WHITECODE
CONSULTING

Scope of Works – MEP System Upgrade

West Wimbledon Primary School

Prepared for McBains

Revision 1

12 June 2025

Contents

Revisions:

Rev No:	Date:	Status/Comments:	Prepared by:	Checked by:
01	12.06.2025	Scope of Works – MEP System Upgrade	CM	AH

1. Project Overview

The project involves upgrading the current MEP System. The works must be completed with minimal disruption to school operations and in strict adherence to health, safety, and safeguarding policies applicable in educational environments.

2. Background Information

The school suffers from underheating; the main hall is particularly cold. Whitecode's engineer noted that both pupils and staff had coats on.

The school has numerous issues with both water distribution pipework and heating system pipework. The project forms part of the school's building services upgrade programme to improve energy efficiency and ensure safe, reliable heating for pupils and staff.

3. Detailed Scope of Work

1. Resolve the water report as per the condition survey undertaken by McBains dated March 2022, removing all risk items.
2. Strip all the pipe insulation on the roof, dispose of it, replace it with 50mm phenolic, and cover it with PIB.
3. Replace the control panel in the plant room and all controls for Trend IQ4 with IQ vision 4, allowing both boilers to run duty/duty, fit a temperature sensor in the school for control and an exterior sensor for optimum start (they are doing it manually currently).
4. Replace the illegal gas valve with a solenoid valve.
5. Flush the system (some rads are full of debris.) To BSRIA AG1.
6. Replace all radiator valves* (lockable type in common areas). *Contractors must confirm this, as some radiators are over 45 years old.
7. Access the hall's radiant panels via a scaffold tower and bring them back into operation.
8. Recommission the system.

4. Deliverables

The contractor must produce:

- Fully constructed and operational facility
- As-built drawings
- Operation & Maintenance manuals
- Completion certificates
- Fully functional and commissioned boiler system
- Compliance certificates (e.g., Gas Safe, WRAS)
- O&M manual (Operation & Maintenance)
- Disposal certification for old equipment

5. Technical Standards

All works shall be carried out in accordance with the latest applicable standards and guidance, including but not limited to:

- Building Regulations Part L
- CIBSE Guides B and H
- British Standards (BS 5422, BS 5570, BS EN 12828, BS EN 14336, etc.)
- Gas Safe Register Requirements
- BSRIA & CIBSE Commissioning Guides
- Health and Safety at Work Act
- Local Authority Planning and Building Control

6. Exclusions

The items below are *not* included in the scope.

Replacement of radiators or distribution pipework beyond the plant room

Structural building alterations

Electrical upgrades not directly related to boiler operation

7. Roles and Responsibilities

Outline the responsibilities of the contractor versus the client.

- Contractor: Responsible for all Installation, commissioning, testing, waste disposal, and certification, quality assurance, and health & safety compliance.
- Client: Provides site access, utility connections, and permit support as needed

8. Site Information

Site Address: West Wimbledon Primary School; Bodnant Gardens; SW20 0BZ

Site Access: Monday to Friday, 8am–5pm. Arrangements can be made for work to take place outside of school hours. The site must remain operational during working hours unless the school is closed.

Permit Requirements: All works must comply with site induction and permit-to-work systems.

Strict adherence to safeguarding: all workers must be DBS-checked.

8.1. Access Issues (material storage and deliveries)

- Plantroom congested.
- Low headroom access.
- Room dimensions Width 1950mm x Length 5600mm Height 2000mm.
- 5m x 2.4m area outside suitable for prefabrication.

9. Constraints and Assumptions

Works to be completed with minimal disruption to the school schedule

Contractor assumes access to site utilities (water, power, drainage)

9.1. Feasibility During School Operation (holiday works)

It is feasible that work could be carried out during school operations. The pipe insulation is one area that could be undertaken straightaway. The gas valve work will require a one-day shutdown. Dead legs may be more disruptive and may need to be carried out during school holidays.

The main hall requires an access town. The roof has a good standard fixed cat ladder, and the boiler room has good access.

10. Pricing Document

Refer to Appendix A – Pricing Schedule for the full breakdown of contractor costs associated with the works described herein.

Complete Excel Sheet

10.1. Declarations & Notes

All prices must be inclusive of labour, plant, transport, preliminaries, and overheads.

Prices must remain valid for 30 days from the date of submission of the tender.

Tenderer must clearly indicate any assumptions, exclusions, or qualifications.

10.2. Disclaimer

For Unverified Quotations in Tender Submissions

"The tenderer acknowledges that any third-party quotations, estimates, or pricing information included in this submission have not been independently verified by Whitecode Consulting Limited. The tenderer assumes full responsibility for the accuracy, validity, and reliability of such information. Whitecode Consulting Limited accepts no liability for any discrepancies, errors, or omissions arising from the use of unverified quotes. Tenderers use such information at their own risk."

11. Appendices – Supporting Documentation

11.1. Appendix 1 - Pictures of the installation/Remediation area

Photograph 1- The main control plant to the plant room with an obsolete Trend controller and a smaller retrofit controller.

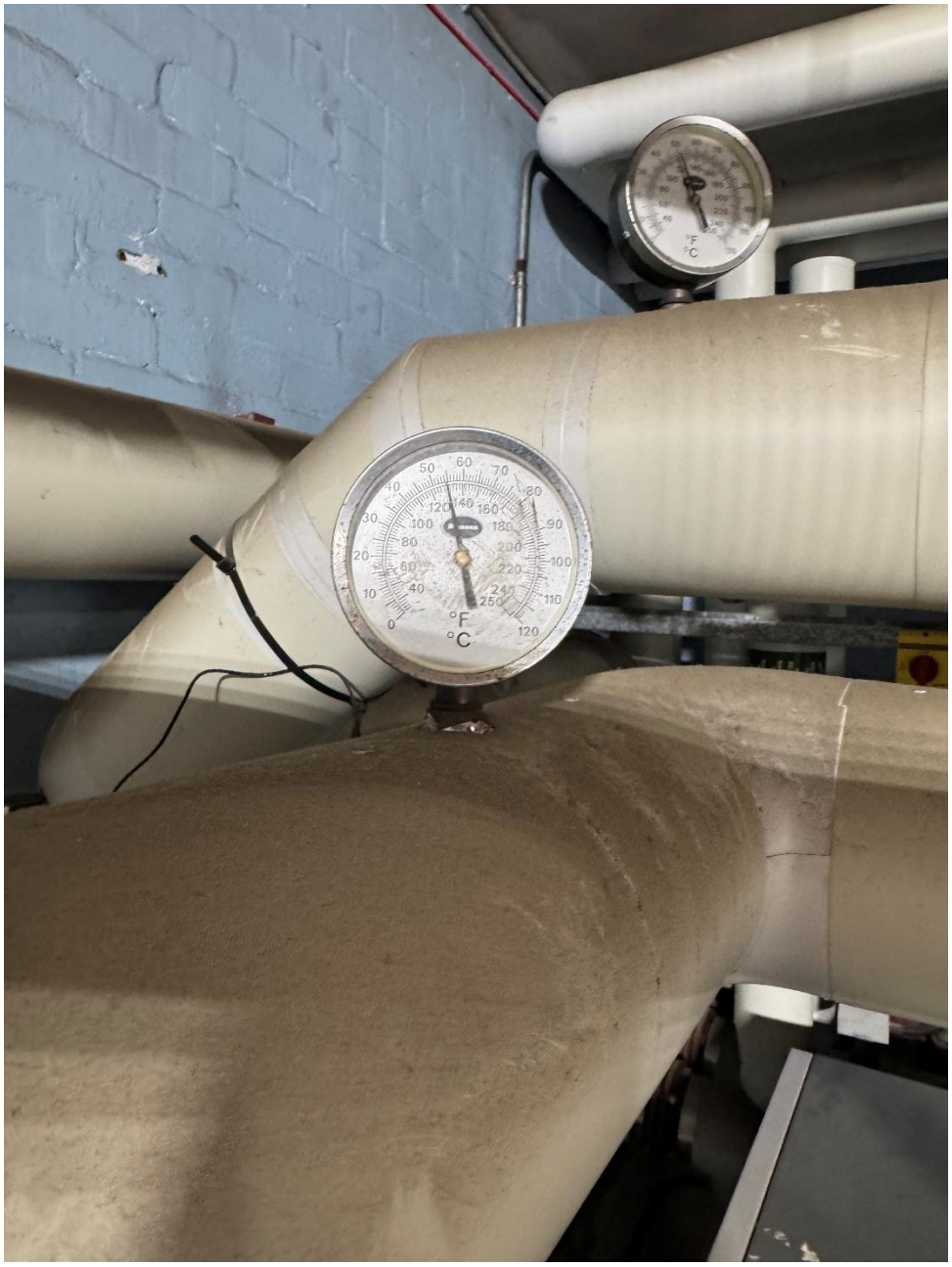
Photograph 2 - Installed plant – two boilers and two gas-fired water heaters.

Photograph 3 – Bronze secondary return pump

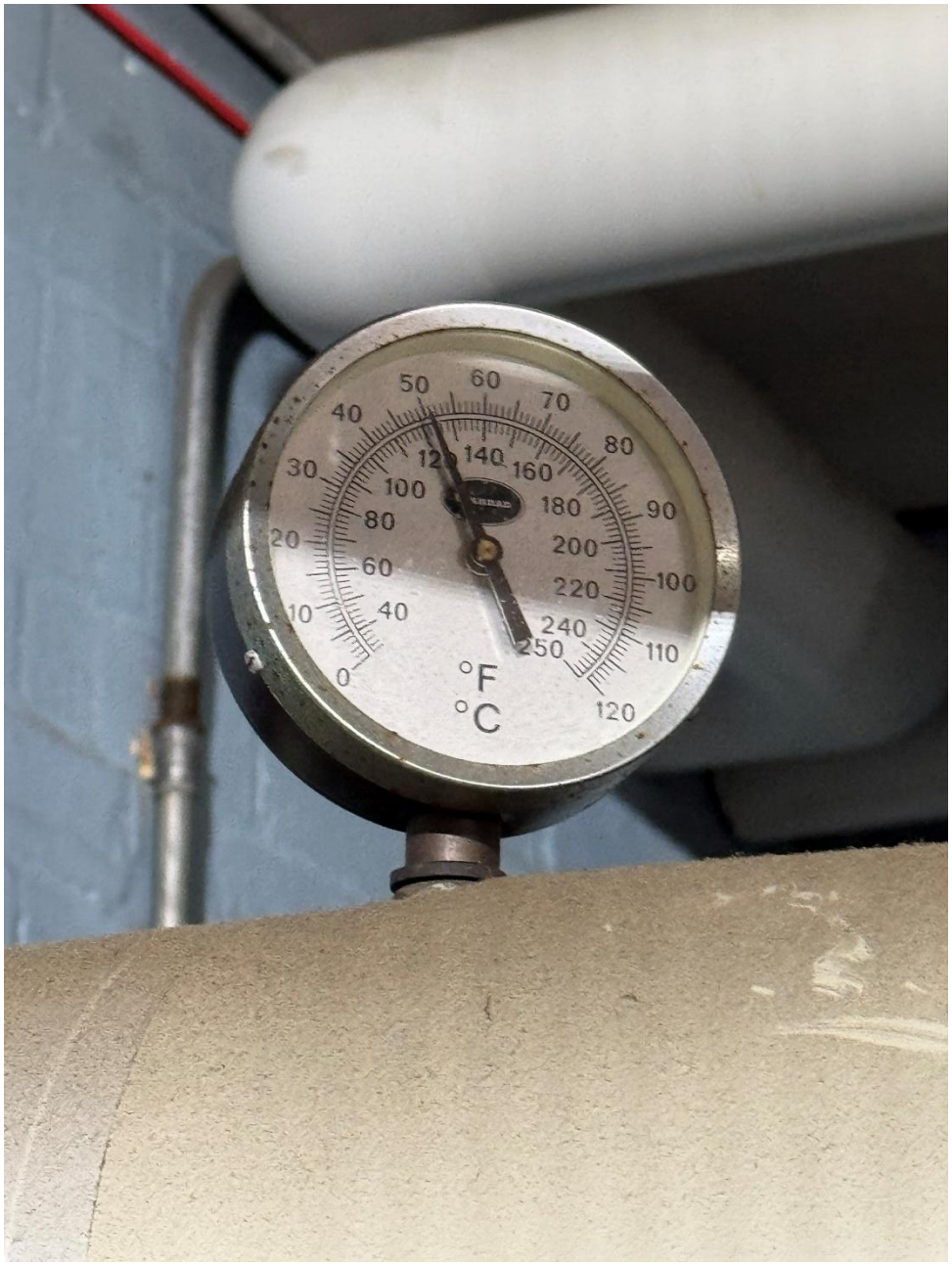
Photograph 4- Gravity gas shut-off valve. No obsolete and should be replaced.

Photograph 5 - Boiler 1 flow temperature. Approximately 60^{0}C

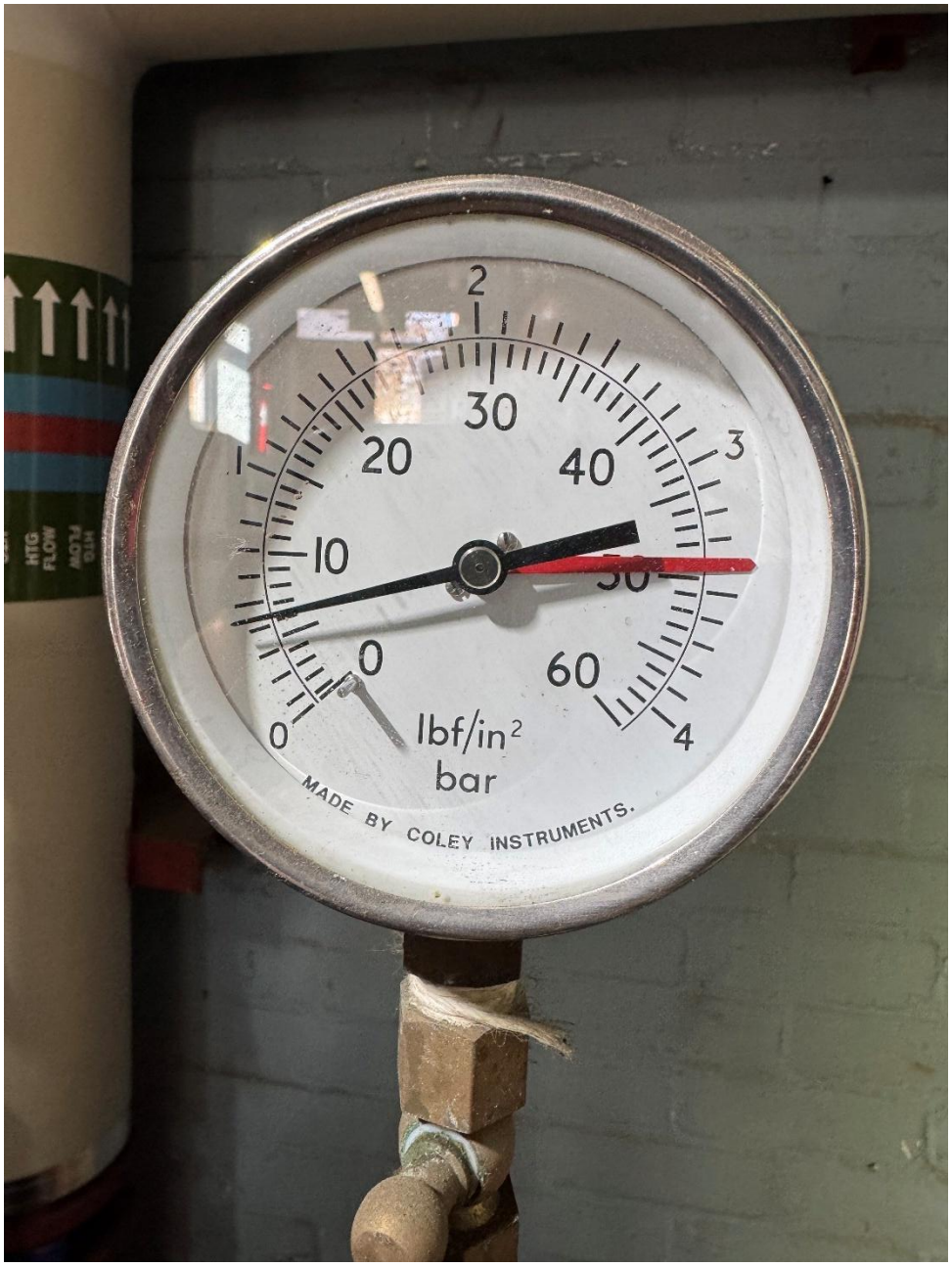
Photograph 6 - Boiler 2 flow temperature. Approximately 60^{0}C



Photograph 7 – LTHW system flow temperature 55^{0}C



Photograph 8 - LTHW system flow temperature 50^{0}C



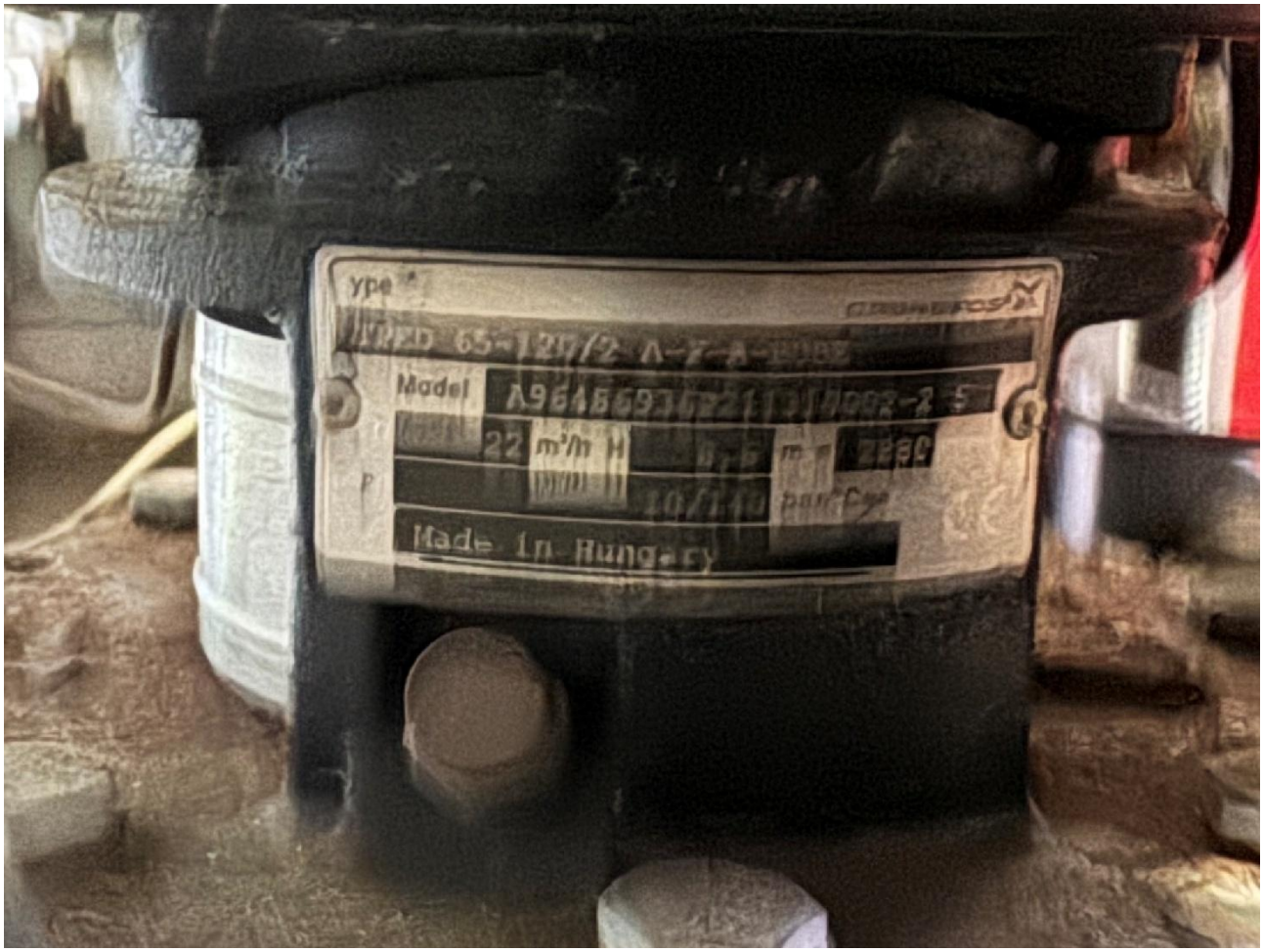
Photograph 9 - Heating system static pressure 0.6Bar

Photograph 10 - Heating system dynamic pressure 1.2Bar

Photograph 11- Pumps were set to high speed but not on the maximum setting.

Photograph 12 - Whitecode increased the pup speed to max by holding the controller

Photograph 13 - Pumps then run at maximum



Photograph 14 – Main LTHW circulator TPED 65-120

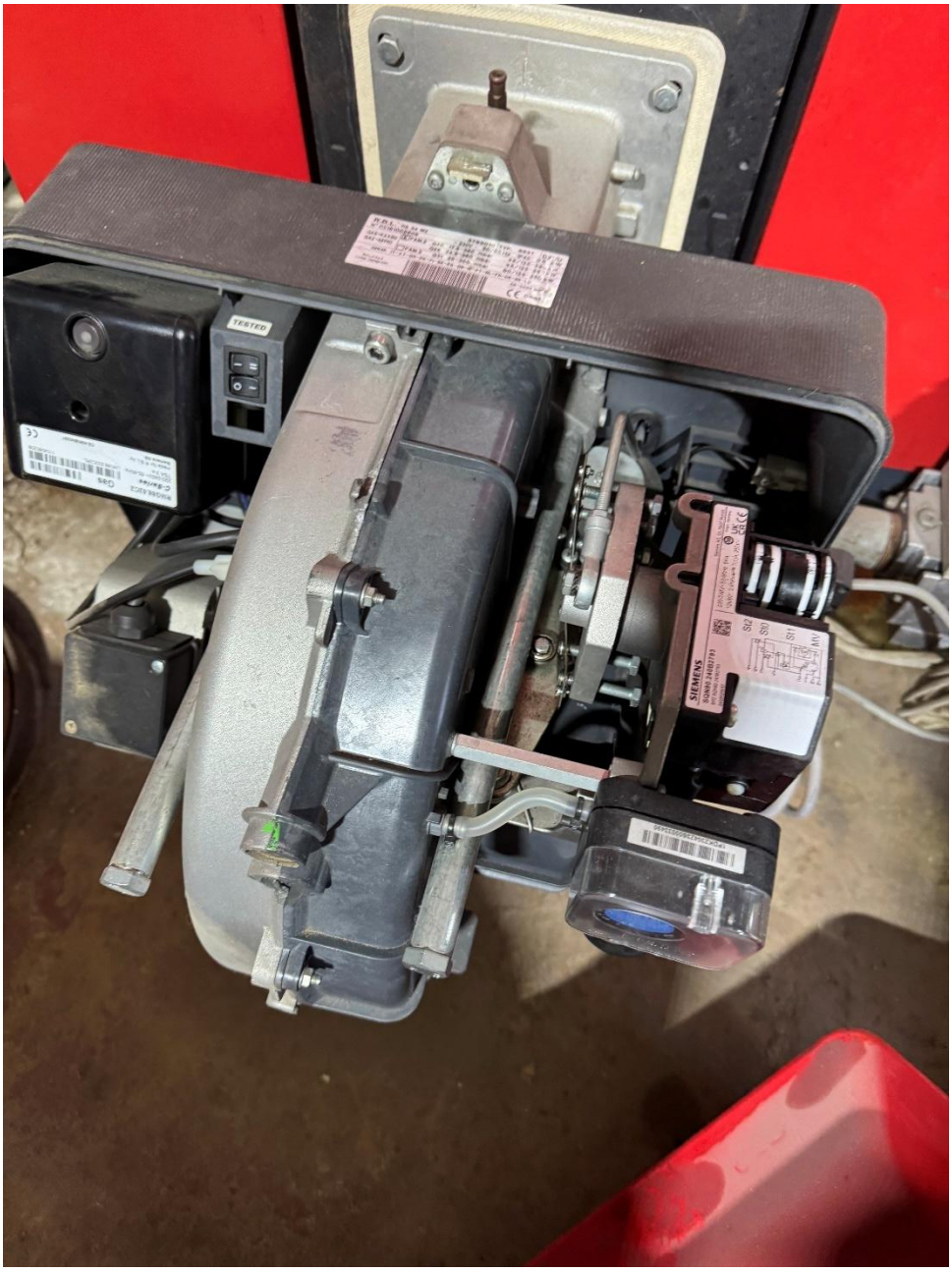
Photograph 15 - The BMS panel was noted as original to the plan room. It is beyond serviceable repair and should be replaced.

Photograph 16 - Whitecode increased the boilers' stats to 80^{0}C

Photograph 17- Boiler flow temperature was seen to increase.

Photograph 18 – Burners are Riello RS34

Photograph 19 - Burner 1 was set to a 2 2-stage fire, providing maximum output.



Photograph 20 - Burner 2 was set to 2 2-stage fire, therefore providing maximum output.

Photograph 21- Boiler controller seem to have limited control on the plant.

Photograph 22 – Boilers were noted as Remeha 1312- 230kW output.

Photograph 23 - The LTHW system was open-vented.

Photograph 24 - External to the plant room. Flue terminate in this chimney.

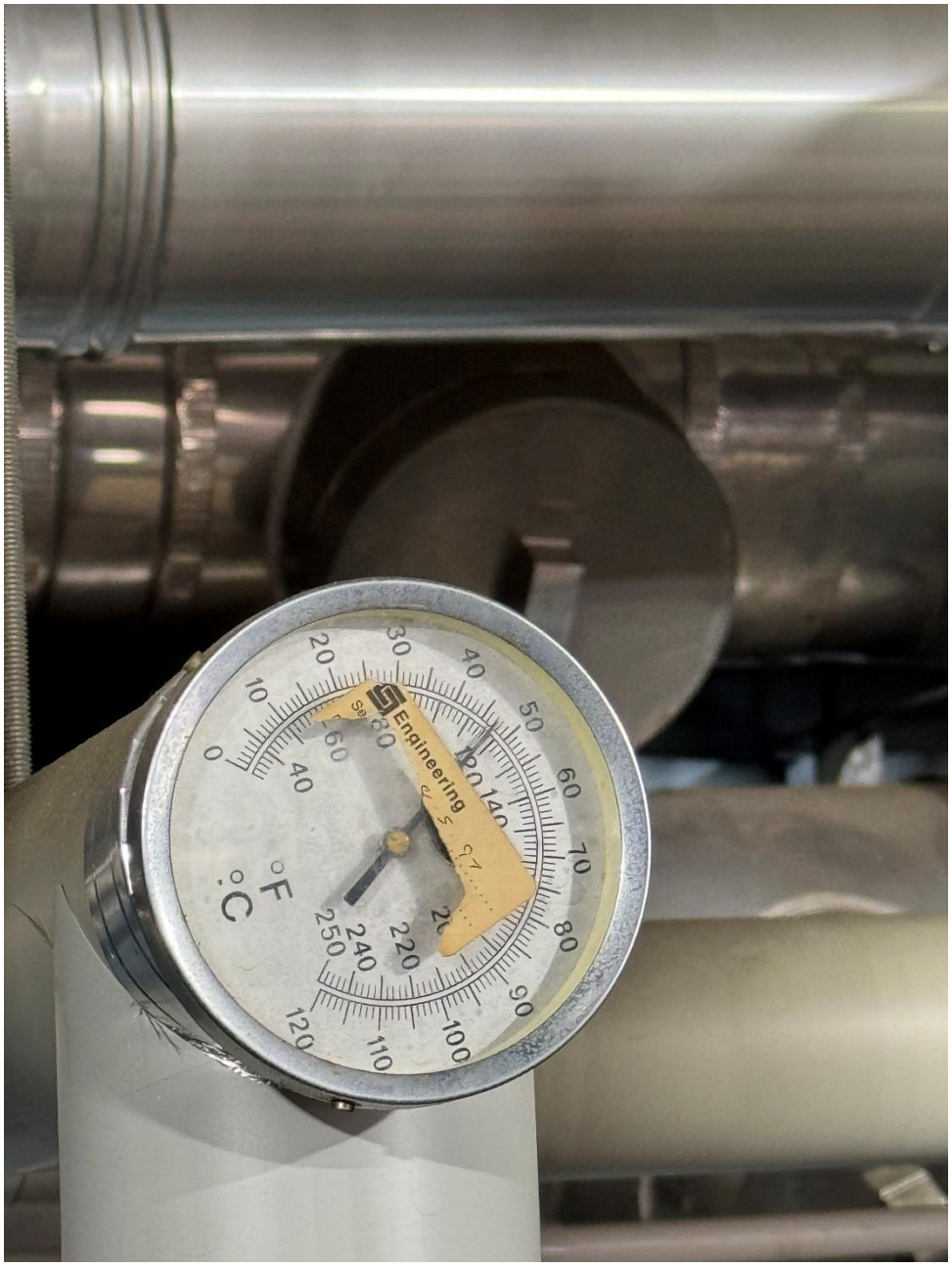
Photograph 25 – Boilers were connected in an "injection header arrangement".

Photograph 26- Whitecode was shown, which the school believes is the heating control thermostat.

Photograph 27 - Thermostat location in sunny corridor.

Photograph 28 - LTHW valves could be seen outside and were uninsulated.

Photograph 29 - Dead leggs could be seen.



Photograph 30 - Hot water system retrun appeared to be lower the the L8 requirment of 50^{0}C.

11.2. Inspection on 23.04.2025

Photograph 31- Sercondary return circulator was a UPS 40-80 in bronze.

Photograph 32 – LTHW insualtion appeared to be in poor condition.

Photograph 33 - Insulated valves feeding the main hall.

Photograph 34 – The insualtion appeared to be in poor condition.

Photograph 35 – Gas supply pipe size of DN80.

Photograph 36 – The gas meter location.

Photograph 37- Gas meter a G65.

12. Thermography checks

Whitecode used a thermal imaging camera to investigate the reported lack of heating to the main hall and to check the condition of the pipe work insulation running across the roof:

The results from the images are as follows:

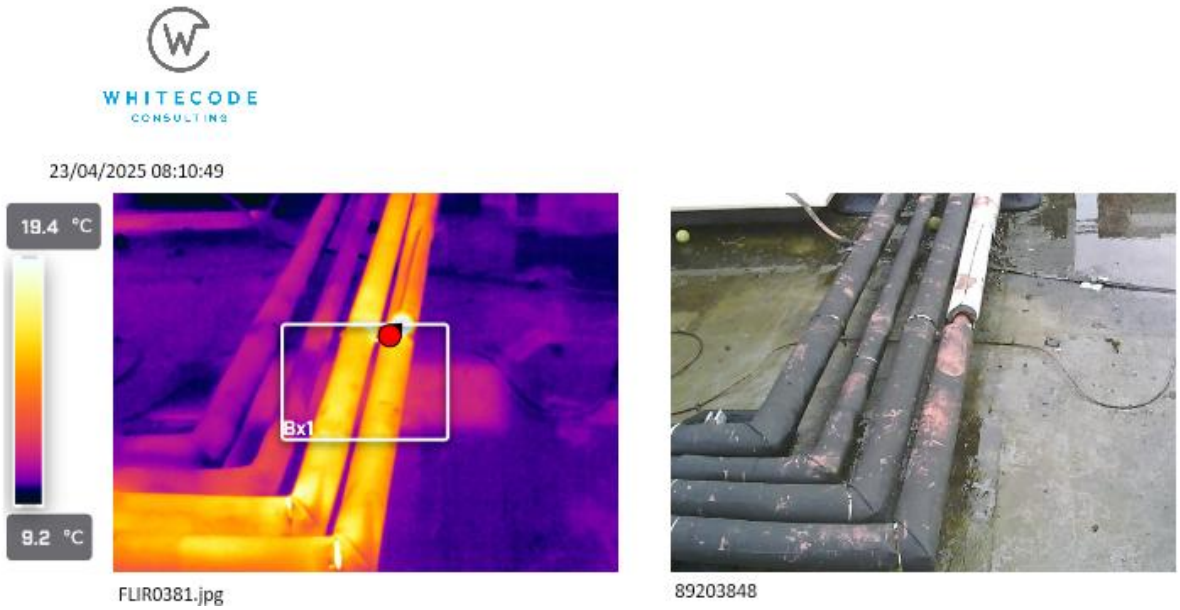


Image 1 - Insulation on the roof has failed.

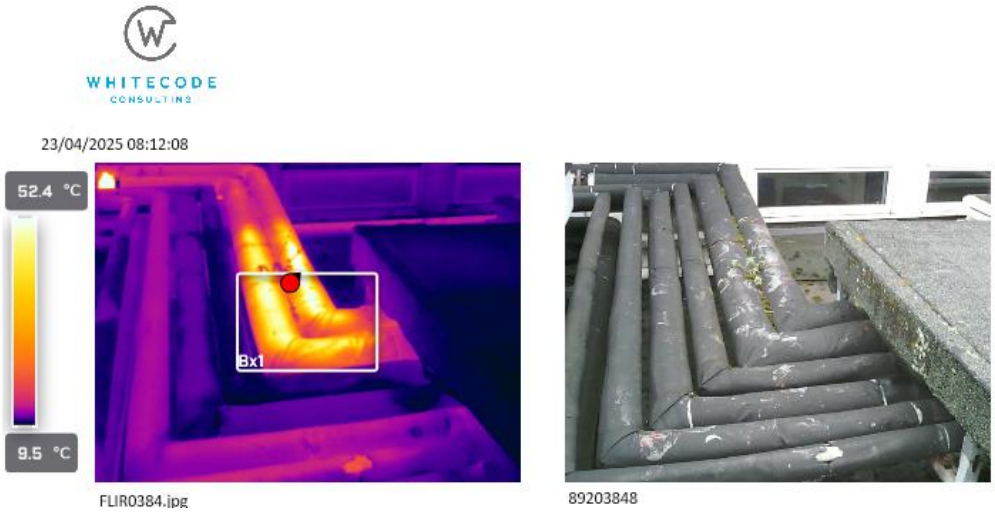


Image 2 - Insulation on the roof has failed.

Image 3 – Only 25% of the radiant panels are operational

Image 4 – Only 25% of the radiant panels are operational

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