

SHG-2020-08-21

THE ALMONRY REFURBISHMENT

DECISION AUDIT FOR REPLACEMENT HEATING INSTALLATION

STATUS QUO: The existing low temperature non-condensing gas boilers and pumped flow and return pipework to in-room radiators does not give adequate heat to a number of rooms and has high running costs.

Engineer's survey findings are that some radiators are of insufficient area for their room size. There is heat loss from long runs of flow and return pipework both in-room and in unheated building voids.

BATTLE TOWN COUNCIL ENVIRONMENTAL Policy adopted July 2015 includes objectives to conserve energy and other resources, protect air quality by minimising harmful emissions, reduce demand for energy, improve energy efficiency and utilise renewable energy technologies where appropriate

DESIGN PROPOSAL ALREADY TENDERED: Renewal of existing heating installation with condensing gas boilers, pumped flow and return pipework and thermostatically controlled in-room radiators.

OBJECTIVES NOW STATED BY COUNCIL: Costs to be reviewed, to assess whether replacement installation required and, if so to consider best configuration of installation and heat source to meet cost objectives and environmental policy.

Review of original survey confirmed that renewal of installation is required to meet those objectives.

ALTERNATIVE SOLUTIONS CONSIDERED:

- 1 Air source heat pump with radiators
- 2 Air source heat pump with fan coil units
- 3 Electric installation with thermostatically controlled electric fan coil units
- 4 Electric installation with thermostatically controlled electric convector units

ALTERNATIVES 1 AND 2: Would meet environmental policy objective, including reduction of energy costs, but would not meet cost reduction objective. Fan coil units would require electrical connection to unit as well as flow and return pipework. Installation of new insulated pipework either intrusive into historic listed interior or would require opening up and re-finishing historic interior surfaces. Use of 'wet' pipework in inaccessible voids would expose historic fabric to risk of rot in the event of leakage or condensation.

ALTERNATIVES 3 AND 4: Electric installation has no localised CO₂ emission or reliance on fossil fuels. Increasing availability of electricity supply from renewable sources. Installation would require no annual maintenance inspection. Wiring easier to conceal behind or surface-mounted on historic and not visually prominent. No risk of leaks within inaccessible voids.

PREFERRED: ALTERNATIVE 4