

Project Title: **Reading Town Hall Roof Improvements**

Schedule: **Air Handling Units**

|           |       |  |
|-----------|-------|--|
| Revision: | T01   |  |
| Date:     | 03.26 |  |
| Design:   | DS    |  |
| Review:   | DB    |  |

Notes:

- 1.0 Units to comply with DCLG Non-Domestic Building Services Compliance Guide.
- 2.0 Units to comply with project acoustic requirements. Refer to the specification
- 3.0 Test certificates to be provided.
- 4.0 The contractor shall confirm the static pressure of all units to account for final ductwork layout before placing order.  
Selections shall be capable of operating at 10% & 20% above design flowrate and external static pressure respectively.
- 5.0 Unit dimensions to be measured on site and approved by CA before placing order.
- 6.0 Design selections, used for preliminary coordination, based on VES Contact: Mark Jones mark.jones@ves.co.uk.

| Reference                     | AHU 01                                                                      | EXF4/A                        |  |  |
|-------------------------------|-----------------------------------------------------------------------------|-------------------------------|--|--|
| Unit Location                 | Roof 14 (Serving art gallery)                                               | Roof 15 (Serving art gallery) |  |  |
| Intake/Supply Air             |                                                                             |                               |  |  |
| Flowrate (m³/s)               | 1.2 Recirc<br>0.6 Fresh air                                                 | N/A                           |  |  |
| External Static Pressure (Pa) | 250<br>(TBC by contractor - subject to final ductwork layouts)              | N/A                           |  |  |
| Fan Type                      | Direct drive plug fan                                                       | N/A                           |  |  |
| Inverter Driven               | Speed controlled EC motor                                                   | Speed controlled EC motor     |  |  |
| Filter Requirement            | Recirc - Activated Carbon Filter & Panel filter (G4)                        | N/A                           |  |  |
| Filter Efficiency             | ACD Carbon 207C & Coarse 60% (G4)                                           | N/A                           |  |  |
| Heat Recovery Type            | Recirc Mixing box                                                           | N/A                           |  |  |
| Heat Recovery Efficiency      | N/A                                                                         | N/A                           |  |  |
| Cooling Coil Type             | Chilled Water                                                               | N/A                           |  |  |
| LTHW Heating Coil             | Sized for 70/60                                                             | N/A                           |  |  |
| Cooling Coil Duty (kW)        | 29.4<br>(TBC by contractor final design)                                    | N/A                           |  |  |
| Heating Coil Duty (kW)        | 39.3<br>(TBC by contractor final design)                                    | N/A                           |  |  |
| Indirect humidifier (kg/hr)   | 14.5<br>(TBC by contractor final design)                                    | N/A                           |  |  |
| Noise Level                   | In accordance with CIBSE Guide A Environmental Design and the specification | N/A                           |  |  |
| Extract/Discharge Air         |                                                                             |                               |  |  |

| Reference                     | AHU 01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | EXF4/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Flowrate (m <sup>3</sup> /s)  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| External Static Pressure (Pa) | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 200<br>(TBC by contractor -<br>subject to final ductwork<br>layouts)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
| Fan Type                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | EC fan with speed control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
| Filter Requirement            | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
| Filter Efficiency             | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
| Fan Sound Power Level (dBA)   | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | In accordance with CIBSE<br>Guide A Environmental<br>Design and the<br>specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
| General                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |
| Unit Length (mm)              | 5900                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 820                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Unit Width (mm)               | 1250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 820                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Unit Height (mm)              | 1125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 945                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Unit Weight (kg)              | 1079                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Power Supply (V/ph/Hz)        | 400/3/50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400/3/50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |
| Specific Fan Power (W/L/s)    | <0.77W/L/s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <0.7W/L/s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
| Controls                      | Data-rich connection to<br>BMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Data-rich connection to<br>BMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
| Comments                      | <p><b>Selection based on Model VES MAX25/B/W/S</b></p> <p>All design information is intended as an indication of the expected performance requirements of equipment. All final selections are to be informed by the contractor's design.</p> <p>Units to operate on temp and humidity, additional demand control, via CO2 sensors, shall be provided.</p> <p>External units to be provided with weathering covers/ enclosures.</p> <p>Anti-vibration mounts to be provided.</p> <p>Units to be installed with access clearances as recommended by manufacturer. Provide proprietary inveter driven controls with enable/fault signals from/to the BMS.</p> | <p><b>Selection based on Model VES CAE0747-3/W/EE/L/ISC/SP</b></p> <p>All design information is intended as an indication of the expected performance requirements of equipment. All final selections are to be informed by the contractor's design.</p> <p>Units to operate on demand control linked to supply fan.</p> <p>External units to be provided with weathering covers/ enclosures.</p> <p>Anti-vibration mounts to be provided.</p> <p>Units to be installed with access clearances as recommended by manufacturer. Provide proprietary inveter driven controls with enable/fault signals from/to the BMS.</p> |  |  |