



# EQUIPMENT SCHEDULE REVISION SHEET

## Littlehampton Leisure Centre

### Wilmott Dixon Construction

| Schedule                 | Date       | Status         | Revision | Author      |
|--------------------------|------------|----------------|----------|-------------|
| Pumps                    | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| LTHW Boilers             | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Heater Batteries         | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Air Handling Units       | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Grilles-Diffusers        | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Fans                     | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Silencers                | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Door Heaters             | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Windcatchers             | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| VRF-DX Systems           | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Radiators                | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Plate Heat Exchangers    | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| MCW Booster Sets         | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| MCW CAT-5 Booster & tank | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| MCW Storage Tanks        | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Water Treatment          | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |
| Mechanical Plant         | 14/06/2017 | Draft Stage 4B | P4       | Nick Culver |

**Van Zyl & de Villiers Consulting Engineers**

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SCHEDULE OF PUMPS

| SCHEDULE OF PUMPS   |              |                       |                       |                       |                             |                     |                     |                       |     |
|---------------------|--------------|-----------------------|-----------------------|-----------------------|-----------------------------|---------------------|---------------------|-----------------------|-----|
| REFERENCE           |              | P 01                  | P 02                  | P 03                  | P 04                        | P 05                | P 06                | P 07                  |     |
| APPLICATION         |              | LTHW HEATING          | LTHW HEATING          | LTHW HEATING          | LTHW HEATING                | LTHW HEATING        | LTHW HEATING        | DOMESTIC H.W. RETURN  |     |
| LOCATION            |              | First Floor Plantroom | First Floor Plantroom | First Floor Plantroom | First Floor Plantroom       | 1st Floor Plantroom | 1st Floor Plantroom | 1st Floor Plantroom   |     |
| SYSTEM              |              | CT VENTILATION PLANT  | CT POOL PHE           | RADIATORS             | UNDER FLOOR HEATING CIRCUIT | BOILER SHUNT PUMP   | BOILER SHUNT PUMP   | HOT WATER CIRCULATION |     |
| No OFF              |              | TWIN HEAD             | TWIN HEAD             | TWIN HEAD             | TWIN HEAD                   | SINGLE HEAD         | SINGLE HEAD         | 1 DUTY 1 STANDBY      |     |
| FLUID TEMPERATURE   | °C           | 80/60                 | 80/60                 | 80/60                 | 50/40                       | 80/60               | 80/60               | 65                    |     |
| FLOW RATE           | l/sec        | 5.120                 | 7.200                 | 0.326                 | 1.150                       | 9.90                | 9.90                | 0.70                  |     |
| EXTERNAL RESISTANCE | kPa          | 170                   | 155                   | 130                   | 150                         | 95                  | 95                  | 100                   |     |
| SPEED               | rpm          | Variable              | Variable              | Variable              | Variable                    | Variable            | Variable            | Variable              |     |
| CONNECTION SIZES    |              |                       |                       |                       |                             |                     |                     |                       |     |
|                     | Suction      | mm                    | 50                    | 32                    | 32                          | 65                  | 65                  | 40                    | 54  |
|                     | Discharge    | mm                    | 50                    | 32                    | 32                          | 65                  | 65                  | 40                    | 54  |
| ELECTRICAL SUPPLY   |              |                       |                       |                       |                             |                     |                     |                       |     |
|                     | ph           | 1                     | 1                     | 1                     | 1                           | 1                   | 1                   | 1                     |     |
|                     | V            | 230                   | 230                   | 230                   | 230                         | 230                 | 230                 | 230                   |     |
|                     | Hz           | 50                    | 50                    | 50                    | 50                          | 50                  | 50                  | 50                    |     |
|                     | Motor rating | kW                    | 1.8                   | 0.75                  | 0.75                        | 1.8                 | 1.8                 | 0.75                  | 0.5 |

NOTES:

1. All pumps to be provided by Smedegaard Pumps Ltd. Or equal. Telephone; Richard Daniels 01278 458686

2. All LTHW secondary circulating pumps to be twin head (duty/standby)

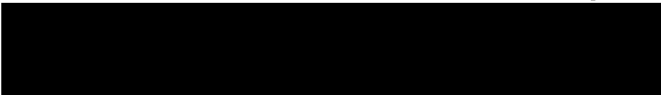
3. MCB's to be used for protection on supply to pumps with C or D rating on Omega Flex pumps

4. The recommended control is using on/off contact within the pump and power is left on to the pump at all times.

5. P07 to be bronze type pumps with high efficiency motor. Vertically mounted is preferred with standby pump mounted on wall bracket. Allow for thermal insulation on pump.

6.MS - Manufacturers Standard

7. All pumps self regulating with integral inverter



**SCHEDULE OF LTHW BOILERS**

| REFERENCE               |                                   |               | B 01                | B 02                |
|-------------------------|-----------------------------------|---------------|---------------------|---------------------|
| No OFF                  |                                   |               | 1                   | 1                   |
| MODEL/TYPE              |                                   |               | Hoval Ultra Gas 850 | Hoval Ultra Gas 850 |
| OUTPUT REQUIRED @ 80/60 |                                   | kW            | 788.0               | 788.0               |
| WATER                   | Flow                              | °C            | 80                  | 80                  |
|                         | Return                            | °C            | 60                  | 60                  |
|                         | Flow rate (at design temperature) | l/sec         | 9.90                | 9.90                |
|                         | Maximum operating pressure        | Bar           | 6                   | 6                   |
| CONNECTIONS             | Flow                              | DN            | 125                 | 125                 |
|                         | Return                            | DN            | 125                 | 125                 |
|                         | Gas                               | mm            | 50                  | 50                  |
|                         | Condensate                        | DN            | 15                  | 15                  |
| FLUE                    | Size                              | mm            | 400                 | 400                 |
|                         | Flue gas mass flow rate           | kg/h          | 1331                | 1331                |
| BURNER                  |                                   | Type          | Modulating          | Modulating          |
| FUEL SUPPLY             | Gas                               | Gas flow rate | m <sup>3</sup> /hr  | 80.25               |
|                         |                                   | Gas pressure  | mbar                | 15-60               |
| ELECTRICAL SUPPLY       |                                   | ph            | 1                   | 1                   |
|                         |                                   | V             | 230                 | 230                 |
|                         |                                   | Hz            | 50                  | 50                  |
|                         |                                   | A             | 16                  | 16                  |

**NOTES:**

1. All boilers to be provided by Hoval or equal. Telephone Stuart Hartley 07792 401515
2. All boilers to be supplied with an air inlet damper (non-return valve).



| SCHEDULE OF HEATER BATTERIES                                                                                          |                    |                              |           |             |           |                    |
|-----------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------|-----------|-------------|-----------|--------------------|
| REF                                                                                                                   | LOCATION           | AIR SIDE<br>PRESSURE<br>DROP | LTHW FLOW | LTHW RETURN | FLOW RATE | LTHW PRESSURE DROP |
|                                                                                                                       |                    | [Pa]                         | [°C]      | [°C]        | (kg/s)    | [kPa]              |
| HB01                                                                                                                  | Female Change      | <30                          | 80        | 60          | 0.118     | <30                |
| HB02                                                                                                                  | Male Change        | <30                          | 80        | 60          | 0.118     | <30                |
| HB03                                                                                                                  | Acc Change/Acc Wc  | <30                          | 80        | 60          | 0.020     | <30                |
| HB04                                                                                                                  | Wet Change         | <30                          | 80        | 60          | 0.056     | <30                |
| HB05                                                                                                                  | Wet Change         | <30                          | 80        | 60          | 0.027     | <30                |
| HB06                                                                                                                  | Wet Change         | <30                          | 80        | 60          | 0.338     | <30                |
| HB07                                                                                                                  | Wet Change         | <30                          | 80        | 60          | 0.072     | <30                |
| HB08                                                                                                                  | Sports Hall Change | <30                          | 80        | 60          | 0.062     | <30                |
| HB09                                                                                                                  | Sports Hall Change | <30                          | 80        | 60          | 0.089     | <30                |
| HB10                                                                                                                  | Kitchen            | <30                          | 80        | 60          | 0.031     | <30                |
| HB11                                                                                                                  | Informal Viewing   | <30                          | 80        | 60          | 0.055     | <30                |
| HB12                                                                                                                  | Café/Foyer         | <30                          | 80        | 60          | 0.124     | <30                |
| HB13                                                                                                                  | Acc WC             | <30                          | 80        | 60          | 0.006     | <30                |
|                                                                                                                       |                    |                              |           |             |           |                    |
|                                                                                                                       |                    |                              |           |             |           |                    |
|                                                                                                                       |                    |                              |           |             |           |                    |
|                                                                                                                       |                    |                              |           |             |           |                    |
|                                                                                                                       |                    |                              |           |             |           |                    |
|                                                                                                                       |                    |                              |           |             |           |                    |
|                                                                                                                       |                    |                              |           |             |           |                    |
| NOTES:                                                                                                                |                    |                              |           |             |           |                    |
| 1. Heater batteries to Wet Change shall come complete with Cu/Alu anti-corrosion protection.                          |                    |                              |           |             |           |                    |
| 2. Sizes shown on the drawings are indicative only and shall be finalised based upon the manufacturer's requirements. |                    |                              |           |             |           |                    |
| 3. Air velocities passing over all heater batteries shall be <2.5 meters/second.                                      |                    |                              |           |             |           |                    |



| SCHEDULE OF AIR HANDLING UNITS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                            |                    |                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------|--------------------|--------------------|
| REFERENCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             | AHU 01                                     | AHU 02             | AHU 03             |
| LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | Roof                                       | Roof               | Roof               |
| APPLICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             | Supply and Extract                         | Supply and Extract | Supply and Extract |
| ZONE SERVED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             | Pool Hall                                  | Changing areas     | General            |
| SUPPLY COMPONENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                                            |                    |                    |
| Fresh air damper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Yes/No      | Yes                                        | Yes                | Yes                |
| Panel filter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Grade (min) | MS                                         | MS                 | MS                 |
| Bag filter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Grade (min) | MS                                         | MS                 | MS                 |
| Mixing box with economy cycle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             | MS                                         | MS                 | No                 |
| Heat exchanger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Type        | Plate                                      | Plate              | Wheel              |
| Min. Efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | %           | MS                                         | MS                 | MS                 |
| Heating coil section (split heating coil)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                            |                    |                    |
| Duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | kW          | 147.78 (Main pool)<br>76.23 (Learner pool) | 23.04              | 17.76              |
| Air temperature on/off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | °C          | 20                                         | 11                 | 7.5                |
| LTHW temperature on/off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | °C          | 40                                         | 15                 | 15                 |
| LTHW flow rate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | l/sec       | 1.767 (Main pool)<br>0.911 (Learner pool)  | 0.275              | 0.212              |
| Cooling coil section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                            |                    |                    |
| Duty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | kW          |                                            |                    |                    |
| Air temperature on db/wb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | °C          |                                            |                    |                    |
| Air temperature off db/wb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | °C          |                                            |                    |                    |
| Supply fan section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                                            |                    |                    |
| Duty volume - Main pool                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | m³/s        | 5.99 (Main pool)<br>3.09 (Learner pool)    | 4.79               | 1.92               |
| External static pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pa          | 350                                        | 450                | 450                |
| Volume control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes/No      | Yes                                        | Yes                | Yes                |
| EXTRACT COMPONENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                                            |                    |                    |
| Panel filter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Grade (min) | MS                                         | MS                 | MS                 |
| Extract fan section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                            |                    |                    |
| Duty volume                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | m³/s        | 9.56                                       | 4.89               | 1.35               |
| External static pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Pa          | 300                                        | 450                | 400                |
| Volume control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes/No      | Yes                                        | Yes                | Yes                |
| Extract air damper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             | Yes                                        | Yes                | Yes                |
| NOTES:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                            |                    |                    |
| 1. AHU's to be selected to ensure the SFP's complies with current Building Regulations.<br>2. All AHUs to be suitable for the external coastal/marine environment.<br>3. AHU 01 to incorporate thermal bridging class TB1.<br>4. Lifetime guarantee to be provided against corrosion on inner skins, heat exchangers, dampers, fan impellers etc. for each AHU.<br>5. All AHUs to be ErP 2018 compliant.<br>6. Each AHU to be constructed to D1 mechanical strength.<br>7. Warranty shall be provided to ensure that there will be no moisture carry over in AHU 01 & 02.<br>8. Each AHU to be provided with complete controls package.<br>9. Actuators in each AHU to be IP66 rated.<br>10. Each AHU to be constructed with enhanced acoustic construction to comply with the local noise requirements and Acoustic consultants specification.<br>11. Local re-heat coils to provide heating make-up as per heater battery schedule.<br>12. MS - Manufacturers standard.<br>13. The ESPs are for tender purposes only. The contractor shall calculate the actual ESP based on final duct runs before ordering.<br>14. AHU AHUs to be mounted on bigfoot support system.<br>15. AHU 03 provides kitchen make-up air. Kitchen extract air rate to be confirmed by kitchen specialist/designer before ordering.<br>16. All AHUs to be provided by Ecoairbox or equal. Telephone Matthew Coates 01527 492770 |             |                                            |                    |                    |

| SCHEDULE OF GRILLES/DIFFUSERS                                                                                             |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------|----------------|----------------------------------------------------------------------------------------------------------------------|-------|----------|------------|-------------|----------------------------------------------------------------------------|
| REFERENCE                                                                                                                 | LOCATION                                                      | AIR VOLUME | NECK SIZE      | TYPE/MODEL                                                                                                           | THROW | NC LEVEL | RESISTANCE | PLENUM      | COMMENTS                                                                   |
|                                                                                                                           |                                                               | [m³/sec]   | [mm]           |                                                                                                                      | [m]   |          | [Pa]       | [TYPE/REF]  |                                                                            |
| SUPPLY DIFFUSERS                                                                                                          |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
| S01                                                                                                                       | 01_Male Change                                                | 0.165      | 450x450        | 32W-SA4-G                                                                                                            | 2.1   | 10       | 10         | PBS-1(300)L |                                                                            |
| S02                                                                                                                       | 01_Female Change                                              | 0.162      | 450x450        | 32W-SA4-G                                                                                                            | 2.1   | 10       | 10         | PBS-1(300)L |                                                                            |
| S03                                                                                                                       | 00_Sports Hall Change, 01_Administration                      | 0.090      | 225x225        | 32W-SA4-G                                                                                                            | 2.1   | 22       | 18         | PBS-1(200)L |                                                                            |
| S04                                                                                                                       | 00_First Aid, 00_Sports Hall Change                           | 0.080      | 225x225        | 32W-SA4-G                                                                                                            | 2.1   | 22       | 18         | PBS-1(200)L |                                                                            |
| S05                                                                                                                       | 00_Sports Hall Change                                         | 0.250      | 450x450        | 32W-SA4-G                                                                                                            | 2.4   | 16       | 14         | PBS-1(350)L |                                                                            |
| S06                                                                                                                       | 00_Wet Change, 01_Acc WC, 00_Manager's Office, 00_Circulation | 0.030      | 150x150        | 32W-SA4-G                                                                                                            | 1.2   | 17       | 12         | PBS-1(150)L |                                                                            |
| S07                                                                                                                       | 00_Wet Change, 00_Duty Office                                 | 0.040      | 225x225        | 32W-SA4-G                                                                                                            | 1.2   | -        | 10         | PBS-1(150)L |                                                                            |
| S08                                                                                                                       | 00_Wet Change                                                 | 0.130      | 300x300        | 32W-SA4-G                                                                                                            | 2.1   | 18       | 16         | PBS-1(250)L |                                                                            |
| S09                                                                                                                       | 00_Wet Change                                                 | 0.150      | 375x375        | 32W-SA4-G                                                                                                            | 2.1   | 14       | 12         | PBS-1(350)L |                                                                            |
| S10                                                                                                                       | 00_Wet Change                                                 | 0.100      | 300x300        | 32W-SA4-G                                                                                                            | 1.8   | 13       | 12         | PBS-1(250)L |                                                                            |
| S11                                                                                                                       | 00_Wet Change                                                 | 0.303      | 450x450        | 32W-SA4-G                                                                                                            | 3.0   | 22       | 14         | PBS-1(400)L |                                                                            |
| S12                                                                                                                       | 00_Wet Change, 01_Acc Change                                  | 0.060      | 225x225        | 32W-SA4-G                                                                                                            | 1.5   | 12       | 10         | PBS-1(200)L |                                                                            |
| S13                                                                                                                       | 00_Learner Pool                                               | 0.618      | 650x275 ('L6') | 25C-CJD-R-F1-83                                                                                                      | 9     | 30       | 31         | -           | Diffuser mounted outside of air stream                                     |
| S14                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 1316x264       | FGMG-RC-F0<br>32x32x6 Reversed angle frame<br>264mm overall width<br>Removeable core<br>Full length equalizing plate | 4.2   | 27       | 10         | -           | 25m active length<br>Plenum by buried ductwork specialist                  |
| S15                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 1486x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S16                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 5026x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S17                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 4286x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S18                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 4225x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S19                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 3179x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S20                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 5438x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S21                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 1676x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S22                                                                                                                       | 00_Main Pool                                                  | 245l/s/m   | 5047x264       |                                                                                                                      |       |          |            |             |                                                                            |
| S23                                                                                                                       | 01_Administration                                             | 0.070      | 225x225        | 32W-SA4-G                                                                                                            | 1.8   | 18       | 14         | PBS-1(200)L |                                                                            |
| S24                                                                                                                       | 00_Multi-purpose Room                                         | 0.200      | 450x450        | 32W-SA4-G                                                                                                            | 2.1   | 10       | 12         | PBS-1(300)L |                                                                            |
| S25                                                                                                                       | 00_Kitchen                                                    | 0.240      | 450x450        | 32W-SA4-G                                                                                                            | 2.4   | 16       | 14         | PBS-1(350)L |                                                                            |
| S26                                                                                                                       | 00_WC Lobby                                                   | 0.120      | 450x450        | 32W-SA4-G                                                                                                            | 1.2   | 10       | 10         | PBS-1(250)L |                                                                            |
| S27                                                                                                                       | 00_Foyer/Café                                                 | 0.166      | 1400x100       | 20W-NB15R-F6-83                                                                                                      | 4.3   | 22       | 7          | PBL-4(200)L |                                                                            |
| S28                                                                                                                       | 00_Informal Viewing                                           | 0.062      | 300x300        | 32W-SA4-R                                                                                                            | 1.8   | 18       | 10         | PBL-4(200)L |                                                                            |
| S29                                                                                                                       | 01_Studio 1                                                   | 0.175      | 375x375        | 32W-SA4-R                                                                                                            | 2.1   | 14       | 12         | PBS-1(300)L |                                                                            |
| S30                                                                                                                       | 01_Studio 2                                                   | 0.189      | 375x375        | 32W-SA4-R                                                                                                            | 2.7   | 20       | 12         | PBS-1(350)L |                                                                            |
| S31                                                                                                                       | 00_Acc Change                                                 | 0.050      | 225x225        | 32W-SA4-G                                                                                                            | 1.2   | -        | 10         | PBS-1(150)L |                                                                            |
| S32                                                                                                                       | 00_Sports Hall Change                                         | 0.270      | 450x450        | 32W-SA4-G                                                                                                            | 2.7   | 22       | 22         | PBS-1(350)L |                                                                            |
|                                                                                                                           |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
| DTG 01                                                                                                                    | 00_Sports Hall Store                                          | 0.051      | 250x200        | PSG/FB/PSG                                                                                                           |       |          |            |             | Intumescent                                                                |
| DTG 02                                                                                                                    | 00_Sports Hall Store                                          | 0.075      | 300x250        | PSG/FB/PSG                                                                                                           |       |          |            |             | Intumescent                                                                |
| DTG 03                                                                                                                    | 00_Pool Store                                                 | 0.070      | 300x250        | PSG/FB/PSG                                                                                                           |       |          |            |             | Intumescent                                                                |
| EXTRACT GRILLES                                                                                                           |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
| E01                                                                                                                       | 01_Male Change                                                | 0.137      | 350x350        | 25W-ECG                                                                                                              | -     | -        | 6          | PBS-1(300)L |                                                                            |
| E02                                                                                                                       | 01_Male Change, Female Change, Sports Hall Change             | 0.090      | 250X250        | 25W-ECG                                                                                                              | -     | -        | 4          | PBS-1(200)L |                                                                            |
| E03                                                                                                                       | 01_Female Change                                              | 0.134      | 350x350        | 25W-ECG                                                                                                              | -     | -        | 8          | PBS-1(300)L |                                                                            |
| E04                                                                                                                       | 00_Sports Hall Change                                         | 0.250      | 450x450        | 25W-ECG-                                                                                                             | -     | 13       | 8          | PBS-1(350)L |                                                                            |
| E05                                                                                                                       | 00_Acc Change, 00_WC, 00_Wet Change, 00_WC                    | 0.050      | 225x225        | 25W-ECG                                                                                                              | -     | -        | 10         | PBS-1(150)L |                                                                            |
| E06                                                                                                                       | 00_First Aid                                                  | 0.080      | 225x225        | 32W-SA4-G                                                                                                            | -     | 22       | 18         | PBS-1(200)L |                                                                            |
| E07                                                                                                                       | 00_Sports Hall Change, 00_Wet Change, 00_WC                   | 0.040      | 150x150        | 25W-ECG                                                                                                              | -     | -        | 6          | PBS-1(150)L |                                                                            |
| E08                                                                                                                       | 00_Wet Change                                                 | 0.021      | 150x150        | 25W-ECG                                                                                                              | -     | -        | 2          | PBS-1(150)L |                                                                            |
| E09                                                                                                                       | 00_WC, 01_Acc WC                                              | 0.030      | 150x150        | 25W-ECG                                                                                                              | -     | -        | 4          | PBS-1(150)L |                                                                            |
| E10                                                                                                                       | 00_Wet Change                                                 | 0.086      | 250x250        | 25W-ECG                                                                                                              | -     | -        | 4          | PBS-1(250)L |                                                                            |
| E11                                                                                                                       | 00_Wet Change                                                 | 0.100      | 250x250        | 25W-ECG                                                                                                              | -     | 12       | 11         | PBS-1(250)L |                                                                            |
| E12                                                                                                                       | 00_Wet Change                                                 | 0.302      | 450x450        | 32W-SA4-G                                                                                                            | -     | 22       | 14         | PBS-1(400)L |                                                                            |
| E13                                                                                                                       | 00_Wet Change, 01_Acc Change                                  | 0.060      | 200x200        | 25W-ECG                                                                                                              | -     | -        | -          | PBS-1(200)L |                                                                            |
| E14                                                                                                                       | 00_Wet Change                                                 | 0.150      | 300x300        | 32W-SA4-G                                                                                                            | -     | 23       | 16         | PBS-1(300)L |                                                                            |
| E15                                                                                                                       | 00_Pool Hall                                                  | 9.56       | 4600x1100      | 50W-GN30G-F1-83 (30deg angle)                                                                                        | -     | 35       | 14         | -           | Fitted in wall inverted to block sight.<br>Manufactured in three sections. |
| E16                                                                                                                       | 01_Administration, 00_Sports Hall Change                      | 0.090      | 300x300        | 32W-SA4-G                                                                                                            | -     | -        | 14         | PBS-1(200)L |                                                                            |
| E17                                                                                                                       | 01_Staff Rest Room                                            | 0.070      | 225x225        | 32W-SA4-G                                                                                                            | -     | 18       | 12         | PBS-1(200)L |                                                                            |
| E18                                                                                                                       | 00_Multi-purpose Room                                         | 0.200      | 450x450        | 32W-SA4-G                                                                                                            | -     | 10       | 12         | PBS-1(300)L |                                                                            |
| E19                                                                                                                       | 00_Foyer/Café                                                 | 0.166      | 450x450        | 32W-SA4-G                                                                                                            | -     | 6        | 2          | PBS-1(250)L |                                                                            |
| E20                                                                                                                       | 00_Duty Office                                                | 0.040      | 225x225        | 32W-SA4-G                                                                                                            | -     | -        | 10         | PBS-1(150)L |                                                                            |
| E21                                                                                                                       | 00_Manager's Office                                           | 0.030      | 150x150        | 32W-SA4-G                                                                                                            | -     | 17       | 12         | PBS-1(150)L |                                                                            |
| E22                                                                                                                       | 01_Studio 1                                                   | 0.350      | 450x450        | 32W-SA4-G                                                                                                            | -     | 28       | 10         | -           |                                                                            |
| E23                                                                                                                       | 01_Studio 2                                                   | 0.567      | 450x450        | 32W-SA4-G                                                                                                            | -     | 20       | 6          | -           |                                                                            |
| E24                                                                                                                       | 01_Female Change                                              | 0.201      | 350x350        | 25W-ECG                                                                                                              | -     | -        | 8          | PBS-1(300)L |                                                                            |
| E25                                                                                                                       | 01_Male Change                                                | 0.205      | 350x350        | 25W-ECG                                                                                                              | -     | -        | 8          | PBS-1(300)L |                                                                            |
| E26                                                                                                                       | 00_Wet Change                                                 | 0.044      | 150x150        | 25W-ECG                                                                                                              | -     | 12       | 13         | PBS-1(150)L |                                                                            |
| E27                                                                                                                       | 00_Wet Change Pool Plant Cupboard                             | 0.006      | 150x150        | 32W-SA4-G                                                                                                            | -     | -        | 6          | PBS-1(100)L |                                                                            |
| NOTES:                                                                                                                    |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
| 1. All grilles, diffusers and louvres to be provided by Air Diffusion Ltd. Telephone; Bob Olkowicz 07970 231639 or equal. |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
| 2. Powder coat in colour to Architects specification.                                                                     |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
| 3. Schedule to be read in conjunction with drawings.                                                                      |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |
| Van Zyl & de Villiers Consulting Engineers                                                                                |                                                               |            |                |                                                                                                                      |       |          |            |             |                                                                            |



## SCHEDULE OF FANS

| REFERENCE | LOCATION                       | AREA SERVED       | MODEL/TYPE       | VOLUME | EXTERNAL STATIC | ELECTRICAL SUPPLY |     |      |      |                | Comments                                                                                                                                                |
|-----------|--------------------------------|-------------------|------------------|--------|-----------------|-------------------|-----|------|------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |                                |                   |                  | [m³/s] | [Pa]            | [kW]              | [V] | [ph] | [Hz] | [RC]<br>[Amps] |                                                                                                                                                         |
| EF.01     | External Roof                  | Kitchen           | Nuaire SQFA42-3T | 0.38   | 305             | 0.288             | 415 | 3    | 50   | 9.04           | To be provided with Nuaire acoustic enclosure. Refer to acousticians report for specification. Kitchen extract air flow rate TBC by kitchen specialist. |
| EF.02     | Ground Floor Plantroom         | Pool Plant        | Helios RRK315    | 0.274  | 135             | 0.220             | 230 | 1    | 50   | 0.98           |                                                                                                                                                         |
| EF.03     | Ground Floor Plantroom         | Chemical Store    | Helios RRK200    | 0.082  | 125             | 0.125             | 230 | 1    | 50   | 0.52           |                                                                                                                                                         |
| EF.04     | Ground Floor Plantroom         | Chemical Store    | Helios RRK315    | 0.19   | 125             | 0.220             | 230 | 1    | 50   | 0.98           |                                                                                                                                                         |
| EF.05     | Ground Floor Sports Hall Store | Sports Hall Store | Nuaire XS12WA    | 0.102  | 30              | 0.127             | 230 | 1    | 50   | 1.32           |                                                                                                                                                         |
| EF.06     | Ground Floor Sports Hall Store | Sports Hall Store | Nuaire XS12WA    | 0.075  | 30              | 0.127             | 230 | 1    | 50   | 1.32           |                                                                                                                                                         |

## NOTES:

1. EF01, EF05 & EF06 to be provided by Nuaire or equal. Telephone Andrew Bott 07767 289 248
2. Extract air rate for EF01 shall be confirmed by kitchen specialist/designer before ordering.
3. EF02-04 to be inline duct mounted fans suitable for corrosive environments and to be provided by Helios or equal.
4. The ESPs are for tender purposes only. The contractor shall calculate the actual ESP based on final duct runs before ordering.
5. All external fans to be weatherproof and suitable for coastal environment.
6. All fans to be ErP 2018 compliant.
7. Fans to be selected to ensure SFPs complies with current Building Regulations.
8. All external fans to be mounted on bigfoot type support system.



## SCHEDULE OF SILENCERS

| Item   | System Reference            | Code   | Suffix        | DWG  | L1<br>mm | L2/ID<br>mm | W<br>mm | H/Dia<br>mm | Vol<br>m³/s | PD<br>Pa | Wt<br>kg | No.<br>Off. |                                     | Performance, dB |     |     |     |     |     |     |     |
|--------|-----------------------------|--------|---------------|------|----------|-------------|---------|-------------|-------------|----------|----------|-------------|-------------------------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|
|        |                             |        |               |      |          |             |         |             |             |          |          |             |                                     | 63              | 125 | 250 | 500 | 1k  | 2k  | 4k  | 8k  |
| ATT01  | AHU01 FAI                   | SP2033 | G             | A02F | 600      |             | 2400    | 1425        | 9.08        | 30       | 218      | 1           | IL                                  | 9               | 12  | 21  | 32  | 42  | 38  | 30  | 21  |
| ATT02  | AHU01 EXHAUST               | SP3033 | GK            | A02F | 900      |             | 2400    | 1225        | 9.56        | 30       | 267      | 1           | IL                                  | 9               | 15  | 21  | 29  | 37  | 32  | 24  | 17  |
| ATT03  | AHU01 EXTRACT               | SP3038 | GK            | A02F | 1500     |             | 1600    | 1600        | 9.56        | 30       | 351      | 1           | IL                                  | 11              | 18  | 27  | 36  | 46  | 35  | 30  | 19  |
| ATT04  | AHU01 SUPPLY LEARNER POOL   | SP3033 | GK            | A02F | 1500     |             | 1050    | 1050        | 3.09        | 30       | 197      | 1           | IL                                  | 13              | 21  | 32  | 43  | 49  | 44  | 36  | 25  |
| ATT05  | AHU01 SUPPLY MAIN POOL      | SP3035 | GK            | A02F | 1500     |             | 1300    | 1300        | 5.99        | 30       | 240      | 1           | IL                                  | 12              | 20  | 30  | 40  | 47  | 40  | 33  | 22  |
| ATT06  | AHU02 FAI                   | SP3030 | G             | A02F | 1200     |             | 2400    | 1075        | 4.78        | 30       | 310      | 1           | IL                                  | 11              | 20  | 29  | 39  | 48  | 41  | 33  | 24  |
| ATT07  | AHU02 EXHAUST               | SP3030 | GK            | A02F | 1200     |             | 2400    | 1075        | 4.88        | 30       | 310      | 1           | IL                                  | 11              | 20  | 29  | 39  | 48  | 41  | 33  | 24  |
| ATT08  | AHU02 SUPPLY                | SP3038 | GKZ211        | A02F | 1800     |             | 1200    | 1200        | 4.78        | 30       | 292      | 1           | IL                                  | 12              | 21  | 31  | 42  | 48  | 39  | 34  | 22  |
| ATT09  | AHU02 EXTRACT               | SP3038 | GKZ211        | A02F | 1800     |             | 1200    | 1200        | 4.88        | 30       | 292      | 1           | IL                                  | 12              | 21  | 31  | 42  | 48  | 39  | 34  | 22  |
| ATT10  | AHU03 EXTRACT               | SP2040 | G             | A02F | 1500     |             | 750     | 700         | 1.83        | 30       | 95       | 1           | IL                                  | 7               | 14  | 25  | 40  | 55  | 48  | 42  | 25  |
| ATT11  | AHU03 SUPPLY                | SP2040 | G             | A02F | 1500     |             | 750     | 700         | 1.83        | 30       | 98       | 1           | IL                                  | 7               | 14  | 25  | 40  | 55  | 48  | 42  | 25  |
| ATT12  | ATT12 - AHU03 FAI           | SP2038 | G             | A02F | 600      |             | 2000    | 950         | 1.83        | 15       | 132      | 1           | IL                                  | 4               | 8   | 13  | 20  | 30  | 25  | 22  | 14  |
| ATT13  | AHU03 EXHAUST               | SP3033 | G             | A02F | 900      |             | 2000    | 950         | 1.83        | 15       | 191      | 1           | IL                                  | 9               | 15  | 21  | 29  | 37  | 32  | 24  | 17  |
| ATT14  | EF1 KITCHEN EXTRACT         | SP2030 | GM            | A02F | 1500     |             | 500     | 400         | 0.28        | 30       | 61       | 1           | IL                                  | 11              | 22  | 27  | 43  | 45  | 42  | 35  | 28  |
| ATT15  | EF1 KITCHEN EXHAUST         | SP2030 | GMZ211        | A02F | 1800     |             | 500     | 400         | 0.28        | 30       | 82       | 1           | IL                                  | 12              | 26  | 30  | 45  | 45  | 44  | 40  | 31  |
| ATT16  | PLANTROOM FRESH AIR EXHAUST | SP3028 | GZ311         | A02F | 1700     | 1700        | 700     | 700         | 0.5         | 10       | 180      | 1           | IL                                  | 19              | 35  | 50  | 55  | 55  | 55  | 55  | 42  |
| ATT17  | PLANTROOM FRESH AIR INTAKE  | SP3028 | GZ311         | A02F | 1825     | 1825        | 950     | 950         | 1           | 10       | 306      | 1           | IL                                  | 19              | 35  | 50  | 55  | 55  | 55  | 55  | 42  |
| ATT18  | BOILER FLUE EXHAUST         |        | Exclence      |      | 1150     |             |         | 650         |             |          |          | 3           | To comply with Pace acoustic report |                 |     |     |     |     |     |     |     |
| ATT19  | EF02 POOL PLANT EXTRACT     | SL443  | G             | A02F | 900      |             | 350     | 350         | 0.27        | 30       | 25       | 1           | IL                                  | 5               | 9   | 16  | 26  | 37  | 30  | 26  | 16  |
| ATT20  | EF02 POOL PLANT EXHAUST     | SL443  | G             | A02F | 1200     |             | 350     | 350         | 0.27        | 30       | 32       | 1           | IL                                  | 6               | 12  | 20  | 33  | 44  | 37  | 32  | 19  |
| ATT21  | EF03 CHEM STORE EXTRACT     | SL433  | U             | A42F | 900      |             | 300     | 250         | 0.082       | 20       | 21       | 1           | IL                                  | 7               | 12  | 19  | 31  | 45  | 41  | 35  | 25  |
| ATT 22 | EF03 CHEM STORE EXHAUST     | SL433  | U             | A42F | 1200     |             | 300     | 250         | 0.082       | 20       | 25       | 1           | IL                                  | 8               | 16  | 25  | 40  | 51  | 46  | 42  | 31  |
| ATT 23 | EF04 CHEM STORE EXTRACT     | SL433  | U             | A42F | 900      |             | 300     | 300         | 0.19        | 30       | 23       | 1           | IL                                  | 7               | 12  | 19  | 31  | 45  | 41  | 35  | 25  |
| ATT 24 | EF04 CHEM STORE EXHAUST     | SL433  | U             | A42F | 1200     |             | 300     | 300         | 0.19        | 30       | 29       | 1           | IL                                  | 8               | 16  | 25  | 40  | 51  | 46  | 42  | 31  |
| ATT 25 | CHP EXHAUST FLUE            |        | Exclence      |      | 848      |             |         | 400         |             |          |          | 2           | To comply with Pace acoustic report |                 |     |     |     |     |     |     |     |
| ATT 26 | CHP VENTILATION FLUE        |        | 068-0500-2DEP |      | 1000     |             |         | 657         | 1.3         |          | 37       | 1           | IL                                  | -7              | -10 | -12 | -21 | -26 | -26 | -24 | -22 |
| CTA 01 | MANAGERS OFFICE XTALK       | PL     | G             | A13F | 900      | 150         |         |             | 0.03        | 5        | 8        | 1           | IL                                  | 1               | 3   | 7   | 19  | 28  | 23  | 20  | 15  |
| CTA 02 | MANAGERS OFFICE XTALK       | PL     | G             | A13F | 900      | 150         |         |             | 0.03        | 5        | 8        | 1           | IL                                  | 1               | 3   | 7   | 19  | 28  | 23  | 20  | 15  |

## NOTES:

1. All silencers with exception to ATT 18, ATT 25 and ATT 26 to be provided by Allaway Acoustics or equal. Tel Andy Smith 01992 550825
2. All silencers must comply with Pace Consult Specification for Acoustic and Vibration Isolation Materials and Products.
3. ATT18 and ATT25 to be provided by Pujoulat Chimneys or equal. Telephone James Parkin Mob: 07891 035713
4. ATT 14 & 15 shall be lined with melinex.
5. ATT 26 shall be provided with CHP package. CHP provided by Ener-G. Contact Vasu Gadi Mob 07785 571 911
6. Attenuators serving AHU 01 & AHU 02 shall be protected against corrosion.
7. Schedule to be read in conjunction with drawings.



| SCHEDULE OF DOOR HEATERS                                                                                                                                                                                    |                |                        |        |        |       |                |         |            |      |      |                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------|--------|--------|-------|----------------|---------|------------|------|------|-------------------------------------|
| REFERENCE                                                                                                                                                                                                   | LOCATION       | TYPE / MODEL           | LENGTH | OUTPUT | NOISE | LTHW FLOW RATE | HEATING | ELECTRICAL |      |      | ACCESSORIES<br>SPECIAL REQUIREMENTS |
|                                                                                                                                                                                                             |                |                        | [M]    | [W]    | (dBA) | [kg/sec]       | [°C]    | [V]        | [Hz] | (A)  |                                     |
| DAC.01                                                                                                                                                                                                      | Entrance Lobby | SR-L 200-H3 / Cassette | 2      | 63.1   | 46    | 0.750          | 80/60   | 230        | 50   | 6.07 | MS                                  |
| <div>1. All door air curtains to be provided by Biddle Air Curtains or equal. Tel Stuart Aires 07977 981122</div> <div>2. MS - Manufacturers Standard.</div> <div>3. Controller supplied as standard.</div> |                |                        |        |        |       |                |         |            |      |      |                                     |



[illegible]



| SCHEDULE OF VRF/DX AIR CONDITIONING UNITS                                                                                             |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|-------------|---------------|--------------|-----------------|---------------|----------------------|-------|-----------------|----------------------------------------------------------------------|
| LOCATION                                                                                                                              | COOLING (UK) | HEATING (UK) | INDOOR UNIT |               | OUTDOOR UNIT |                 |               | Sound Pressure Level | PHASE | ROOM CONTROLLER | COMMENTS                                                             |
|                                                                                                                                       | [kW]         | [kW]         | [Ref]       | [Model]       | [Ref]        | [Model]         | Air Flow m3/s | (dB)                 | [Φ]   |                 |                                                                      |
| Spin Studio                                                                                                                           | 11.5         | 11.9         | AC.01       | PLA-ZRP125BA  | OU.01        | PUHZ-ZRP125YKA2 | 2.0           | 52                   | 3     | PAR-31MAA       | Hardwired remote controller locked to act as temperature sensor only |
| Studio 1                                                                                                                              | 11.5         | 11.9         | AC.02       | PEAD-RP125JAQ | OU.02        | PUHZ-ZRP125YKA2 | 2.0           | 52                   | 3     | PAR-31MAA       | Hardwired remote controller locked to act as temperature sensor only |
| Studio 2                                                                                                                              | 9.2          | 9.5          | AC.03       | PEAD-RP100JAQ | OU.03        | PUHZ-ZRP200YKA2 | 2.33          | 59                   | 3     | PAR-31MAA       | Hardwired remote controller locked to act as temperature sensor only |
| Studio 2                                                                                                                              | 9.2          | 9.5          | AC.04       | PEAD-RP100JAQ |              |                 |               |                      | 3     |                 |                                                                      |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.05       | PLA-ZRP71BA   | OU.04        | PUHZ-ZRP200YKA2 | 2.33          | 59                   | 3     | PAR-31MAA       | Hardwired remote controller locked to act as temperature sensor only |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.06       | PLA-ZRP71BA   |              |                 |               |                      | 3     |                 |                                                                      |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.07       | PLA-ZRP71BA   | OU.05        | PUHZ-ZRP200YKA2 | 2.33          | 59                   | 3     | PAR-31MAA       | Hardwired remote controller locked to act as temperature sensor only |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.08       | PLA-ZRP71BA   |              |                 |               |                      | 3     |                 |                                                                      |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.09       | PLA-ZRP71BA   | OU.06        | PUHZ-ZRP200YKA2 | 2.33          | 59                   | 3     |                 |                                                                      |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.10       | PLA-ZRP71BA   |              |                 |               |                      | 3     |                 |                                                                      |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.11       | PLA-ZRP71BA   | OU.07        | PUHZ-ZRP200YKA2 | 2.33          | 59                   | 3     | PAR-31MAA       | Hardwired remote controller locked to act as temperature sensor only |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.12       | PLA-ZRP71BA   |              |                 |               |                      | 3     |                 |                                                                      |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.13       | PLA-ZRP71BA   | OU.08        | PUHZ-ZRP200YKA2 | 2.33          | 59                   | 3     |                 |                                                                      |
| Gym                                                                                                                                   | 6.55         | 6.8          | AC.14       | PLA-ZRP71BA   |              |                 |               |                      | 3     |                 |                                                                      |
| Admin room                                                                                                                            | 4.6          | 5.1          | AC.15       | PLA-ZRP50BA   | OU.09        | PUHZ-ZRP50VKA   | 0.59          | 46                   | 1     | PAR-31MAA       | Hardwired remote controller                                          |
| Staff room                                                                                                                            | 3.3          | 3.5          | AC.16       | PLA-ZRP35BA   | OU.10        | PUHZ-ZRP35VKA   | 0.59          | 46                   | 1     | PAR-31MAA       | Hardwired remote controller                                          |
| IT Room                                                                                                                               | 7.1          | 8.0          | AC.17       | PKA-RP71 KAL  | OU.11        | PUHZ-RP71VHA    | 0.92          | 48                   | 1     | PAR-31MAA       | Hardwired remote controller locked to act as temperature sensor only |
| Multipurpose                                                                                                                          | 6.55         | 6.8          | AC.18       | PLA-ZRP71BA   | OU.12        | PUHZ-ZRP140YKA2 | 2.00          | 52                   | 3     | PAR-31MAA       | Hardwired remote controller                                          |
| Multipurpose                                                                                                                          | 6.55         | 6.8          | AC.19       | PLA-ZRP71BA   |              |                 |               |                      |       |                 |                                                                      |
| Duty office                                                                                                                           | 3.3          | 3.5          | AC.20       | PKA-ZRP35HAL  | OU.13        | PUHZ-ZRP35VKA   | 0.59          | 46                   | 1     | PAR-31MAA       | Hardwired remote controller                                          |
| Manager Office                                                                                                                        | 3.3          | 3.5          | AC.21       | PKA-ZRP35HAL  | OU.14        | PUHZ-ZRP35VKA   | 0.59          | 46                   | 1     | PAR-31MAA       | Hardwired remote controller                                          |
| NOTES:                                                                                                                                |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
| 1. All units to be provided by Mitsubishi Electric UK or equal. Telephone Jonathan Smith 07976 016647                                 |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
| 2. All controllers to be remote type, wall mounted at light switch level and outside direct sunlight. Final setting out by architect. |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
| 3. All outdoor units to provide heating and cooling.                                                                                  |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
| 4. Outdoor unit to be ECA type and power supply to outdoor unit only.                                                                 |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
| 5. IT room, Manager & Duty office indoor units are to be wall mounted.                                                                |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
| 6. All outdoor units to be suitable for coastal environment.                                                                          |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |
| 7. Provide a AE200 centralised controller.                                                                                            |              |              |             |               |              |                 |               |                      |       |                 |                                                                      |





| SCHEDULE OF RADIATORS                                                          |              |       |       |               |      |            |            |       |        |                      |
|--------------------------------------------------------------------------------|--------------|-------|-------|---------------|------|------------|------------|-------|--------|----------------------|
| REFERENCE                                                                      | MANUFACTURER | RANGE | MODEL | OUTPUT @ 50dT | MWT  | ROOM TEMP. | WATER FLOW | WIDTH | HEIGHT | ACCESSORIES          |
|                                                                                |              |       |       | [W]           | [°C] | [°C]       | [kg/sec]   | [mm]  | [mm]   | SPECIAL REQUIREMENTS |
| R01                                                                            | Stelrad      | LST   | K2    | 1430          | 70   | 20         | 0.017      | 1360  | 650    |                      |
| R02                                                                            | Stelrad      | LST   | K2    | 1200          | 70   | 21         | 0.014      | 1160  | 650    |                      |
| R03                                                                            | Stelrad      | LST   | K2    | 348           | 70   | 20         | 0.004      | 560   | 500    |                      |
| R04                                                                            | Stelrad      | LST   | P+    | 770           | 70   | 21         | 0.009      | 960   | 650    |                      |
| R05                                                                            | Stelrad      | LST   | K2    | 1670          | 70   | 20         | 0.020      | 1360  | 650    |                      |
| R06                                                                            | Stelrad      | LST   | K2    | 1840          | 70   | 20         | 0.044      | 1360  | 800    |                      |
| R07                                                                            | Stelrad      | LST   | K2    | 696           | 70   | 20         | 0.008      | 960   | 500    |                      |
| R08                                                                            | Stelrad      | LST   | K2    | 2152          | 70   | 20         | 0.051      | 1560  | 800    |                      |
| R09                                                                            | Stelrad      | LST   | K2    | 2767          | 70   | 20         | 0.066      | 1960  | 800    |                      |
| NOTES:                                                                         |              |       |       |               |      |            |            |       |        |                      |
| MWT - Mean water temperature                                                   |              |       |       |               |      |            |            |       |        |                      |
| 1. All radiators to be provided by manufacturers stated or equal.              |              |       |       |               |      |            |            |       |        |                      |
| 2. All radiators to be standard colour coat powder finish.                     |              |       |       |               |      |            |            |       |        |                      |
| 3. All radiators to come complete with wall/floor mounting brackets and TRV's. |              |       |       |               |      |            |            |       |        |                      |
| 4. Radiators in public spaces to be provided with tamper proof TRV's           |              |       |       |               |      |            |            |       |        |                      |
| 5. Refer to drawings for radiator quantities.                                  |              |       |       |               |      |            |            |       |        |                      |
| 6. TRV's in all rooms to allow adjustment of ±3°C and frost protection setting |              |       |       |               |      |            |            |       |        |                      |
| 7. Schedule to be read in conjunction with drawings.                           |              |       |       |               |      |            |            |       |        |                      |





| SCHEDULE OF PLATE HEAT EXCHANGERS                                                                                         |                                                                                                      |       |                                                           |                                                           |
|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------|-----------------------------------------------------------|
| REFERENCE                                                                                                                 |                                                                                                      |       | PHE 01                                                    | PHE 02                                                    |
| LOCATION                                                                                                                  |                                                                                                      |       | Ground Mezz Plantroom                                     | Ground Mezz Plantroom                                     |
| SYSTEM                                                                                                                    |                                                                                                      |       | DHW                                                       | DHW                                                       |
| No OFF                                                                                                                    |                                                                                                      |       | 1                                                         | 1                                                         |
| TYPE                                                                                                                      |                                                                                                      |       | Vertical with Buffer Vessel on Skid                       | Vertical with Buffer Vessel on Skid                       |
| BOILER HEAT CAPACITY                                                                                                      |                                                                                                      | kW    | 230                                                       | 230                                                       |
| PRIMARY                                                                                                                   |                                                                                                      |       |                                                           |                                                           |
|                                                                                                                           | Fluid                                                                                                |       | Hot Water                                                 | Hot Water                                                 |
|                                                                                                                           | Flow rate                                                                                            | l/sec | 2.75                                                      | 2.75                                                      |
|                                                                                                                           | Temperature in/on                                                                                    | °C    | 80                                                        | 80                                                        |
|                                                                                                                           | Temperature out/off                                                                                  | °C    | 60                                                        | 60                                                        |
|                                                                                                                           | Inlet connections                                                                                    | mm    | MS                                                        | MS                                                        |
|                                                                                                                           | Outlet connections                                                                                   | mm    | MS                                                        | MS                                                        |
|                                                                                                                           | Max operating temperature                                                                            | °C    | 120                                                       | 120                                                       |
|                                                                                                                           | Max operating pressure                                                                               | bar   | 10                                                        | 10                                                        |
|                                                                                                                           | PHE pumps                                                                                            |       | Duty/standby (variable speed) with 2-way valve & actuator | Duty/standby (variable speed) with 2-way valve & actuator |
| SECONDARY                                                                                                                 |                                                                                                      |       |                                                           |                                                           |
|                                                                                                                           | Fluid                                                                                                |       | Cold water                                                | Cold water                                                |
|                                                                                                                           | Flow rate                                                                                            | l/sec | 1                                                         | 1                                                         |
|                                                                                                                           | Temperature in/on                                                                                    | °C    | 10                                                        | 10                                                        |
|                                                                                                                           | Temperature out/off                                                                                  | °C    | 65                                                        | 65                                                        |
|                                                                                                                           | Inlet connections                                                                                    | mm    | MS                                                        | MS                                                        |
|                                                                                                                           | Outlet connections                                                                                   | mm    | MS                                                        | MS                                                        |
|                                                                                                                           | Max operating temperature                                                                            | °C    | 90                                                        | 90                                                        |
|                                                                                                                           | Max operating pressure                                                                               | bar   | 6                                                         | 6                                                         |
| PERFORMANCE                                                                                                               |                                                                                                      |       |                                                           |                                                           |
|                                                                                                                           | Max. operating pressure                                                                              | bar   | 10                                                        | 10                                                        |
|                                                                                                                           | Test Pressure                                                                                        | bar   | 15                                                        | 15                                                        |
|                                                                                                                           | Max. operating primary temperature                                                                   | °C    | 120                                                       | 120                                                       |
|                                                                                                                           | Max. operating secondary temperature                                                                 | °C    | 90                                                        | 90                                                        |
| CONSTRUCTION DATA                                                                                                         |                                                                                                      |       |                                                           |                                                           |
|                                                                                                                           | Plate Material                                                                                       |       | Stainless Steel 316L                                      | Stainless Steel 316L                                      |
|                                                                                                                           | Gasket Material                                                                                      |       | EPDM                                                      | EPDM                                                      |
|                                                                                                                           | Gasket Fixing Method                                                                                 |       | MS                                                        | MS                                                        |
|                                                                                                                           | Frame Material                                                                                       |       | MS                                                        | MS                                                        |
|                                                                                                                           | Frame Finish / Colour                                                                                |       | MS                                                        | MS                                                        |
|                                                                                                                           | Number of Plates                                                                                     |       | MS                                                        | MS                                                        |
|                                                                                                                           | Plate Thickness                                                                                      |       | MS                                                        | MS                                                        |
|                                                                                                                           | Primary Connection Type                                                                              |       | MS                                                        | MS                                                        |
|                                                                                                                           | Primary Connection Size (Ø)                                                                          |       | MS                                                        | MS                                                        |
|                                                                                                                           | Secondary Connection Type                                                                            |       | MS                                                        | MS                                                        |
|                                                                                                                           | Secondary Connection Size (Ø)                                                                        |       | MS                                                        | MS                                                        |
|                                                                                                                           | Drain Connection Size (Ø)                                                                            |       | MS                                                        | MS                                                        |
|                                                                                                                           | Operating Weight                                                                                     |       | MS                                                        | MS                                                        |
| DIMENSIONAL DATA                                                                                                          |                                                                                                      |       |                                                           |                                                           |
|                                                                                                                           | Overall length                                                                                       | mm    | 2500                                                      | 2500                                                      |
|                                                                                                                           | Overall width                                                                                        | mm    | 2000                                                      | 2000                                                      |
|                                                                                                                           | Overall height                                                                                       | mm    | 3200                                                      | 3200                                                      |
|                                                                                                                           | Side Access                                                                                          | mm    | MS                                                        | MS                                                        |
|                                                                                                                           | Buffer vessel dia                                                                                    | mm    | MS                                                        | MS                                                        |
|                                                                                                                           | Buffer vessel height                                                                                 | mm    | MS                                                        | MS                                                        |
|                                                                                                                           | Buffer vessel capacity                                                                               | l     | 2000                                                      | 2000                                                      |
| TESTING                                                                                                                   |                                                                                                      |       |                                                           |                                                           |
|                                                                                                                           | Performance type tests                                                                               |       | yes                                                       | yes                                                       |
|                                                                                                                           | WRAS approved PHE                                                                                    |       | yes                                                       | yes                                                       |
|                                                                                                                           | Dual head pump on each plate                                                                         |       | yes                                                       | yes                                                       |
|                                                                                                                           | Automatic night set-back plus an anti-legionella pasteurisation cycle on PHE & buffer vessel systems |       | yes                                                       | yes                                                       |
| NOTES:                                                                                                                    |                                                                                                      |       |                                                           |                                                           |
| 1. Plate heat exchangers to be provided by Ormandy Rycroft or equal.                                                      |                                                                                                      |       |                                                           |                                                           |
| 2. Buffer Vessel Capacity each 2000l                                                                                      |                                                                                                      |       |                                                           |                                                           |
| 3. Packaged plate heat exchanger c/w primary and secondary pumps (duty/standby), buffer vessel and 2-way valve & actuator |                                                                                                      |       |                                                           |                                                           |
| 4. MS - Manufacturer Standard                                                                                             |                                                                                                      |       |                                                           |                                                           |

**Van Zyl & de Villiers Consulting Engineers**

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| SCHEDULE OF MCW BOOSTER SETS                                                                                                              |              |        |                        |                                                         |        |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------|------------------------|---------------------------------------------------------|--------|
| REFERENCE                                                                                                                                 |              |        | BCW.01                 | REQUIRED                                                | YES/NO |
| LOCATION                                                                                                                                  |              |        | First floor plantroom  | Weather Proof Housing (IP54)                            | N      |
| SYSTEM                                                                                                                                    |              |        | Water @ 10°C           | Normal Housing (IP52)                                   | Y      |
|                                                                                                                                           |              |        |                        | Start/Stop Buttons                                      | Y      |
| Duty Flow (set)                                                                                                                           |              | l/sec  | 10                     | Individual Pump Run Lights                              | Y      |
| Duty Head (set)                                                                                                                           |              | bar    | 4.5                    | Individual Pump Stop Lights                             | Y      |
| CASING MATERIAL                                                                                                                           |              |        | Cast iron              | Individual Pump Trip Lights                             | Y      |
| SHAFT MATERIAL                                                                                                                            |              |        | Stainless steel        | Supply On Lights                                        | Y      |
| PUMPS                                                                                                                                     |              |        |                        | Minimum Run Timers                                      | Y      |
|                                                                                                                                           | Quantity     | No     | 2                      | Hand Auto / On / Off Switch                             | Y      |
|                                                                                                                                           | Type         |        | 1No. Duty 1No. Standby | Tank Interface Lights                                   | Y      |
| VESSEL CAPACITY                                                                                                                           |              | litres | In-Built with Booster  | Dry Running Protection                                  | Y      |
| OVERALL DIMENSIONS                                                                                                                        |              |        |                        | Isolation Valves on Each Pump Suction & Discharge Lines | Y      |
| Unit                                                                                                                                      | Length       | mm     | 1900                   | Non Return Valves on Each Pump Discharge Lines          | Y      |
|                                                                                                                                           | Width        | mm     | 1250                   | Auto Switch Over at Duty Pump Failure                   | Y      |
|                                                                                                                                           | Height       | mm     | 1200                   | Surge Protection (Water Hammer)                         | Y      |
| ELECTRICAL SUPPLY                                                                                                                         |              |        |                        | Electrical Overload Protection                          | Y      |
|                                                                                                                                           | Starter type |        | Soft Start             | Volt Free 'Fault' Contact                               | Y      |
|                                                                                                                                           | Motor power  | kW     | 8                      | BMS Control Requirement                                 | Y      |
|                                                                                                                                           |              |        |                        | Anti condensation heaters                               | Y      |
|                                                                                                                                           |              |        |                        | Voltmeter                                               | Y      |
|                                                                                                                                           |              | V      | 400                    | Ammeter                                                 | Y      |
|                                                                                                                                           |              | ph     | 3                      | Pump strainers                                          | Y      |
|                                                                                                                                           |              | Hz     | 50                     | Test points                                             | Y      |
|                                                                                                                                           |              |        |                        | Phase failure protection                                | Y      |
|                                                                                                                                           |              |        |                        | Lighting protection                                     | Y      |
|                                                                                                                                           |              |        |                        | Safety switch for pump                                  | Y      |
| NOTES:                                                                                                                                    |              |        |                        |                                                         |        |
| 1. Booster set to be provided by Armstrong/Grundfoss or equal.                                                                            |              |        |                        |                                                         |        |
| 2. Drive type - All pumps will be controlled by the in built dedicated frequency inverter per pump in the packaged unit.                  |              |        |                        |                                                         |        |
| 3. MS - Manufacturers Standard.                                                                                                           |              |        |                        |                                                         |        |
| 4. All inpuets/outputs to be wired to numbered terminals within the control panel.                                                        |              |        |                        |                                                         |        |
| 5. All alarm volt free contacts shall be fail safe. Contacts shall be normally open, closed when healthy, open on alarm or loss of power. |              |        |                        |                                                         |        |



| SCHEDULE OF CAT 5 BOOSTER & TANK                                                                                                          |              |        |                                                                                                                                 |                                                            |        |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------|
| REFERENCE                                                                                                                                 |              |        | BCW.02                                                                                                                          | REQUIRED                                                   | YES/NO |
| LOCATION                                                                                                                                  |              |        | First floor plantroom                                                                                                           | Weather Proof Housing (IP54)                               | N      |
| SYSTEM                                                                                                                                    |              |        | CAT 5 Cold Water                                                                                                                | Normal Housing (IP52)                                      | Y      |
| MODEL/REFERENCE                                                                                                                           |              |        | Mini VV series                                                                                                                  | Start/Stop Buttons                                         | Y      |
| Duty Flow (set)                                                                                                                           |              | l/sec  | 2.5                                                                                                                             | Individual Pump Run Lights                                 | Y      |
| Duty Head (set)                                                                                                                           |              | bar    | 3                                                                                                                               | Individual Pump Stop Lights                                | Y      |
| SHAFT MATERIAL                                                                                                                            |              |        |                                                                                                                                 | Individual Pump Trip Lights                                | Y      |
| PUMPS                                                                                                                                     |              |        |                                                                                                                                 | Supply On Lights                                           | Y      |
|                                                                                                                                           | Quantity     | No     | 1 set                                                                                                                           | Minimum Run Timers                                         | Y      |
|                                                                                                                                           | Type         |        | 1N. Duty 1No. Assist                                                                                                            | Hand Auto / On / Off Switch                                | Y      |
| TYPE                                                                                                                                      |              |        |                                                                                                                                 | Tank Interface Lights                                      | Y      |
|                                                                                                                                           |              |        | Floor mounted packaged set with booster pump & GRP pre-insulated break tank to supply water to pool balancing tank & wash down. | Dry Running Protection                                     | Y      |
|                                                                                                                                           |              |        |                                                                                                                                 | Isolation Valves on Each Pump Suction & Discharge Lines    | Y      |
|                                                                                                                                           |              |        |                                                                                                                                 | Non Return Valves on Each Pump Discharge Lines             | Y      |
| BREAK TANK CAPACITY                                                                                                                       |              | litres | 1000                                                                                                                            | Electrical Overload Protection                             | Y      |
| OVERALL DIMENSIONS                                                                                                                        |              |        |                                                                                                                                 | Volt Free 'Fault' Contact                                  | Y      |
| Unit                                                                                                                                      | Length       | mm     | 1200                                                                                                                            | BMS Control Requirement                                    | Y      |
|                                                                                                                                           | Width        | mm     | 1200                                                                                                                            | Inline pressure operated controller for pump set operation | Y      |
|                                                                                                                                           | Height       | mm     | 2700                                                                                                                            | Outlet pressure regulation                                 | Y      |
| ELECTRICAL SUPPLY                                                                                                                         |              |        |                                                                                                                                 | Anti condensation heaters                                  | Y      |
|                                                                                                                                           | Starter type |        | DOL                                                                                                                             | Voltmeter                                                  | Y      |
|                                                                                                                                           | Motor power  | kW     | 2                                                                                                                               | Ammeter                                                    | Y      |
|                                                                                                                                           |              |        |                                                                                                                                 | Pump strainers                                             | Y      |
|                                                                                                                                           |              |        |                                                                                                                                 | Test points                                                | Y      |
|                                                                                                                                           | V            |        | 230                                                                                                                             | Phase failure protection                                   | Y      |
|                                                                                                                                           | ph           |        | 1                                                                                                                               | Lighting protection                                        | Y      |
|                                                                                                                                           | Hz           |        | 50                                                                                                                              | Safety switch for pump                                     | Y      |
| NOTES:                                                                                                                                    |              |        |                                                                                                                                 |                                                            |        |
| 1. Booster set & tank to be provided by Lowara or equal.                                                                                  |              |        |                                                                                                                                 |                                                            |        |
| 2. Drive type - All pumps will be controlled by the in built dedicated frequency inverter per pump in the packaged unit.                  |              |        |                                                                                                                                 |                                                            |        |
| 3. MS - Manufacturers Standard.                                                                                                           |              |        |                                                                                                                                 |                                                            |        |
| 4. All inputs/outputs to be wired to numbered terminals within the control panel.                                                         |              |        |                                                                                                                                 |                                                            |        |
| 5. All alarm volt free contacts shall be fail safe. Contacts shall be normally open, closed when healthy, open on alarm or loss of power. |              |        |                                                                                                                                 |                                                            |        |



| SCHEDULE OF WATER TANKS/CISTERNs                                                                                                                                                                                                                                                                                                                                                                                                           |                           |     |                                      |                                    |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----|--------------------------------------|------------------------------------|--------|
| REFERENCE                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |     | CWST.01                              | REQUIRED                           | YES/NO |
| LOCATION                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |     | First floor plantroom                | High Level Alarm Switch            | Y      |
| SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |     | Mains fed water storage tank at 10°C | Temperature Sensor BMS Link        | Y      |
| NUMBER REQUIRED                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |     | 1 (Divided into 2 compartments)      |                                    |        |
| CAPACITY (Nominal)                                                                                                                                                                                                                                                                                                                                                                                                                         | litres                    |     | 20m3                                 | Low Level Alarm Switch             | Y      |
| CAPACITY (Actual)                                                                                                                                                                                                                                                                                                                                                                                                                          | litres                    |     |                                      | Booster Pump Start Switch          | Y      |
| DIMENSIONS                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |     |                                      | Pump Stop Switch                   | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Length                    | mm  | 4000                                 | BMS Link                           | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Width                     | mm  | 2000                                 | Ball Valve Float Chamber (Type AA) | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Height                    | mm  | 2500                                 | Internal Ladder                    | Y      |
| CONNECTIONS                                                                                                                                                                                                                                                                                                                                                                                                                                |                           | No  |                                      | External Ladder                    | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ball valve/inlet          | 1   | 75                                   | Delayed Action Ball Valve Housing  | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Outlet                    | 1   | 100                                  | Sealed Heavy Duty Lid              | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Overflow                  | 1   | MS                                   | Sealed Light Duty Lid              | N      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Warning pipe              | 1   | MS                                   | Access Hatch                       | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | External ladder           | 1   | MS                                   | Structural Internal Division       | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Drain                     | 1   | MS                                   | Access Hatch                       | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |     |                                      | Contents Gauge                     | Y      |
| CONSTRUCTION                                                                                                                                                                                                                                                                                                                                                                                                                               | Material                  |     | Factory manufactured GRP             | Overflow Screening                 | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Internal flanges          | Y/N | N                                    | Warning Pipe Screening             | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | External flanges          | Y/N | Y                                    | Vent Pipe Screening                | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |     |                                      | Factory Insulation                 | Y      |
| REGULATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                | Comply with Water Byelaws | Y/N | Y                                    | Base externally flanged            | Y      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                            | Comply with BS 6700       | Y/N | Y                                    | Tank walls externally fanged       | Y      |
| NOTES:                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |     |                                      |                                    |        |
| 1. Water tank to be provided by AC Plastics/Dewey Waters or equal.<br>2. MS - Manufacturers Standard.<br>3. Factory manufactured GRP insulated panels to be erected on site.<br>4. Insulation to be HCFC free polyurethane foam 50mm thick on all sides, top and bottom with a protective outer skin for foam protection (factory fitted).<br>5. Construction standard BS 7491 Part 3.<br>6. Base and tank walls to be externally flanged. |                           |     |                                      |                                    |        |



| SCHEDULE OF WATER TREATMENT EQUIPMENT                                                                     |       |                       |
|-----------------------------------------------------------------------------------------------------------|-------|-----------------------|
| REFERENCE                                                                                                 |       | WC.01                 |
| LOCATION                                                                                                  |       | First floor plantroom |
| SYSTEM                                                                                                    |       | MCW                   |
| MAKE/MODEL                                                                                                |       | Hyrdotec / DN65       |
| Number required                                                                                           |       | 1                     |
| Water source                                                                                              |       | Mains Water           |
| Temperature                                                                                               | °C    | 5-10                  |
| PERFORMANCE                                                                                               |       |                       |
| Total flow (Max.)                                                                                         | l/sec | 10                    |
| Duty Pressure                                                                                             | kPa   | 500                   |
| Max Working Pressure                                                                                      | kPa   | 1600                  |
| Max Temperature (Water)                                                                                   | °C    | 90                    |
| Max Temperature (Ambient)                                                                                 | °C    | 40                    |
| Test Pressure                                                                                             | kPa   | 3200                  |
| DIMENSIONS                                                                                                |       |                       |
| Overall length                                                                                            | mm    | 287                   |
| Overall width / Ø                                                                                         | mm    | 58                    |
| Overall height                                                                                            | mm    | 254                   |
| NOTES:                                                                                                    |       |                       |
| 1. All inputs/outputs to be wired to numbered terminals within the control panel.                         |       |                       |
| 2. All volt free contacts to be rated at 3amp inductive at 230 VAC.                                       |       |                       |
| 3. Water treatment to be provided by Hyrdotec UK Ltd or equal. Telephone Cheryl Louis-Taylor 07712 135460 |       |                       |
| 4. MS-Manufacturer Standard                                                                               |       |                       |

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