



**Building Services Design**  
Consulting Engineers

43 and 43a London Street  
Reading RG1 4PS

190470 - P3  
August 2019



**UTILITY STATUS REPORT FOR  
43 and 43a LONDON STREET,  
READING RG1 4PS**

## ISSUE & REVISION RECORD

| Issue   | Document prepared |                  |          | Document checked |                  |          |
|---------|-------------------|------------------|----------|------------------|------------------|----------|
|         | Name              | Signature        | Date     | Name             | Signature        | Date     |
| P1      | Tony Vaughan      | <i>T.Vaughan</i> | 06/06/19 | T.Vaughan        | <i>T.Vaughan</i> | 06/06/19 |
| &<br>P2 | Sylwia Chlopecka  |                  | 17/06/19 |                  |                  | 17/06/19 |
| P3      | Mark Dyer         | <i>M. Dyer</i>   | 21/08/19 | Mark Dyer        | <i>M. Dyer</i>   | 21/08/19 |

| Edition | Date     | Details           | Approved by |
|---------|----------|-------------------|-------------|
| P1      | 06/06/19 | Preliminary Issue | T.Vaughan   |
| P2      | 17/06/19 | Preliminary Issue | T.Vaughan   |
| P3      | 21/08/19 | Preliminary Issue | M.Dyer      |

## **DETAILS OF THE DEVELOPMENT**

Part demolition of the existing London Street façade and internal works to the adjacent building.

Demolition of the existing two-storey building to the rear to enable a residential-led mixed-use development comprising of a single 48sq.M. community use (Class D1) unit and 21 No. residential units comprising of 2 x studio units, 7 x 1 bedroom units, 9 x 2 bedroom units and 3 x 3 bedroom units together with associated services enclosures, parking and landscaping.

## **GAS SERVICE**

A budget quote for a gas supply has been applied for from Fulcrum, the gas service management company based on the site drawings of 43 and 43a London Street, issued by Douglas Stephen Partnership, 134 Old Street, London EC1V 9BL.

It has been assumed that each dwelling will have a separate metered gas supply serving a wall mounted domestic boiler and a domestic gas cooker. The boiler will generate hot water for heating purposes and domestic hot water usage.

The proposed 24 Kw boiler for each dwelling has been sized to provide heating to the dwelling based on a watts/metre heat loss figure and the domestic hot water demand for the sanitaryware as shown on the proposed layout drawings.

The duty for the domestic cooker was extrapolated using figures from the internet, manufacturers technical data and CIBSE (Chartered institute Building services Engineers) guidelines

The figures were combined as shown in the table below and this information passed to Fulcrum for sizing of the appropriate gas service.

A Utility status report detailing the progress of the gas application is included at the end of this report.

| Reference              | kw | duty M <sup>3</sup> /sec<br>for an<br>individual<br>cooker | total duty for<br>22 cookers<br>M <sup>3</sup> /sec | Total duty for<br>22 dwellings*<br>M <sup>3</sup> /sec | total    | pipe size | pressure<br>drop |
|------------------------|----|------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------|----------|-----------|------------------|
| web site               | 5  | 0.000129199                                                | 0.002842377                                         | 0.0137                                                 | 0.016542 | 80 dia    | 1.25             |
| engineering<br>toolbox | 20 | 0.0006                                                     | 0.0132                                              | 0.0137                                                 | 0.0269   | 90 dia    | 1.5              |
| Cibse                  | -  | 0.0012                                                     | 0.0264                                              | 0.0137                                                 | 0.0401   | 100 dia   | 1.75             |
| zanussi tech spec      | -  | 0.000135                                                   | 0.00297                                             | 0.0137                                                 | 0.01667  | 80 dia    | 1.75             |

\* assuming 24 kw per boiler for 22 dwellings = 528 Kw = 0.0137 M<sup>3</sup>/sec

## DOMESTIC WATER SERVICE

A budget quote for a domestic cold water supply has been applied for from Thames Water based on the site drawings of 43 and 43a London Street, issued by Douglas Stephen Partnership, 134 Old Street, London EC1V 9BL.

It has been assumed that each dwelling will have a separate metered water supply.

A table indicating the sanitaryware within the dwellings is shown below.

This table has been used to size the domestic cold water service to each dwelling and has been passed to Thames water to allow them to prepare their Budget quote.

The calculated loading units have been compiled using BS8558 ( Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages)

|      |                      | Loading units |     |      |        |      |     |
|------|----------------------|---------------|-----|------|--------|------|-----|
| UNIT | TYPE                 | WC            | WHB | Bath | shower | sink | w/m |
| 1    | Commercial unit      | 1             |     |      | 1      |      |     |
| 2    | studio flat          | 1             | 1   | 1    |        | 1    | 1   |
| 3    | studio flat          | 1             | 1   | 1    |        | 1    | 1   |
| 4    | one bed flat         | 1             | 1   | 1    |        | 1    | 1   |
| 5    | three bed maisonette | 2             | 2   | 1    | 1      | 1    | 1   |
| 6    | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 7    | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 8    | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 9    | one bedroom flat     | 1             | 1   | 1    |        | 1    | 1   |
| 10   | one bedroom flat     | 1             | 1   | 1    |        | 1    | 1   |
| 11   | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 12   | one bedroom flat     | 1             | 1   | 1    |        | 1    | 1   |
| 13   | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 14   | one bedroom flat     | 1             | 1   | 1    |        | 1    | 1   |
| 15   | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 16   | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 17   | one bedroom flat     | 1             | 1   | 1    |        | 1    | 1   |
| 18   | three bedroom flat   | 2             | 2   | 1    | 1      | 1    | 1   |
| 19   | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 20   | two bedroom flat     | 2             | 2   | 1    | 1      | 1    | 1   |
| 21   | one bedroom flat     | 1             | 1   | 1    |        | 1    | 1   |
| 22   | three bedroom flat   | 2             | 2   | 1    | 1      | 1    | 1   |
|      | total                | 34            | 33  | 21   | 13     | 21   | 21  |

Total domestic usage = 509 loading units = 4.24 L/sec = 67 dia pipework

| Single Appliance Checker    |               |        |                  |                 |
|-----------------------------|---------------|--------|------------------|-----------------|
| Outlet                      | Loading Units | Number | Total Cold Units | Total Hot units |
| WC                          | 2             | 34     | 68               | -               |
| Bidet                       | 1             | 0      | 0                | 0               |
| WHB                         | 2             | 33     | 66               | 66              |
| Shower                      | 3             | 13     | 39               | 39              |
| Bath                        | 10            | 21     | 210              | 210             |
| Sink                        | 3             | 21     | 63               | 63              |
| Dishwasher                  | 2             | 0      | 0                | -               |
| Washing Machine             | 3             | 21     | 63               | -               |
| Total                       |               |        | 509              | 378             |
| Total Water Flow Rate (l/s) |               |        | 4.24             | 3.44            |
| Pipe Size (mm)              |               |        | 67               | 67              |
| Total Combined Demand       |               |        | 887              |                 |
| Combined Total BCWS / HWS   |               |        | 6.26             |                 |

A Utility status report detailing the progress of the water application is included at the end of this report.

## ELECTRICAL SUPPLY

A budget quote for an electrical supply has been received from Scottish and Southern Electricity Network (SSE) based on the site drawings of 43 and 43a London Street, issued by Douglas Stephen Partnership, 134 Old Street, London EC1V 9BL.

It has been calculated that the total maximum demand for the development is 170 kVA 3phase. This is on the basis that the development will not be electrically heated.

The simple allowance we have included for in respect of the electrical loads is as follows:

- Landlord 30kVA
- Commercial Unit 30kVA
- Apartments @ 5kVA each 110kVA

We have anticipated the need for 2no. 3phase meters to serve the commercial space and landlords' services and 22no. 1phase meters to serve all the dwellings.

SSE have confirmed that at present there is sufficient capacity on the local low voltage network to provide the new electrical supply, of a capacity of 170kVA, without the need for a dedicated sub-station on the site.

## **BT /INTERNET SUPPLY**

The application to Openreach for new communication services is usually made by the client closer to construction as Openreach will require specifics such as dwelling addresses, post codes, etc.

However, based on the Openreach existing plant information there appears to be communications cabinets, distribution points, main services cabling, etc. within the vicinity of the development and we would anticipate that new lines should be easily provided.

For developments over 30 units Openreach do not usually charge for connections onto their network. It is 30 units or below then a contribution would be sought. BSD would anticipate that this contribution to be circa £100-£200/unit.

## UTILITY STATUS REPORT

|                                                        |                                                                                                             |                                                                                                                                                       |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thames water                                           | Thames water,<br>Developer services,<br>Clearwater Court,<br>Vastern Road,<br>Reading,<br>Berkshire RG1 8DB | Application for budget quote sent to<br>Thames water on 31 <sup>st</sup> may 2019                                                                     |
| FULCRUM                                                | Joanne Bonnett<br><br>Joanne.Bonnett@fulcrum.co.uk                                                          | Application for budget quote requested<br>on the 29 <sup>th</sup> May 2019                                                                            |
| Thames water                                           | Thames water,<br>Developer services,<br>Clearwater Court,<br>Vastern Road,<br>Reading,<br>Berkshire RG1 8DB | Application applied for and design fee<br>of £276 paid on the 4 <sup>th</sup> June. Quote is<br>usually issued 14 to 28 days after<br>payment of fee. |
| Scottish &<br>Southern<br>Electricity<br>Network (SSE) | quote reference: -EPG059/3                                                                                  | budget quote received from SSE on<br>07th of August 2019.                                                                                             |