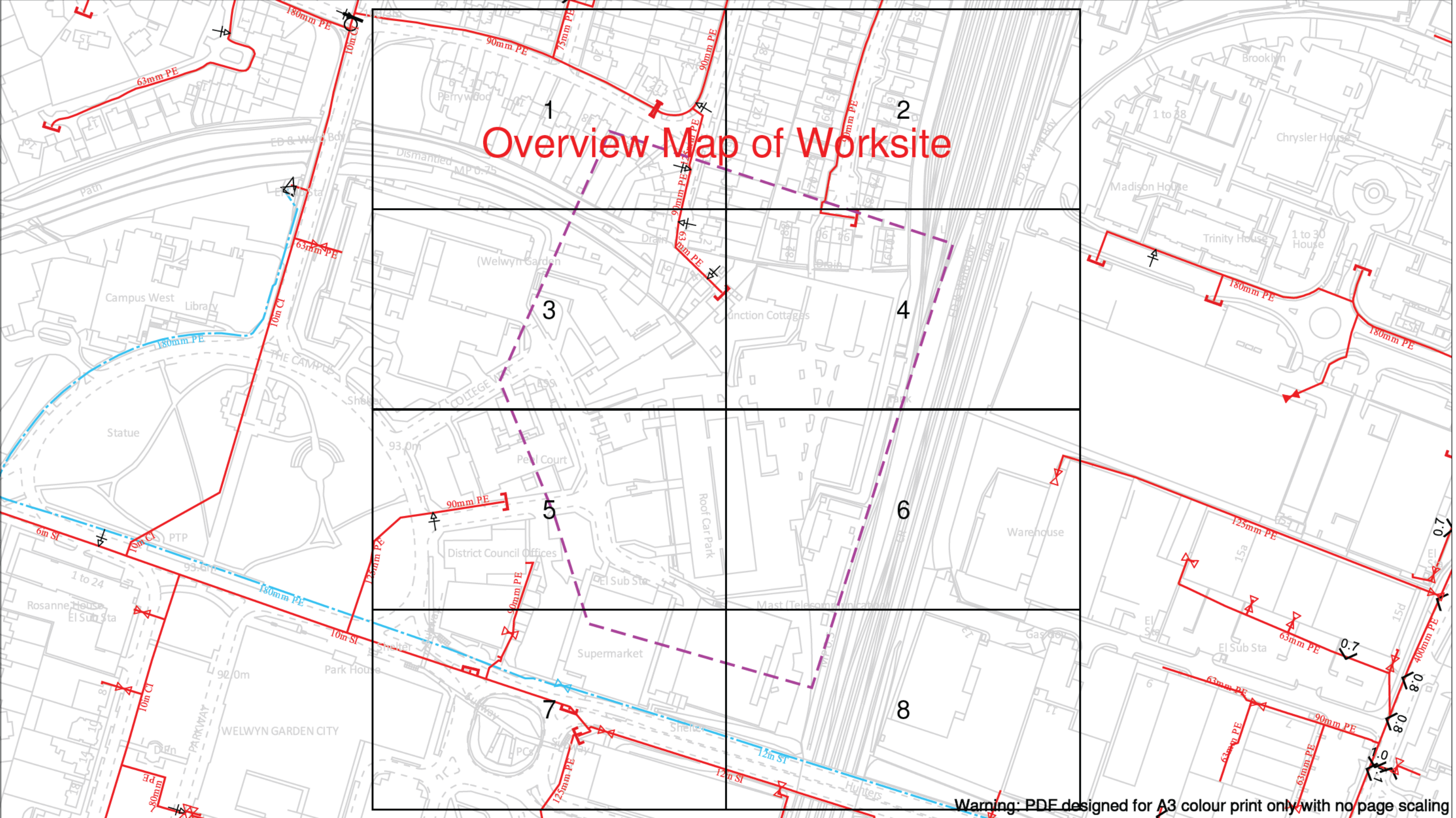


**Appendix G**  
**Cadent Gas Asset Plans**



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Date Requested: 20/04/2022  
Job Reference: 25380577  
Site Location: 523963 213311  
Requested by:  
Mr Bruce Wickham  
Your Scheme/Reference:  
2007511 - Welwyn Garden City  
Campus East - Stage 2

Scale: 1:2050 (When plotted at A3)

View extent: 200m, 115m

**IMPORTANT NOTICES**

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**In case of an emergency call 0800 111 999**

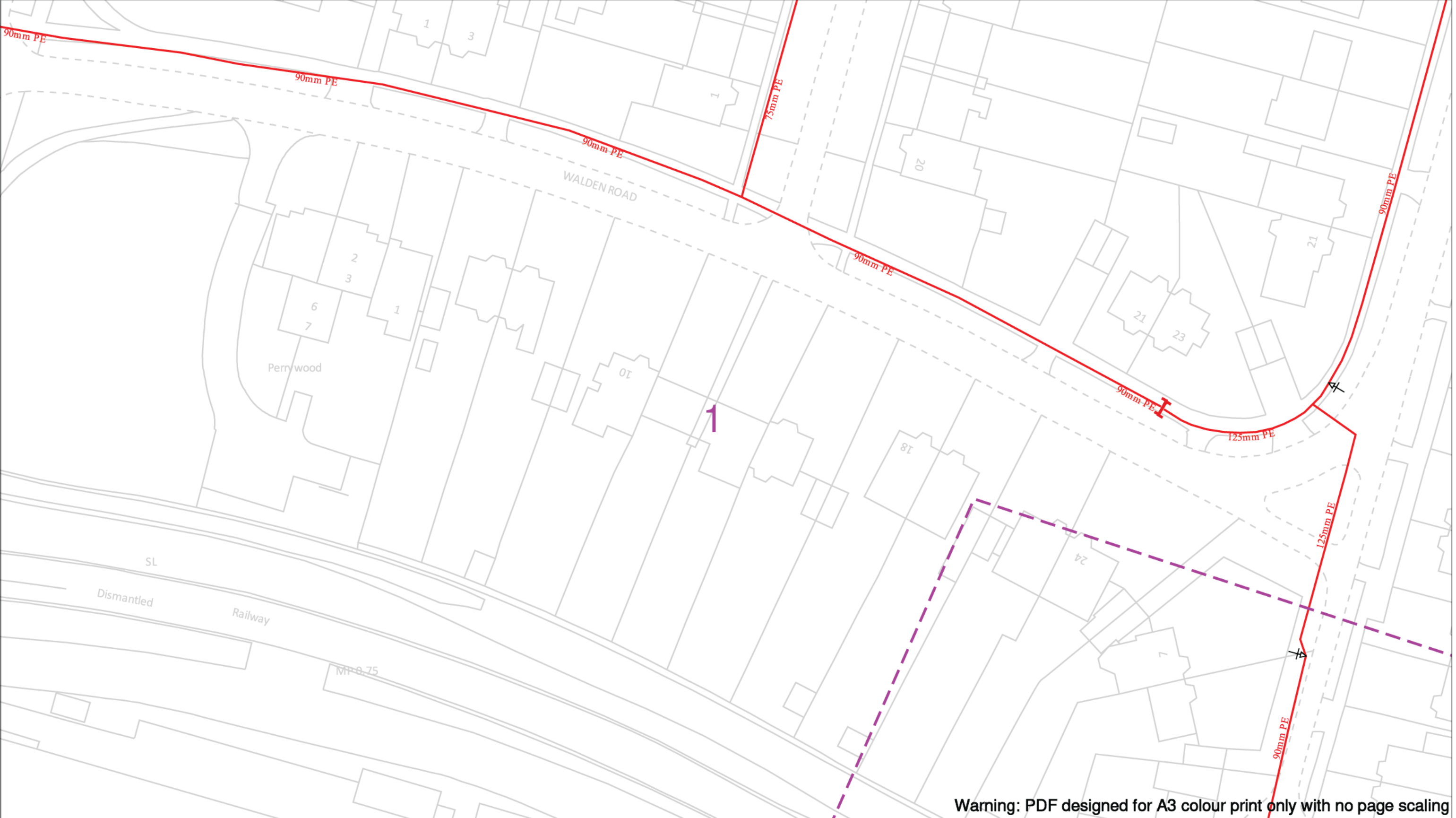
<b>Dig Sites</b>	<b>Area:</b>	<b>Line:</b>	
	LP Mains		Valve
	MP Mains		Depth of cover
	IP Mains		Syphon
	LHP Mains		Diameter Change

	Material Change
	Out of Standard Service

**Cadent**  
Your Gas Network

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Scale: 1:500 (When plotted at A3)

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In case of an emergency call 0800 111 999

50m

Dig Sites

Area:

Line:

LP Mains

MP Mains

IP Mains

LHP Mains

Valve

Depth of cover

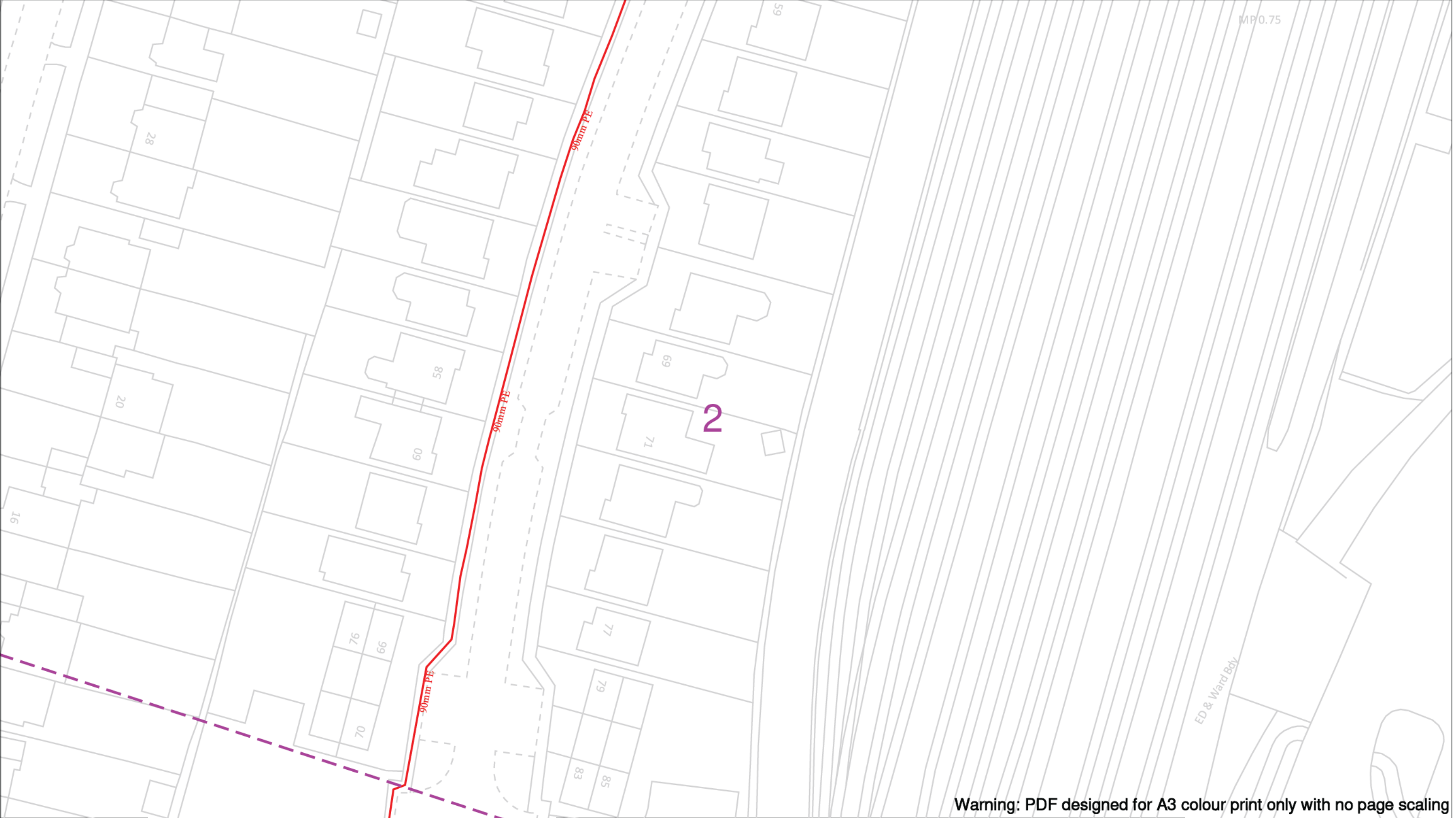
Syphon

Diameter Change

Material Change

Out of Standard Service

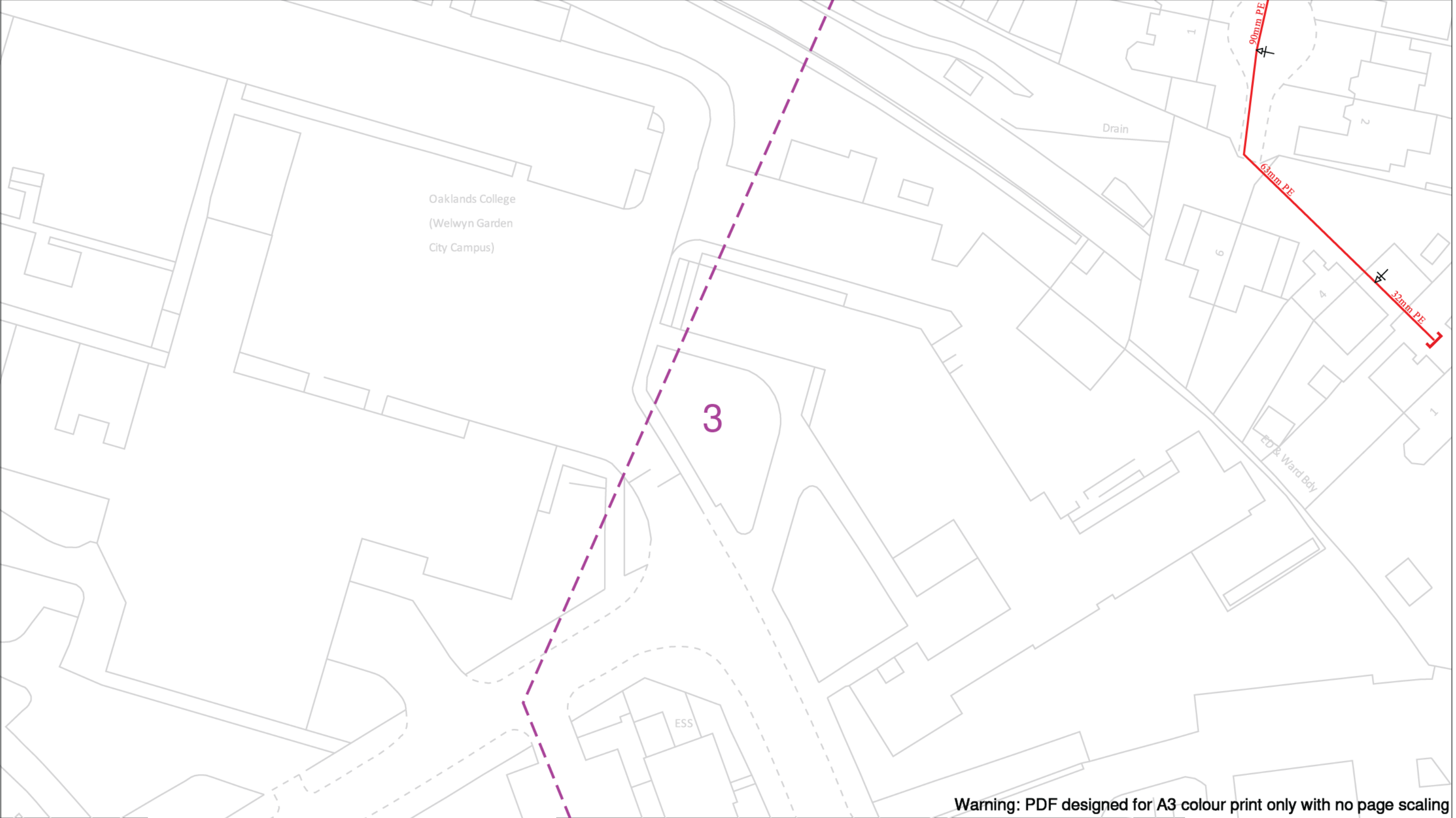
Your Gas Network



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<div>Date Requested: 20/04/2022 Job Reference: 25380577 Site Location: 523963 213311 Requested by: Mr Bruce Wickham Your Scheme/Reference: 2007511 - Welwyn Garden City Campus East - Stage 2</div> <div>Scale: 1:500 (When plotted at A3)</div>		<div>View extent: 200m, 115m</div> <div>IMPORTANT NOTICES</div> <div>This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards 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 Cadent Gas Limited or their agents, servants or contractors for any errors or omission. Safe digging practices, in accordance with HS(G)47, 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.</div>	<div>In case of an emergency call 0800 111 999</div> <div><div><div><div></div><div>Dig Sites</div></div><div><div></div><div>LP Mains</div></div><div><div></div><div>MP Mains</div></div><div><div></div><div>IP Mains</div></div><div><div></div><div>LHP Mains</div></div></div><div><div><div></div><div>Area:</div></div><div><div></div><div>Line:</div></div></div><div><div><div></div><div>Valve</div></div><div><div></div><div>Depth of cover</div></div><div><div></div><div>Syphon</div></div><div><div></div><div>Diameter Change</div></div><div><div></div><div>Material Change</div></div><div><div></div><div>Out of Standard Service</div></div></div><div><div></div><div>50m</div></div></div>		<div><div>Cadent</div><div>Your Gas Network</div></div>
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—	LP Mains	⋈	Valve	⬇	Diameter Change																								
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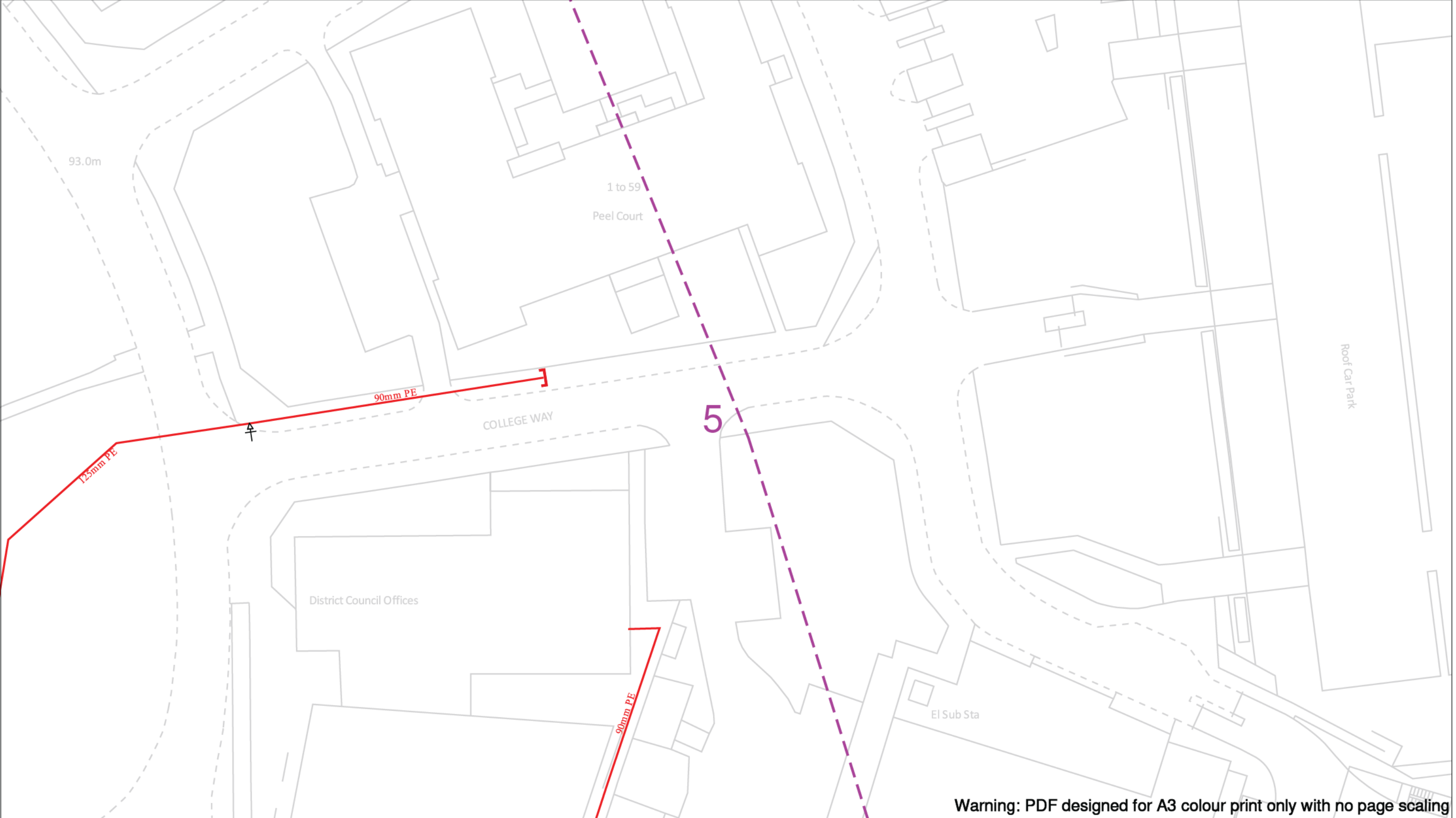
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Cadent

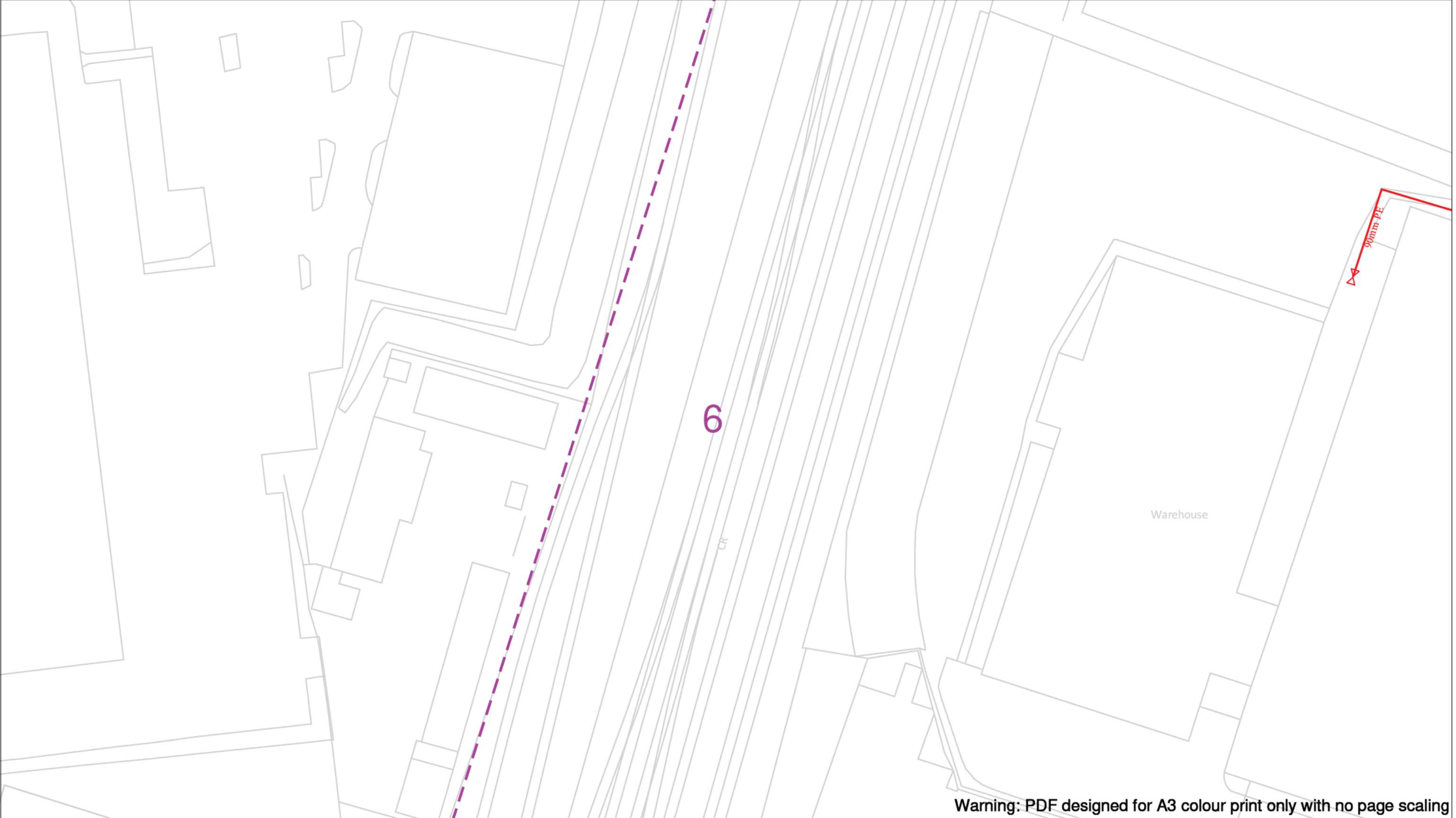
Your Gas Network





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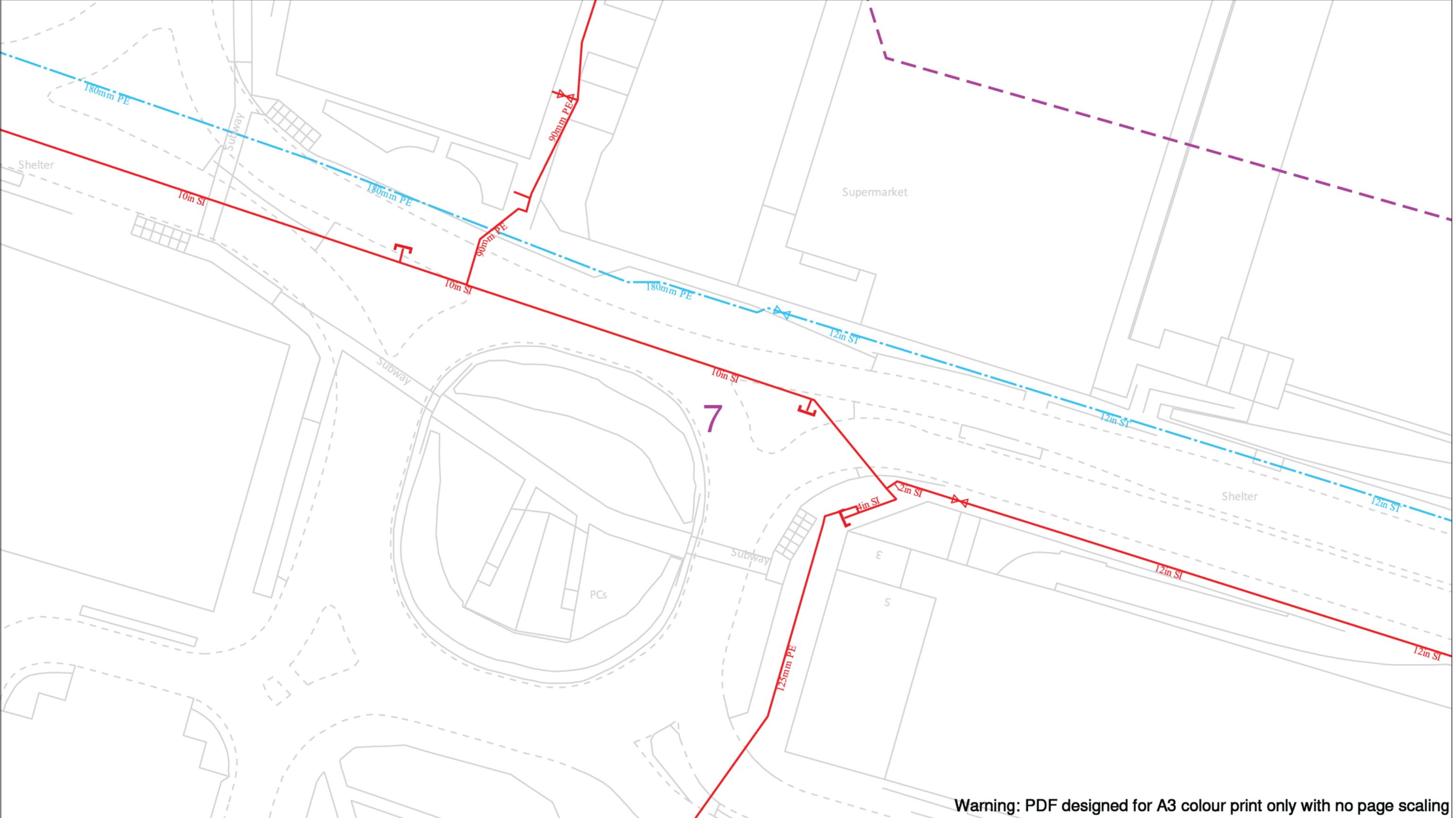
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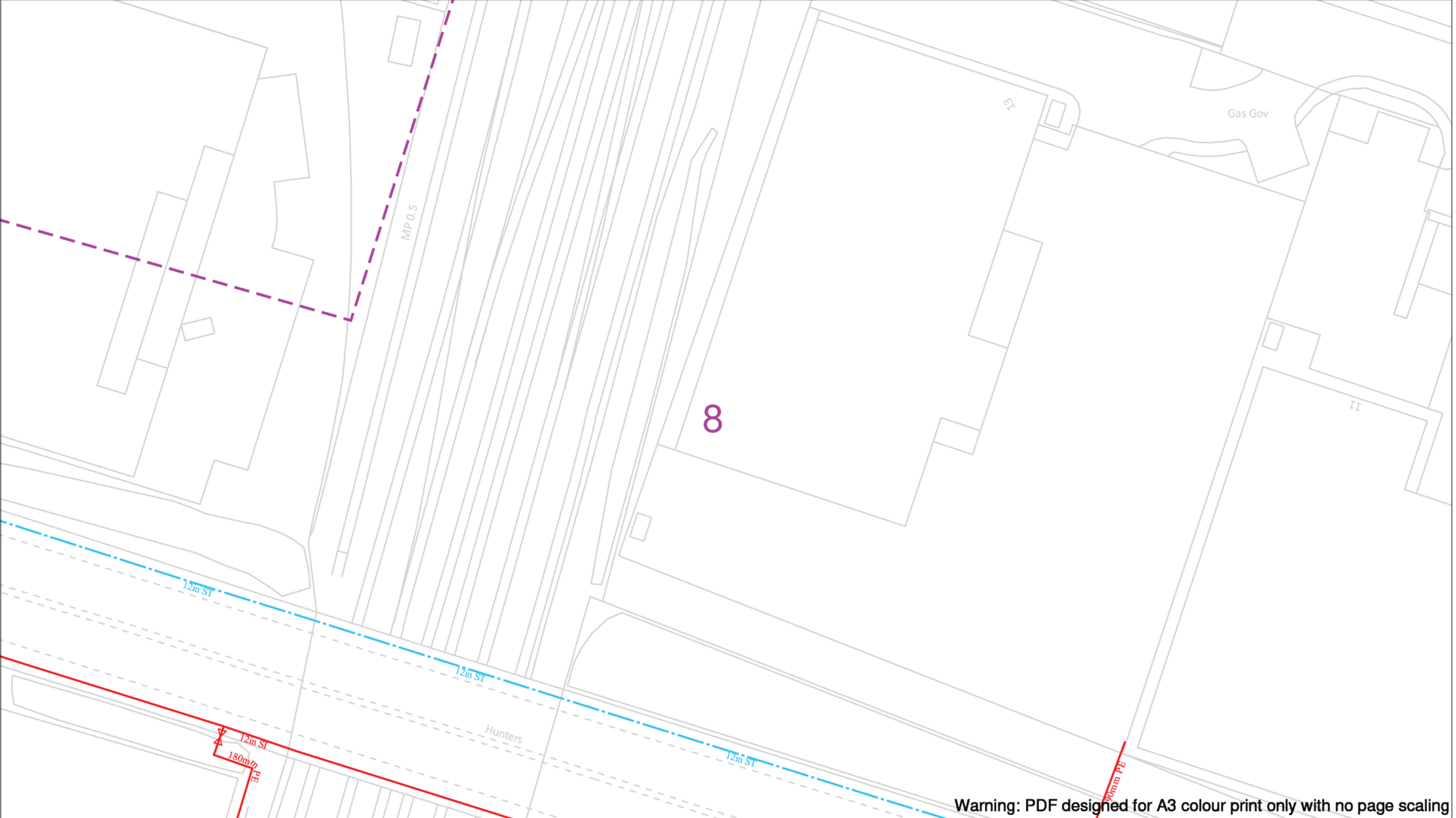
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Your Scheme/Reference: 2007511 - Welwyn Garden City Campus East - Stage 2

Scale: 1:500 (When plotted at A3)

View extent: 200m, 115m

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In case of an emergency call 0800 111 999

Dig Sites

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LP Mains

MP Mains

IP Mains

LHP Mains

Area:

Line:

Valve

Depth of cover

Syphon

Diameter Change

Material Change

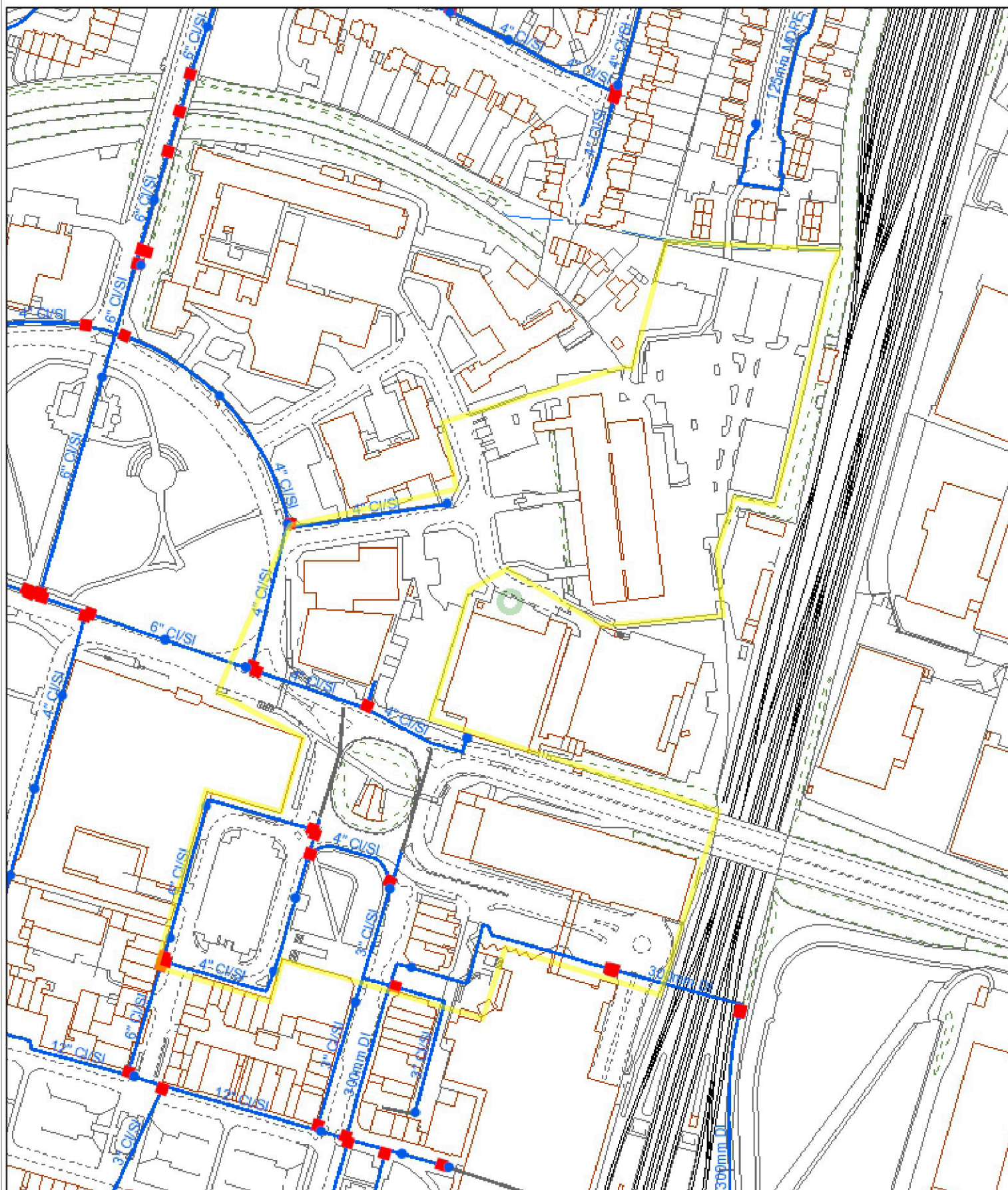
Out of Standard Service

Your Gas Network

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**Appendix H**  
**Affinity Water Asset Plans and Correspondence**



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N  
12,500

	Distribution Main		Hydrant
	Asbestos Distribution Main		Fitting
	Abandoned Main		Easement
	Asbestos Abandoned Main		Company Boundary
	Adit / Tunnel		
	Cable		
	Searched Location		





Mr. Bruce Wickham  
Ardent Consulting Engineers 41-45 St. Marys Gate  
Nottingham  
NG1 1PU

18/05/2022

## Pre-Development report for DS0049406

Dear Mr. Bruce Wickham,

Further to your recent request, I am pleased to enclose a pre-development report for the new water supply to your development. Please be advised that this is any figures within are provided as an indicative budget based upon the information you have provided at this stage. Where information has not been provided or is vague, assumptions have been made.

**Please note: all costs are based upon current years charging arrangement and therefore subject to change.**

Once you are ready to proceed, you will need to progress with the application by logging onto our online portal.

If you need any further advice, please do not hesitate to contact us.

Yours sincerely,

Mohammed Al-Kawsar  
For, and on behalf of Developer Services  
**Affinity Water Ltd**



**Pre-development report for**  
**DS0049406 - Welwyn Garden City**  
**Campus East - Stage 2**



## Section 1 - Proposed Development

The information within this report has been based upon the following information that was submitted as part of your application. The purpose of this report is to confirm if the development can be supplied with water and if any reinforcement work will be required to supply the site together with identifying any existing assets crossing the site which may require diverting or protecting.

Property Type	No.
Residential	297
Commercial	1
Industrial	Uncertain
Other (inc Fire Supply)	9

The anticipated build rate is:

Year	No. of properties
2022/2023	0
2023/2024	0
2024/2025	0
2025/2026	50
2026/2027	120
2027/2028	127
2028/2029	0
Beyond 2029	0

## Section 2 – Existing Assets (if applicable)

Our records indicate that we have the following assets within the boundary of your development site as detailed below. This information is provided for guidance purposes only, the actual positions of apparatus should be confirmed by hand dug trial holes. **Please Note: We are unable to permit development either over or within the easement strip without our prior consent.**

N/A

### Easement Information

Pipe Size (mm)	Total Easement Required (m)
Less than 150mm	4m (2m either side, from the centre line of the water main)
150mm – 450mm (6" – 18")	6m (3m either side, from the centre line of the water main)
>450mm (18")	8m (4m either side, from the centre line of the water main)

For further information, please see our "[building near our pipes and apparatus](#)" guide on our website.

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.

Please be aware that water mains should be located in highway or open space and not in private gardens, to ensure available access for any future maintenance and repair. This should be taken into consideration when planning your site layout.



### Section 3 – New Water supply

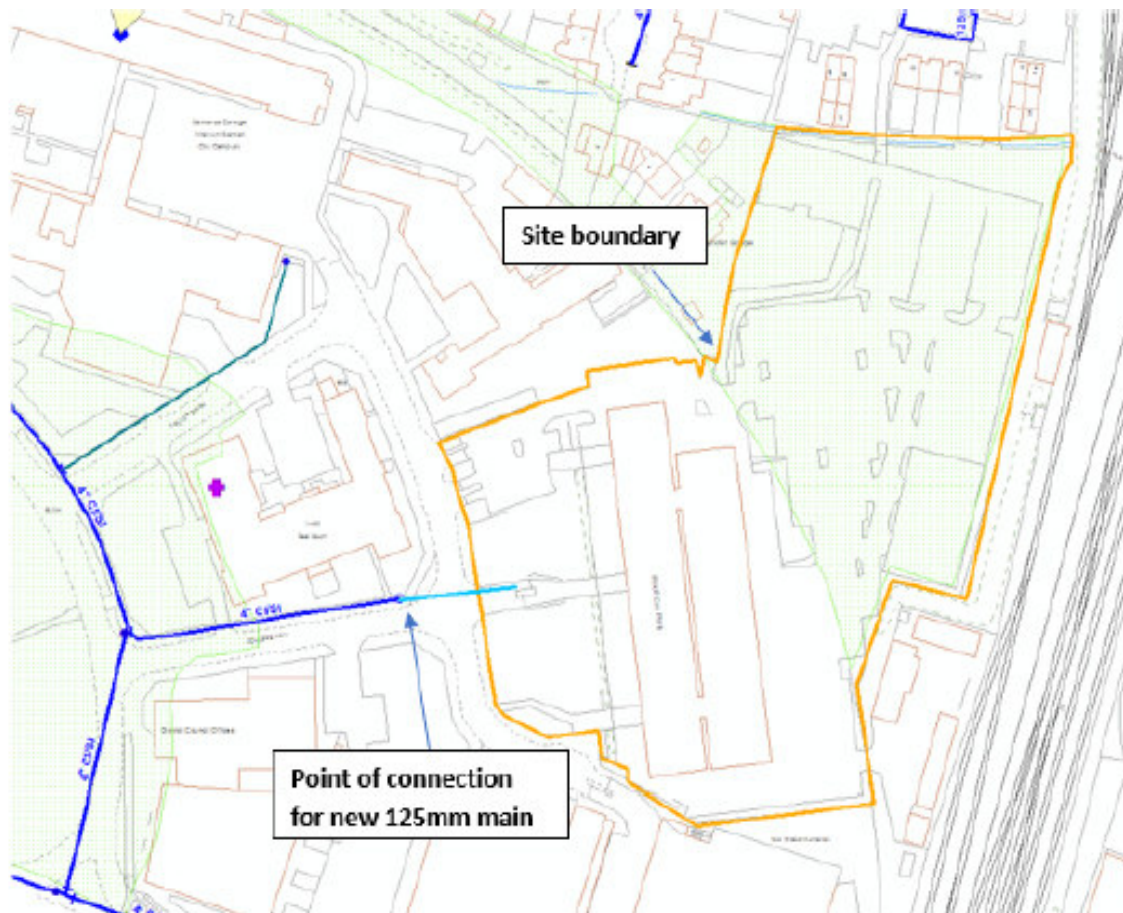
To support the budget forecast for your new development, please find below the estimated cost for delivering the new water mains for your site. All costs below are outlined in our 'New Connections Charging Arrangements' document, published on our [website](#). Please refer to this document for further information regarding these costs.

#### Estimate for your development

Description of the new water mains	Estimated Cost
1x Under pressure/ branch connection to the existing network (50-190mm diameter parent main) - £1,300.00	
Approximately 30m of 125mm barrier pipe water main in surfaced ground - £9,315.00	
Approximately 300m of 125mm barrier pipe water main with excavation/ reinstatement completed by customer - £20,355.00	
Installation of 4 end type washout or fire hydrant (50-190mm pipe) - £2,920.00	
Installation of 1 in-line washout or fire hydrant (50-190mm pipe) - £880.00	
<b><u>Total:</u></b>	<b><u>£34,770.00</u></b>

Please Note: the above cost is exclusive of associated application fees, traffic management and service connection costs. Details of these costs will be provided on receipt of a formal application for a new water supply.

### Point of Connection Diagram



### Network Reinforcements

In order to understand the impact of your new development on our existing network, we undertake a modelling activity to determine whether network reinforcement will be required to meet the additional demand, or whether our network has sufficient capacity to supply your development without such reinforcement works. Network reinforcement can be separated into two categories. These are:

#### **Strategic reinforcement**

These are strategic water mains which deliver water within a large geographical area, often covering a number of towns. These projects have wide scopes and will often be delivered over several years.

#### **Local reinforcement**

These are localised reinforcement mains to enable us to provide water to your development site. These projects are often smaller in scope and delivered in shorter timescales.

Our model has confirmed that the existing network **does** have sufficient capacity to supply your new development without any need for network reinforcement.

## Section 4 – Infrastructure charges, income offset and applicable credits

### Infrastructure Charges

An infrastructure charge will be due for each new property connected to our network. Where a site is redeveloped or a building is converted, and still has a metered supply a credit will be given for each of these properties. These will be calculated based upon the number of properties and size of the incoming, metered supply.

Our Infrastructure charge is currently set at **£366.00**.

Infrastructure charge*	Number of units	Total
<b>£366.00</b>	297	<b>£108,702.00</b>

Infrastructure charges are also applicable for wastewater services. If you are developing within the Anglian Water area, we will collect this on their behalf however if you are within the Thames Water or Southern Water area, they will collect this from you directly.

### Income Offset

An income offset payment is levied for all new connections to our network, where an infrastructure charge is applicable. The income offset is applied as a discount against the infrastructure charge, and following the policy change in Ofwat's Charging Rules, is applicable to all new connections, not only the mains requisitions.

Our Income Offset payment is currently **£344.70**.

Income Offset Payment	Number of units	Total
<b>£344.70</b>	297	<b>£102,375.90</b>

For more information on the value of these payments, when they are due and who they are paid to please refer to our New Connection Charging Arrangements document published on our [website](#).

### Water Efficient Development Credits

We operate in areas of serious water stress and support the inclusion of a water efficiency standard\* of 110 litres per person per day being included in planning policies. To help promote the achievement of this objective, we will apply a discount to the infrastructure charge for new homes where there is evidence of water efficiency design to a standard of 110 litres (or less) per person per day.

The discount is currently **£84.00** per plot and is levied against the infrastructure charge.

\*Building Regulations include the requirement for all new dwellings to achieve a water efficiency standard of 125 litres of water per person per day. Building Regulations part G include an optional requirement of 110 litres of water per person per day for new residential development, which should be implemented through local policy where there is clear evidence needed.



## Section 5 - Useful information

### **Appointing a Self-Lay Provider**

One option you may wish to consider is to appoint a WIRS accredited Self-Lay Provider (SLP) to complete the contestable works, which is known as Self-Lay. You can find more information on this option, including information on the industry codes for adoption on our [website](#).

You may prefer to use a Self-Lay Provider for several reasons, such as:

- SLPs may be able to provide a multi-utility option;
- SLPs may offer a more cost-effective solution when constructing your project;
- SLPs may provide greater flexibility in meeting your construction programmes.

If you'd like to explore this option, and need to find a WIRS accredited self-lay provider, you can do so on the Lloyd's Register website at the following address: <https://www.lr.org/en/utilities/water-industry-registration-scheme-wirs-wirsae/search/>.

### **Traffic Management**

Where additional costs are payable as a result of traffic management and highway authority charges, we will provide upfront fixed charges which will be highlighted as a separate item in your cost advice. A list of these costs can be found in our *"New Connection charging arrangements"* document published on our [website](#).

### **Water pressure and flow rate**

Under the Water Industry Act (1991) we are required to supply a water pressure of 7 meters head (0.7 bar) and a water flow of 9 litres per minute to the boundary of your property. Internal plumbing systems should be designed appropriately and, should your requirements be greater than this you will need to install and maintain adequate plumbing systems to suit. It is recommended that you check with a water industry approved plumber that all systems will work efficiently at these minimums. Please note, there is no upper limit for water pressure.

### **Charging Arrangements**

Our charging arrangements and summary of this year's other charges can be found on our [website](#). Any values contained within this report are valid for the date printed and subject to change annually.



## Section 6 - Disclaimer

The information provided in this report is based on the data currently held by Affinity Water Limited or, that provided by a third party. The information is provided with no guarantee of accuracy, completeness and is without indemnity or warranty of any kind (express or implied). It does not eliminate the need for the enquirer to make additional appropriate searches, inspections and enquiries.

The information within this report is provided based upon the presumption that the proposed development obtains planning permission and is valid for the date printed. It provides no guarantee of reservation of network capacity and due to the fluctuating nature of our network the applicant is advised to resubmit their request should there be substantial delays in submitting a formal application for a new water supply or should there be significant change to the proposed development.

## Bruce Wickham

---

**From:** Asset Information Team Mailbox <ait@affinitywater.co.uk>  
**Sent:** 20 April 2022 12:52  
**To:** Bruce Wickham  
**Cc:** Asset Information Team Mailbox  
**Subject:** RE: 2007511 - Welwyn Garden City Campus East - Stage 2 - non-LSBUD members enquiry

**EXTERNAL EMAIL:** Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Hi Bruce, thanks for your email.

Just to let you know the nearest assets to your site is a 4 inch pipe ending in with a hydrant on College Way – see below a rough sketch. If you would like a map showing the area the charge is £42.

I believe we have sent you maps and invoiced you before but just wanted to check with you if you are ok with the cost if you required the plan.

Many thanks  
Karl





**Appendix I**  
**Thames Water Asset Plans and Correspondence**

# Asset location search



## Property Searches

Ardent Consulting Engineers Ltd  
Ardent Third Flo,Ardent

LONDON  
EC3M 5JE

**Search address supplied** 2007510 - Welwyn Garden City Campus East  
3  
Bridge Road  
Welwyn Garden City  
AL8 6UN

**Your reference** 2007510 - Welwyn Garden City Campus East

**Our reference** ALS/ALS/24/2020\_4305713

**Search date** 19 November 2020

### Knowledge of features below the surface is essential for every development

The benefits of this knowledge not only include ensuring due diligence and avoiding risk, but also being able to ascertain the feasibility of any development.

Did you know that Thames Water Property Searches can also provide a variety of utility searches including a more comprehensive view of utility providers' assets (across up to 35-45 different providers), as well as more focused searches relating to specific major utility companies such as National Grid (gas and electric).

Contact us to find out more.



Thames Water Utilities Ltd  
Property Searches, PO Box 3189, Slough SL1 4WW  
DX 151280 Slough 13



[searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
[www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)



0845 070 9148



**Search address supplied:** 2007510 - Welwyn Garden City Campus East, 3, Bridge Road, Welwyn Garden City, AL8 6UN

Dear Sir / Madam

**An Asset Location Search is recommended when undertaking a site development.** It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

### Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd  
Property Searches  
PO Box 3189  
Slough  
SL1 4WW

Email: [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)

Web: [www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)

### Waste Water Services

**Please provide a copy extract from the public sewer map.**

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

### Clean Water Services

**Please provide a copy extract from the public water main map.**

With regard to the fresh water supply, this site falls within the boundary of another water company. For more information, please redirect your enquiry to the following address:

Affinity Water Ltd  
Tamblin Way  
Hatfield



AL10 9EZ  
Tel: 0345 3572401

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

## **Payment for this Search**

A charge will be added to your suppliers account.



### Further contacts:

#### Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)  
Thames Water  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB

Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)

#### Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)  
Thames Water  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB

Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 523957,213326  
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
9411	n/a	n/a
9410	n/a	n/a
9406	92.4	91.48
9403	92.41	91.45
9405	92.48	91.51
9408	n/a	n/a
0403	n/a	n/a
0408	n/a	n/a
0406	n/a	n/a
0404	n/a	n/a
9404	92.77	91.69
041A	n/a	n/a
9402	93.4	92.03
0405	n/a	n/a
0407	n/a	n/a
9401	93.8	91.73
951C	n/a	n/a
9503	94.53	92.88
951B	n/a	n/a
951A	n/a	n/a
0502	n/a	n/a
0501	n/a	n/a
8113	87.89	84.86
8112	88.21	85.18
8111	n/a	n/a
8105	88.45	84.99
8110	88.51	86.18
811D	n/a	n/a
8109	88.48	86.53
8104	n/a	n/a
8205	88.62	85.32
9201	89.26	85.52
9202	89.7	87.6
9203	89.71	85.71
8204	90.46	89.04
8203	91.07	89.52
9206	90.46	88.23
8304	90.96	89.41
8302	92.78	90.95
8303	92.24	90.53
831B	n/a	n/a
9502	95.45	93.08
8504	93.4	92.1
8502	97.15	94.55
851A	n/a	n/a
8503	98.96	96.11
851B	n/a	n/a
8501	98.9	96.47
7203	92.33	89.75
7103	88.77	86.56
7102	88.67	86.73
7101	88.58	86.48
7204	89.35	87.79
7104	89.18	87.06
7106	89.1	86.73
7105	89.12	86.94
8202	89.89	87.95
8201	89.86	87.67
8102	89.25	86.56
8119	n/a	n/a
8101	88.62	86.63
8117	88.98	85.9
8118	n/a	n/a
8103	89	87.33
7004	89.24	86.78
8002	88.33	85.58
7011	89.98	87.14
7005	88.88	86.18
9302	89.72	87.78
9102	87.43	85.91
9204	88.24	86.38
9205	87.45	86.22
9301	90.64	88.44
9409	n/a	n/a
9207	n/a	n/a
0201	n/a	n/a
0402	n/a	n/a
0001	86.76	79.43
0003	84.9	80.61
0301	n/a	n/a
0101	91.69	89.82
1001	88.25	86.44
121A	n/a	n/a
121B	n/a	n/a
121C	n/a	n/a
221A	n/a	n/a
9001	86.29	80.94
8005	87.05	81
8115	86.94	84.15
8108	86.89	83.96
8116	87.14	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
811B	n/a	n/a
8114	87.14	84.63
811A	n/a	n/a
8107	87.47	84.48
9101	89.06	85.55
8106	87.87	84.52
8207	90.49	88.9
8208	90.78	88.21
7305	96.03	93.27
7306	n/a	n/a
7301	95.58	92.98
7303	95.51	92.49
7504	100.37	98.22
7502	100.37	98.2
7304	92.78	89.82
7302	92.83	90.32
831A	n/a	n/a
8301	92.88	91.38
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.		





# ALS Sewer Map Key

## Public Sewer Types (Operated & Maintained by Thames Water)

	<b>Foul:</b> A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	<b>Surface Water:</b> A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	<b>Combined:</b> A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	<b>Trunk Surface Water</b>
	<b>Trunk Foul</b>
	<b>Storm Relief</b>
	<b>Trunk Combined</b>
	<b>Vent Pipe</b>
	<b>Bio-solids (Sludge)</b>
	<b>Proposed Thames Surface Water Sewer</b>
	<b>Proposed Thames Water Foul Sewer</b>
	<b>Gallery</b>
	<b>Foul Rising Main</b>
	<b>Surface Water Rising Main</b>
	<b>Combined Rising Main</b>
	<b>Sludge Rising Main</b>
	<b>Proposed Thames Water Rising Main</b>
	<b>Vacuum</b>

### Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or '0' on a manhole level indicates that data is unavailable.

## Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

	<b>Air Valve</b>
	<b>Dam Chase</b>
	<b>Fitting</b>
	<b>Meter</b>
	<b>Vent Column</b>

## Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

	<b>Control Valve</b>
	<b>Drop Pipe</b>
	<b>Ancillary</b>
	<b>Weir</b>

## End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

	<b>Outfall</b>
	<b>Undefined End</b>
	<b>Inlet</b>

## Other Symbols

Symbols used on maps which do not fall under other general categories

	<b>Public/Private Pumping Station</b>
	<b>Change of characteristic indicator (C.O.C.I.)</b>
	<b>Invert Level</b>
	<b>Summit</b>

### Areas

Lines denoting areas of underground surveys, etc.

	<b>Agreement</b>
	<b>Operational Site</b>
	<b>Chamber</b>
	<b>Tunnel</b>
	<b>Conduit Bridge</b>

## Other Sewer Types (Not Operated or Maintained by Thames Water)

	<b>Foul Sewer</b>		<b>Surface Water Sewer</b>
	<b>Combined Sewer</b>		<b>Gully</b>
	<b>Culverted Watercourse</b>		<b>Proposed</b>
	<b>Abandoned Sewer</b>		

- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

## Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL's terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to her at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

## Ways to pay your bill

Credit Card	BACS Payment	Telephone Banking	Cheque
Call <b>0845 070 9148</b> quoting your invoice number starting CBA or ADS / OSS	<div>██████████ ██████████ ██████████</div> <div>A remittance advice must be sent to: <b>Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.</b> or email <a href="mailto:ps.billing@thameswater.co.uk">ps.billing@thameswater. co.uk</a></div>	By calling your bank and quoting: Account number <div>██████████ ██████████</div> and your invoice number	Made payable to ' <b>Thames Water Utilities Ltd</b> ' Write your Thames Water account number on the back. Send to: <b>Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW</b> or by DX to <b>151280 Slough 13</b>

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.



Bruce Wickham

Ardent Consulting Engineers  
Office 3, The Garage Studios,  
41-43 St Mary's Gate, Lace Market  
NG1 1PU Nottingham



18 October 2022

## Pre-planning enquiry: Confirmation of sufficient capacity

Dear Mr Wickham,

Thank you for providing information on your development at East Lower Car Park, Welwyn Garden City, Hertfordshire, AL8 6AB. You are proposing to discharge sewerage via gravity from 307 new flats and Café with floor space of 55.7m<sup>2</sup> with maximum capacity of 56 people

Proposed foul water discharge via gravity into manhole 9203 (112 flats) and new connection on existing foul water sewer between foul water Manholes 9301 and 9204 (for 195 flats and the cafe).

Proposed surface water discharge at total of 8l/s into existing surface water sewer. Being the split 4l/s for the connection between surface water Manholes 9207 and 9205 and two more connections between surface water Manholes 9207 and 0402 at 2l/s each.

We have completed the assessment of the foul water flows and surface water run-off based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

### Foul Water

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in the adjacent foul water sewer network to serve your development.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

**You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.**

### Surface Water

In accordance with the Building Act 2000 Clause H3.3, positive connection of surface water to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. Before we can consider your surface water needs, you'll need written approval from the lead local flood authority that you

have followed the sequential approach to the disposal of surface water and considered all practical means.

The disposal hierarchy being:

- 1) rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
- 2) rainwater infiltration to ground at or close to source
- 3) rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
- 4) rainwater discharge direct to a watercourse (unless not appropriate)
- 5) controlled rainwater discharge to a surface water sewer or drain
- 6) controlled rainwater discharge to a combined sewer.

Where connection to the public sewerage network is required to manage surface water flows we will accept these flows at a discharge rate in line with CIRIA's best practice guide on SuDS or that stated within the sites planning approval.

If the above surface water hierarchy has been followed and if the flows are restricted and split at 4l/s, 2l/s and 2l/s then Thames Water would not have any objections to the proposal.

Please see the attached 'Planning your wastewater' leaflet for additional information.

#### **What happens next?**

Please make sure you submit your connection application, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you've any further questions, please contact me on 0800 009 3921.

Yours sincerely

**Maria Merchan**

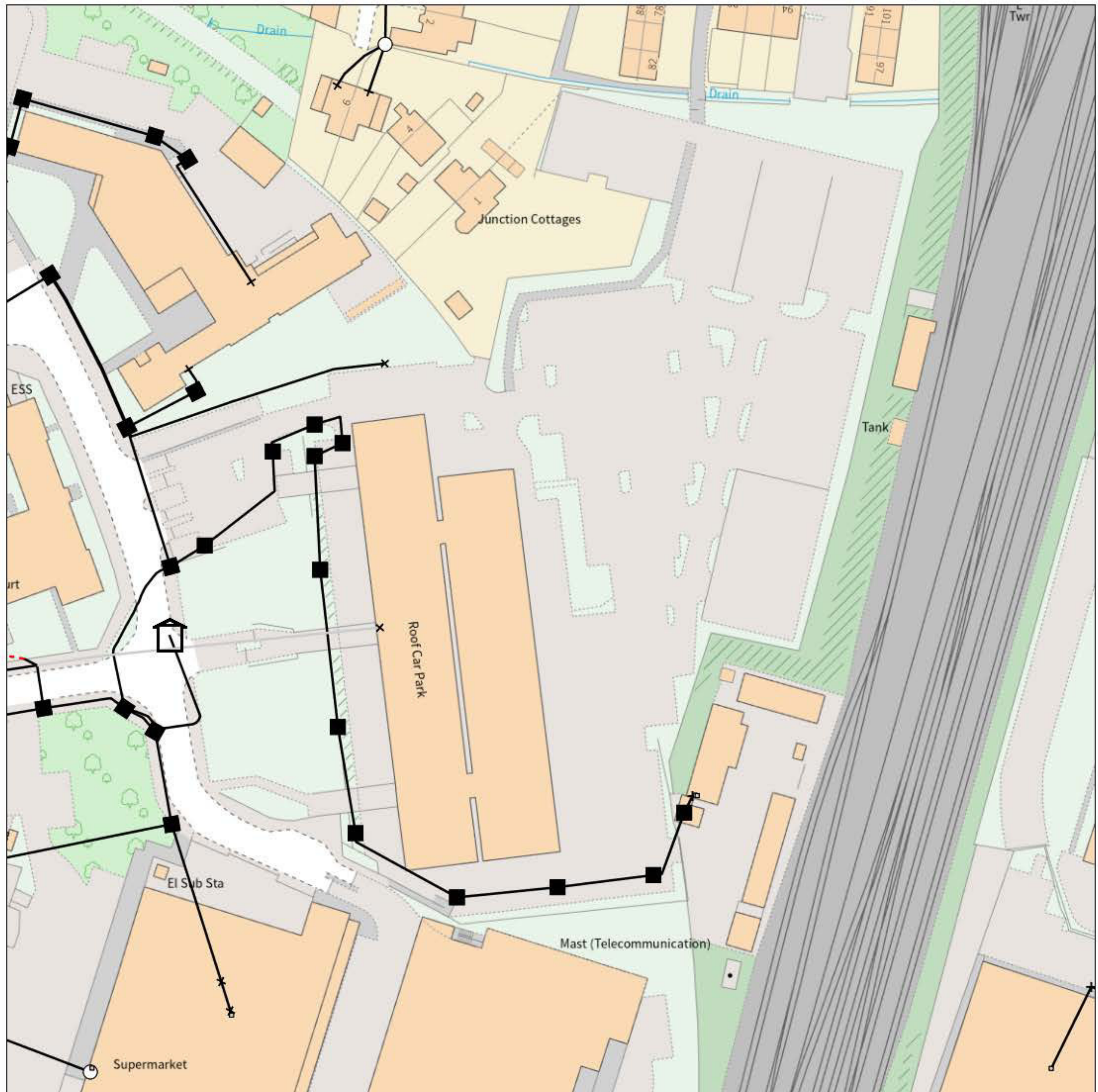
Adoption Engineer  
Developer Services



**Appendix J**  
**BT Asset Plans**



# 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.



**openreach**

### 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](mailto:cbyd@openreach.co.uk)

ADVANCE NOTICE REQUIRED  
(Office hours: Monday - Friday 08.00 to 17.00)  
[www.openreach.co.uk/cbyd](http://www.openreach.co.uk/cbyd)

### Accidents happen

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

## KEY TO BT SYMBOLS

	Planned	Live	Change Of State	+	Hatchings	
PCP			Split Coupling	×	Built	
Pole			Duct Tee	▲	Planned	
Box			Building		Inferred	
Manhole			Kiosk		Duct	
Cabinet			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.			
	Pending Add	In Place	Pending Remove	Not In Use		
Power Cable						
Power Duct				N/A		

BT Ref : DEG03035E

Map Reference : (centre) TL2398713308

Easting/Northing : (centre) 523987,213308

Issued : 03/10/2022 15:04:01


Reproduced from the Ordnance Survey map by BT by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office  
(C) Crown Copyright British Telecommunications plc 100028040

**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](mailto:nnhc@openreach.co.uk)**





## Legend

### CAUTION AREA

 BT.CAUTION\_AREA


### EQUIPMENT

 FIBRE, TCODE


 COPPER, CABINET

 COPPER, DP

### DUCT


 AERIAL

 TUNNEL


 DUCT


### PROPOSED


 AERIAL


 DUCT

### STRUCTURE


 YCODE


 CABINET SHELL


 SPLIT COUPLING


 POLE

 KIOSKS

 MANHOLE

 JOINTBOX

 CHANGE OF STATE

 DUCT TEE

### PROPOSED

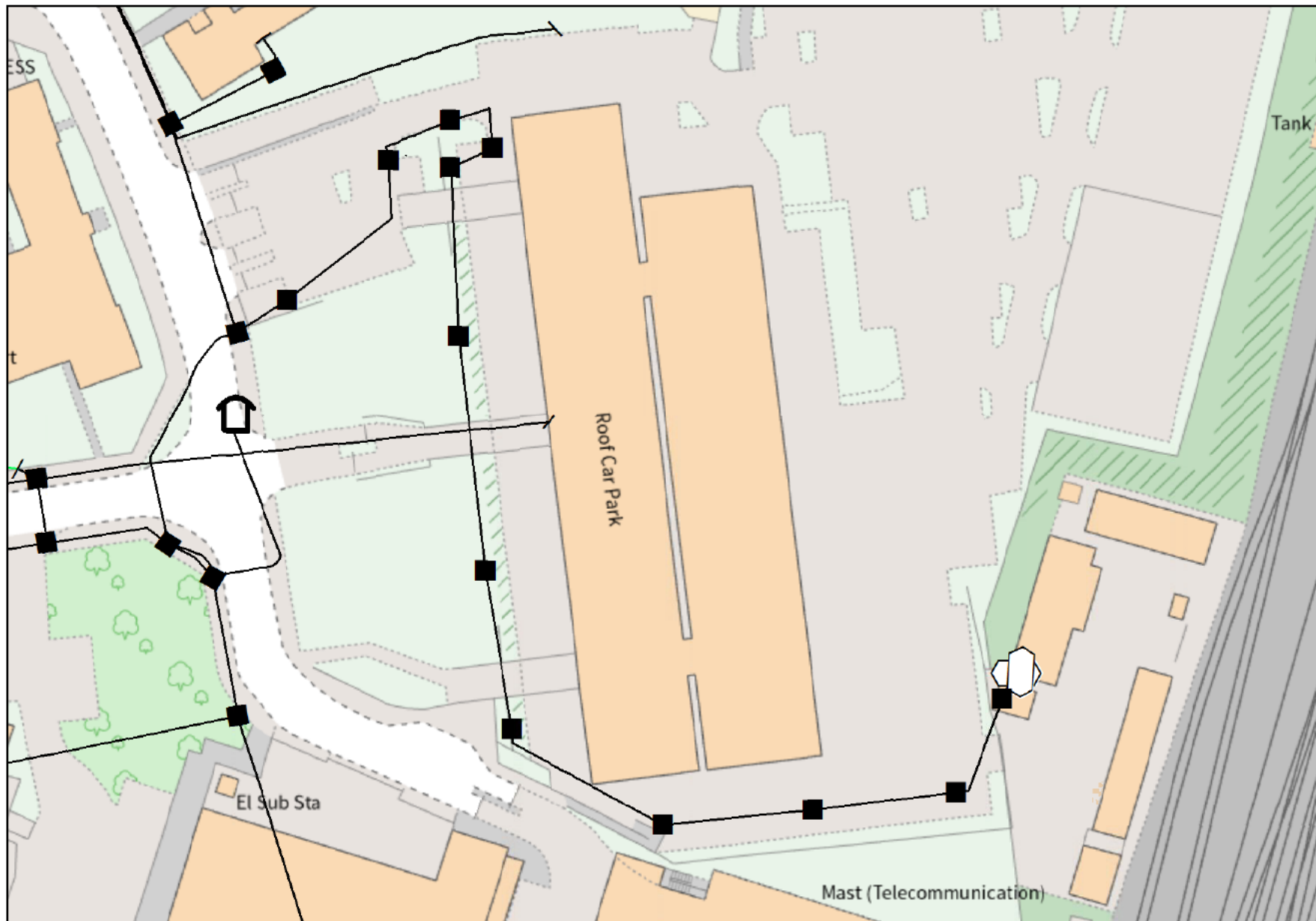
 MANHOLE

 JOINTBOX

 DUCT TEE

Other proposed plant is shown using dashed lines.

BT symbols not listed above may be disregarded.



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**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.

Existing BT plant may not be recorded.  
Information valid at time of preparation.

**CLICK BEFORE YOU DIG**  
FOR PROFESSIONAL FREE ON SITE ASSISTANCE: PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE  
email [cbvd@openreach.co.uk](mailto:cbvd@openreach.co.uk)

ADVANCE NOTICE REQUIRED  
(Office hours Monday - Friday 08.00 to 17.00)



### PLANT INFORMATION REPLY

openreach

ARDENT CONSULTING ENGINEERS LTD  
Office 3, The Garage Studios, 41-43 St Mary's Gate  
The Lace Market  
Nottingham  
NG1 1PU

Our Ref: **BQRA71/DR/884139**

**FAO: Bruce Wickham**

7th October 2022

Dear Bruce,

**884139– Land Welwyn Garden City Campus, East Lower Car Park, Hertfordshire**

Thank you for your enquiry.

An initial investigation of the above site proposals has been completed, and a detailed survey is now required to confirm that anticipated alterations to Openreach apparatus are the most cost effective means of protecting our network. Your proposals have been registered as works applicable to The Electronic Communications Code ("the 2017 Code"), Schedule 3A of the Communications Act 2003 and in line with Paragraph 16, Schedule 2, Transitional Provisions of the Digital Economy Act 2017

The estimated cost to provide a detailed estimate and specification for this work is **£2562.25 (inclusive of VAT)**, which we will require in advance although the actual costs will be charged, whether more or less than this.

Because we consider a detailed investigation is essential to ensure our network is protected, we will contact you within 30 working days if payment has not been received unless you inform us that your proposals or circumstances have changed.

After receipt of payment, we will contact you where necessary and if there is no alternative to the alterations work, we will provide a single detailed estimate of the costs and a specification. However, if your proposals are not suitably detailed, then we may agree to provide a budget costing in advance of this. We would normally expect to complete this within 25 working days when we will also inform you of the next steps. If our expense is likely to exceed the advance payment you have made, particularly if additional or alternative costings are required, then further payments will be requested from you.

After provision of the final detailed estimate and your agreement to the associated specification, we will review our expenditure and provide a final invoice to settle the costs for this work before moving on to the next stage of the project.



If you have not already done so, please ensure you include preferred contact details, detailed plans and any supporting information for your proposals along with the advance payment.

See over for payment details.

Please note that we offer a site visit service to locate and mark the position of Openreach apparatus within your work area. To arrange a site visit from a Plant Protection Officer email [cbyd@openreach.co.uk](mailto:cbyd@openreach.co.uk)

Openreach also provides a "Maps-by-Email" service to enable you to receive a copy of our plant records. If you haven't used this service before and would like to, please go to the following URL: <http://www.ournetwork.openreach.co.uk/locating-our-network/maps-by-email.aspx>

Please be aware that any duct and poles owned and controlled by Openreach can be used by third party communications providers (CP) for the installation of their cables and apparatus if they have a contract with us for our Physical Infrastructure Access (PIA) product. The CP must, however, place an Order with us for PIA before they install their cables or apparatus. If such CP cables or apparatus are identified in our network within your area of interest, I will identify a contact for the affected CP and advise them of your proposals. I will pass these contact details on to you and liaise with the CP so that they are aware of any diversionary requirements relating to your proposals. You will be contacted directly by the affected third party CP – they will advise you of any associated chargeable costs relating to their cable and apparatus diversions. If you have any queries or concerns relating to this aspect of the Openreach operated network, please don't hesitate in contacting me. Please note Openreach Ltd. will not be held liable for any delays, costs, losses or damage caused by the third party CP.

Yours faithfully



Darshanand Roopchand  
Repayments Project Engineer

## Payment Details

There are three ways to pay the standard charge (**£2562.25 including VAT**).

### 1. By Cheque

- This is our preferred method of payment
- Please make cheques payable to **British Telecommunications Plc**
- Send your cheque with your order / letter of authorisation to proceed with the works to the Project Engineer shown below (order not to contain contractual conditions)
- If an invoice is required to make payment, then contact the project engineer shown below, otherwise a retrospective invoice will be dispatched to you.
- Write your cheque number here: \_\_\_\_\_
- Write the cheque amount here: £ \_\_\_\_\_

### 2. Using Bank Automated Clearing Services (BACS)

When your order / letter of authorisation to proceed with the works has been received an invoice for payment will be returned with the necessary BACS payment details.

3. Telephone Credit Card Payments, to pay by credit card simply call our dedicated card payment team on Freephone 0808 100 0834, the opening hours are 9am to 4.30pm Monday to Friday.

**Please quote the Openreach reference number / invoice number otherwise payment may not be allocated to your job.**

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**N.B. For either method of payment please complete this form and return with your order / letter of authorisation to the Project Engineer, address below. Please remember, however you pay, the works will not commence until this form and your payment have been received.**

<b>Title/Location of Work</b>	Land Welwyn Garden City Campus, East Lower Car Park, Hertfordshire
<b>Project Engineer Name</b>	Darsh Roopchand
<b>Postal Address</b>	Luton ATE, Dunstable Place, Luton, LU1 2QD
<b>Openreach Reference</b>	884139
<b>Client's Company Name</b>	
<b>Client Billing Address</b>	
<b>Client Contact</b>	
<b>Client Tel</b>	

For advice or assistance in completing this form please call Jane Goodison 0131 345 0016 for all other queries contact the Project Engineer named above.

## **Domestic Reverse Charge (DRC)**

DRC does not apply to the following services:

The professional work of architects or surveyors, or of building, engineering, interior or exterior decoration and landscape consultants

## **Reverse charge treatment for utilities**

Supplies of construction services to utility businesses are likely to be outside the scope of the reverse charge because they're the construction, repair, or alteration of the utility company's physical assets. Therefore, although they're CIS registered the end user exclusion will apply.

## **Further information can be found at**

<https://www.gov.uk/guidance/vat-reverse-charge-technical-guide>

Our VAT number is **245719348**

## Bruce Wickham

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**From:** [REDACTED]  
**Sent:** 07 October 2022 12:48  
**To:** Bruce Wickham  
**Subject:** 884139– Land Welwyn Garden City Campus, East Lower Car Park, Hertfordshire.  
**Attachments:** Developer Bespoke V17.1 11.11.2019\_884139.pdf; Network Print.pdf; Openreach Payment Options.pdf

**EXTERNAL EMAIL:** Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Good afternoon Bruce,

I've done the initial investigation of the proposals provided to us in Network Alterations, it appears there are potentially some alterations to Openreach apparatus that may need to take place. Therefore, a detailed survey is now suggested to confirm any alterations required to Openreach apparatus and then therefore produce a C4 estimate to cover these.

Please find attached a covering letter with a Budget Estimate covering these proposals, a network print of the area & payment details sheet.

If you have any queries, then please don't hesitate to contact me.

Kind regards,

**Darsh Roopchand**

Network rearrangement project professional  
Openreach

[REDACTED]  
[REDACTED]  
Web: [openreach.co.uk](https://openreach.co.uk)

We build and maintain the digital network that enables more than 600 providers to deliver broadband to homes, hospitals, schools and businesses large and small. Our engineers work in every community, every day, because we believe everyone deserves decent and reliable broadband.

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