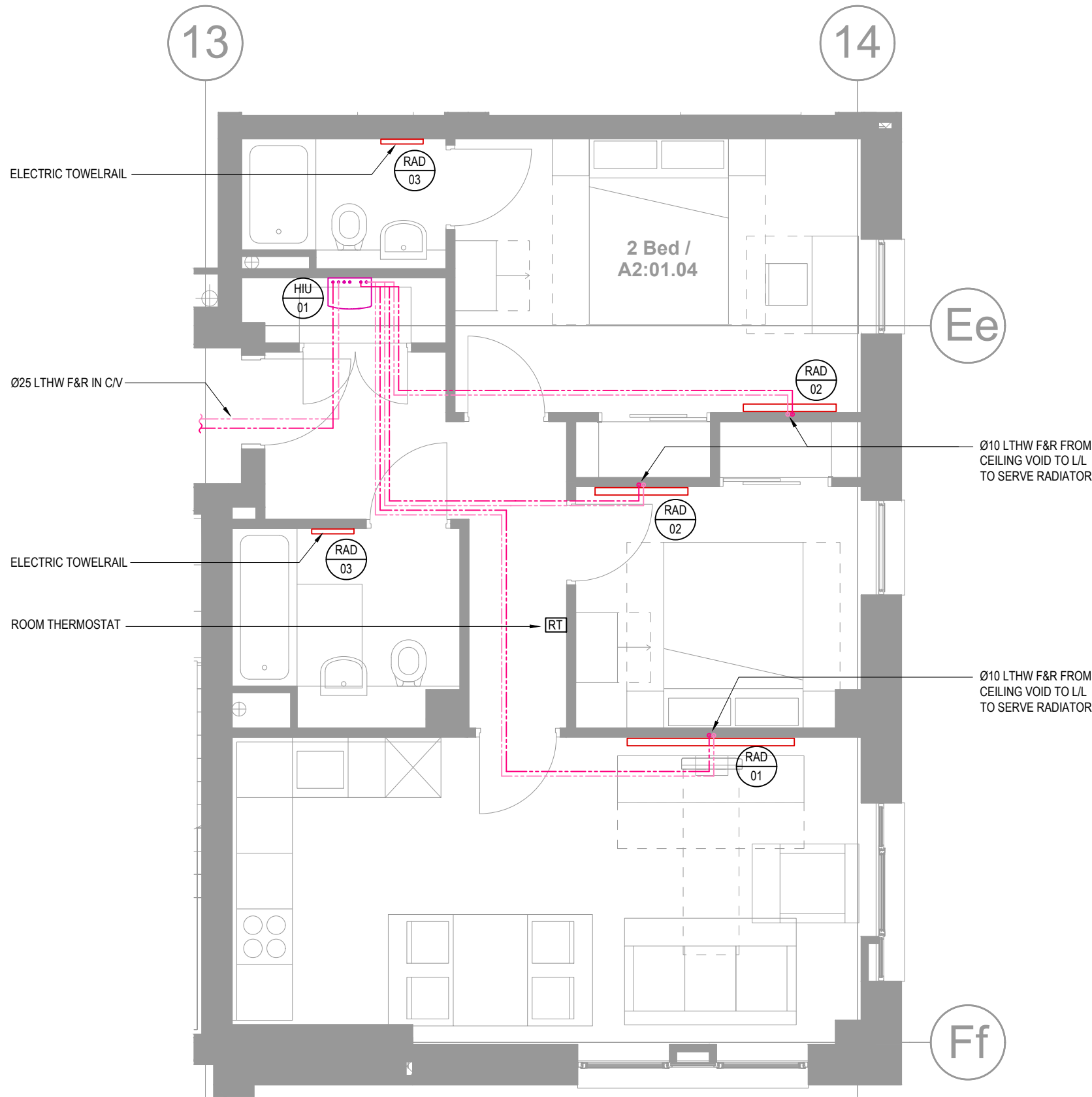
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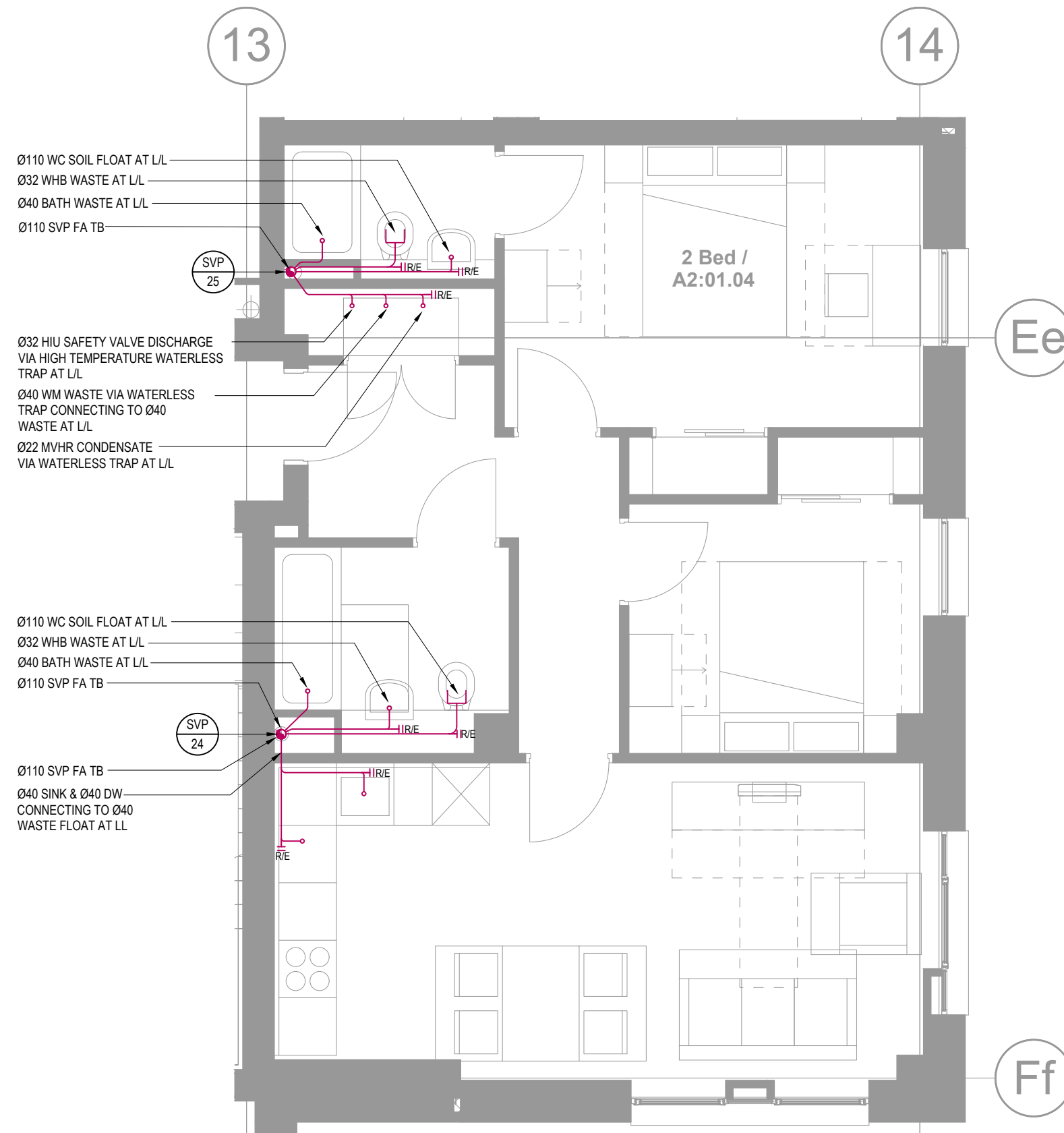
VENTILATION LAYOUT



DOMESTIC WATER LAYOUT



HEATING LAYOUT



DRAINAGE LAYOUT

DOMESTIC WATER SERVICES NOTES:

- ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
- HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS EN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
- HW, CWS AND CWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES, HWS R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALLOFIX ISOLATING VALVES.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

VENTILATION NOTES:

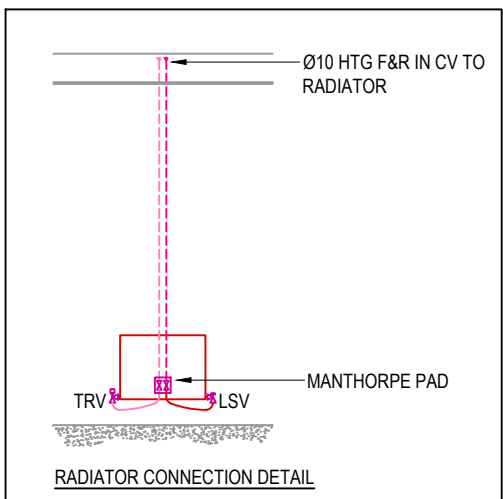
- DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW152.
- FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
- A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
- ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
- FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

HEATING NOTES:

- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
- FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
- ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
- ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE SERVICES SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE SERVICES CONTRACTOR.
- ANY PROVISIONS FOR PIPEWORK EXPANSION, PIPEWORK GUIDES AND/OR ANCHORING ARE SHOWN FOR GUIDANCE PURPOSES. THE ACTUAL REQUIREMENT SHALL BE DETERMINED BY THE SERVICES CONTRACTOR.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.

PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN



LEGEND

- | | | | |
|---------|---|--------|-----------------------------|
| HIU XX | HEAT INTERFACE UNIT | RAD XX | RADIATOR |
| EG XX | EXTRACT GRILLE | SVP XX | SOIL VENT PIPE |
| MEV XX | MECHANICAL EXTRACT VENTILATION UNIT | BS | THERMOSTATIC MIXING VALVE |
| MVHR XX | MECHANICAL VENTILATION HEAT RECOVERY UNIT | RT | ROOM THERMOSTAT |
| ATT XX | ATTENUATOR | IRE | RODDING EYE |
| | | LSV | LOCKSHIELD VALVE |
| | | TRV | THERMOSTATIC RADIATOR VALVE |

GENERAL NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER M&E SERVICES DRAWINGS, TOGETHER WITH THE ARCHITECTS & STRUCTURAL DRAWINGS AND ASSOCIATED SPECIFICATIONS.
- EMEC DESIGN AND CONSULTANCY LIMITED HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DRAWING OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.
- DO NOT SCALE FROM THIS DRAWING. WORK TO MEASURED DIMENSIONS ONLY.
- ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.
- ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
- ALL DRAWINGS TO BE APPROVED BY THE RELEVANT STATUTORY BODY TO CONFIRM COMPLIANCE WITH BUILDING REGULATIONS AND STATUTORY REQUIREMENTS.
- EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY DESIGN WHICH HAS NOT BEEN APPROVED BY THE RELEVANT STATUTORY BODY.
- IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER & ANY OTHER RELEVANT STATUTORY BODY.
- FINAL DESIGN FOR ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION & FIRE ALARM TO BE THE RESPONSIBILITY OF THE SPECIALIST SUB-CONTRACT DESIGNER/INSTALLER.
- FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE AND FIRE STRATEGY IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN & CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY CO-ORDINATION ISSUES THAT HAVE NOT BEEN REVIEWED/ADDRESSED BY THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.

ABOVE-GROUND DRAINAGE NOTES:

- SOIL PIPEWORK SHALL BE GREY uPVC TO BS 4514. WASTE PIPEWORK SHALL BE DE26 UNLESS OTHERWISE STATED.
- CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
- INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
- ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
- HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
- TRAP SIZES TO BE AS FOLLOWS:-
SINK - Ø40 76 TUBULAR 'P' TRAP
DISHWASHER/WASHING MACHINE - Ø40 76 DEEP SEAL TRAP AND STANDPIPE
WASHBASIN - Ø32 76 DEEP SEAL TRAP
SHOWER - Ø40 50 TRAP SEAL
URINAL - Ø40 76 TUBULAR 'P' TRAP
BATH - Ø40 50 TRAP SEAL
- RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
- MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
- ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
- FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
- EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACQUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

FLAT TYPE 2B_E1

LEVEL 00: A2:00.04	LEVEL 04: A2:04.04
LEVEL 01: A2:01.04	LEVEL 05: A2:05.04
LEVEL 02: A2:02.04	LEVEL 06: A2:06.04
LEVEL 03: A2:03.04	

C1	CONSTRUCTION ISSUE	RT	JP	RT	30.11.20
No:	Description:	Orig'r:	Drawn:	Chk'd:	Date:

Revisions:

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and Electrical Consultancy

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Drawing Status:

CONSTRUCTION

Client:



Project Title:

WELDALE STREET

Drawing Title:

**FLAT TYPE 2B_E1
TYPICAL MECHANICAL SERVICES**

Scale @ A1:	Originator:	Drawn by:	Checked:
1:50	RB	JP	CB
Project No.:			Date:
J20070			NOV '20

Drawing No.:	Revision:
J20070-M-28-XX-09	C1

DO NOT SCALE THIS DRAWING

DOMESTIC WATER SERVICES NOTES:

1. ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
2. HOT AND COLD WATER PIPEWORK TO BE COPPER TO BSEN 1057 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
3. HWSF, CWS AND MOWS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES. HWS R PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
4. ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL (ROCKWOOL OR EQUIVALENT) AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
5. BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
6. ALL FINAL CONNECTIONS TO APPLIANCES ARE TO BE COMPLETE WITH BALLOFIX ISOLATING VALVES.
7. REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
8. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACOUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

VENTILATION NOTES:

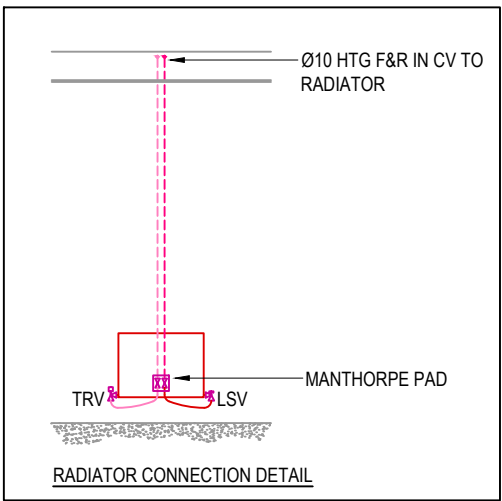
1. DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW122.
2. FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
3. ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
4. A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
5. ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND ITEMS OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
6. FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 500mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
7. THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEM(S) AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
8. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACOUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

HEATING NOTES:

1. ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS WILL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS & BUILDING REGULATIONS
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEATING SCHEMATIC.
3. FOR VALVE ARRANGEMENT SERVING THE HEATING INSTALLATION REFER TO THE HEATING SCHEMATIC.
4. ALL BRANCH PIPEWORK SHALL BE FITTED WITH ISOLATING VALVE ON THE FLOW AND COMMISSIONING SET OR MEASURING STATION ON THE RETURN. REFER TO SCHEMATICS FOR VALVE ARRANGEMENTS.
5. ALL LOW POINTS OF THE HEATING DISTRIBUTION SYSTEM SHALL BE FITTED WITH DRAIN COCKS AND HIGH POINTS FITTED WITH AUTOMATIC OR MANUAL AIR VENTS.
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9. REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
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PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN



LEGEND

- | | | | |
|---------|---|--------|-----------------------------|
| HIU XX | HEAT INTERFACE UNIT | RAD XX | RADIATOR |
| EG XX | EXTRACT GRILLE | SVP XX | SOIL VENT PIPE |
| MEV XX | MECHANICAL EXTRACT VENTILATION UNIT | BS | THERMOSTATIC MIXING VALVE |
| MVHR XX | MECHANICAL VENTILATION HEAT RECOVERY UNIT | RT | ROOM THERMOSTAT |
| ATT XX | ATTENUATOR | R | RODDING EYE |
| | | LSV | LOCKSHIELD VALVE |
| | | TRV | THERMOSTATIC RADIATOR VALVE |

GENERAL NOTES:

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3. DO NOT SCALE FROM THIS DRAWING. WORK TO MEASURED DIMENSIONS ONLY.
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5. ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
6. ALL DRAWINGS TO BE APPROVED BY THE RELEVANT STATUTORY BODY TO CONFIRM COMPLIANCE WITH BUILDING REGULATIONS AND STATUTORY REQUIREMENTS.
7. EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY DESIGN WHICH HAS NOT BEEN APPROVED BY THE RELEVANT STATUTORY BODY.
8. IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER & ANY OTHER RELEVANT STATUTORY BODY.
9. FINAL DESIGN FOR ALL FIRE RELATED SERVICES, INCLUDING, BUT NOT LIMITED TO, SPRINKLERS, DRY WET RISERS, SMOKE VENTILATION & FIRE ALARM IS TO BE THE RESPONSIBILITY OF THE SPECIALIST SUB-CONTRACT DESIGNER/INSTALLER.
10. FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE DESIGNER/CONTRACTOR.
11. EMEC DESIGN & CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY CO-ORDINATION ISSUES THAT HAVE NOT BEEN REVIEWED/ADDRESSED BY THE PRINCIPLE DESIGNER/CONTRACTOR.
12. EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.

ABOVE-GROUND DRAINAGE NOTES:

1. SOIL PIPEWORK SHALL BE GREY uPVC TO BS 4514. WASTE PIPEWORK SHALL BE DE26 UNLESS OTHERWISE STATED.
2. CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
3. INTUMESCENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
4. ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
5. HORIZONTAL PIPEWORK LAID TO FALL AT 1:80 UNLESS OTHERWISE STATED.
6. TRAP SIZES TO BE AS FOLLOWS:-
SINK - Ø40 76 TUBULAR 'P' TRAP
DISHWASHER/WASHING MACHINE - Ø40 76 DEEP SEAL TRAP AND STANDPIPE
WASHBASIN - Ø32 76 DEEP SEAL TRAP
SHOWER - Ø40 50 TRAP SEAL
URINAL - Ø40 76 TUBULAR 'P' TRAP
BATH - Ø40 50 TRAP SEAL
7. RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
8. MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
9. ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
10. FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
11. EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
12. ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACOUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA

FLAT TYPE 2B_F1

LEVEL 01: A2:01.07
LEVEL 02: A2:02.08
LEVEL 03: A2:03.08

C1	CONSTRUCTION ISSUE	RT	JP	RT	30.11.20
No:	Description:	Orig'n:	Drawn:	Chk'd:	Date:

Revisions:

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Drawing Status:

CONSTRUCTION

Client:



Project Title:

WELDALE STREET

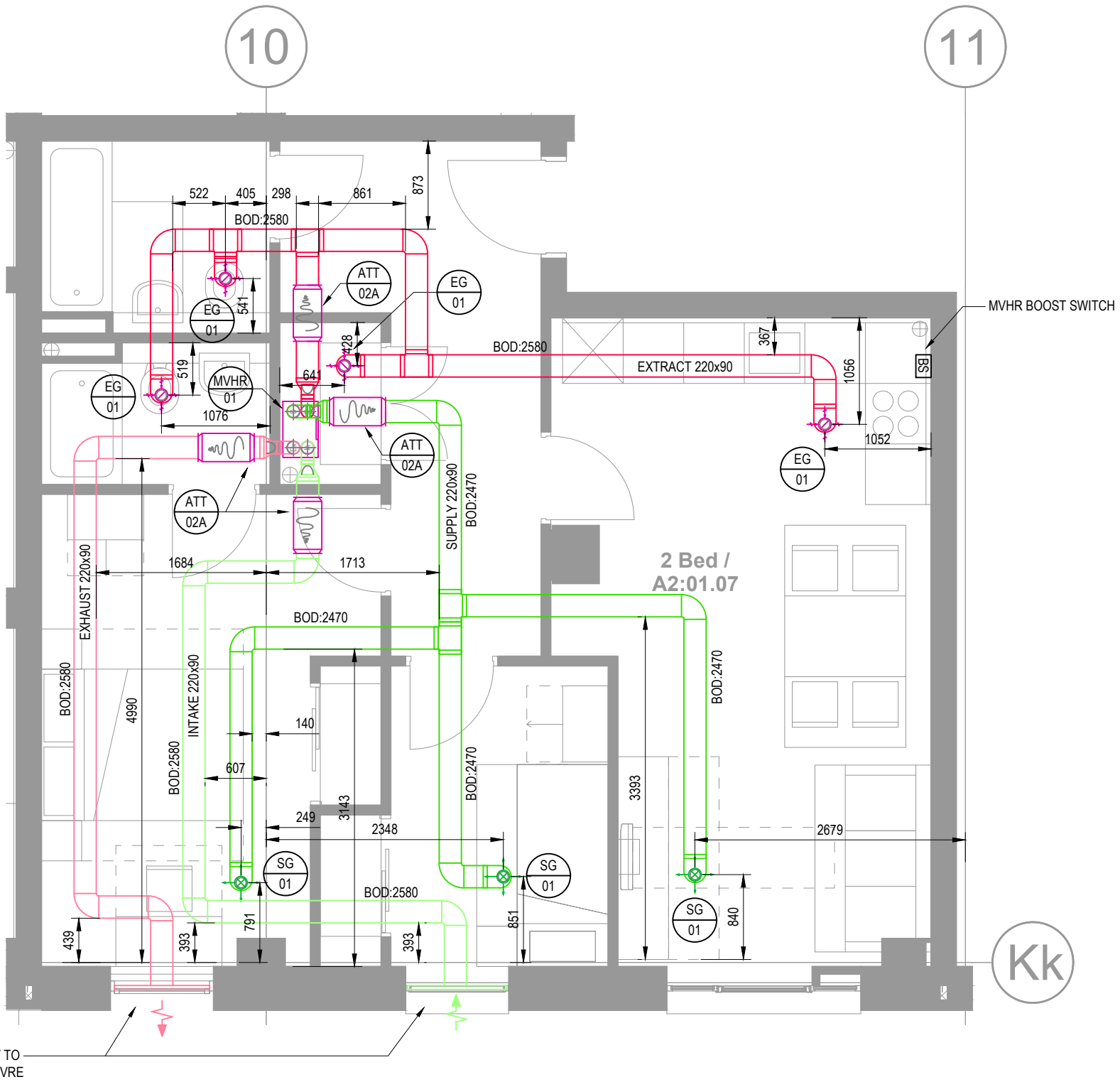
Drawing Title:

FLAT TYPE 2B_F1
TYPICAL MECHANICAL SERVICES

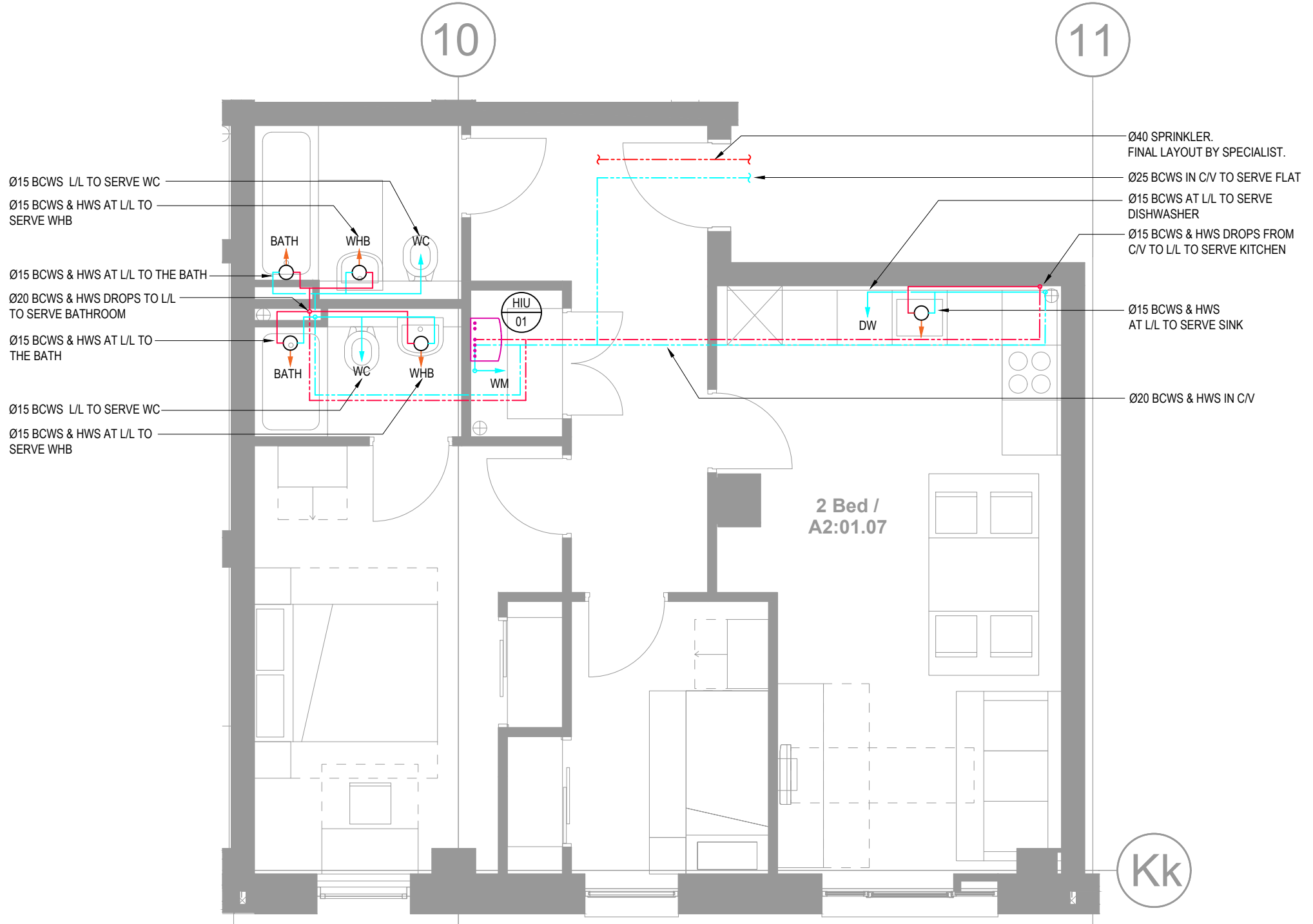
Scale @ A1:	Originator:	Drawn by:	Checked:
1:50	RB	JP	CB
Project No.:	Date:		
J20070	NOV '20		

Drawing No.:	Revision:
J20070-M-28-XX-11	C1

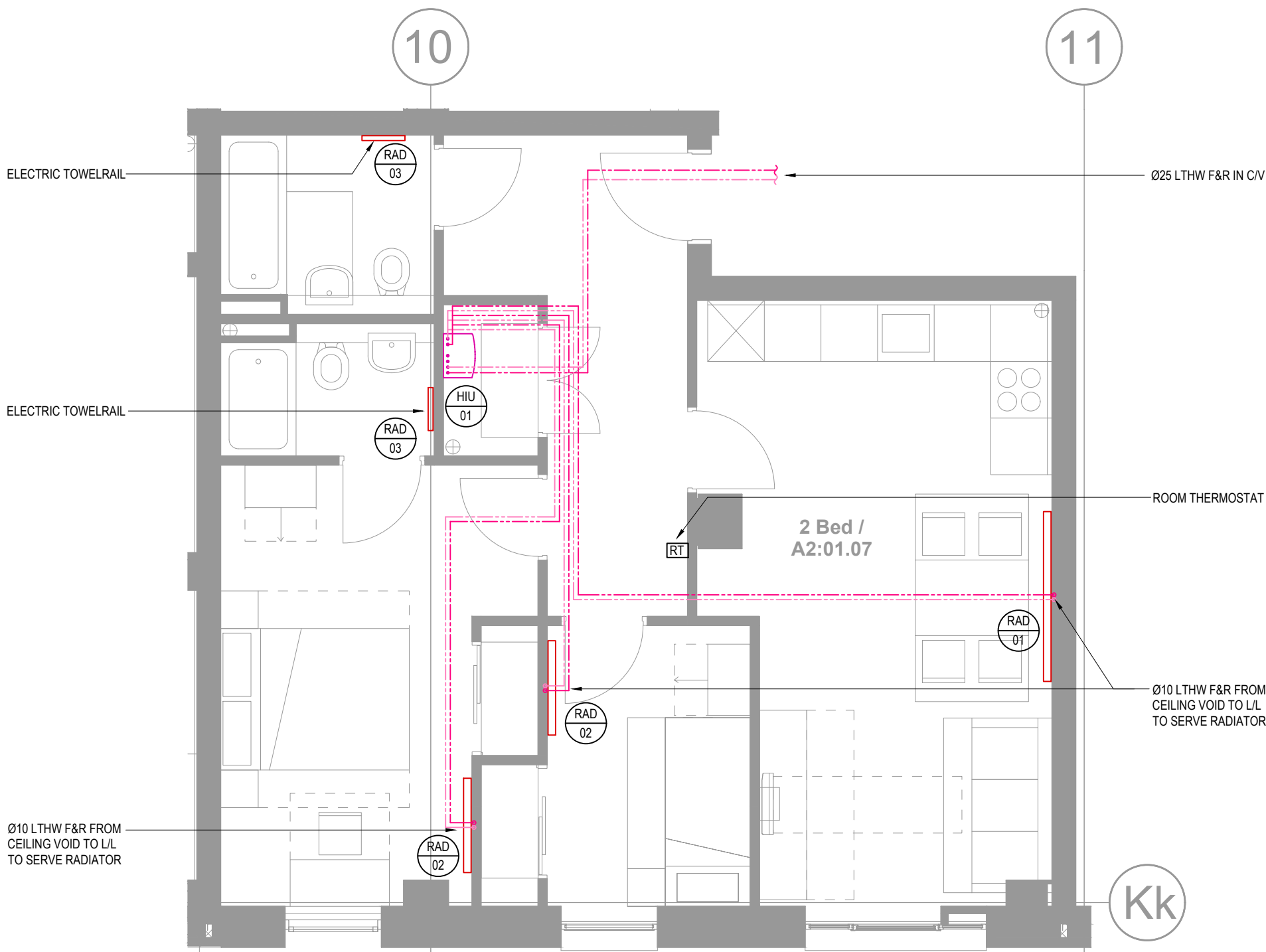
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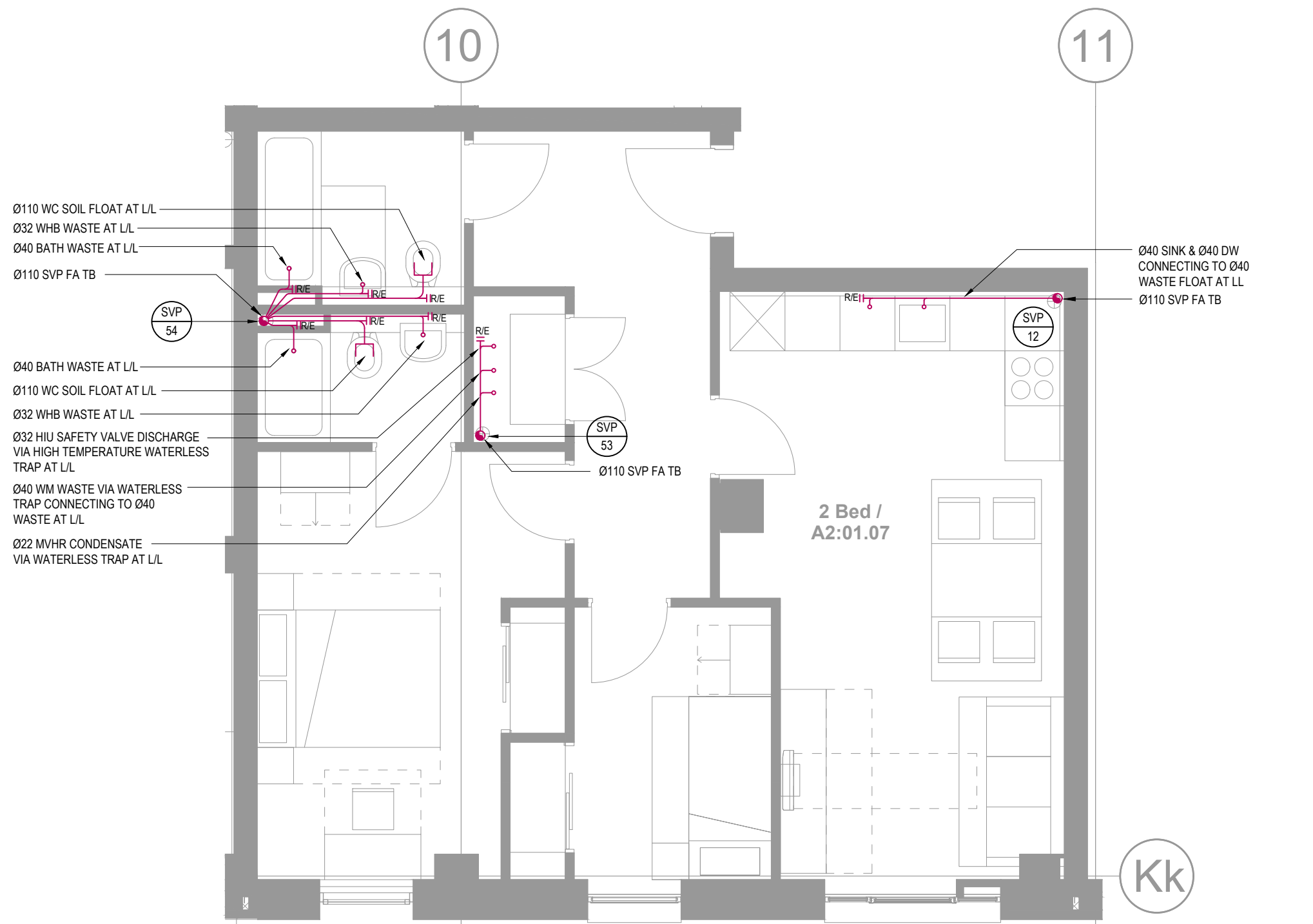
VENTILATION LAYOUT



DOMESTIC WATER LAYOUT

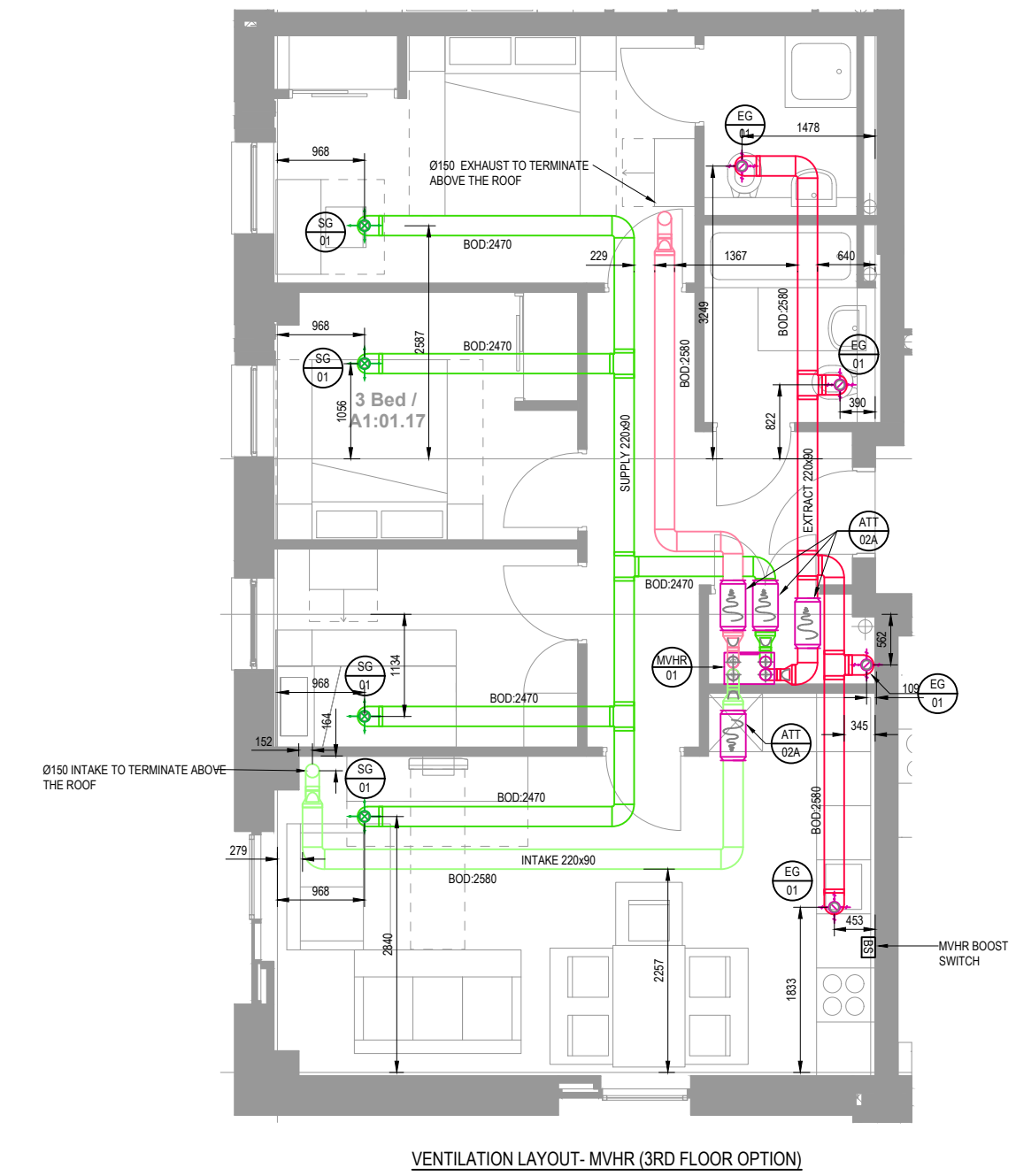
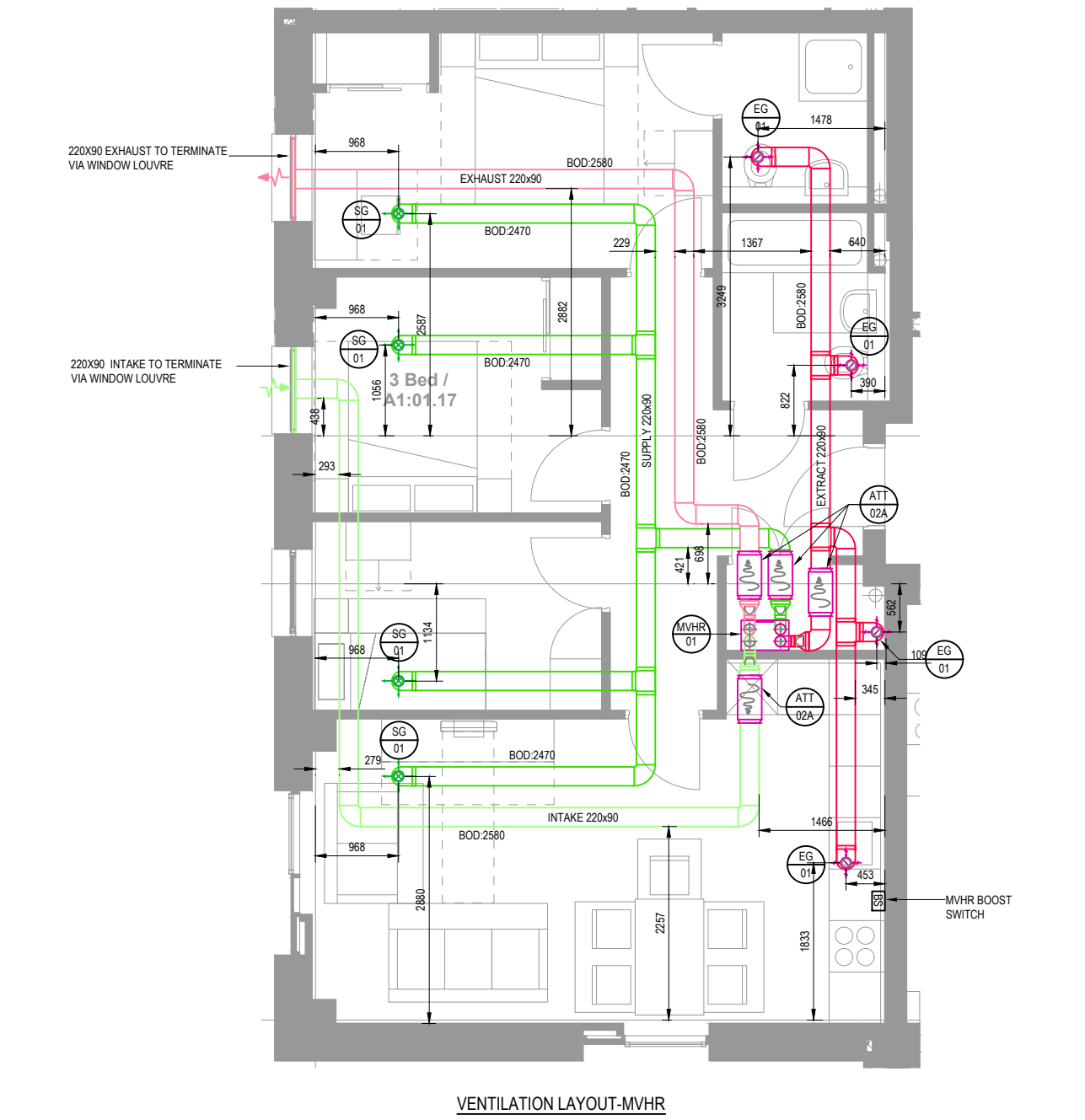
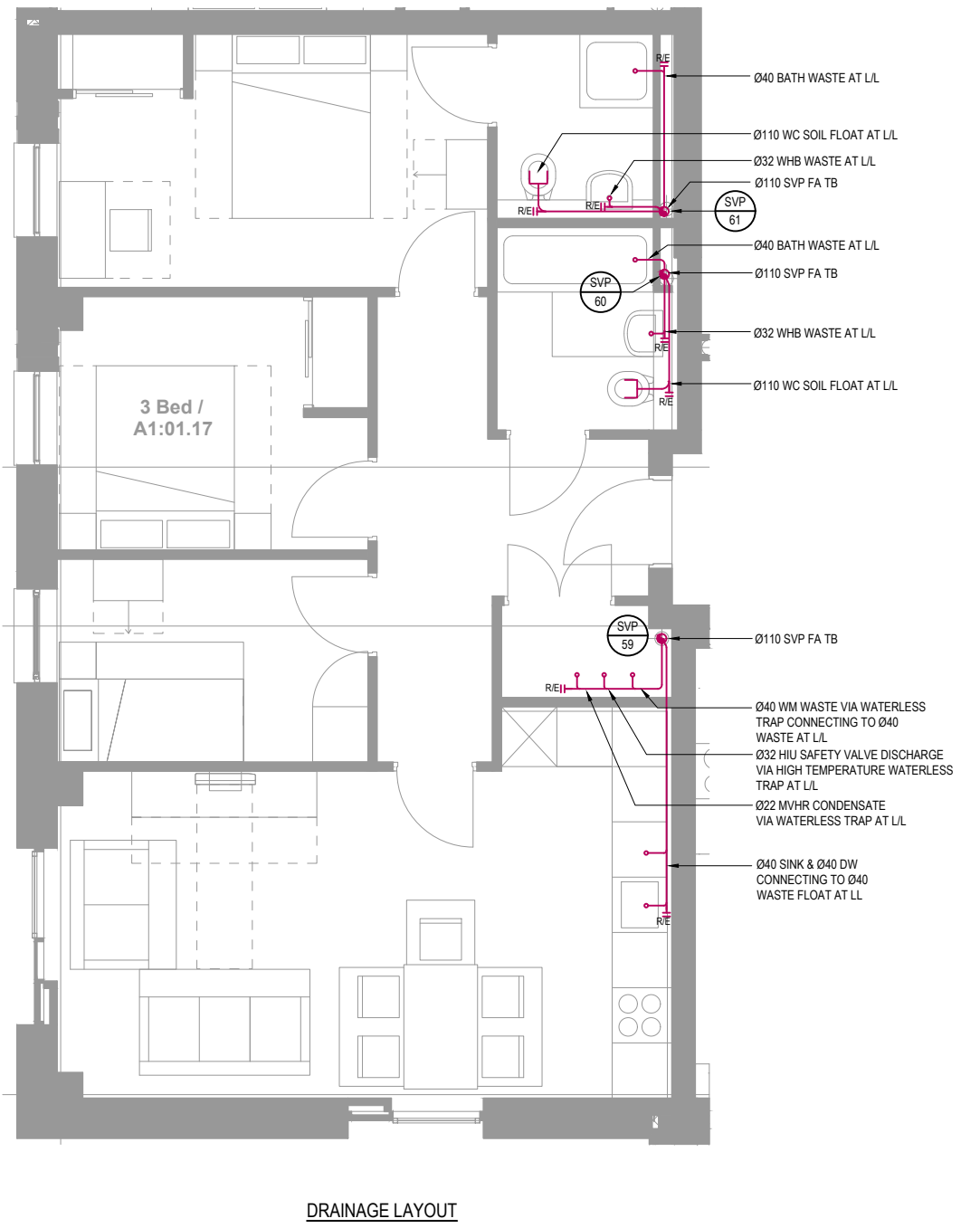
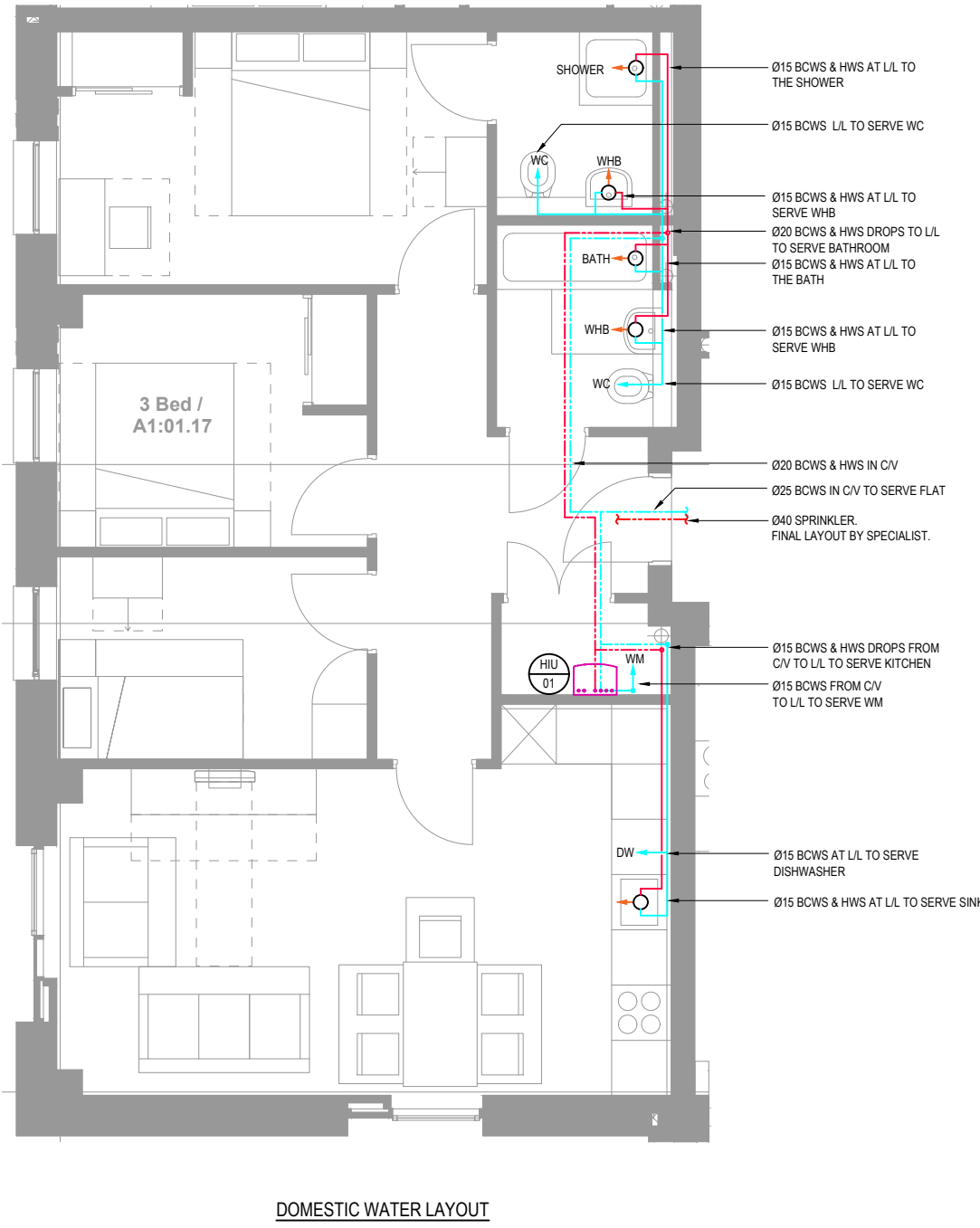
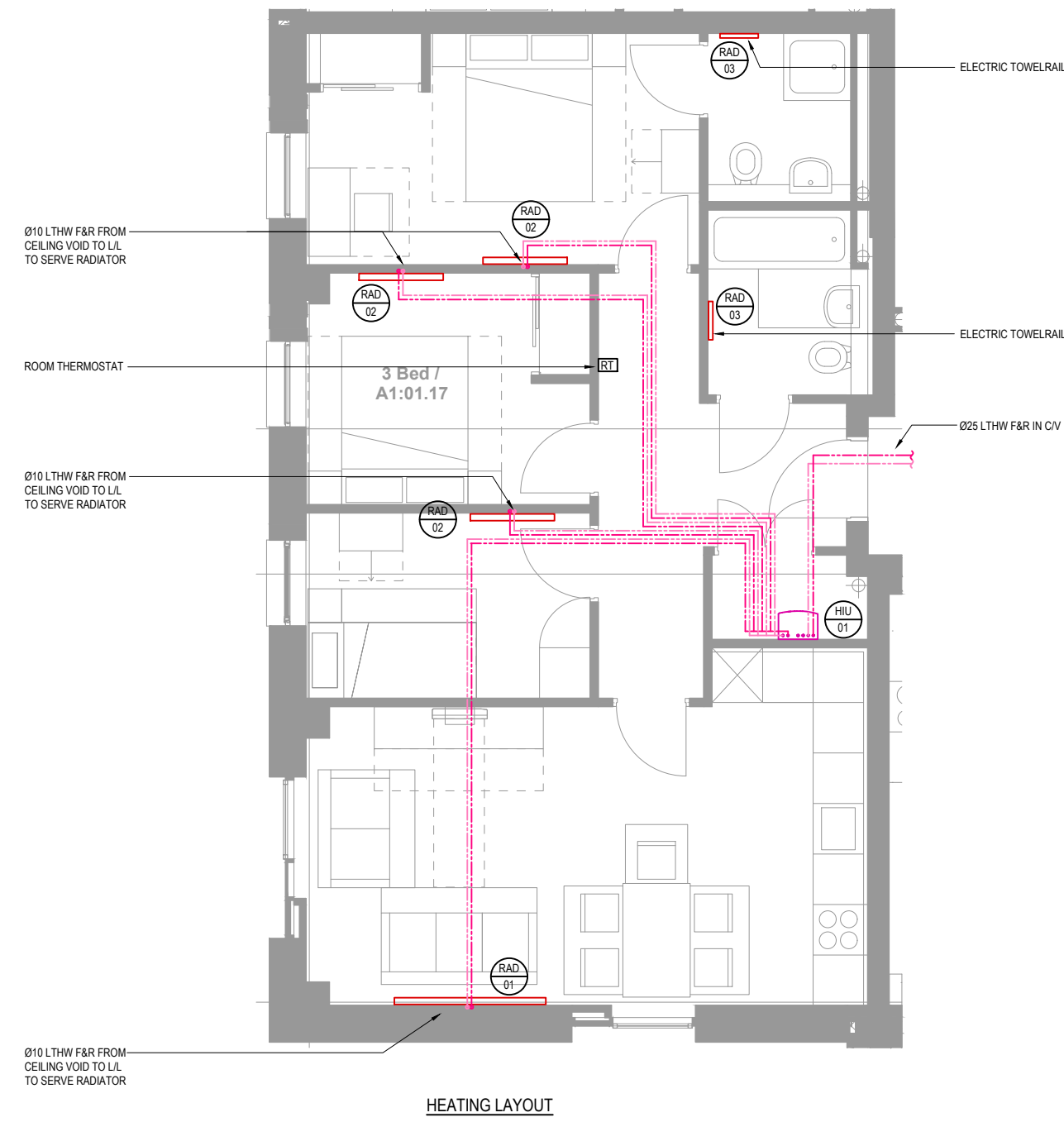


HEATING LAYOUT



DRAINAGE LAYOUT

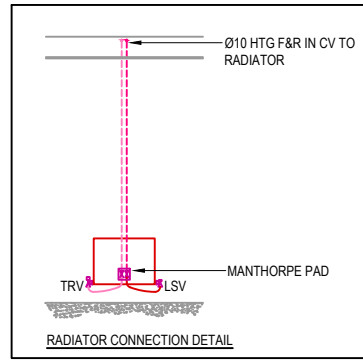
MVHR VENTILATION RATES				
ROOM	SUPPLY AIR (l/s)		EXTRACT AIR (l/s)	
	TRICKLE	BOOST	TRICKLE	BOOST
LIVING/KITCHEN	13	46	13	46
BEDROOM 1	8	12	-	-
BEDROOM 2	8	12	-	-
UTILITY	-	-	8	12
BATHROOM 1	-	-	8	12



PLASTIC PE PIPE SIZES	EQUIVALENT COPPER	EQUIVALENT STEEL (DN)
20	15	15
25	22	20
32	28	25
40	35	32
50	42	40
63	54	50
75	67	65

ALL SIZES ARE DN

ROOM	SUPPLY AIR [m³]		EXTRACT AIR [m³]	
	TRICKLE	BOOST	TRICKLE	BOOST
LIVING/DINING/HALL	12	36	12	36
BEDROOM 1	8	12	-	-
BEDROOM 2	8	12	-	-
BEDROOM 3	8	12	-	-
UTILITY	-	-	8	12
BATHROOM 1	-	-	8	12
BATHROOM 2	-	-	8	12



LEGEND
HEAT INTERFACE UNIT
EXTRACT GRILLE
MECHANICAL EXTRACT VENTILATION UNIT
MECHANICAL VENTILATION
HEAT RECOVERY UNIT
ATTENUATOR
RADIATOR
SOIL VENT PIPE
THERMOSTATIC MIXING VALVE
BOOST SWITCH (FINAL LOCATION TBC BY ARCHITECT)
ROOM THERMOSTAT
ROOM THERMOSTAT
LOOKSHIELD VALVE
TRV
THERMOSTATIC RADIATOR VALVE

DOMESTIC WATER SERVICES NOTES:

- ALL HOT AND COLD WATER PIPEWORK NOT DIMENSIONED TO BE Ø15.
- HOT AND COLD WATER PIPEWORK TO BE COPPER TO BS813 BLACK LABEL, HALF HARD, UNLESS OTHERWISE STATED.
- HAIR, CING AND MINS PIPEWORK SERVICES SHALL BE COMPLETE WITH ISOLATING VALVES. UNLESS PIPEWORK BRANCHES ARE TO BE FITTED WITH THERMAL BALANCING VALVES.
- ALL PIPEWORK IN CEILING VOIDS, RISERS etc. SHALL BE THERMALLY INSULATED USING MINERAL WOOL, ROCKWOOL, OR EQUIVALENT AND SHALL HAVE A FIRE RATING OF MINIMUM A2.
- BRANCH TAKE-OFFS FROM MAIN RUNS AND RISERS SHALL BE CONFIGURED TO ALLOW NATURAL VENTING OF THE SYSTEM.
- ALL FINAL CONNECTIONS TO APPLIANCES TO BE COMPLETE WITH BALLLOCK ISOLATING VALVES.
- REFER TO SCHEDULES FOR EQUIPMENT DETAILS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA.

VENTILATION NOTES:

- DUCTWORK INSTALLATION TO BE IN ACCORDANCE WITH DW144. KITCHEN DUCTWORK TO BE IN ACCORDANCE WITH DW144.
- FIRE DAMPERS AND ACCESS PANELS TO BE PROVIDED WHERE DUCTS PASS THROUGH FIRE BARRIERS. FIRE DAMPERS TO BE OUT OF AIR STREAM TYPE.
- ALL SERVICES PASSING THROUGH FIRE COMPARTMENT WALLS SHALL BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATION & BRITISH STANDARDS.
- A BACK DRAUGHT DAMPER IS TO BE PROVIDED IN DUCTWORK PRIOR TO THE DUCTWORK CONNECTING TO THE EXTERNAL LOUVER.
- ACCESS DOORS TO BE PROVIDED IN DUCTWORK RISERS AND ADJACENT TO FIRE DAMPERS, VOLUME CONTROL DAMPERS AND TRIM OF PLANT / EQUIPMENT. ADDITIONAL ACCESS DOORS TO BE PROVIDED WHERE NECESSARY TO ALLOW FUTURE CLEANING.
- FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 30mm AND SHALL NOT BE USED FOR CHANGES OF DIRECTION.
- THE RESPONSIBILITY FOR THE SUPPORT OF THE ENTIRE DUCTWORK SYSTEMS AND ASSOCIATED PLANT SHALL BE THAT OF THE MECHANICAL CONTRACTOR.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA.
- EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY DESIGN WHICH HAS NOT BEEN APPROVED BY THE RELEVANT STATUTORY BODY.
- IT IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR TO SEEK APPROVAL OF ALL DRAWINGS FROM THE BUILDING CONTROL OFFICER, FIRE OFFICER & ANY OTHER RELEVANT STATUTORY BODY.
- FINAL PROJECT CO-ORDINATION OF M&E SERVICES, STRUCTURE, ARCHITECTURE AND FIRE STRATEGY IS THE RESPONSIBILITY OF THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN AND CONSULTANCY LTD HAVE NO RESPONSIBILITY FOR ANY CO-ORDINATION ISSUES THAT HAVE NOT BEEN REVIEWED/ADDRESSED BY THE PRINCIPLE DESIGNER/CONTRACTOR.
- EMEC DESIGN AND CONSULTANCY LTD RETAIN COPYRIGHT OF ALL DRAWINGS, SCHEDULES AND CALCULATIONS UNTIL SUCH TIME THE CONTRACT IS COMPLETE.

ABOVE-GROUND DRAINAGE NOTES:

- SOIL PIPEWORK SHALL BE GREY UPVC TO BS 4514. WASTE PIPEWORK SHALL BE 305 UNLESS OTHERWISE STATED.
- CONTRACTOR TO PROVIDE ACCESS SADDLES ETC AS REQUIRED.
- INTENSICENT FIRE COLLARS TO BE INSTALLED WHERE SOIL PIPES PASS THROUGH FLOOR SLABS AND ROOF SLAB.
- ACCESSIBLE RODDING EYES TO BE PROVIDED ON ALL HORIZONTAL DRAINAGE RUNS.
- HORIZONTAL PIPEWORK LEAD TO FALL AT 1:80 UNLESS OTHERWISE STATED.
- TRAP SIZES TO BE AS FOLLOWS:
SINK - Ø40 75 TUBULAR P TRAP
DISHWASHER/DRINKING MACHINE - Ø40 75 DEEP SEAL TRAP AND STANDPIPE
WASH-BASIN - Ø32 75 DEEP SEAL TRAP
SHOWER - Ø40 75 TRAP SEAL
URINAL - Ø40 75 TUBULAR P TRAP
BATH - Ø40 50 TRAP SEAL
- RODDING ACCESS TO BE PROVIDED AT THE BASE OF EACH STACK.
- MINIMUM PERMISSIBLE FALLS ON HORIZONTAL DRAINAGE PIPEWORK TO MANUFACTURERS RECOMMENDATIONS.
- ALL SOIL PIPES TO TERMINATE AT ROOF LEVEL UNLESS OTHERWISE INDICATED.
- FINAL CONNECTION TO BELOW GROUND DRAINAGE BY MECHANICAL SUB-CONTRACTOR.
- EXPANSION COLLARS TO BE PROVIDED TO VENTILATION STACKS EVERY 2m AND WHERE STACK PASSES BETWEEN FLOORS.
- ALL PLANT / EQUIPMENT / SERVICES SELECTIONS TO BE VERIFIED BY THE PROJECT ACUSTICIAN TO ENSURE COMPLIANCE WITH ALL EMPLOYERS AND LOCAL AUTHORITY NOISE ASSESSMENTS & DESIGN CRITERIA.

FLAT TYPE 3B A1

LEVEL 01: A1:01.08 A1:01.13 LEVEL 02: A1:03.17
LEVEL 02: A1:08.18
LEVEL 01: A1:01.17
LEVEL 02: A1:02.17

C1	CONSTRUCTION ISSUE	RT	JP	RT	01/12/20
No.	Description	Orig.	Drawn	CHK'D	Date

Revisions:

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Drawing Status:

CONSTRUCTION

Client:



Project Title:

WELDALE STREET

Drawing Title:

FLAT TYPE 3B A1
TYPICAL MECHANICAL SERVICES

Scale @	A0	Originator	Drawn by	Checked:
1:50		RB	JP	CB

Project No.:	Date:
J20070	DEC '20

Drawing No.:	Revision:
J20070-M-28-XX-12	C1

DO NOT SCALE THIS DRAWING