Services Appraisal

Proposed Residential Development
Land north of Hookhams Lane
Salph End
Bedford

Revision 0: September 2019
Report Reference: 248-SA-01-0
Services Appraisal
Land off Hookhams Lane, Salph End

Report Originator(s)
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Director
martin.andrews@mac-ltd.co.uk

Revision Record

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
<th>Written</th>
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<td>04/09/19</td>
<td>Planning Issue</td>
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Error! Bookmark not defined.
1.0 Introduction

1.1 Instructions

1.1.1 This Flood Risk Assessment has been prepared for Manor Oak Homes.

1.1.2 The report has been prepared to support the submission of an outline planning application.

1.1.3 The benefit of this report is to our instructing Client.

1.2 Site Location

1.2.1 The proposed residential development is located at land between Hookhams Lane and Ravensden Road, Salph End, as shown in Error! Not a valid bookmark self-reference. below and enclosed in Appendix A. The approximate National Grid Reference for the site is E507519 N252820.

Figure 1.1: Site Location Plan
1.3 Current Use and Description

1.3.1 The site currently comprises agricultural land there has been no previous development on the site. The existing site is shown on the topographical survey enclosed in Appendix B.

1.3.2 A tributary of Renhold Brook runs through the site and forms the boundary between two of the site’s fields.

1.3.3 There is a fall from north to south with both parcels either side of the watercourse falling towards the tributary.

1.4 Proposed Development

1.4.1 The proposed development will comprise up to 400 residential dwellings and a two-form entry primary school. The proposed development layout is shown on the plan enclosed in Appendix C.
2.0 Existing Assets

2.1 Introduction

2.1.1 A number of companies have been contacted to determine whether they have any assets within the vicinity of the site. Details of the companies contacted and whether they have assets is set out in Table 2.1 below. If there are assets within the vicinity of the site further details are set out within this section.

<table>
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<tr>
<th>Type</th>
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<td>No</td>
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<td>Electricity</td>
<td>UK Power Networks</td>
<td>Yes £70,000</td>
<td>F</td>
</tr>
<tr>
<td>Gas</td>
<td>Cadent and Tata Communications</td>
<td>No</td>
<td>G</td>
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<tr>
<td>Telecoms</td>
<td>BT</td>
<td>No</td>
<td>H</td>
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<tr>
<td>Used Water</td>
<td>Anglian Water</td>
<td>No</td>
<td>I</td>
</tr>
<tr>
<td>Linesearch</td>
<td>Various – full list set out in Appendix D</td>
<td>No</td>
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</table>

2.2 Clean Water – Anglian Water

2.2.1 There are no assets within the site boundary. However, there is a water supply pipe within the highway of Ravensden Road, adjacent to the site. A copy of the asset plan is enclosed in Appendix E.

2.3 Electricity – UK Power Networks

2.3.1 There are various overhead assets located on the site. These can be seen on the asset plan enclosed in Appendix F.

2.3.2 The overhead cables within the site will need to be diverted to accommodate the development site. UK Power Networks have provided a budget cost of £70,000 to divert these cables. This is set out in their letter enclosed in Appendix K.

2.4 Gas – Cadent

2.4.1 There are no assets within the site boundary. However, there is a gas pipe within the highway of Hookhams Lane, adjacent to the site. A copy of the asset plan is enclosed in Appendix G.
2.5 **Telecoms – BT & Tata Communications**

2.5.1 There are no BT assets within the site boundary. However, there are BT assets within the highways of Hookhams Lane and Ravensden Road, adjacent to the site.

2.5.2 There are no Tata Communication assets within the site boundary. There is a water supply pipe within the highway of Ravensden Road, adjacent to the site.

2.5.3 A copy of the asset plans are enclosed in Appendix H.

2.6 **Used Water – Anglian Water**

2.6.1 There are no sewers located within the development site. There is a foul water sewer located within the highway of Hookhams Lane near the proposed access. A copy of the asset plan is enclosed in Appendix I.
3.0 Capacity Checks

3.1 Introduction

3.1.1 Pre-development enquiries have been submitted to the following companies to ascertain whether they have adequate capacity to accommodate the proposed development.

- Clean Water – Anglian Water
- Electricity – UK Power Networks
- Gas – Cadent
- Used Water – Anglian Water

3.2 Clean Water – Anglian Water

3.2.1 Anglian Water state that there is insufficient capacity to accommodate the proposed development site. Therefore, reinforcement works are required which could take up to 18 months to deliver. The reinforcement works are to comprise:

“Offsite mains reinforcement is required comprising of 2.4km of 180mm HPPE SDR17 from the 225mm MDPE main where it crosses Thurleigh Road Ravensden southeast along Thurleigh Road, Oldways Road, and Renhold Road / Ravensden Road to the 4in AC main at the sites point of connection in Salph End, this assumes that the meter HFRRWM is out of service as shown on GNet, if it is still used then the offsite main must finish at the meter and restart after it. Start grid ref TL0614754768, end grid ref TL0768253071. Assumed complex due to length. Zonal Charge”

3.2.2 Anglian Water will require a zonal charge to be paid for each new dwelling at a rate of £458.50 per dwelling or £183,400.00 to cover offsite improvements.

3.2.3 Anglian Water have also estimated the cost of providing the onsite water mains to be £28,800.00.

3.2.4 A copy of their pre-development enquiry is enclosed in Appendix J.

3.3 Electricity – UK Power Networks

3.3.1 To provide a 2kVA supply to each dwelling and a 150kVA supply to the primary school, UK Power Networks have set out a budget cost of £640,000. A copy of their pre-development enquiry is enclosed in Appendix K.
3.4 **Gas – Cadent**

3.4.1 We are still awaiting enquiries on gas supply to be returned. Once they are received this report will be updated.

3.5 **Used Water – Anglian Water**

3.5.1 The development site is in the catchment of Bedford Water Recycling Centre (WRC) which doesn’t have capacity to accommodate the proposed development. Anglian Water are obligated to accept flows from this development and upgrade the WRC should the site gain planning permission.

3.5.2 Anglian Water have determined that the nearest sewer with capacity to accommodate flows from the development site is located in Wentworth Drive. The proposed connection point by Anglian Water would require a new sewer to be requisitioned across third party land.

3.5.3 Other options are available which include an upgrade of the sewer in Hookhams Lane or constructing a new sewer in Hookhams Lane to the outfall point. Other options could be to look at multiple outfall points to reduce the size of sewer required on site thus allowing multiple connections into the existing 150mm diameter sewers which surround the site. The alternative options and most practical and cost-effective solution should be discussed with Anglian Water as design of the site progresses.

3.5.4 Anglian Water will require a zonal charge to be paid for each new dwelling at a rate of £471 per dwelling or £188,400.00 to cover offsite improvements.

3.5.5 A copy of their pre-development enquiry is enclosed in Appendix J.

3.6 **Summary**

3.6.1 The result of the pre-development enquires is summarised below in Table 3.1.

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<th>Adequate Capacity?</th>
<th>Costs</th>
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<td>No – offsite improvements required.</td>
<td>Zonal Charge - £183,400.00</td>
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<tr>
<td></td>
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<td>On site costs - £28,800.00</td>
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<tr>
<td>Electricity – UK Power Networks</td>
<td>Yes</td>
<td>On site costs - £640,000</td>
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<tr>
<td>Gas – Cadent</td>
<td>TBC</td>
<td>TBC</td>
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<tr>
<td>Used Water – Anglian Water</td>
<td>No – WRC needs upgrades to be provided by AW.</td>
<td>Zonal Charge - £188,400.00</td>
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Appendix A
Location Plan
MAC drawing no. 248-FRA01
Client: Manor Oak Homes
Project: Land North of Hookhams Lane
Salph End
Date: 28/08/19
Dw: MJA
Chk: MJA
Scale: 1:10,000
Size: A4

Title: Location Plan
Appendix B

Topographical Survey

MSurv drawing no. 1215/2272/1, 2 and 3
Appendix C
Parameters Plan
RG+P drawing no. 40986 013C
A development at Salph End, Bedford

Architects Project Managers Quantity Surveyors
130 New Walk
Leicester, LE1 7JA
Tel: 0116 204 5800, Fax: 0116 204 5801
email: design@rg-p.co.uk, www.rg-p.co.uk

Open Space 3.17ha
Developable area 10.75ha
Includes primary route
School area 2.1ha
Attenuation basins 0.59ha
Area excluded from open space calculation
Flood zone 1.88ha
Sports pitches 1.08ha
Primary route
Indicative vehicular access and parking for sports pitches.

Easement

Site area 19.57ha

Revisions

A. Plan updated with revised distribution of POS and relocation of site access. 25.07.19 HW/DW
B. Developable, open space and attenuation areas updated. 20.08.19 HW/DW
C. Attenuation basin amended. Site area added to key. 22.08.19 HW/DW
## Enquirer

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<th>Name</th>
<th>Phone</th>
<th>Company</th>
<th>Mobile</th>
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<tr>
<td>Mr Martin Andrews</td>
<td>01604 340544</td>
<td>Martin Andrews Consulting Ltd</td>
<td>07719 319973</td>
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<th>Address</th>
<th>Email</th>
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<tbody>
<tr>
<td>8 Corn Kiln Close</td>
<td><a href="mailto:martin.andrews@mac-ltd.co.uk">martin.andrews@mac-ltd.co.uk</a></td>
</tr>
<tr>
<td>Cogenhoe Northamptonshire</td>
<td></td>
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<tr>
<td>NN7 1 NX</td>
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## Enquiry Details

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<td>12/03/2021</td>
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<td>XY= 507519, 252820</td>
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| Description of Works | |
|----------------------| |
| Not Supplied         | |

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

---

**Site Map**

![Site Map](image)
Asset Owners

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Notes. Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LinesearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:
1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. LSBUD Members who have assets registered within your search area. ("Affected")
   a. These LSBUD Members will either:
      i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.
      ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.

2. LSBUD Members who do not have assets registered within your search area. ("Not Affected")

3. Non LSBUD Members who may have assets within your search area. Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 7 bar asset, all National Grid Electricity Transmission assets and National Grid's Gas Distribution Limited above 2 bar asset.

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com
Enquiry Confirmation  
**LSBUD Ref: 16383975**

Date of enquiry: 03/09/2019  
Time of enquiry: 15:05

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

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<td>Tata Communications</td>
<td>01992655919</td>
<td>+17322824001</td>
<td>Await response</td>
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<td>UK Power Networks</td>
<td>08000565866</td>
<td>08000565866</td>
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LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

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<td>Balfour Beatty Investments Limited</td>
<td>BOC Limited (A Member of the Linde Group)</td>
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<td>BP Exploration Operating Company Limited</td>
<td>BPA</td>
<td>Carrington Gas Pipeline</td>
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<tr>
<td>CATS Pipeline c/o Wood Group PSN</td>
<td>Cemex</td>
<td>Centrica Storage Ltd</td>
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<tr>
<td>CLH Pipeline System Ltd</td>
<td>CNG Services Ltd</td>
<td>Concept Solutions People Ltd</td>
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<tr>
<td>ConocoPhillips (UK) Ltd</td>
<td>DIO (MOD Abandoned Pipelines)</td>
<td>Drax Group</td>
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<tr>
<td>E.ON UK CHP Limited</td>
<td>EirGrid</td>
<td>Electricity North West Limited</td>
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<td>ENI &amp; Himor c/o Penspen Ltd</td>
<td>EnQuest NNS Limited</td>
<td>EP Langage Limited</td>
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<td>ESSAR</td>
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<td>RWEnpower (Little Barford and South Haven)</td>
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<td>Western Power Distribution</td>
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<td>Zayo Group UK Ltd c/o JSM Group Ltd</td>
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Enquiry Confirmation
LSBUD Ref: 16383975

Date of enquiry: 03/09/2019
Time of enquiry: 15:05

The following Non-LSBUD Members may have assets in your search area. It is YOUR RESPONSIBILITY to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

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<th>Non-LSBUD members (Asset owners not registered on LSBUD)</th>
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Page 4 of 4
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3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of the information provided, whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
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IF IN DOUBT – ASK!
PHONE 0800 056 5866
EMERGENCY – If you damage a cable or line Phone 0800 783 8838 (24hrs) URGENTLY
ALWAYS LOOK UP BEFORE YOU START WORK
Refer to HSE Guidance note GS6

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4. It must be assured that there is a service cable into each property, lamp column and street sign, etc.
5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information provided must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
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11. The information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.

12. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

13. This plan must be used with the attached ‘Symbols’ document.

Date Requested: 03/09/2019
Job Reference: 16383975
Site Location: 506920 252458
Requested by: Mr Martin Andrews
Your Scheme/Reference: 248 Salph
End
Scale: 1:500 (When plotted at A3)

This plan must be used with the attached 'Symbols' document.

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5. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

6. All plans are produced at 1:500 scale on line drawn format. Maps produced at 1:2500 scale are GeoSchematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.

7. The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.

8. This plan must be used with the attached ‘Symbols’ document.

9. IF IN DOUBT – ASK!

10. Phone 0800 056 5866

11. EMERGENCY – If you damage a cable or line Phone 0800 783 8838 (24hrs URGENTLY)

12. ALWAYS LOOK UP BEFORE YOU START WORK

13. Refer to HSE Guidance note GS6

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16. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the cables have been determined.

17. It must be assumed that there is a service cable into each property, lamp column and street sign, etc.

18. All cables must be treated as being live unless proved otherwise by UK Power Networks, or the information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.

19. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

20. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

21. The information provided to you on the basis of the terms of use set out in the covering letter that accompanies the plan. If you do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter.
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Date Requested: 03/09/2019
Job Reference: 16393075
Site Location: 506320 252458
Requested by: Mr Martin Andrews
Your Scheme/Reference: 248 Salph End
Scale: 1:500 (When plotted at A3)

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Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.

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Date Requested: 03/09/2019
Job Reference: 16923970
Site Location: 506920 252458
Requested by: Mr Martin Andrews
Your Scheme/Reference: 248 Salph
Scale: 1:500 (When plotted at A3)

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5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information provided must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
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Date Requested: 03/09/2019
Job Reference: 16383975
Site Location: 506920 252458
Requested by: Mr Martin Andrews
Your Scheme/Reference: 248 Salph
End
Scale: 1:500 (When plotted at A3)

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Date Requested: 03/09/2019
Job Reference: 16936375
Site Location: 506920 252458
Requested by: Mr Martin Andrews
Your Scheme/Reference: 248 Salph
End
Scale: 1:500 (When plotted at A3)

9
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Date Requested: 03/09/2019
Job Reference: 16383975
Site Location: 506920 252458
Requested by: Mr Martin Andrews
Your Scheme/Reference: 248 Salph
End
Scale: 1:500 (When plotted at A3)

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Job Reference: 16383975
Site Location: 506920 252458
Requested by: Mr Martin Andrews
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9. Any reference to "UK Power Networks" will include the companies Eastern Power Networks, South Eastern Power Networks, London Power Networks and any other distribution licensees.

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Date Requested: 03/09/2019
Job Reference: 16383975
Site Location: 506920 252458
Requested by: Mr Martin Andrews
Your Scheme/Reference: 248 Salph
Scale: 1:500 (When plotted at A3)

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3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided to you or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.

4. This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter.

5. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

---

1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand tools.
3. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the cables have been determined.
4. It must be assured that there is a service cable into each property, lamp column and street sign, etc.
5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

---

Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.

---

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Plans generated by DigSAFE Pro™ software provided by LinesearchbeforeUdig.
1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand tools.
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7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

IF IN DOUBT - ASK!
PHONE 0800 056 5866
EMERGENCY - If you damage a cable or line Phone 0800 783 8838 (24hrs URGENTLY)
ALWAYS LOOK UP BEFORE YOU START WORK
Refer to HSE Guidance note GS6

UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk. 

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This plan must be used with the attached 'Symbols' document.

The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.

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Plans generated by DigSAFE Pro software provided by LinesearchbeforeIdig.
This plan shows the pipes owned by National Grid Gas plc in their role as a Licensed Gas Transporter (LGT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HTS(O47), must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further Information on all DR4 and can be determined by calling the supporting apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further Information on all DR4s can be determined by calling the DR4 hotline on 01455 862428 (9am-9pm). A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.
Maps by email Plant Information Reply

IMPORTANT WARNING
Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

CLICK BEFORE YOU DIG
FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE
email cbyd@openreach.co.uk
ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

Accidents happen
If you do damage any Openreach equipment please let us know by calling 0800 023 3025 (opt 1 + opt 1) and we can get it fixed ASAP.

KEY TO BT SYMBOLS

Key to Symbols:
- Planned
- Live
- Split Coupling
- Duct Tee
- Power
- Building
- Kiosk
- Inferred
- Duct

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

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Controller of Her Majesty’s Stationery Office
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WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk
The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of TATA Communications. The location of TATA Communications apparatus is indicated on the plan for general guidance but the exact location may vary from that shown. TATA Communications cannot guarantee the accuracy of this document and Safe Digging Practices should always be used to identify the exact location of any utility’s plant. TATA Communications accept no liability for any errors or omissions.

Warning: PDF designed for colour print only with no page scaling. This Information is given as a guide only and its accuracy cannot be guaranteed.

Protecting Lives, Cables & Pipes
In Emergency Call: +1 732 282 4001
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Warning: PDF designed for colour print only with no page scaling. This information is given as a guide only and its accuracy cannot be guaranteed.

Protecting Lives, Cables & Pipes
In Emergency Call: +1 732 282 4001
CROWN COPYRIGHT © All Rights Reserved. Ordnance Survey Licence number: 100040456
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Date: 20/04/17  Scale: 1:3500  Map Centre: 507468,252862  Title: G2204354-3

This plan is provided by Anglian Water pursuant its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but position must be regarded as approximate. Service pipes, private sewers and drains are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for Negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Anglian Water Services Limited. This plan is produced by Anglian Water Services Limited. This information is not intended to exclude or restrict liability for death or personal injury resulting from negligence.
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Title: G2204354-3
Pre-Planning Assessment Report
LAND OF HOOKHAMS LANE, SALPH END
150622/903883043/1/0065986

Report published 02/09/2019
Section 1: Proposed development

Thank you for submitting a pre-planning enquiry. This has been produced for Martin Andrews Consulting Ltd. Your reference number is 150622/903883043/1/0065986. If you have any questions upon receipt of this report, please contact the Pre-Development team on 03456 066087 or email planningliaison@anglianwater.co.uk.

The response within this report has been based on the following information which was submitted as part of your application:

<table>
<thead>
<tr>
<th>Type of development</th>
<th>No. Of units</th>
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<tbody>
<tr>
<td>Dwellings</td>
<td>400</td>
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<tr>
<td>Non-residential</td>
<td>1</td>
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The anticipated residential build rate is:

<table>
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<tr>
<th>Year</th>
<th>Y1</th>
<th>Y2</th>
<th>Y3</th>
<th>Y4</th>
<th>Y5</th>
<th>Y6</th>
<th>Y7</th>
<th>Y8</th>
<th>Y9</th>
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<tr>
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</table>

Site grid reference no.

TL0748052874

Development type

Greenfield

Planning application status

Unknown

The comments contained within this report relate to the public water mains and sewers indicated on our records. Your attention is drawn to the disclaimer in the useful information section of this report.
Section 2: Assets affected

Our records indicate that we have the following types of assets within or overlapping the boundary of your development site as listed in the table below.

Additionally, it is highly recommended that you carry out a thorough investigation of your proposed working area to establish whether any unmapped public or private sewers and lateral drains are in existence. We are unable to permit development either over or within the easement strip without our prior consent. The extent of the easement is provided in the table below. Please be aware that the existing water mains/public sewers should be located in highway or open space and not in private gardens. This is to ensure available access for any future maintenance and repair and this should be taken into consideration when planning your site layout.

<table>
<thead>
<tr>
<th>Asset type</th>
<th>Pipe size (mm)</th>
<th>Total easement required (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water mains</td>
<td>100</td>
<td>4.50 m either side of the centre line</td>
</tr>
<tr>
<td>Water mains</td>
<td>100</td>
<td>4.50 m either side of the centre line</td>
</tr>
<tr>
<td>Water mains</td>
<td>97</td>
<td>4.50 m either side of the centre line</td>
</tr>
</tbody>
</table>

If it is not possible to avoid our assets then these may need to be diverted in accordance with Section 185 of the Water Industry Act (1991). You will need to make a formal application if you would like a diversion to be considered.

Due to the private sewer transfer in October 2011 many newly adopted public used water assets and their history are not indicated on our records. You also need to be aware that your development site may contain private water mains, drains or other assets not shown on our records. These are private assets and not the responsibility of Anglian Water but that of the landowner.

Section 3: Water supply

In examining the available capacity for your development site we assess the capacity and costs for two categories of water main. These are:

**Strategic:**

These are the offsite potable water mains which deliver water within an area to a large number of development sites often across a number of towns. The strategic provision of these water mains enables us to provide of the cheapest solution across a large geographical area.

**Local reinforcement:**

These are localised reinforcement mains to enable us to provide water to your development site.

On most sites we also have two categories of water mains the Spine Mains and Housing Estate Mains (HEMS). To support your budgeting arrangements we have also examined the estimated cost for delivering the onsite water mains needed for a site of your size.

**Water supply network**
There is insufficient capacity in the current network to supply this development site and therefore offsite reinforcements are needed. Details of the necessary upgrades can be found in the water infrastructure section of this report and the cost of these works are included in the Zonal charge. If you wish to proceed with the development then you will need to complete an application for a new supply. This is recommended to be done at the earliest opportunity as it could take a minimum of 18 months to install any offsite reinforcement works. The connection point for the site will be from the existing water main in Ravensden Road. The site should be connected to the existing and reinforced 4in AC main in Ravensden Road with a 180mm HPPE SDR17 connection and pipework.

### Connection point(s)

<table>
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### Water Infrastructure & Costs

In order to supply your site, the following upgrades are required:

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<th>Estimated Local reinforcement Mains</th>
<th>Based on</th>
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<tr>
<td>Ravensden Road Salph End</td>
<td>Offsite mains reinforcement is required comprising of 2.4km of 180mm HPPE SDR17 from the 225mm MDPE main where it crosses Thurleigh Road Ravensden southeast along Thurleigh Road, Oldways Road, and Renhold Road / Ravensden Road to the 4in AC main at the sites point of connection in Salph End, this assumes that the meter HFRRWM is out of service as shown on GNet, if it is still used then the offsite main must finish at the meter and restart after it. Start grid ref TL0614754768, end grid ref TL0768253071. Assumed complex due to length. Zonal Charge</td>
</tr>
</tbody>
</table>

As a result of the recent charging rules published by Ofwat, our charging regime has changed. Your development site will be required to pay a Zonal charge for each new property connecting to our water supply network that benefits from Full planning permission.

Payment of the Zonal charge must be made before premises are connected to our water supply network. More information on the Zonal charge can be found at [http://www.anglianwater.co.uk/developers/charges](http://www.anglianwater.co.uk/developers/charges)

The Zonal charge consists of two elements. The first is called the 'Fixed Element' which is the same in nature to the Infrastructure charge applied prior to April 2018. The second is called the 'Variable Element' which may vary each financial year.

The elements are combined together to create the 2018/19 Zonal charge for Water:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Element</td>
<td>£ 370</td>
</tr>
<tr>
<td>Variable Element</td>
<td>£ 88.50</td>
</tr>
</tbody>
</table>
In most circumstances zonal charges are raised on a standard basis of one charge per new connection (one for water and one for sewerage). However, if the new connection is to non-household premises, the fixed element is calculated according to the number and type of water fittings in the premises. This is called the "relevant multiplier" method of calculating the charge. Details of the relevant multiplier for each fitting can be found at our web-page: [http://www.anglianwater.co.uk/developers/charges/](http://www.anglianwater.co.uk/developers/charges/)

The total Zonal charge payable for your site for Water is:

<table>
<thead>
<tr>
<th>Zonal charge per new connection - Water</th>
<th>No. Of Units</th>
<th>Total amount payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>£ 458.50</td>
<td>400</td>
<td>£ 183,400.00</td>
</tr>
</tbody>
</table>

The estimated* Onsite Water Mains cost for your site is:

<table>
<thead>
<tr>
<th>Estimated Onsite Water Mains</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Onsite water mains costs</td>
<td>£ 28,800.00</td>
</tr>
</tbody>
</table>

*A detailed cost breakdown will be provided on receipt of a formal application for a new water main.

In addition, you also have the ability to construct the onsite water mains under a self-lay agreement. In such cases, an Asset Payment is made by Anglian Water following commissioning and adoption of the assets. The Asset Payment is calculated as required in the Water Act 2003. For more information on the self-lay of water mains please see [http://www.anglianwater.co.uk/developers/self-lay](http://www.anglianwater.co.uk/developers/self-lay).

You will also need to budget for connection costs. Please note that we offer alternative types of connections depending on your needs and these costs are available in our annual charges booklet, which can be downloaded from [http://www.anglianwater.co.uk/developers/charges](http://www.anglianwater.co.uk/developers/charges).

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**Section 4: Water recycling services**

In examining the used water system we assess the ability for your site to connect to the public sewerage network without causing a detriment to the operation of the system. We also assess the receiving water recycling centre and determine whether the water recycling centre can cope with the increased flow and influent quality arising from your development.

**Water recycling centre**

The foul drainage from this development is in the catchment of Bedford Water Recycling Centre, which currently does not have capacity to treat the flows from your development site. Anglian Water are obligated to accept the foul flows from your development with the benefit of planning consent and would therefore take the necessary steps to ensure that there is sufficient treatment capacity should the planning authority grant planning permission.

**Used water network**
Our assessment has been based on development flows connecting to the nearest foul water sewer of the same size or greater pipe diameter to that required to drain the site. The infrastructure to convey foul water flows to the receiving sewerage network is assumed to be the responsibility of the developer. Conveyance to the connection point is considered as Onsite Work and includes all work carried out upstream from the point of connection, including making the connection to our existing network. This connection point has been determined in reference to the calculated discharge flow and on this basis, a 225mm internal diameter pipe is required to drain the development site. The nearest practicable connection is to the 525mm diameter sewer at manhole 4301 in Wentworth Drive at National Grid Reference NGR TL0741052306. The cover level is 31.59m and the invert level is 27.53m. Anglian Water has assessed the impact of gravity flows from the planned development to the public foul sewerage network. We can confirm that this is acceptable as the foul sewerage system, at present, has available capacity for your site. Please note that Anglian Water will request a suitably worded condition at planning application stage to ensure this strategy is implemented to mitigate the risk of flooding.

It is assumed that the developer will provide the necessary infrastructure to convey flows from the site to the network. Consequently, this report does not include any costs for the conveyance of flows.

**Surface water disposal**

You indicated on the Pre-Planning Application form that a connection to the public surface water sewer network is not required as infiltration techniques can be utilised. Therefore a capacity assessment has not been made on the public surface water network.

As you may be aware, Anglian Water will consider the adoption of SuDs provided that they meet the criteria outline in our SuDs adoption manual. This can be found on our website at [http://www.anglianwater.co.uk/developers/suds.aspx](http://www.anglianwater.co.uk/developers/suds.aspx). We will adopt features located in public open space that are designed and constructed, in conjunction with the Local Authority and Lead Local Flood Authority (LLFA), to the criteria within our SuDs adoption manual. Specifically, developers must be able to demonstrate:

1. Effective upstream source control,
2. Effective exceedance design, and
3. Effective maintenance schedule demonstrating than the assets can be maintained both now and in the future with adequate access.

If you wish to look at the adoption of any SuDs then an expression of interest form can be found on our website at [http://www.anglianwater.co.uk/developers/suds.aspx](http://www.anglianwater.co.uk/developers/suds.aspx)

The proposed method of surface water disposal is not relevant to Anglian Water; we suggest that you contact the relevant Local Authority, Lead Local Flood Authority, the Environment Agency or the Internal Drainage Board, as appropriate.

**Trade Effluent**

We note that you do not have any trade effluent requirements. Should this be required in the future you will need our written formal consent. This is in accordance with Section 118 of the Water Industry Act (1991).

**Used Water Budget Costs**

As a result of the recent charging rules published by Ofwat, our charging regime has changed. Your development site will be required to pay a Zonal charge for each new property connecting to the public sewer that benefits from Full planning permission.

Payment of the Zonal charge must be made before premises are connected to the public sewer. More information on the Zonal charge can be found at [http://www.anglianwater.co.uk/developers/charges](http://www.anglianwater.co.uk/developers/charges)

The Zonal charge consists of two elements. The first is called the ‘Fixed Element’ which is the same in nature to the Infrastructure charge applied prior to April 2018. The second is called the ‘Variable Element’ which may vary each financial year.
The elements are combined together to create the 2018/19 Zonal charge for Sewerage:

<table>
<thead>
<tr>
<th>Element</th>
<th>Amount (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Element</td>
<td>370</td>
</tr>
<tr>
<td>Variable Element</td>
<td>101</td>
</tr>
</tbody>
</table>

In most circumstances zonal charges are raised on a standard basis of one charge per new connection (one for water and one for sewerage). However, if the new connection is to non-household premises, the fixed element is calculated according to the number and type of water fittings in the premises. This is called the "relevant multiplier" method of calculating the charge. Details of the relevant multiplier for each fitting can be found at our web-page: [http://www.anglianwater.co.uk/developers/charges/](http://www.anglianwater.co.uk/developers/charges/)

The total Zonal charge payable for your site for Sewerage is:

<table>
<thead>
<tr>
<th>Zonal charge per new connection - Sewerage</th>
<th>No. Of Units</th>
<th>Total amount payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>£ 471</td>
<td>400</td>
<td>£ 188,400.00</td>
</tr>
</tbody>
</table>

It has been assumed that the onsite used water network will be provided under a section 104 Water Industry Act application.

It is recommended that you also budget for connection costs. Please note that we offer alternative types of connections depending on your needs and these costs are available at our website.

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**Section 5: Map of Proposed Connection Points**

**Figure 1:** Showing your water point of connection

**Figure 2:** Showing your used water point of connection
Section 6: Useful Information

Water

Water Industry Act – Key Water Sections:

Section 41:
This provides you with the right to requisition a new water main for domestic purposes to connect your site to the public water network.

Section 45:
This provides you with the right to have a connection for domestic purposes from a building or part of a building to the public water main.

Section 51A - E
This provides you with the right to provide the water main or service connection yourself and for us to vest them into our company.

Section 55:
This applies where you request a supply of water for non domestic purposes.

Section 185:
This provides you with the right to make a reasonable request to have a public water main, sewer or public lateral drain removed or altered, at your expense. Details on how to make an application and the s185 form is available on our website at http://www.anglianwater.co.uk/developers or via our Development Services team on 03456 066087.

Details on how you can make a formal application for a new water main, new connection or diversion are available on from our Development Services team on 03456 066087 or via our website at http://www.anglianwater.co.uk/developers

If you have any other queries on the rights to requisition or connect your housing to the public water and sewerage infrastructure then please contact our Development Services team at: Developer Services, Anglian Water, PO Box 495, Huntingdon, PE29 6YY or Telephone: 0345 60 66 087 or Email: developerservices@anglianwater.co.uk

Water pressure and flow rate: The water pressure and consistency that we must meet for your site is laid out in the Water Industry Act(1991). This states that we must supply a flow rate of 9 litres per minute at a pressure of 10 metres of head to the external stop tap. If your water pressure requirements exceed this then you will need to provide and maintain any booster requirements to the development site.

Self Lay of Water Mains: A list of accredited Self Lay Organisations can be found at https://www.lr.org/en/utilities/water-industry-registration-scheme-wirs-wirsae/search/

Used water

Water Industry Act – Key Used Water Sections:

Section 98:
This provides you with the right to requisition a new public sewer. The new public sewer can be constructed by Anglian Water on your behalf. Alternatively, you can construct the sewer yourself under section 30 of the Anglian Water Authority Act 1977.
**Section 102:**

This provides you with the right to have an existing sewerage asset vested by us. It is your responsibility to bring the infrastructure to an adoptable condition ahead of the asset being vested.

**Section 104:**

This provides you with the right to have a design technically vetted and an agreement reached that will see us adopt your assets following their satisfactory construction and connection to the public sewer.

**Section 106:**

This provides you with the right to have your constructed sewer connected to the public sewer.

**Section 185:**

This provides you with the right to have a public sewerage asset diverted.

Details on how to make a formal application for a new sewer, new connection or diversion are available on our website at http://www.anglianwater.co.uk/developers or via our Development Services team on 03456 066087.

**Sustainable drainage systems:**

Many existing urban drainage systems can cause problems of flooding, pollution or damage to the environment and are not resilient to climate change in the long term. Therefore our preferred method of surface water disposal is through the use of Sustainable Drainage Systems (SuDS). SuDS are a range of techniques that aim to mimic the way surface water drains in natural systems within urban areas. For more information on SuDS, please visit our website at http://www.anglianwater.co.uk/developers/suds.aspx. We also recommend that you contact the Local Authority and Lead Local Flood Authority (LLFA) for the area to discuss your application.

**Private sewer transfers:**

Sewers and lateral drains connected to the public sewer on the 1 July 2011 transferred into Water Company ownership on the 1 October 2011. This follows the implementation of the Floods and Water Management Act (FWMA). This included sewers and lateral drains that were subject to an existing Section 104 Adoption Agreement and those that were not. There were exemptions and the main non-transferable assets were as follows:

- Surface water sewers and lateral drains that did not discharge to the public sewer, e.g. those that discharged to a watercourse.
- Foul sewers and lateral drains that discharged to a privately owned sewage treatment/collection facility.
- Pumping stations and rising mains will transfer between 1 October 2011 and 1 October 2016.

The implementation of Section 42 of the FWMA will ensure that future private sewers will not be created. It is anticipated that all new sewer applications will need to have an approved section 104 application ahead of a section 106 connection.

**Encroachment:**

Anglian Water operates a risk based approach to development encroaching close to our used water infrastructure. We assess the issue of encroachment if you are planning to build within 400 metres of a water recycling centre or, within 15 metres to 100 metres of a pumping station. We have more information available on our website at http://anglianwater.co.uk/developers/encroachment.aspx.

**Locating our assets:**
Maps detailing the location of our water and used water infrastructure including both underground assets and above ground assets such as pumping stations and recycling centres are available from . All requests from members of the public or non-statutory bodies for maps showing the location of our assets will be subject to an appropriate administrative charge. We have more information on our website at: http://www.anglianwater.co.uk/developers/our-assets/

Summary of charges:

A summary of this year’s water and used water connection and infrastructure charges can be found at http://www.anglianwater.co.uk/developers/charges

Disclaimer:

The information provided in this report is based on data currently held by Anglian Water Services Limited (‘Anglian Water’) or provided by a third party. Accordingly, the information in this report is provided with no guarantee of accuracy, timeliness, completeness and is without indemnity or warranty of any kind (express or implied).

This report should not be considered in isolation and does not nullify the need for the enquirer to make additional appropriate searches, inspections and enquiries. Anglian Water supports the plan led approach to sustainable development that is set out in the National Planning Policy Framework (‘NPPF’) and any infrastructure needs identified in this report must be considered in the context of current, adopted and/or emerging local plans. Where local plans are absent, silent or have expired these needs should be considered against the definition of sustainability holistically as set out in the NPPF.

Whilst the information in this report is based on the presumption that proposed development obtains planning permission, nothing in this report confirms that planning permission will be granted or that Anglian Water will be bound to carry out the works/proposals contained within this report.

No liability whatsoever, including liability for negligence is accepted by Anglian Water, or its partners, employees or agents, for any error or omission, or for the results obtained from the use of this report and/or its content. Furthermore in no event will any of those parties be liable to the applicant or any third party for any decision made or action taken as a result of reliance on this report.

This report is valid for the date printed and the enquirer is advised to resubmit their request for an up to date report should there be a delay in submitting any subsequent application for water supply/sewer connection(s).
Dear Mr Andrews,

**Site Address: Hookhams Lane, MK41 0JT**

Thank you for your recent enquiry regarding the above premises. I am writing to you on behalf of Eastern Power Networks plc the licensed distributor of electricity for the above address trading as UK Power Networks.

I am pleased to be able to provide you with a budget estimate for the work.

It is important to note that this budget estimate is intended as a guide only. It may have been prepared without carrying out a site visit or system studies. No enquiry has been made as to the availability of consents or the existence of any ground conditions that may affect the ground works. It is not an offer to provide the connection and nor does it reserve any capacity on UK Power Networks electricity distribution system.

**Budget estimate:**

The budget estimation for this work is:

**Diversionary Works:**

£ 70,000.00 (exclusive of VAT) for altering the existing overhead high voltage network, currently on-site. UKPN shall propose to remove the existing overhead high voltage network that currently spans from the sites northern boundary to the sites southern boundary, and from the centre of the site to the eastern boundary. In order to reconnect the high voltage network, a new cable will be laid from the northern area of the site and shall extend underground through the sites eastern boundary and then into the southern area of the site.

**High Voltage Point Of Connection for up to 950kVA**

£ 640,000.00 (exclusive of VAT) if the Point Of Connection (POC) is to the proposed high voltage network along the sites eastern boundary. Once the diversion works have taken place, UKPN will propose to extend two high voltage cables from the newly undergrounded, high voltage network along the sites eastern boundary. The cables shall extend into a central location and will terminate into an on-site, ringed, 1MVA substation. From the substation we shall lay low voltage mains cables throughout the site in order to facilitate the connection of 1 x 3PH 400A 150kVA service for the Primary School and 400 x 1PH 100A 2kVA services for the houses.

This budget estimate is based on the following assumptions:

- The most appropriate Point of Connection (POC) is as described above.
- A viable cable or overhead line route exists along the route we have assumed between the Point of Connection (POC) and your site.
• In cases where the Point of Connection (POC) is to be at High Voltage, that a substation can be located on your premises at or close to the position we have assumed.

• Where electric lines are to be installed in private land UK Power Networks will require an easement in perpetuity for its electric lines and in the case of electrical plant the freehold interest in the substation site, on UK Power Networks terms, without charge and before any work commences.

• You will carry out, at no charge to UK Power Networks, all the civil works within the site boundary, including substation bases, substation buildings where applicable and the excavation/reinstatement of cable trenches.

• Unless stated in your application, all loads are assumed to be of a resistive nature. Should you intend to install equipment that may cause disturbances on UK Power Networks' electricity distribution system (e.g. motors; welders; etc.) this may affect the estimate considerably.

• All UK Power Networks' work is to be carried out as a continuous programme of work that can be completed substantially within 12 months from the acceptance of the formal offer.

Please note that if any of the assumptions prove to be incorrect, this may have a significant impact on the price in any subsequent quotation. You should note also that UK Power Networks’ formal connection offer may vary considerably from the budget estimate. If you place reliance upon the budget estimate for budgeting or other planning purposes, you do so at your own risk.

If you would like to proceed to a formal offer of connection then you should apply for a quotation. Please refer to our website click here for 'The connection process' which details our application process.

To help us progress any future enquiry as quickly as possible please quote the UK Power Networks Reference Number from this letter on all correspondence.

If you have any questions about your budget estimate or need more information, please do not hesitate to contact me. The best time to call is between the hours of 9am and 4pm, Monday to Friday. If the person you need to speak to is unavailable or engaged on another call when you ring, you may like to leave a message or call back later.

Yours sincerely

[Signature]

Mr. Hayden Jones
METROPOLITAN HOUSE
POTTERS BAR, HERTS
EN6 1AG
01279 824 624
PRELIMSEP@UKPOWERNETWORKS.CO.UK