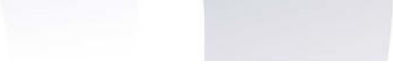




Hoodlands Farm, Hambrook Lane,
Harry Stoke, Bristol, BS34 8QG
Utilities Review Report



Prepared for Boklok UK
By Technical & Development Services (Southern) Ltd



Project Information

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1 Background

1.1 The Site

Boklok Ltd has engaged Technical and Development Services (Southern) Ltd. (TDSS) to determine the availability and sufficiency of existing utilities to serve a proposed residential development of 56 homes on the above site, and to identify any utility apparatus on, or adjacent to the site, that may be affected by the development. Budget Costs for provision of the mains and connections required to service the development were also sought.

1.2 Proposed Development

The site is located on the western settlement boundary of the village of Hambrook, which is situated on the north-eastern outskirts of the city of Bristol and is classed as Brownfield Site. The site is bounded to on all sides by agricultural / pasture open space.

The site consists of the existing Hoodlands Farm and its associated outbuildings, with an existing access from Hambrook Lane to the south.

1.3 Proposed Re-Development

The proposed site plan provided indicates a development of detached, semi-attached and terraced homes in the following mix;

19 No. 2 - Bed Houses
31 No. 3 - Bed Houses

Total No. of Units; 50

1.4 Planning History

A search of Planning Authority South Gloucestershire Council's Planning Portal has indicated the site is currently subject to an outline planning application submitted in September 2019 by Hoodlands (Harry Stoke) Ltd and is currently pending determination (P19/13908/O): "Erection of 49 no. dwellings with associated works (outline) access to be determined, all other matters reserved"

1.5 Information Provided

The information provided to TDSS for the purpose of the initial enquiries to the utility network providers comprised the following.

- Site Layout Drg. No. HDF-JTP-SW-GL-A-SL-5000 Revision M dated 17th June 2021 By JTP Architects.
- Appendix F - Technical Constraints Plan - DWG number - BKL-HF-STL-XX-XX-SK-SE-9001 dated 07/02/220 - By Skanska
- Appendix D - Planning Appraisal and Strategy Report - Dated Feb 2020 - By Turley Planning.

1.6 Caution

In preparing this report TDSS has taken all reasonable steps to present the client with an accurate evaluation of the data available. However TDSS cannot accept responsibility for the accuracy of information provided by third parties (the utility network providers and/or their agents) and accepts no liability for any direct or consequential loss that may be incurred if information provided by those parties proves to be incorrect or inaccurate.

1.7 Statutory Undertaker Initial Enquiries

Initial enquiries of the statutory undertakers, as to the location and sufficiency of the utility supplies to serve the proposed development, were made by TDSS in March 2020. Budget costs for providing the site mains and house connections were also requested.

Plans of the location of utility apparatus that might constrain the development, or be affected by it, were also sought. The responses and their implications in the redevelopment of this site, to provide up to 56 homes; are set out as follows.

A copy of the Site Location Plan is reproduced at Appendix 1.

2. Drainage Infrastructure

2.1 Sewerage Provider

The Sewerage Undertaker for the area is Wessex Water (WW).

2.2 Existing Apparatus

WW's existing records are as follows:

- An existing 150mm dia. Public Foul Water Sewer located some 450m west of the existing site access located in Hambrook Lane.
- An existing 375mm dia. Public Foul Water Sewer located some 288m south of the existing site access located in the green open space opposite the existing site access.

2.3 Available Capacity and Point of Connection

2.3.1 Foul Drainage

Under the connection's regulations now in force, the Sewerage Company is obliged to provide a point of connection for new developments at "the nearest reasonably practicable point" on its network where the parent sewer is the same diameter, or greater, than that of the connection from the development. Should the Company require the connection to be made elsewhere on its network, for capacity reasons, it will be responsible for any works required to provide that capacity downstream of "the nearest reasonably practicable point" of connection meeting the condition on respective pipe sizes. Any network reinforcement costs required shall be recovered by the Company through the infrastructure charges levied on new connections, and/or its own capital program allocation.

Accordingly, provided the identified point of connection is accessible to the developer over public highway, or other public land, i.e., a Sewer Requisition is not required, the developer can exercise the right to connect, subject to payment of the relevant connection charges, which are fixed annually and published by the Company.

In this case, the pipe size required to drain the 50 domestic properties proposed is not likely to exceed 150mm bore, i.e. no greater than the size of the public sewer at the nearest practicable point of connection which in this case is some 325m west of the existing access at MH 2408 adjacent to Rose Heath, Hambrook Lane. Due to the topography of the site it is anticipated that a pumped solution to the above discharge point will be required.

Sewerage infrastructure charge (2021-2022) is a charge of £596.00 per connected property.

2.3.2 Surface Water Drainage

The policy of Planning Authorities and the Water & Wastewater Companies, in relation to the management of surface water run-off from new developments, is that a development should utilise sustainable urban drainage systems (SuDS) unless that proves not to be feasible, given the site and ground conditions, and should aim to achieve 'greenfield' run-off rates. Surface water run-off shall be managed as close to its source as practicable, in accordance with the following drainage hierarchy.

- Store rainwater for later use
- Use infiltration techniques, such as porous surfaces in non-clay areas
- Attenuate rainwater in ponds or open water features for gradual release
- Attenuate rainwater by storing in tanks or sealed water features for gradual release
- Discharge rainwater direct to a watercourse
- Discharge rainwater to a surface water sewer/drain
- Discharge rainwater to the combined sewer

2.4 Sewer Connections and Adoption Costs

With effect of 1st April 2020, Ofwat introduced new charging rules that require developers to meet the full costs of any offsite sewer requisitions, i.e. no or a reduced 'income offset' will be payable by Sewerage Companies for sewer requisitions. Where developers elect to employ accredited self-lay providers for offsite sewer constructions, the equivalent 'asset payments' will no longer be made. The additional costs will therefore need to be provided for. See Wessex Waters "Statement of Significant Changes for 2021-22 New Connection Charges" on its website.

<https://www.wessexwater.co.uk/-/media/files/wessexwater/corporate/strategy-and-reports/charges/2021/wsl-new-connection-services-charging-arrangements-2021-22.pdf>

Wastewater income offset offered by Wessex Water is offset against the infrastructure reducing the Infrastructure Charges where applicable.

Wastewater Income Offset (2021-2022) is a credit of £131.12 per connected property.

Wessex Water's Network Plans and Pre-Development Enquiry are reproduced at Appendix 2.

3. Water Infrastructure

3.1 Water Supply Company

The Local Potable Water Supplier for the area is Bristol Water (BW).

3.2 Existing Apparatus

BW's network records indicate;

- A 6-inch dia. Cast Iron (CI) Distribution Main located in the existing carriageway (site side) of Hambrook Lane.
- A 500mm dia. High Performance Polyethylene (HPPE) Main located on the opposite side of Hambrook Lane.

3.3 Available Capacity and Point of Connection

In response to the basic supply strategy application, Bristol Water have confirmed that the 6-inch main in Hambrook Lane has sufficient capacity to serve the development.

Under Section 37 of the Water Industry Act 1991, the Water Company is required to "develop and maintain a system of water supply such that it can have supplies available to persons demanding them," i.e., it is obliged to provide a point/s of connection for new development at the nearest practicable point to the site. Any reinforcement works required must now be funded by the Water Company subsidised by way of the Infrastructure Charges levied on all new connections.

Water Infrastructure Charge (2021-2022) is a charge of £273.00 per connected property.

With effect of 1st April 2020, OFWAT has introduced new charging rules that require developers to meet the full costs of mains requisitions (offsite and on-site), i.e., no or a reduced 'income off-set' will be payable by the Water Company (if company laid) and no asset payment will be made where developers elect to employ accredited self-lay providers.

If the water company wishes to continue applying income off-sets, the charging rules require that this must be applied to the infrastructure charges instead. OFWAT has stated that the infrastructure charge income water companies receive must continue to match their average spends on network reinforcement over the 5 years to 31st March 2023.

Water Income Offset (2021-2022) is a credit of £686.00 per connected property, therefore giving the developer a net payment of £413.00 per property, which is deducted from the mains and services connection costs.

3.4 Mains and Connections Costs

All costs and charges relating to water mains requisition, offsite connections, offsite mains, onsite mains and house connections, and all associated costs, both statutory (company laid) and self-laid are now fixed annually and published and can be found in Bristol Water's "New Connections Services – Charging Arrangements 2021-22" available online.

<https://f.hubspotusercontent30.net/hubfs/7850638/Charging%20Arrangements%20for%20New%20Connection%20Services%2021-22.pdf>

Bristol Water's Network Records and Capacity Check Response are reproduced at Appendix 3.

4. Gas Infrastructure

4.1 Gas Network Operator

The Distribution Network Operator (DNO) for the area is Wales and West Utilities (WWU).

4.2 Existing Apparatus

WWU network records currently indicate;

- An existing 63mm Low Pressure (LP) gas main some 236 metres west of the proposed site access at the junction of Hambrook Lane & Curtis Lane.
- An existing High-Pressure (HP) gas main located to the east of the development, the records do not currently provide the size and material.

It is the client's intentions not to use mains gas as their means of heating and hot water solutions in accordance with the latest government advice on heating homes. Therefore, no application has been made to Wales and West Utilities.

Wales and West Utilities Network Records are reproduced at Appendix 4.

5. Electricity Infrastructure

5.1 Electricity Network Operator

The Distribution Network Operator (DNO) for the area is Western Power Distribution (WPD).

5.2 Existing Apparatus

WPD's Network Records indicate;

- An existing 132 kV Dual Circuit Extra High Voltage (EHV) cable network to the east of the proposed development mounted on lattice towers.
- Existing overhead 33 kV (EHV) network to southwest of the proposed site routed south-west from the two terminal poles.
- Dual underground 33 kV & 11kV cables routed from the above terminal poles along the western boundary of the site towards the railway track to the north of the site.
- An overhead 11kV High Voltage (HV) network routed north through the north-west quadrant of the site, via an existing electric pole located on the western boundary of the proposed development.
- An existing Low Voltage (LV) supply cable routed underground from the Hoodland 11/3266 Pole Mounted transformer (PMT) to the existing Hoodland farmhouse.

5.3 Available Capacity and Point of Connection

WPD has provided a Budget Estimate for the electricity infrastructure required to supply the development based upon a connection to their existing High Voltage cable network in Hambrook Lane, some 230 metres east of the existing site access and have made allowance to provide an 800 KVA substation which is to be located on site.

5.4 Budget Estimate

WPD Budget Estimate for the required electricity infrastructure for the development is:

Budget Estimate - £120,000.00 (Exc. Vat)

5.4 Diversions

WPD have provided a budget quotation to divert the existing underground 11kV and 33kV underground network that currently runs down the western boundary of the development, in the sum of **£89,313.51**, this quotation was sought based upon a previous proposed site layout, this infrastructure is not directly impacted by the newly proposed site layout and may not be applicable now.

WPD's Network Plans, Budget New Supplies & Diversion Estimate are reproduced at Appendix 5.

6. Dual Fuel Infrastructure – Electric and Fibre Only

Competitive Dual Fuel budget costings have been invited from GTC Ltd.

6.1 GTC Ltd

GTC Ltd has provided a multi-utility budget costing for provision of the required electricity and fibre telecommunications infrastructure to the development as follows.

Breakdown of Offer

Onsite Costs

This is the cost to provide mains and services to the development within the site boundary:

On-site works	
You pay GTC	£64,764.61

Offsite Cost

These costs include any off-site costs that are required, including the costs of Upstream Network Operators (NWO), to complete the work to supply your site:

Off-site works	
Off-site works (GTC) – Electricity:	£16,184.39
Network Operator Costs – Electricity:	£8,000.00
Total Off-site Costs– You pay GTC	£24,184.39
Total payment to GTC	£88,949.00

Fibre Rebate Information

GTC's offer above is inclusive of a fibre rebate of **£300.00 per plot**. This rebate has been deducted upfront from the on-site total giving the advantage of no administration burden for you to claim the individual plot rebates as they are connected.

Fibre Rebate Offer Included Already Deducted from the On-site Total	
50 plots with a £300.00 per plot rebate:	£15,000.00

Additional Fibre Network Value to Help with Comparison to Other Providers Quotes

In addition to the rebate above, this offer is based on GTC's innovative fibre installation method which means Boklok will no longer have the cost or hassle of laying a duct and chamber network. GTC estimates that this gives a further construction cost saving to BoKlok Ltd of £130.00 per plot which you may need to take in to account when comparing to other quotes.

Estimated Value to Boklok of Construction Cost Saved

50 plots with £130.00 per plot saving	£6,500.00
---------------------------------------	------------------

Note:

Electricity Connection: GTC's costing is based on an indicative point of connection (PoC) to the electricity network and assumes a High Voltage PoC due to the size of the site, this will require the placement of an onsite substation with a Low Voltage distribution to the proposed 50 dwellings.

Confirmation of availability to connect to the above point of connection will only be confirmed at formal application stage. Therefore, costs associated with the Point(s) of Connection (PoC) are subject to change.

GTC's Budget Costing is reproduced at Appendix 6.

7. Telecommunications Infrastructure

7.1 Network Operator

The Local Telecommunications Network Operator is Openreach.

7.2 Existing Apparatus

Openreach's network records indicate;

- An underground duct and chamber network along the existing site access road.
- An underground duct and chamber network on the southern side of Hambrook Lane opposite the existing site access road.
- An underground duct network routed west from Hoodland Farm and then north along the western boundary of the site, then turning west to the Stoke Gifford Bypass.

7.3 Proposed Connections

Openreach's policy is that any requirement for reinforcement works up to a value of **£3,400.00** per connected property will be funded by Openreach.

Openreach will also make payment to the developer of **£140.00** for each house connected and **£50.00** for each flat, in return for the developer undertaking the trenching and laying of the required ducts and chambers (supplied by Openreach) within the development.

Openreach will only prepare a site layout and proposal for a fully consented and detailed site layout, following submission by the developer of a firm application for connections. Openreach has confirmed that it can provide fast fibre (FTTP) connections to the development, free of charge.

7.4 Diversions

There is an existing Openreach infrastructure located in the existing access road and along the western boundary of the proposed development, and further investigations would be required to determine whether these will require diverting.

Openreach's Network Plans are reproduced at Appendix 7.

8. Communications & Media Pipeline Search

A search of all known Communications Media & Pipelines Network Operators has revealed 'Negative responses i.e. the operators does not have apparatus in the search area, with the exception of Virgin Media, who have apparatus to the east of the site, however this network does not impact by the proposed development.

The Communications Media & Pipelines Search – Status Report & Virgin Media Record Plan are reproduced at Appendix 8.

9. 'Linesearch before U dig'

A 'Linesearch' of the national database of utility asset owners, registered with 'Linesearch before U dig', has produced 'POSTIVE' responses i.e., the operator has apparatus in the search area, from the following.

- Western Power Distribution
- Wales and West Utilities.

WWU's apparatus is identified and addressed at Para 4.2.

WPD's apparatus is identified and addressed at Para 5.2

The Linesearch Response is reproduced at Appendix 9.

10. Existing Services Plan

TDSS have overlaid the existing utility record plans for the local area, over the proposed site plan to provide a Utility Constraints Plan for the site.

The Existing Services Plan is reproduced at Appendix 10.

11. Summary of Utility Budget Costs

Service	Company	On-site	Off-site	Infra fees (including Income Offset)	Sub Total
Drainage	Wessex Water			£464.88 Per Plot	£464.88 Per Plot
Water	Bristol Water			-£413.00 Per Plot	-£413.00 Per Plot
Electricity	Western Power Distribution	£120,000.00			
Dual Fuel (Electricity & Fibre)	GTC	£64,764.61	£24,184.390		£88,949.00
Telecommunications	Openreach	-£7,000.00			-£7,000.00

12. Executive Summary

The enquiries of the utility network providers, and their responses, have, to date, not revealed any significant utilities impediment to the development of this site to provide 56 houses, as proposed:

12.1 Availability and Capacity

Foul Drainage

The Sewer Map currently show an existing 150m Public Foul Sewer Network located some 325m west of the existing site access and under new regulations a right to connect is assured.

Surface Water Drainage

The Sewer Map indicates that there are no public Surface Water Sewers available to serve the site. The Ordnance Survey Maps does show a drainage ditch to the east of the site. The proposed development will discharge surface water run-off to the north of this drainage ditch, via a new headwall in the side of the bank. This replicates the existing situation, in which greenfield run-off from the site, flows downhill to the east and into this ditch.

Water

A 6 inch distribution main is available in Hambrook Lane at the existing site entrance. Under the connection regulations now in force, the water company is obliged to provide a point of connection for the new development, provided the site connection does not exceed the size of the parent main to which it is to connect, which is the case here. A connection is therefore assured. This has further been confirmed by Bristol Water following a Potable Water Capacity Check.

Gas

The existing Wales and West Utilities records show HP and LP gas mains networks within close proximity of the development, however due to the client's preference of heating & hot water solution being all-electric, no mains gas will be required for the development.

Electric

WPD has provided a Budget Estimate for the required electricity connections based upon a high voltage connection from its existing HV network in Hambrook Lane some 230 metres east of the site entrance, to a new onsite distribution substation with low voltage distribution to 50 domestic connections. WPD has confirmed that, at the time of producing this estimate (April 2020), the existing HV network has sufficient capacity to supply the proposed development and further reinforcement is not required. They will of course need to confirm that this position remains at the time of the detailed application for connections.

Telecommunications

Openreach has networks available in Hambrook Lane and down the current site access road and has confirmed that it can provide Fast Fibre (FTTP) connections to the development at no cost to the developer.

12.2 On-Site Utility Diversions/Protection

The respective utility network operator plans indicate the following apparatus as located in the area of the proposed site access vehicular cross-over:

- HV underground and overhead electricity cables
- LV underground electricity cable
- Openreach cable duct/s

13. Appendices

Please refer to separate document BKL.U.02-UR.01

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