







- **Building Services Design and Supervision**
- **M&E Project Management**
- **Cost Planning**
- **Facilities Management**
- **Inspections and Reports**
- **BREEAM & LEED Assessments**
- **Energy Certification**
- **Vertical Transportation**
- **3D M&E Modelling/Simulation**
- **Sustainability and Renewables**
- **BIM**

EDCM Building Services Consulting Engineers

Project

UTILITIES SERVICES REPORT

For the

PROPOSED NEW DEVELOPMENT

BLEACHCROFT WAY, BARNSLEY

For

savills

By

EDCM Building Services Consulting Engineers Ltd
3, Oxford Place,
Leeds,
West Yorkshire
LS1 3AX

T: 0113 848 0080
www.edcmconsulting.co.uk

Project No: 50727
Date : September 2016
Issue Ref:

UTILITY SERVICES REPORT
FOR THE PROPOSED NEW
RESIDENTIAL
DEVELOPMENT
AT
BLEACHCROFT WAY, BARNSLEY
FOR
SAVILLS

EDCM Building Services Consulting Engineers Limited
3 Oxford Place, Leeds LS1 3AX
Tel +44 (0)113 848 0080 Fax +44 (0)113 848 0080
www.edcmconsulting.co.uk

EDCM Building Services Consulting Engineers Limited has prepared this report in accordance with the instructions of their client, Savills, for their sole and specific use. Any other persons who use any information contained herein do so at their own risk.

© EDCM Building Services Consulting Engineers Limited 2016

September 2016 – 50727

Revision	Issued to	Date
-	Mr Oliver Freer	28-09-2016

EDCM Building Services Consulting Engineers

UTILITY SERVICES REPORT

CONTENTS

1.0 INTRODUCTION AND SCOPE 5
2.0 BRIEF AND EXECUTIVE SUMMARY 6
2.1 Brief 6
2.2 Executive Summary 6
3.0 EXISTING UTILITY SERVICES 9
3.1 ELECTRICITY SUPPLY 9
3.1.1 NORTHERN POWERGRID 9
3.1.2 High Voltage Routes 9
3.1.3 Low Voltage Routes 9
3.1.4 Electric Transmission High Voltage Equipment 9
3.2 TELECOMS SUPPLY 9
3.2.1 British Telecom (BT) 9
3.2.2 Virgin Media 9
3.2.3 Mobile Broadband Network Limited 10
3.2.4 BSkyB (British Sky Broadcasting) 10
3.2.5 Gamma Telecom 10
3.2.6 City Fibre 10
3.2.7 Zayo Group (Formerly Geo Networks) 10
3.2.8 Colt Technology Services 10
3.2.9 Interoute 10
3.2.10 Verizon UK 11
3.3 GAS SUPPLY 11
3.3.1 National Grid 11
3.4 WATER/DRAINAGE SUPPLY 11
3.4.1 Yorkshire Water 11
3.4.2 Water Main Routes 11
3.4.3 Sewer Main Routes 11
3.5 MULTI-UTILITY COMPANIES 11
3.5.1 Fulcrum 11

3.5.2 Energetics UK 12
3.5.3 ESP Utilities 12
3.5.4 Instalcom 12
3.5.5 Gas Transportation Company (GTC) 12
3.5.6 McNicholas 12
3.5.7 Centrica Energy 12
3.6 MISCELLANEOUS UTILITY COMPANIES 13
3.6.1 BP Midstream Pipelines 13
3.6.2 CLH Pipeline System 13
3.6.3 Esso Petroleum Company Limited 13
3.6.4 Shell Pipelines 13
3.6.5 Total Pipelines 13
3.6.6 Network Rail 13
4.0 PROPOSED SITE DEVELOPMENT 14
4.1 Proposed Development Areas 14
5.0 PROJECTED LOADS 15
5.1 Electrical 15
5.2 Water 15
5.3 Gas 15
5.3.1 Utility assumptions 16
6.0 FINANCIAL IMPLICATIONS 17
6.1 New Utility Connections 17
6.2 Diversions 18

1.0 INTRODUCTION AND SCOPE

This utility services report has been prepared by EDCM Building Services Consulting Engineers for use by Savills.

The purpose of this report is to provide an overview of the existing utility services that are located within and around the proximity of the proposed new development at Bleachcroft Way in Barnsley.

This report outlines the existing utilities that are within the vicinity of the site and diversions if any, that are likely to be required to accommodate the proposed development works and the extent of utility works necessary to service the proposed residential development together with costs.

The plan below highlights the site location and boundary.



Applications have been made to obtain information in relation to the location of both statutory services and non-statutory services within the close vicinity to the site.

2.0 BRIEF AND EXECUTIVE SUMMARY

2.1 Brief

- Review of documentary records of existing utility supplies on receipt.
- Assess requirements for new utility supplies.
- Advise on suitability of existing capacities.
- Ascertain the viability of the development in terms of utility provisions.
- Advise on any necessary diversion works.

2.2 Executive Summary

The table below provides a summary of the contacted utility companies that have assets within the close vicinity of the site.

Utility Company	Assets Present Within the Vicinity of the Site?
AWE Pipeline	No
BOC Limited	No
BT	Yes
BP Midstream Lines	No
BPA	No
Carrington Gas Pipeline	No
CATS Pipeline c/o Wood Group PSN	No
City Fibre	Awaiting Confirmation
Cemex	No
Centrica Energy	No
Centrica Storage Limited	No
CLH Pipeline System Limited	No
Colt	No
ConocoPhillips (UK) Ltd	No
Coryton Energy Co Ltd (Gas Pipeline)	No
CSP Fibre c/o Centara	No
Dong Energy (UK) Limited	No
Energetics Electricity	No
ENGIE	No
E.ON UK CHP Limited	No
EirGrid	No
Electricity North West Limited	No
ENI & Himor c/o Penspen Ltd	No
ESSAR	No
ESP Utilities	No
Esso Petroleum Company Limited	No
FibreSpeed Limited	No
Fulcrum	No
Gamma	No

GTC	No
Hibernia Networks	Awaiting Confirmation
Humbly Grove Energy	No
IGas Energy	No
Ineos Enterprises Limited	No
INEOS Manufacturing (Scotland and TSEP)	No
Interoute	No
Instalcom	No
Lark Energy	No
Lightsource SPV Limited	No
Mainline Pipelines Limited	No
Manchester Jetline Limited	No
Manx Cable Company	No
Marchwood Power Ltd (Gas Pipeline)	No
Mobile Broadband Network Limited	No
Northumbrian Water Group	No
National Grid Gas Distribution (below 2 bar)	Yes
Northern Powergrid	Yes
NPower CHP Pipelines	No
Oikos Storage Limited	No
Perenco UK Limited (Purbeck Southampton Pipeline)	No
Petroineos	No
Phillips 66	No
Premier Transmission Ltd (SNIP)	No
Redundant Pipelines - LPDA	No
RWEnpower (Little Barford and South Haven	No
SABIC UK Petrochemicals	No
Scottish Power Generation	No
Seabank Power Ltd	No
Shell (St Fergus to Mossmorran)	No
Shell Pipelines	No
Total (Finaline, Colnbrook & Colwick Pipelines	No
Transmission Capital	No
Redcentric plc	Awaiting Confirmation
Sky UK Limited	No
Tata, KPN (c/- McNicholas)	Awaiting Confirmation
Transmission Capital	No
Utility Assets Limited	No
Uniper UK Ltd	No
Verizon Business	Awaiting Confirmation
Virgin Media	No
Vodafone	No

Vattenfall	No
Vtesse Networks	Pending
Wingas Storage UK Ltd	No
Yorkshire Water	Yes
Zayo Group UK Ltd	No

All statutory services (electricity, gas, water and telecommunications) are present and installed in close vicinity to the site.
Records information provided by British Telecoms show that they have ducts on both sides of Stairfoot Way. There are also 2 No. BT poles (one on either side of the road) that are on Bleachcroft Road end. This part of the Bleachcroft Road falls within the site of the proposed development. There are also joint boxes on either side of Stairfoot Way owned by BT.

Record information provided by Northern Powergrid shows that there is an 11kV High voltage cable that runs through the vicinity of the proposed site. The 11kV cable is located on the northern part of the proposed site and runs parallel to Bleachcroft Road before crossing under the road to a substation that is located within the site but adjacent to the western side of the Bleachcroft-Stairfoot Road junction. The network substation located within the site provides the LV connection to a number of buildings within the vicinity of the site and areas such as Field Lane and the lower end of Bleachcroft Road.

Documents obtained from National Grid Gas shows that there are gas pipelines that are within the vicinity of the proposed development. Details show that there is a medium pressure mains pipeline running parallel to the western side of Bleachcroft Road. This pipeline cuts into the proposed site through the northern boundary. There is also a medium pressure mains gas pipeline that runs parallel to the Stairfoot Way on the southern side of the road. This pipeline tees off at the Field Lane junction to feed buildings that are located on the Field Lane.

Details obtained from Yorkshire Water shows the presence of water infrastructure within the vicinity of proposed site of the new development. There is a 4" water mains pipe that crosses into the proposed development from the far side of Bleachcroft Road. The crossing is directly under the junction of the two roads. The pipeline runs parallel to the Stairfoot Way just before it exits the site into Field Lane.

Further details obtained from Yorkshire Water shows that there is the presence of surface water sewer located within the above site that is located on the eastern side of the part of the Bleachcroft Road that falls within the boundary of the proposed site.

3.0 EXISTING UTILITY SERVICES

The records of the existing utility services within the proximity of the site have been requested from the respective utility companies and detailed below. Please refer to appendix 1 for a site plan showing the approximate location of all utility services.

3.1 ELECTRICITY SUPPLY

3.1.1 NORTHERN POWERGRID

Northern Powergrid is the regional electricity distributor across North east, Yorkshire and North Lincolnshire within the United Kingdom. It takes electricity from the National Grid transmission network and from small generators such as wind farms and distribute to about 3.9 million homes through a network of more than 60,000 substations and 58,000 miles of overhead power lines and underground cables. It network spans about 10,000 square miles and it services reach about 8 million people.

3.1.2 High Voltage Routes

The records information provided by Northern Powergrid indicates that an 11kV high voltage cable is routed along the eastern side of Bleachcroft Road to the proposed site location and appears to feed an existing network substation within the proposed development.

3.1.3 Low Voltage Routes

The records information provided by Northern Powergrid indicates that low voltage mains are generally routed along both Bleachcroft Road and Stairfoot Way. The LV mains route on Bleachcroft Road is on the western side of the road. This service appears to be routed via underground cables. Both sides of the Stairfoot Way have LV mains routed along them. They appear to have taken their feed from a substation within the proposed development.

3.1.4 Electric Transmission High Voltage Equipment

National Grid have confirmed there are no existing high voltage transmission lines within the area.

3.2 TELECOMS SUPPLY

3.2.1 British Telecom (BT)

British Telecom (BT) is a multinational telecoms provider. It is a major supplier of telecoms services to commercial and residential properties throughout the United Kingdom.

The records information provided by BT indicates that existing telecoms ducts are generally routed along Bleachcroft Road as well as Stairfoot Way. The documents indicate that there are 2 No. poles on Bleachcroft Road as well as a number of joint boxes along Stairfoot Way. Details can be found in the attached appendix.

3.2.2 Virgin Media

Virgin Media is a telecoms company that provides fixed/mobile telephones, television and internet services to businesses and consumers throughout the United Kingdom.

Virgin Media has confirmed that the proposed development will neither affects its plants nor its operations.

3.2.3 Mobile Broadband Network Limited

Mobile Broadband Network Limited is a joint venture between Everything Everywhere and Hutchinson 3G Mobile Networks. They are global provider for fixed/mobile telephones, internet and other telecoms services. They own various private networks throughout the United Kingdom.

Mobile Broadband Network Limited have confirmed that they do not have any facility or plant within the vicinity of the proposed development.

3.2.4 BSkyB (British Sky Broadcasting)

BSkyB is a satellite broadcasting, broadband and telephone services provider which operates throughout the United Kingdom and Ireland.

BSkyB have confirmed that they do not own any apparatus within the proximity of the site.

3.2.5 Gamma Telecom

Gamma Telecom are a wholesaler of fixed and mobile network coverage. They operate a number of fixed line networks throughout the United Kingdom.

Gamma have confirmed that they do not own any apparatus within the proximity of the site.

3.2.6 City Fibre

City Fibre build transformational fibre optic infrastructure throughout the UK. They are the largest provider of fibre infrastructure to the UK's second tier cities.

We are still awaiting confirmation from City Fibre whether it has plants within the vicinity of the proposed site or of its services will be affected by the proposed development.

3.2.7 Zayo Group (Formerly Geo Networks)

Zayo Group provide fibre based bandwidth infrastructure services and operate various private networks throughout the United Kingdom.

Zayo Group have confirmed that they do not own any apparatus within the proximity of the site.

3.2.8 Colt Technology Services

Colt Technology Services are a multinational telecoms, IT managed services and data centre services company who own various private networks throughout the United Kingdom.

Colt have confirmed that they do not own any apparatus within the immediate vicinity of the proposed area of works.

3.2.9 Interoute

Interoute are an international telecoms services provider. They own various private networks throughout the United Kingdom.

Interoute have confirmed that they do not own any apparatus within the immediate vicinity of the proposed area of works.

3.2.10 Verizon UK

Verizon headquartered in the United States, are a telecoms and IT services provider who operate various private networks throughout the United Kingdom.

We are still awaiting confirmation from Verizon with respect to the presence or absence of their facilities in the proposed site of the new development.

3.3 GAS SUPPLY

3.3.1 National Grid

National Grid are the regional gas Distribution Network Operator for various regions within the country. They also own and maintain the high voltage electricity transmission system in England and Wales.

National Grid have confirmed the presence of their Medium Pressure pipelines within the proposed development. The medium pressure pipeline is routed along both sides of Stairfoot Way as well as the nearside of the Bleachcroft way. The details can be seen in the existing utility maps attached in Appendix 1.

3.4 WATER/DRAINAGE SUPPLY

3.4.1 Yorkshire Water

Yorkshire Water manages the collection, treatment and distribution of water in Yorkshire region. They supply about 1.24 billion litres of water daily. They also collect and treat about 1 billion litres of water safely back into the environment. They operate 700 sewage treatment works and 120 reservoirs.

3.4.2 Water Main Routes

The records information provided by Yorkshire water indicates that a 4" water mains are generally routed along Stairfoot and Bleachcroft way. The water mains cuts across the junction of Stairfoot and Bleachcroft ways and runs on the nearside of Stairfoot way. There is a Tee connection along the Stairfoot Way where the mains supplies a commercial unit just opposite the northern boundary of the proposed site.

3.4.3 Sewer Main Routes

Information records obtained from Yorkshire Water shows there is a surface water sewer that contains surface water from Bleachcroft Road all the way to Wombwell Lane.

3.5 MULTI-UTILITY COMPANIES

3.5.1 Fulcrum

Fulcrum are a multi-utility services provider offering alternative gas, water, electricity, telecommunications ducting and street lighting services to the regional DNO's.

Fulcrum have confirmed that they do not own any apparatus within the immediate vicinity of the proposed area of works.

3.5.2 Energetics UK

Energetics are a multi-utility provider offering gas and electricity services. They act as an alternative gas and electricity connection provider to the regional DNO's.

Energetics UK have confirmed that they do not own any apparatus within the proximity of the site.

3.5.3 ESP Utilities

ESP Utilities are a multi-utility provider offering alternative gas and electricity services. They specialise in providing gas and electricity connections to rural areas with poor or no local infrastructures. They achieve this by adopting post construction infrastructure extensions built by Gas Industry Registration Scheme (GIRS) and National Electricity Registration Scheme (NERS) accredited companies.

ESP Utilities have confirmed that they do not own any apparatus within the proximity of the site.

3.5.4 Instalcom

Instalcom are a multi-utility contractor who undertakes excavation and underground services for the provision of fibre optic cables, electric power cables and water mains. They own various private utility network infrastructures throughout the United Kingdom.

Instalcom have confirmed that their services will not become affected by the proposed works.

3.5.5 Gas Transportation Company (GTC)

Gas Transportation Company is an independent utility infrastructure and networks provider. They act as an alternative gas and electricity connection provider to the regional DNO's. They own various private utility network infrastructures throughout the United Kingdom. Gas Transportation company and envoy formed a merger and from 4th February 2013 GTC are undertaking the management of gas and electricity energy networks previously managed by Envoy.

GTC have confirmed that they do not own any apparatus within the immediate vicinity of the proposed area of works.

3.5.6 McNicholas

McNicholas are a multi-discipline infrastructure provider. They provide a range of gas, electricity, water and telecoms services within various industry sectors.

We are still awaiting confirmation from McNicholas as to whether they have plants within vicinity of the proposed site or otherwise.

3.5.7 Centrica Energy

Centrica is a multinational utility company whose principal activity is the supply of electricity and gas to businesses and customers throughout the United Kingdom and North America.

Centrica Energy have confirmed that they do not own any apparatus within the proximity of the site.

3.6 MISCELLANEOUS UTILITY COMPANIES

3.6.1 BP Midstream Pipelines

BP is an international oil and gas company providing customers with fuel for transportation, energy for heat and light, lubricants to keep engines moving and petrochemicals for industrial companies.

BP have confirmed that they do not own any apparatus within the proximity of the site.

3.6.2 CLH Pipeline System

CLH Pipeline System is an oil product logistics company wholly owned by CLH that carries out its activities in the United Kingdom. CLH Pipeline System provides its services to several military facilities and some of the main airports in the United Kingdom. It is the main fuel pipeline and storage facility network within the country.

CLH Pipeline system have confirmed that no oil pipelines are routed within the site boundary.

3.6.3 Esso Petroleum Company Limited

Esso is a supplier of oil and operates its own pipeline network utilised for the distribution of fuels.

Esso have confirmed that they do not own any apparatus within the proximity of the site.

3.6.4 Shell Pipelines

Shell's downstream business refines, supplies, trades and transports crude oil worldwide, manufacturers and markets a range of products and produces petrochemicals for industrial companies. Shell operates a number of pipeline networks within the United Kingdom.

Shell Pipelines have confirmed that they do not own any apparatus within the proximity of the site.

3.6.5 Total Pipelines

Total operates a number of pipeline networks within the United Kingdom transporting petroleum to customers.

Total Pipelines have confirmed that they do not own any apparatus within the proximity of the site.

3.6.6 Network Rail

Network Rail are the authority responsible for the United Kingdom's railway network. They own and maintain the railway network and various railway stations throughout the United Kingdom.

Information records and maps shows that the site bounded on the west by a railway track. This defines the boundary of the proposed site from an already developed residential scheme.

4.0 PROPOSED SITE DEVELOPMENT

Proposed gross internal areas are based on preliminary figures provided by QAD Architects. These areas are as noted below:

4.1 Proposed Development Areas

Property	Number of units	Building Description	Building Use	Gross Area (m^2)
House Type A	31	3 Storey Town House with Integral Garage (100 sqm)	Residential	3100
House Type B	34	2 Storey Town House with Attached Garage (84 sq m)	Residential	2856
House Type C	12	2 Storey Detached House With Attached Garage (84 sq-m)	Residential	1008
House Type C1	13	2 Storey Detached House With Detached Garage (84 sq-m)	Residential	1092
House Type D (Affordable)	61	2 Storey Terrace House With Parking Space (60 sq-m)	Residential	3660
House Type E	87	3 Story Terrace House With Integral Garage (115 sq-m)	Residential	10,005
House Type F	14	2 Storey Detached House With Detached Garage (110 sq-m)	Residential	1540
House Type G (Affordable)	20	3 Storey Terrace House With Parking Space (81 sq m)	Residential	1620
Total	272			24881

5.0 PROJECTED LOADS

The projected future loads included in the preliminary calculations are generic, and can potentially be reduced by careful consideration, design and investment. We have taken a careful assessment of the electricity load, and made reasonable assumptions based on site experience and similar projects.

5.1 Electrical

Initial full connected loads based on the information available to date would be as follows:

TYPE	Number of units	TOTAL GROSS AREA (m^2)	APPROX LOAD kVA
Residential Housing	272	24881m^2	680kVA
TOTAL Load (Connected Load)			**680kVA**

Please refer to section 6.1 for the budgetary costs for the new connection for these works.

5.2 Water

The water provision for the scheme has been based on the anticipated demand units and associated flow rates provided by CIBSE and simultaneous demand calculation as per BS 6700. Diversified load has been provided in the details table shown below.

TYPE	Number of units	TOTAL GROSS AREA (m^2)	APPROX LOAD l/s
Residential Housing	272	24881	0.13 (Undiversified per house)
TOTAL diversified Load (Connected Load)			**11.5**

Please refer to section 6.1 for the budgetary costs for the new connection for these works.

5.3 Gas

Initial full connected loads based on the information available to date are as follows:

TYPE	Number of units	TOTAL GROSS AREA (m^2)	APPROX LOAD KW
Residential Housing	272	24881	5440
TOTAL Undiversified Load (Connected Load)			**5440**

Please refer to section 6.1 for the budgetary costs for the new connection for these works.

5.3.1 Utility assumptions

In preparing the load assessments, the following assumptions were made:

- The electrical loads are reasonably balanced across the 3 phase supply.
- The total development works have been thoroughly reviewed to allow maximum diversities to be applied wherever possible, e.g. allowance for car park lighting has **not** been included within the peak demand, as the lighting is unlikely to operate the same time as any peak load requirements.
- Upgrades of the existing local utility infrastructure will be required to cope with the anticipated demands.
- Each house will be gas heated.
- Each house and apartment shall be separately sub-metered.

Considerations that could potentially be taken into account as the scheme progresses that will reduce the utility loads or alternatives are:

- The enhancement of thermal insulation levels above the minimum criteria specified by the Building Regulations.
- The construction of the building fabric to facilitate air infiltration/leakage values better than the building regulations.
- Consideration of reducing lighting levels in all internal spaces and the selection of energy efficient luminaries.
- Maximise on energy recovery techniques, which are commercially available and practical.

6.0 FINANCIAL IMPLICATIONS

6.1 New Utility Connections

Due to the predicted building loads for the new development, a new dedicated sub-station of 1000kVA will be required for the supply of the new residential development. This will be fed from the existing 11kV mains not too far from the site. A new connection will also be required to connect the proposed residential development to both the existing gas and water utilities.

ELECTRICITY	
Property	**Budget Cost**
New sub-station and high voltage works	£ 80,000
Residential Housing	£410,00
Total	£490,000
WATER	
Property	**Budget Cost**
Residential Housing	£120,000
Total	£120,000
GAS	
Property	**Budget Cost**
Residential Housing	£ 185,000
Total	£ 185,000
TELECOMS	
Free Issue Ductwork	

Notes:

- The above costs exclude any VAT.
- The above costs do not allow for any buildings works associated with the utility installation.
- We have not made any allowance for onsite protection of services while the construction works are in progress.
- The above costs are subject to network analysis by the relative utility provider.
- The above costs do not include for the meter installation for the electricity connections.
- The above costs includes 272 gas supplies up to Emergency Check Valves plus installation of 272 meters assuming there is sufficient infrastructure capacity.
- The above costs are based on the assumption that the infrastructure does not require updating.

6.2 Diversions

Based on the preliminary master plan provided by QAD Architects, It is not anticipated that there will be a major diversions to the existing utility services as the development site appears to be clear of any existing utility services apart from where noted above.

It is also important that the proposed development plans should coordinate with the existing network substation position. This shall be retained to avoid any diversion works.