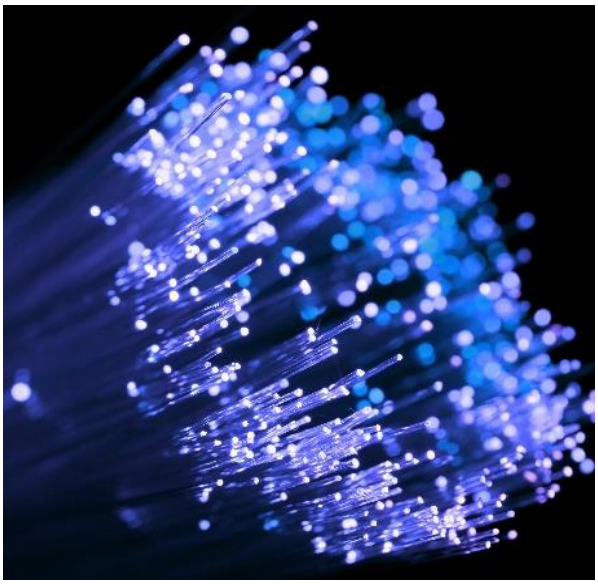


Cefn Park, Wrexham

UCML Utility Study

Utility Investigation

Document Ref: UCMLPR6359
Date: 15/02/2021

Prepared by: Joanne Blackburn BA (Hons) – Senior Technical Engineer
Utilities Connections Management Limited
Email: joanne.blackburn@ucml.co.uk

UCML Utility Study – Utility Investigation

Cefn Park,

Wrexham

Produced for: Harworth Group

Issue/Revision	Comments	Date	Prepared By	Checked By
1	First Issue	15/02/2021	Joanne Blackburn	Ryan Elliman
2				
3				

Contents

1.0 Introduction 4

2.0 Scope and Objectives 8

3.0 Assumptions and Exclusions 9

4.0 Utility Demand Summary 10

5.0 Electricity 12

6.0 Gas 19

7.0 Water 25

8.0 Communications 33

9.0 Other 44

10.0 Conclusion 50

11.0 Further UCML Services 52

Appendices 55

1.0 Introduction

UCML has been instructed by Harworth Group (hereafter referred to as 'the Client') to provide a desktop utility study to identify the outline constraints derived from the statutory utility infrastructure on a proposed residential development of up to 1,080 no. dwellings. The site is located off Cefn Road, Wrexham. The aerial image of the development site is indicated within Figure 1.1 below.



Figure 1.1 – Aerial view of existing site

UCML has been commissioned to provide a desktop utility study defining potential cost and timescale risks that could impact on the overall delivery of the project. The principal aim of this utility study is to identify the key constraints derived from statutory utility infrastructure on the proposed development. The information provided within this desktop study is based on review of the current concept site layout plan (drawing ref. B024030-14 dated 24/11/2020) provided to UCML by the Client, indicated in Figure 1.2 below.



Figure 1.2 – Site Layout Plan

This desktop study has been produced using the statutory records received from each relevant body. The host statutory network operators which operate in the vicinity of the development site and covered within this study are listed in Table 1.1 overleaf.

Utility	Statutory Operator
Electricity	SP Energy Networks
Gas	Wales & West Utilities
Water	Hafren Dyfrdwy
Telecoms	Openreach
	Virgin Media

Table 1.1 – Host Statutory Network Operators

UCML is not responsible for the accuracy or quality of the information provided on statutory utility infrastructure records, and has attempted to use reasonable skill and care in investigating the existing site services. Unless stated otherwise, UCML has not made any provision for out-of-area water mains, private networks, unrecorded networks, Liquid Petroleum Gas (LPG) networks, street lighting, CCTV, traffic signals/illuminated signage, data centre networks, electricity generation installations, interconnectors, or drainage/sewerage networks.

Please note, all information on the drawings contained within this utility study and elsewhere is indicative only. The verification of the details and plant location given on the relevant infrastructure records should be undertaken using the following methods;

- The use of plant location equipment to trace all underground plant.
- The use of hand dug trial holes to confirm the precise location of plant.
- The use of suitable paint or markers on the surface to clearly indicate the position of buried apparatus.

All works undertaken are to be in accordance and compliance with the Construction Design and Management 2015 Regulations, published Health & Safety Guidelines, and the agreed working practices of the relevant utility companies. The following assumptions must be made in regards to any existing utility apparatus;

- All mains, services cables, and pipes should be assumed live until proven dead prior to any excavation, demolition or groundworks commencing.
- Any existing building is assumed to have live services until proven otherwise.

- Any site is assumed to have existing utility apparatus located within the boundary until proven otherwise.
- Service connections are not indicated on all utility infrastructure records. Where no service connections are indicated, their presence should be anticipated until proven otherwise.

2.0 Scope and Objectives

Utilities Connections Management Limited (UCML) is an independent Utility Consultancy providing services relating to the provision of utility connections to all types of developments.

This desktop utility study aims to provide a 'snapshot' in time of the current statutory utility networks and review the potential connection, diversion, and disconnection works that may be required to accommodate the development proposals. The objective of the commission is to provide a level of information relating to the existing statutory utility networks, the potential constraints, and potential risks and opportunities, without incurring significant costs relating to distribution network studies. It should be noted that as this study is desktop in nature, no site visits or surveys have been undertaken during its completion.

The scope of works undertaken by UCML may be summarised as follows;

- Obtain the statutory Network Operators' infrastructure records.
- Review the existing utility distribution networks within the local area of the site.
- Develop an estimate for the utility capacity requirements for the proposed development.
- Highlighting of abnormal legal requirements including wayleaves and easements.

UCML's desktop utility studies provide a detailed overview of the statutory electricity, gas, clean water and telecommunications infrastructure in the vicinity of a proposed site, ideal for:

- Due diligence prior to land purchase to allow negotiation.
- Risk assessment prior to tender.
- Assistance with site layout design to minimise impact on existing utilities, taking into account statutory utility infrastructure legal requirements.
- Detailed planning statements.
- Investment analysis.

Assumptions and Exclusions

In view of the limitations of the available information, the following assumptions have been made in order to produce this utility study;

- All estimated loads have been based on information provided in the Network Operators Distribution Code and other documented standards.
- The information provided within the desktop study is based on the development site area as identified on the proposed site layout plan shown in Figure 1.2 within the introduction. Any land falling outside of the provided boundary is outside of the scope of this desktop study and, should it be incorporated within the proposed development boundary, this may affect the information and recommendations provided within this desktop study.
- The desktop study has been produced based on the specification provided by the Client/Developer at the time of instruction. Any changes to the size, type, number of specification of the development (for instance the extent of EV charging provision and/or use of Low Carbon heating solutions) may affect the information and recommendations provided within this desktop study.
- For any timescales or budget costs quoted, no allowances have been made in respect to the following unless stated otherwise;
    - Wayleaves, easements, or access rights.
    - Reinforcement charges.
    - Land transfers or lease arrangements for substation requirements if applicable.
    - Abnormal off-site civils.
    - Specialist traffic management (non-standard).
    - On-site civils and builders work.
    - Seasonal Embargoes.

  It should be noted that any budgetary figures quoted are exclusive of any Value Added Tax (VAT) that may be applicable unless stated otherwise.

3.0 Utility Demand Summary

This study comprises the results of the investigation and appraisal undertaken by UCML of the existing utility infrastructure located in the vicinity of the development site. Part of the appraisal includes review of the existing utility apparatus present that may support the required connections for the proposed development. In order to undertake an assessment of the potential of existing utility networks to support the proposed development, UCML has produced an estimate for the potential utility demand requirements.

In the production of a utility demand estimate, consideration will need to be given to the increased use of low-carbon heating strategy, and the planned UK Government led phasing out of mains gas heating. UCML has estimated an electricity demand profile for the residential sections of the development site based on a scenario of all dwellings utilising an electric heating strategy. It may be an option to utilise a low-carbon heating strategy for all the proposed dwellings in order to 'future-proof' the development; however, an allowance has also been included for a demand for gas connections, should a portion of the dwellings be constructed and occupied prior to the to the current UK Government target for the introduction of low-carbon heating in all new build dwellings from 2025.

For the purpose of calculating the electrical demand for the development, it has been assumed that, for the electrical heating strategy, Air Source Heat Pumps (ASHP) may be used as a low carbon heating option. It may be prudent to investigate the viability of utilising alternative low carbon heating options for the development, such as District Heating. The demand profile provided is intended as a potential 'worst-case' scenario to be used in establishing utility capacity to support the development. There may be potential for the reduction in the actual load demand required through the use of different heating strategies, building standards, and installation of generation options once the position on capacity availability is established.

An assumption has also been made as to the house type mix for the residential development, based on the mix of house sizes in similar schemes.

The demand profile includes an allowance for the potential increase in demand associated with the installation of Electric Vehicle (EV) charging units. To establish an anticipated load requirement that includes additional load required for EV charging, UCML has assumed that a minimum of 1 no. 7.2 kW EV charger will be installed in each residential dwelling. Due to the type and size of the development, it can be assumed that the electricity network installed on-site will likely be adopted by an Independent Distribution Network Operator (IDNO); therefore, the electrical load per property has been based on published Independent Distribution Network Operator (IDNO) ADMD figures which include an allowance for an EV charging load.

It should be noted that the DNO and various IDNO's operating within the UK have various differing strategies relating to additional demand requirements for EV charging units; therefore, the allowance is indicative only. Once the development progresses, further discussion can be undertaken with the Network Operator chosen to adopt the network constructed for the development to establish the actual load requirement for the development.

Table 4.1 below details the demand summary estimate, which is based on the assumptions detailed above.

Development Type	No.	Electricity Load (kVA)	Gas Load (kW hourly)	Water Load (l/s)
Residential	1,050	4,590	3,204	10.8
Primary School	1	250	1,200	4.0
Total		**4,840**	**4,404**	**14.8**

Table 3.1 – Demand Summary

Please note, the demand summary provided is intended for use as a guide for the likely demand requirements of the development for the purpose of completing this study. The demand requirements may change as the development progressing, depending on the final heating strategy for the proposed dwellings, the number and mix of proposed dwellings, and the EV charging requirements. It is recommended that a Mechanical and Electrical Consultant is employed to calculate the actual demand requirements once the final site layout design and proposed heating strategy is confirmed.

5.0 Electricity

The electricity distribution network in the vicinity of the development site is under the ownership of SP Energy Networks (SPEN) and is operated within the terms of its Electricity Distribution License issued by Ofgem. The local electricity distribution network in the immediate vicinity of the site comprises of underground cables and associated substations operating at Extra High Voltage (EHV), High Voltage (HV) and Low Voltage (LV).

The figure on the following page illustrates the location of existing SPEN infrastructure which has been extracted from its network records. The cables shown in green are operated at 33,000 Volts (EHV), those shown in red are operated at 11,000 Volts (HV), and those shown in brown are operated at 415 Volts (LV). Please refer to the infrastructure record appended to this study for further detail.

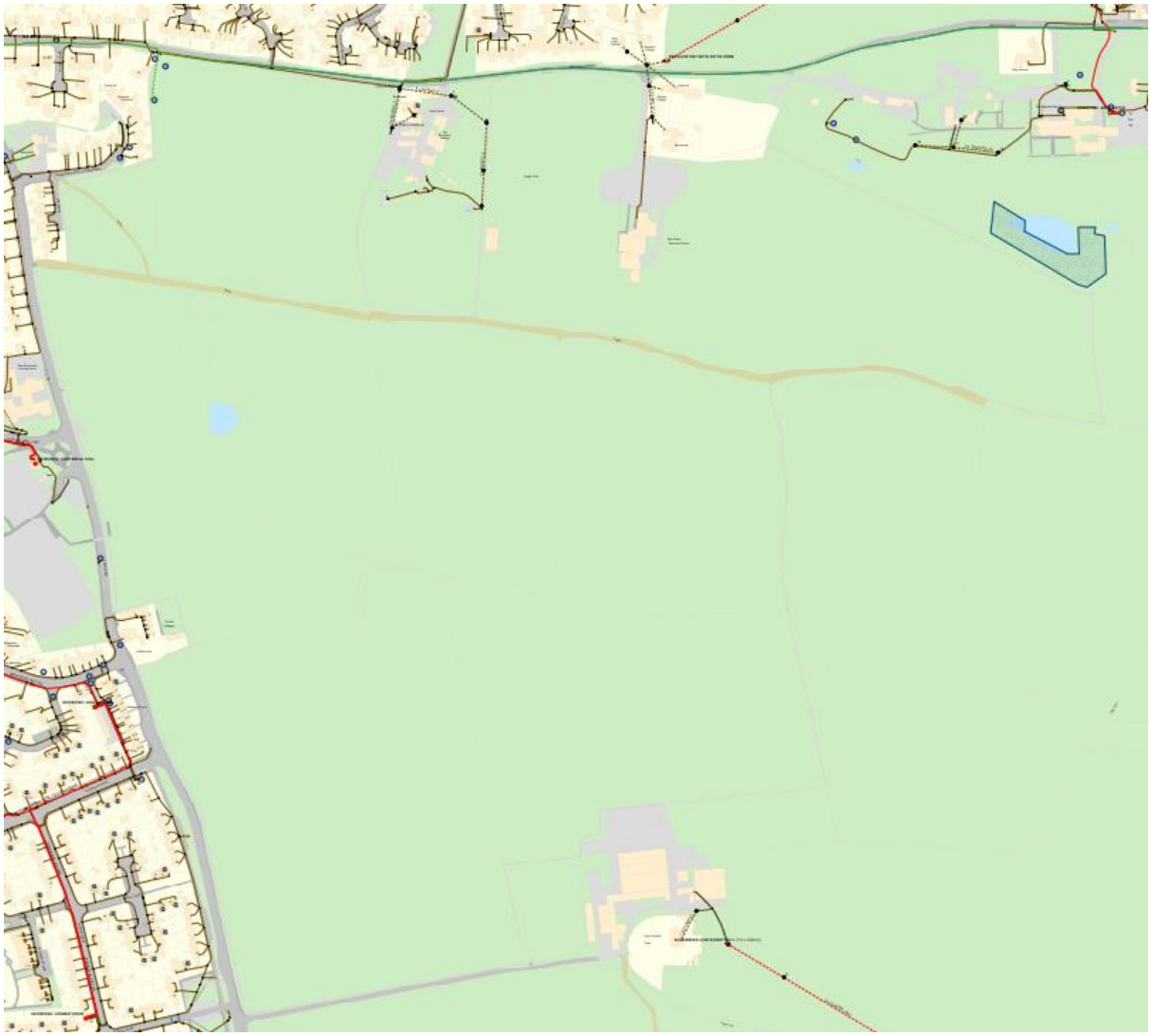


Figure 5.1 – Existing Electricity Infrastructure Plan

Existing Network Constraints

SPEN infrastructure record indicates a 33 kV EHV cable and an LV cable routed within the carriageway of Bryn Estyn Road, just outside the northern boundary of the development site. Based on review of the current concept site layout plan, which indicates no new site entrances are proposed to be constructed off Bryn Estyn Road, this apparatus appears to be unaffected by the development proposals. Review of the final site layout plan, once completed, will be required to confirm.

SPEN infrastructure record indicates a section of 33 kV EHV cable and a telemetry cable extending into the development site off Bryn Estyn Road, at the north east corner of the development site adjacent to the existing dwelling at No. 22 Bryn Estyn Road. The infrastructure record indicates these cables are out of commission, and are not connected to the wider network. As the cables are out of commission, they should not impact the development proposals. It may be prudent to undertake testing works on these cables to confirm they are no longer in use once an on-site presence has been established.

The current concept layout plan indicates 2 no. site entrances proposed to be constructed off Cefn Road, along the western site boundary. SPEN infrastructure record does not indicate any existing apparatus located in immediate vicinity of the proposed site entrance locations which would be affected by their construction.

A section of the development site is currently occupied by an existing unit, the Bryn Estyn Business Centre, and 2 no. rugby pitches. The current concept site layout indicates the rugby pitches are to be retained; however, the business centre unit appears to conflict with the proposed residential parcels in this area and it can be assumed the business centre is to be demolished to accommodate development works in this area. SPEN infrastructure record indicates the business centre is supplied by an LV cable, and disconnection of this apparatus would be required prior to any demolition works taking place. As previously discussed, the current layout plan indicates the rugby pitches are to be retained. It is likely that any existing floodlight equipment may be supplied via private cabling fed from the business centre. It may be prudent to undertake a site survey prior to any disconnection works that may take place

to confirm if this is the case. If so, a replacement supply may need to be installed to the rugby pitches.

The current concept site layout plan indicates a link road to be constructed between the development site and a secondary development site located to the north of the development site. The indicated route of the link road appears to conflict with LV apparatus associated with the existing units located to the north east of the development site, including 'Bryn Estyn', 'Bryn Estyn Court' and the Erlas Walled Garden. Diversionary works will likely be required to accommodate the construction of the link road; however, the extent of diversionary works required will be dependent on the final route of the link road, and the final proposed highway drawings will need to be reviewed to confirm the extent of works required.

SPEN infrastructure record also indicates LV apparatus providing supply to a number of existing units located outside of the development boundary, including 'Home Farm', 'Brentwood', and 'Old Bungalow Garage' off Bryn Estyn Road and 'Hullah Farm' and 'Terrace Cottages' off Cefn Road. Based on desktop review of the current concept layout plan, the existing SPEN apparatus supplying these units do not appear to be affected by the development proposals.

Proposed Connections

Based on review of the current available development information, and the assumptions outlined in the discussion of the anticipated demand summary in Section 4, UCML has estimated the electrical demand for the development to be 4,840 kVA. As discussed in Section 4, this is based on the anticipated 'worst-case' scenario of all the proposed residential dwellings using a low-carbon heating strategy such as ASHPs.

Based on desktop review of the current SPEN distribution network, and the estimated load demand for the development, it can be assumed that the existing 33 kV EHV Primary distribution network may have sufficient capacity to support the development. It is assumed that, based on availability of network capacity to support the development being available from the 33 kV EHV network, a POC could be made available at 11 kV through either the upgrading of an existing distribution board or transformer, or the installation of a new transformer within an existing compound to provide the required network capacity for the development.

SPEN infrastructure records indicate the nearest existing Primary Substation (SPEN ref. PS-SJ3451/010 RHOSNESNI) to the development site is located approximately 900 metres from the development site boundary, to the north west of the development off Borras Park Road. Figure 5.2 overleaf indicates the location of this asset in relation to the development site.

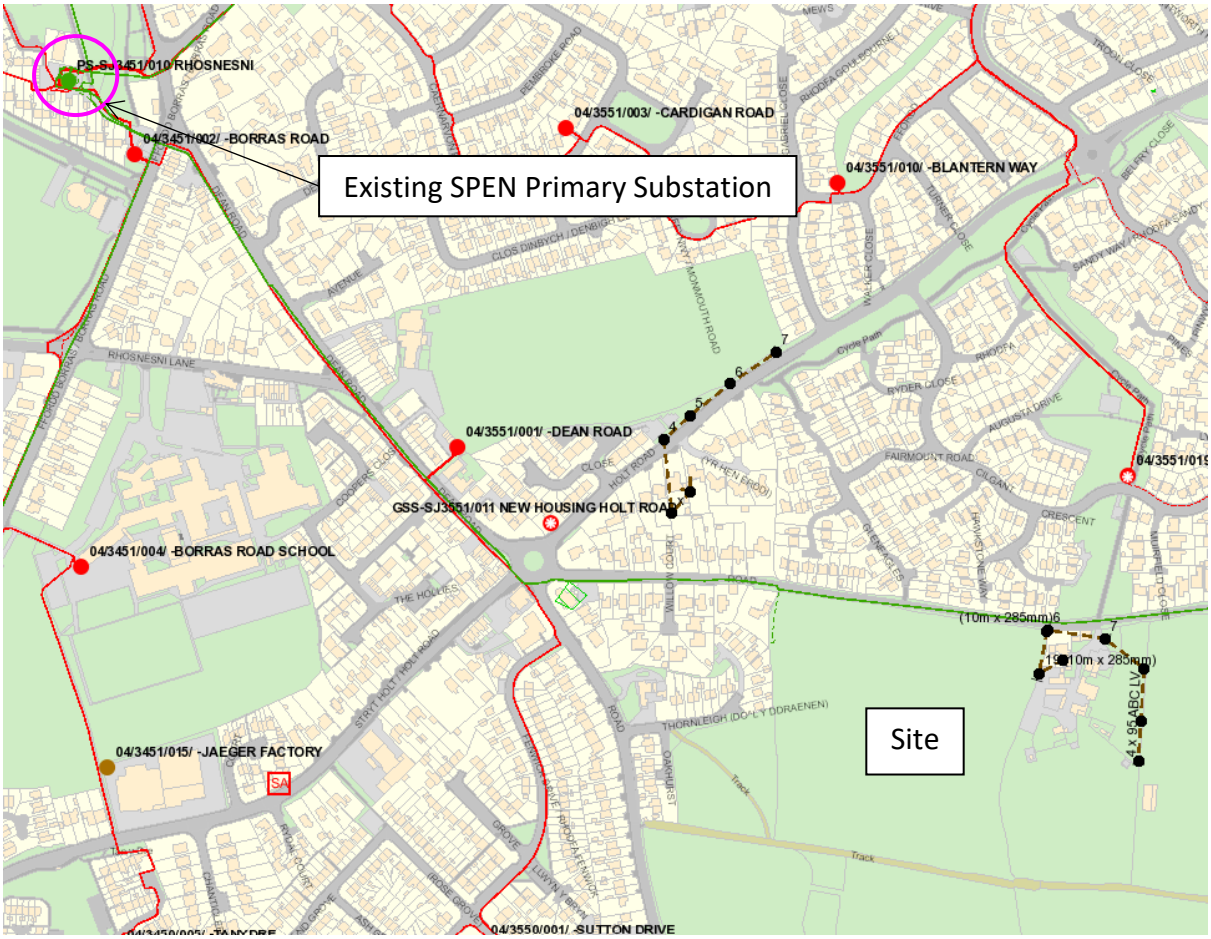


Figure 5.2 – Extract from SPEN Infrastructure Plan

It could be assumed that this existing network apparatus may be suitable to support the proposed development; however, formal consultation is recommended with SPEN at the earliest suitable opportunity to undertake network assessment works to determine the availability of capacity within the distribution network.

It should also be noted that, as previously discussed, the load estimated is based on the use of ASHPs for the residential dwellings. Should an alternative heating strategy be utilised, it may be possible to reduce the load allowance per dwelling. This would reduce the overall load demand for the development, which could mean an 11 kV POC could be provided a closer distance from the development site boundary. As the development design progresses, further review is recommended to provide a more detailed load assessment prior to consultation being undertaken with SPEN to determine the location and voltage of the POC for the development.

Due to the size of the development, the construction works will be phased; therefore, the connections for the dwellings will also be phased. As the total load demand for the development will not be needed in full at the commencement of the development construction works, it may be possible to obtain interim supplies for the initial phases of the site from the existing 11 kV HV distribution network located in the immediate vicinity of the development site prior to the completion of any network improvement or reinforcement works that may be required to accommodate the final total demand.

Use of a connection point at 11 kV will trigger the requirement for the installation of an 11 kV HV network on the development site, with multiple 11 kV HV Secondary Substations constructed within the development site boundary. The HV network will then supply an LV network which will be required to be installed through the development site along the proposed road network, from which the individual LV service connections to each dwelling will be supplied. If the total load demand of 4,840 kVA will be required for the development, it can be assumed a minimum of 5 no. 1 MVA Secondary Substations will need to be constructed across the development site. However, dependant on the phasing plan for the site, a higher number of smaller capacity substations may be required that will fit the phasing requirements. The location, number, and size of the on-site Secondary Substations will be determined through detailed review of the final site layout design, and will be established once a suitable Independent Connection Provider (ICP) has been appointed and the detailed design works have been commenced.

It is recommended that, following completion of the final masterplan and confirmation of the proposed heating strategy to be utilised for the dwellings, a detailed review of the total demand requirement of the development is undertaken. Following which, it is recommended that consultation commences with SPEN at the earliest suitable opportunity to establish the actual availability of capacity within the existing electricity distribution network, establish the requirement for network reinforcement works if and where required, and to confirm the voltage level at which POCs for the development scheme can be provided.

6.0 Gas

The local Gas Distribution Network in the vicinity of the development site is owned and operated by Wales & West Utilities under its Gas Transportation License issued by Ofgem. The gas network in the immediate vicinity of the site comprises of gas mains and apparatus operating at Medium Pressure (MP) and Low Pressure (LP).

The figure on the following page is an extract from Wales & West Utilities statutory records and details the currently indicated position of existing infrastructure, however it may be prudent to undertake a below ground survey to ensure there are no services present which are not recorded on statutory records. Please refer to the infrastructure record appended to this study for further detail.



Figure 6.1 – Existing gas infrastructure plan

Existing Network Constraints

Wales and West Utilities infrastructure record indicates a 355mm polyethylene MP main and a 12" spun iron LP main routed within the carriageway of Cefn Road. The current concept layout plan indicates 2 no. site entrances proposed to be constructed off Cefn Road, along the eastern site boundary. As the aforementioned gas mains apparatus is routed within existing carriageway, it can be assumed that the construction of the proposed site entrances off Cefn Road can be completed without the requirement for any diversionary or lowering works to accommodate the construction works provided no change is made to the line or level of the existing carriageway.

Wales & West Utilities infrastructure record indicates an LP main routed within the carriageway of Bryn Estyn Road, which is located to the north of the development site. The infrastructure record does not specify the material or diameter of this main. Based on review of the current concept site layout plan, which indicates no new site entrances are proposed to be constructed off Bryn Estyn Lane, this apparatus appears to be unaffected by the development proposals. Review of the final site layout plan, once completed, will be required to confirm.

As discussed within the previous section, a section of the development site is currently occupied by an existing unit, the Bryn Estyn Business Centre, and 2 no. rugby pitches. The current concept site layout indicates the rugby pitches are to be retained; however, the business centre unit appears to conflict with the proposed residential parcels in this area and it can be assumed the business centre is to be demolished to accommodate development works in this area. Wales and West Utilities' infrastructure record indicates an LP spur main located along the access road to the Bryn Estyn Business Centre, which is shown as terminating within the access road.

Wales & West Utilities do not indicate individual service pipes on their infrastructure records; however, their presence should be anticipated until proven otherwise. An assumption can be made that the existing Business Centre may have an existing gas supply, which may be supplied from the aforementioned LP spur on the access road. If so, the disconnection of any

apparatus supplying Business Centre would be required prior to any demolition works taking place.

The current concept site layout plan indicates a link road to be constructed between the development site and a secondary development site located to the north of the development site. The indicated route of the link road appears to conflict with LP apparatus associated with the existing units located to the north east of the development site, 'Bryn Estyn' and the Erlas Walled Garden. Diversionary works will likely be required to accommodate the construction of the link road. The extent of diversionary works required will be dependent on the final route of the link road, and review of the final proposed highway drawings will be required to confirm the extent of works required.

Proposed Connections

As previously discussed in Section 4, for the purpose of calculating the utility demands for the development, it has been assumed that a low carbon heating option may be used for the proposed dwellings. As discussed, an allowance has also been estimated for a demand for gas connection should a portion of the dwellings be constructed and occupied prior to the current UK Government target for the introduction of low-carbon heating in all new build dwellings from 2025. It has also been assumed a gas connection may also be required for the proposed school unit. The total estimated gas demand for the development is 4,404 kW hourly.

It is envisaged that there may be sufficient capacity in the existing MP gas network located in the immediate vicinity of the development site to support the required load for the proposed development. An assumption can be made that the existing 355mm polyethylene MP main routed within the carriageway of Cefn Road to the west of the development site boundary may have sufficient capacity to support the possible demand for the development. However, it is recommended that Wales & West Utilities are consulted at the earliest suitable opportunity to undertake a gas capacity review to determine the actual availability of capacity within the MP distribution network.

Should a gas capacity review establish that insufficient capacity is available within the existing gas network, network reinforcement works would likely be required to accommodate the demand requirements of the development. If the requirement for network reinforcement works is identified, further investigation will then be required to determine the extent of works, required, and to determine the extent of the works that may need to be funded by the developer. Once a formal review of any network reinforcement works is undertaken, the works will be subject to an economic test to determine the extent of work that will be funded by Wales & West Utilities, and the extent of works that will need to funded by the developer.

The use of a MP connection point will trigger the requirement for a MP-LP Pressure Reduction System (PRS) to be installed on-site, which will then supply an on-site LP mains network, and individual service connections to each unit requiring a mains gas service.

It should be noted that if the entire residential development utilises a low-carbon heating strategy, the gas demand requirement for the development will be significantly reduced. If a minimal number of service connections are required, the assumption could be made that the existing LP distribution network could be able to support these without the requirement for additional apparatus to be installed (such as a MP-LP PRS), or any network reinforcement works.

The need for any mains gas connections could be negated entirely if no gas service connections are required at all, and the proposed school unit also utilised a decarbonised heating strategy. In this case, it can be assumed no gas capacity will be required for the development site.

It is recommended that, following completion of the final masterplan and confirmation of the proposed heating strategy to be utilised for the dwellings, a detailed review of the total demand requirement of the development is undertaken. Following which, it is recommended that consultation commences with Wales & West Utilities at the earliest suitable opportunity to establish the actual availability of capacity within the existing gas distribution network.

7.0 Water

The local clean water distribution network in the vicinity of the development site is owned and operated by Hafren Dyfrdwy within the terms of its statutory license issued by Ofwat. The clean water network in the immediate vicinity of the site comprises of trunk and distribution water mains and associated apparatus. Please refer to the infrastructure record appended to this study for further detail.

The figure on the following page is an extract from Hafren Dyfrdwy's statutory records and details the current indicated position of existing infrastructure, however it may be prudent to undertake a below ground survey to ensure there are no unknown services which are not recorded.

Please note on rare occasions 'out of area' water supply authorities have water mains crossing other water supply authority areas. This is typically trunk or raw water mains transporting water extracted from reservoirs or water courses between areas. Unless stated otherwise, UCML's utility study covers the statutory water network operator for this region as identified within the introduction only.



Figure 7.1 – Existing water infrastructure plan

Hydrant	●	Valve	|	Aqueduct	▬▬▬▬▬▬
Meter	■	Water Main	———	Duct	═══
AirValve	|	Abandoned Pipe	——x——x——	Service Pipe	- - - - -

Existing Network Constraints

Hafren Dyfrdwy infrastructure record indicates a 12" ductile iron main routed within the adjacent side carriageway of Bryn Estyn Road to the development site, which then turns southwards and is indicated as routed across the development site in an approximate north-south direction towards Cefn Road. Review of the current concept site layout plan indicates the route of the main where it is located within the development site boundary coincides with the route of one of the proposed and retained pedestrian and cycle routes and proposed green open space, and the route of the main does not appear to directly conflict with any of the proposed residential parcels. Please refer to Figure 7.2 below for further detail.



Figure 7.2 – Extract from HD infrastructure plan (overlaid with concept plan)

To negate the requirement for any diversionary works, which for a main of this size and material as well as the anticipated diversion length would have a significant associated cost and timescale for completion, it is recommended the main is retained in situ. It should also be noted that due the likely strategic importance of this main within the local distribution network, any diversionary works may be unfeasible. It is recommended that Hafren Dyfrdwy are consulted at the earliest suitable opportunity to review the concept layout plan, and provide feedback on the proposed design to confirm it can be retained in situ, and the route of the main has been sufficiently incorporated into the design. Further review of the points where the proposed on-site road network is indicated as crossing the main will be required to ensure sufficient protection of this asset both during and following completion of the construction of the road network.

It should also be noted that further review of any proposed changes to the ground cover level above the main and within the easement strip will also be required to determine if the route can be maintained without diversionary works. This is because, should it be proposed the current cover level above the main is significantly increased, Hafren Dyfrdwy may require works to the main to ensure safe access can be maintained to the main should they need to excavate to expose the main.

The full length of the main and its associated easement will need to be retained in public open space. The easement strip associated with a main of this size will likely be a total of 10 metres, extending 5 metres each side from the centre point of the main. It should be noted that if the main is retained in situ as recommended, that no construction works or permanent structures will be permitted within the easement width, which must be retained as clear open space to allow Hafren Dyfrdwy to maintain 24 hour access and egress along the full length of the main where it is located within the side boundary in order to complete any required maintenance or repair works. This is also to ensure the potential risk to foundations and structures is minimised should the main rupture. There will also be tree planting and hedge laying restrictions within the easement width, with only certain shallow trees and shrubs able to be planted with Hafren Dyfrdwy's consent.

In addition to the section of 12" ductile iron main routed within Bryn Estyn Road, Hafren Dyfrdwy infrastructure record also indicates a 180mm polyethylene distribution main routed within the site side carriageway of Bryn Estyn Road to the development site boundary. Based on review of the current concept site layout plan, which indicates no new site entrances are proposed to be constructed off Bryn Estyn Lane, this apparatus appears to be unaffected by the development proposals. Review of the final site layout plan, once completed, will be required to confirm.

As discussed within the previous section, a section of the development site is currently occupied by an existing unit, the Bryn Estyn Business Centre, and 2 no. rugby pitches. The current concept site layout indicates the rugby pitches are to be retained; however, the business centre unit appears to conflict with the proposed residential parcels in this area and it can be assumed the business centre is to be demolished to accommodate development works in this area.

Hafren Dyfrdwy do not typically indicate individual service pipes on their infrastructure record; however, their presence should be anticipated until proven otherwise. Hafren Dyfrdwy's infrastructure record indicates a number of existing hydrants and valves located in the immediate vicinity of the existing access to the Bryn Estyn Business Centre, which could be associated with services supplying the existing business centre unit and rugby club. If so, the disconnection of any apparatus supplying Business Centre would be required prior to any proposed demolition works taking place.

Hafren Dyfrdwy's infrastructure record indicates a 7" spun iron distribution main routed within the site side grass verge of Cefn Road to the development site boundary. The main continues within the grass verge up to the boundary of the existing properties located at 'Hullah Farm' along Cefn Road, where it then enters the carriageway before continuing southwards along Cefn Road.

The current concept site layout indicates 2 no. site entrances proposed to be constructed off Cefn Road to serve the development site. The construction of the northern site entrance on Cefn Road, located adjacent to the Plas Rhosnesni Nursing Home, will likely affect the 7" spun iron main. In order to determine if diversionary works will be required to accommodate the construction of this site entrance, it may be prudent to undertake trial excavations to prove the depth of the main below the current ground level. As, should it be proven that the main is located at a minimum depth of 900mm below the proposed finished ground cover level, the requirement for any diversionary works could likely be negated through consultation.

As previously discussed, the concept layout plan indicates 2 no. site entrances proposed off Cefn Road with the second entrance located nearer the south west corner of the development site where, at this point, the 7" spun iron main is indicated as routed within the existing carriageway. As the aforementioned water mains apparatus is routed within existing carriageway, it can be assumed that the construction of the proposed southern site entrance off Cefn Road can be completed without the requirement for any diversionary or lowering works to accommodate the construction works, provided no change is made to the line or level of the existing carriageway.

The current concept site layout plan indicates a link road to be constructed between the development site and a secondary development site located to the north of the development site. The indicated route of the link road appears to conflict with an existing 90mm polyethylene distribution main routed within the carriageway of Bryn Estyn Road, and shown as terminating outside of the existing units at 'Bryn Estyn Court'. Diversionary works may be required to accommodate the construction of the link road; however, the extent of diversionary works required will be dependent on the final route of the link road. Review of the final proposed highway drawings will be required to confirm the extent of works required.

Proposed Connections

It is envisaged there may be sufficient capacity in the existing infrastructure to supply the proposed development. However, due to the size of the development and number of dwellings proposed, network reinforcement works may be required to provide additional capacity within the clean water network to support the total number of dwellings proposed to be constructed across the entire development site. It is recommended that consultation is undertaken with Hafren Dyfrdwy at the earliest suitable opportunity to discuss the availability of capacity within the current network.

It is assumed that, based on availability of network capacity to support the development being available from the existing clean water network, a connection may be able to be taken from the 12" ductile iron main routed through the development site via a pressure reduction valve to supply a new distribution network installed through the site to supply the proposed residential plots. The individual plots could then be connected to the newly installed distribution network installed within the proposed on-site road network. As previously discussed, it is recommended that Hafren Dyfrdwy are contacted to review the development, and undertake a pre-development enquiry to confirm the actual availability of capacity within their existing network and establish the extent of any off-site reinforcement works required to accommodate the development.

Due to the size of the development, the construction works will be phased; therefore, the connections for the dwellings will also be phased. As the total load demand for the development will not be needed in full at the commencement of the development construction works, it may be possible to obtain interim supplies for the initial phases of the site from the existing clean water distribution network located in the immediate vicinity of the development site prior to the completion of any network improvement or reinforcement works that may be required to accommodate the final total demand.

The Domestic Fire Safety (Wales) Measure, which was passed by the National Assembly Government in February 2011, requires the installation of domestic fire sprinkler systems within all new build residential dwellings constructed from January 2016. The responsibility

for the design of the sprinkler system will rest with the developer, installer or domestic fire sprinkler system designer, and the system should be in accordance with all current regulatory and nationally recognized standards or guidelines, including BS 9251:2014 (Fire Sprinkler Systems for Domestic and Residential Occupancies – Code of Practice). Hafren Dyfrdwy will be required to assess the proposed fire sprinkler system design and installation as part of their obligation to comply with Water Regulations to ensure they meet the national requirements for design, composition and maintenance. Hafren Dyfrdwy will not charge for any water used for firefighting or testing purposes.

Hafren Dyfrdwy service connections, communication pipes and supply pipes for all new domestic dwellings are 32mm in diameter, and the developer should ensure the correct sized service pipe is installed. When the service pipe enters the property, the supply will split after the indoor stop tap. The supply for domestic use will be internally metered, and the remaining supply will be for the fire sprinkler (non-domestic use). The diameter of service connections for commercial developments and multi occupancy dwellings will be scheme specific and confirmed following application.

8.0 Communications

8.1 Openreach

Openreach own and operate telecommunications apparatus in the vicinity of the development site within the terms of its statutory license issued by Ofcom. The Openreach network in the immediate vicinity of the site comprises of underground cables, overhead lines, and associated apparatus. Please refer to the infrastructure record appended to this study for further detail.

The figure on the following page is an extract from Openreach records and details the current indicated position of existing infrastructure, however it may be prudent to undertake a below ground survey to ensure there are no unknown services which are not recorded.

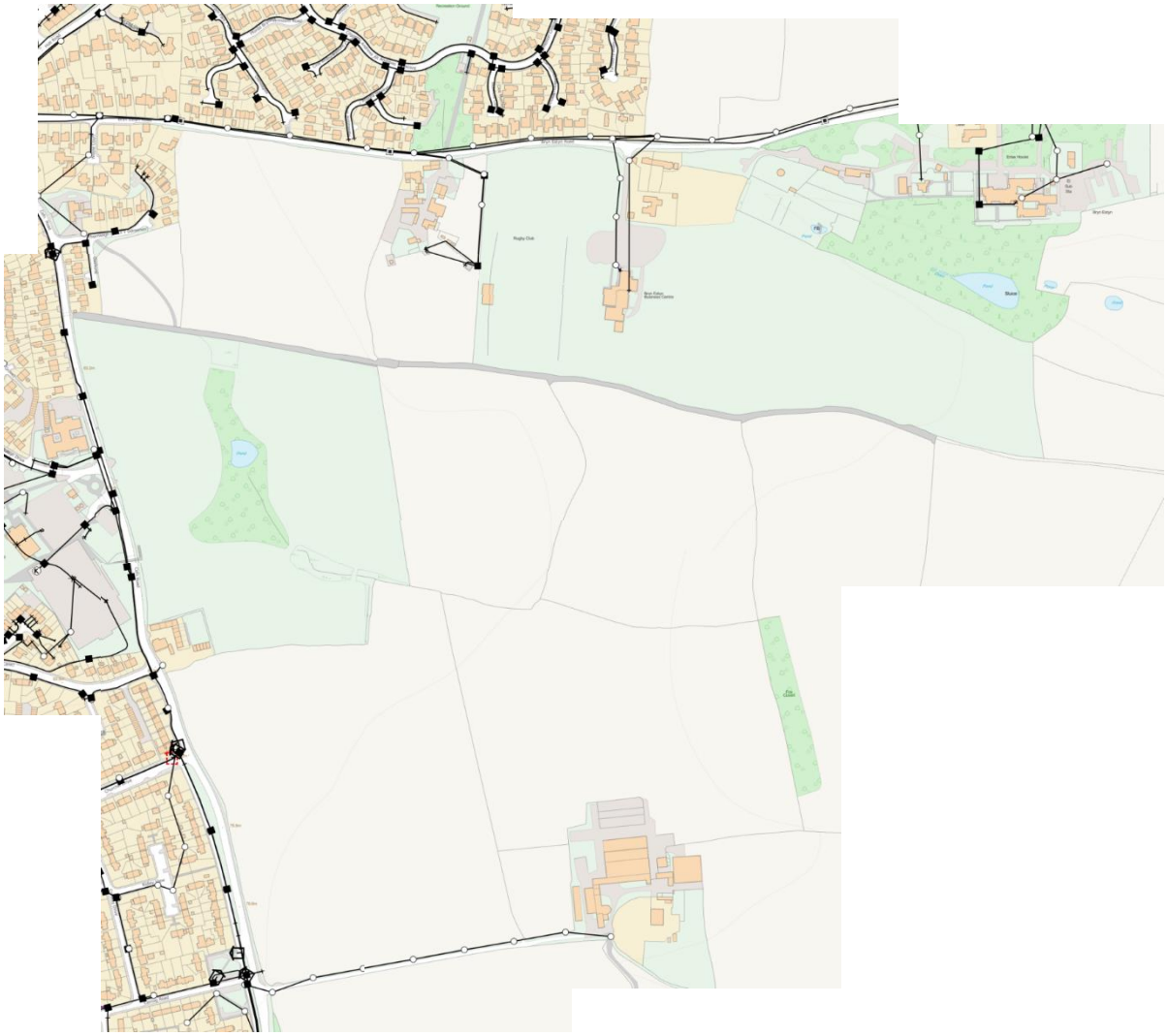
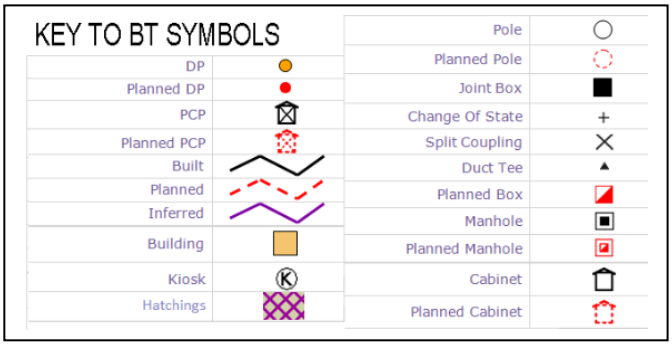


Figure 8.1 – Existing Openreach infrastructure



Existing Network Constraints

Openreach infrastructure record indicates underground duct and associated apparatus routed within and overhead apparatus routed along the adjacent side grass verge and carriageway of Bryn Estyn Road, just outside the northern boundary of the development site. Based on review of the current concept site layout plan, which indicates no new site entrances are proposed to be constructed off Bryn Estyn Road, this apparatus appears to be unaffected by the development proposals Review of the final site layout plan, once completed, will be required to confirm.

The current concept layout plan indicates 2 no. site entrances proposed to be constructed off Cefn Road, along the eastern site boundary. Openreach infrastructure record indicates underground apparatus routed within the carriageway and adjacent side footpath of Cefn Road. As this existing apparatus is indicated as routed within existing carriageway and the adjacent side footpath, it can be assumed that the construction of the proposed site entrances off Cefn Road can be completed without the requirement for any diversionary or lowering works provided no change is made to the line or level of the existing carriageway.

A section of the development site is currently occupied by an existing unit, the Bryn Estyn Business Centre, and 2 no. rugby pitches. The current concept site layout indicates the rugby pitches are to be retained; however, the business centre unit appears to conflict with the proposed residential parcels in this area and it can be assumed the business centre is to be demolished to accommodate development works in this area. Openreach infrastructure record indicates 2 no. sections of overhead apparatus routed to the business centre, and disconnection of this apparatus would be required prior to any demolition works taking place. Openreach will need to be appointed to complete a site survey prior to the completion of any disconnection works to confirm the apparatus can be removed without impacting on any surrounding customers supplies.

The current concept site layout plan indicates a link road to be constructed between the development site and a secondary development site located to the north of the development site. The indicated route of the link road appears to conflict with existing Openreach apparatus

associated with the existing units located to the north east of the development site, including 'Bryn Estyn', 'Bryn Estyn Court' and the Erlas Walled Garden. Diversionary works will likely be required to accommodate the construction of the link road; however, the extent of diversionary works required will be dependent on the final route of the link road, and the final proposed highway drawings will need to be reviewed to confirm the extent of works required.

Openreach infrastructure record indicates a section of overhead apparatus routed along the access road to Llwyn Knottia Farm, along the south west boundary of the development site. Review of the current concept site layout plan suggests that this apparatus can likely be retained in situ. A site survey is recommended to confirm the location of the existing overhead lines, and confirm they are located along this access road as shown on the record, and do not extend within the boundary.

Openreach infrastructure record also indicates existing apparatus providing supply to a number of existing units located outside of the development boundary, including 'Home Farm', 'Brentwood', and 'Old Bungalow Garage' off Bryn Estyn Road and 'Hullah Farm' and 'Terrace Cottages' off Cefn Road. Based on desktop review of the current concept layout plan, the existing apparatus supplying these units do not appear to be affected by the development proposals.

Proposed Connections

A reasonable assumption can be made that a connection can be taken from the existing infrastructure located in the immediate vicinity of the development. Due to the size of the development, it is likely that Openreach will provide a Fibre to the Premise (FTTP) connection option at no cost to the developer. FTTP connections will provide ultrafast broadband speeds to each dwelling and deliver a level of future proofing for broadband as the demand for speed increases.

Openreach FTTP network is constructed as an Open Access Network, allowing multiple Internet Service Providers (ISPs) to provide services to future residents and customers utilising the same infrastructure. The installation of Open Access Networks mitigate the requirement for multiple service providers installating duplicate infrastructure within the development site.

Typically, the work undertaken by the developer as part of an Openreach FTTP network installation will consist of laying on-site duct and tubing, building all joint boxes, and providing a cable from a designated joint box to each dwelling or unit (with cappings and covers over external entry points). Openreach will carry out all excess construction works outside of the site boundary and in the public highway. Openreach will provide an allowance of up to £3,400.00 per plot (for residential dwellings) and £1,000.00 per plot (for commercial units) to undertake all off-site works required, however any costs incurred above this allowance will be chargeable to the developer.

For a FTTP installation, the developer will need to sign a contract and Wayleave agreement with Openreach. This is a legal requirement for Openreach to install and access its infrastructure. However, if the installation of an independent fibre network is being considered for the development site, exclusivity may be required and therefore the Openreach wayleave should not be signed until it is confirmed an independent third party fibre provider will not be used.

As part of the contract for the installation of Openreach connections, the developer may receive a rebate of up to £140.00 per house and £50 per flat for carrying out on-site works as detailed within the contract provided with their connection proposal. The rebate is in line with the Home Builders Federation (HBF) rates and are payable by BT Plc through its Openreach division. If the developer chooses to self-install the internal FTTP apparatus through Developer Self Install (DSI), an additional rebate payment of £20 per house or apartment will be available.

For the installation of FTTP within an individual dwelling, an Optical Network Termination (ONT) will be installed. The ONT is the Openreach demarcation point and replaces the traditional copper master socket. The Openreach ONT will sit in a wall mounted enclosure along with a Battery Backup Unit (BBU) and the associated wiring. The ONT will include an optical port which connects to the external Customer Splice Point (CSP), an Ethernet port which connects to the communications provider's router, and a telephony port to connect to the voice call network.

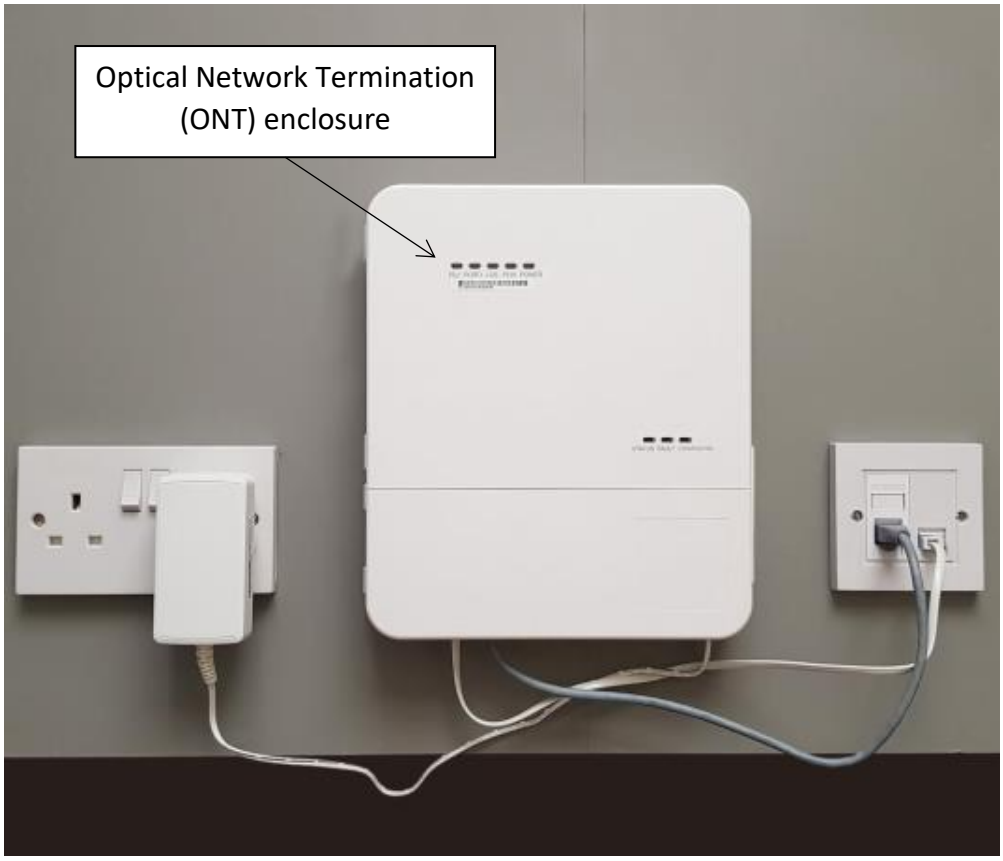


Figure 8.2 – Openreach FTTP Internal Equipment

Should the developer choose for Openreach to install the FTTP equipment, the ONT will be installed at the position of the incoming fibre cable, however, as previously discussed, the developer can choose to self-install the internal FTTP equipment at their preferred internal location within the dwelling. Where a developer opts to undertake the self-install of the internal equipment, Openreach will supply the ONT, BBU, and the required connectorised fibre cable.

Figure 8.3 below illustrates the simplest installation for the FTTP equipment in a domestic dwelling, where the ONT and associated equipment is located adjacent to the outside wall where the incoming fibre cable is located.

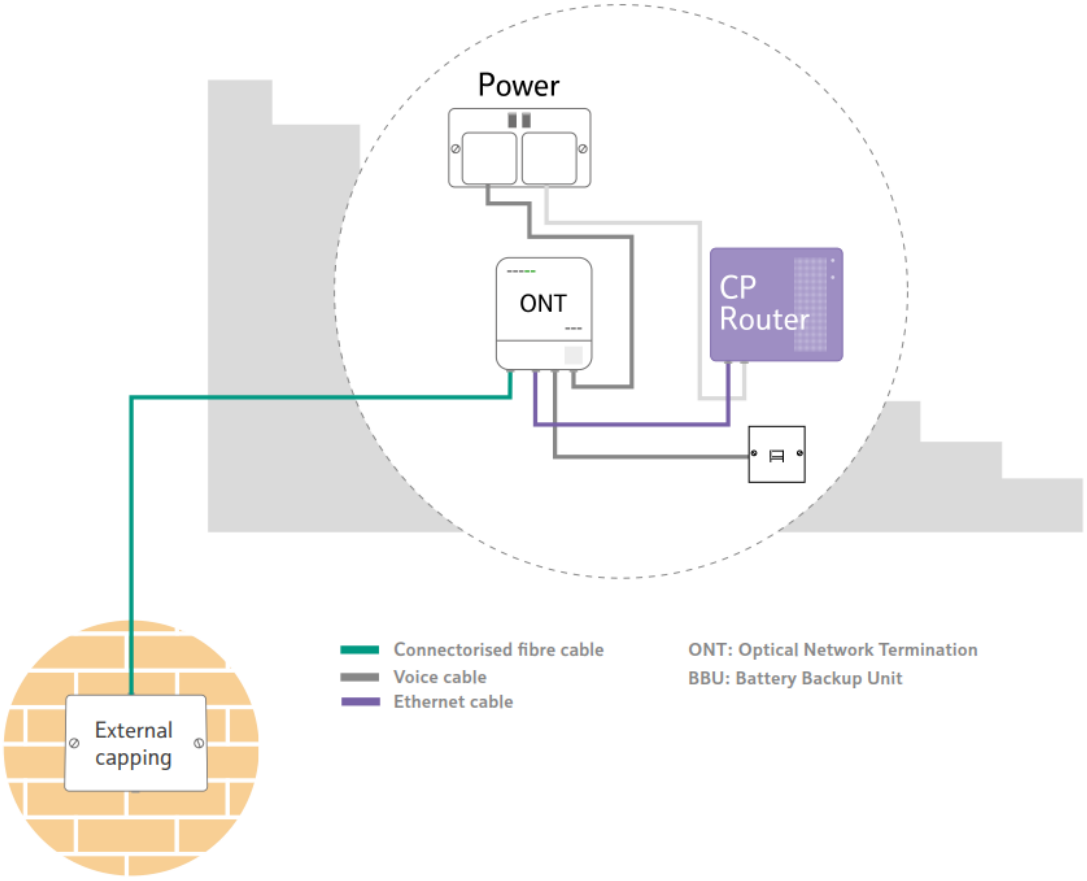


Figure 8.3 – Simple FTTP installation

Figure 8.4 overleaf illustrates a typical example of a developer self-install for the internal equipment, where they have chosen to locate the ONT further inside the dwelling. Further examples of the options for the internal installation are provided within the Openreach Developer Guide for building a fibre network.

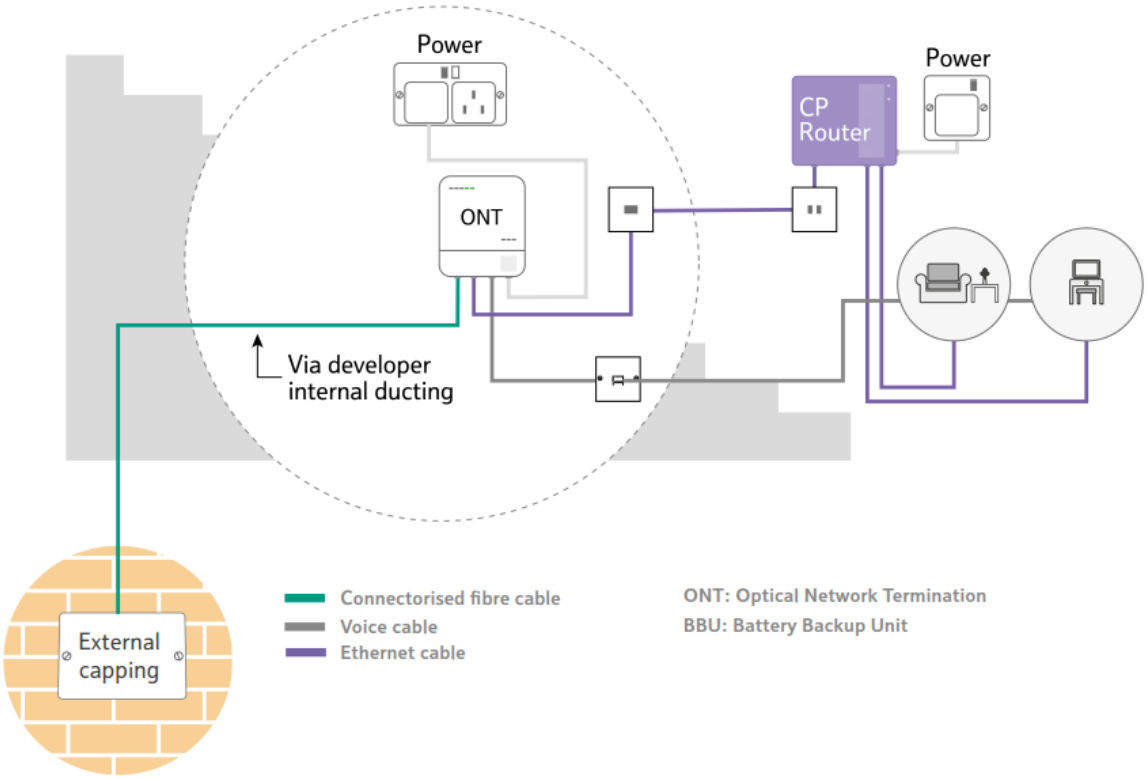


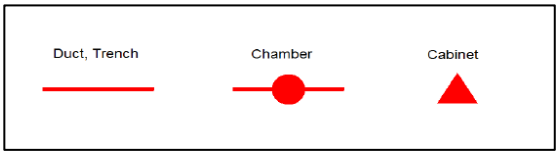
Figure 8.4 – Alternative Option for FTTP installation (DSI)

8.2 Virgin Media

Virgin Media has confirmed that they own and operate telecommunications apparatus in the vicinity of the development site. The Virgin Media network in the immediate vicinity of the site comprises of underground cables and associated apparatus. The following diagram is an extract from Virgin Media records and details the current indicated position of existing infrastructure, however it may be prudent to undertake a below ground survey to ensure there are no unknown services which are not recorded. Please refer to the infrastructure record appended to this study for further detail.



Figure 8.5 – Existing Virgin Media Infrastructure



Existing Network Constraints

Virgin Media infrastructure record indicates underground apparatus routed within the adjacent side footpath of Cefn Road to the development site boundary. As this existing apparatus is indicated as routed within the adjacent side footpath, it can be assumed that the construction of the proposed site entrances off Cefn Road can be completed without the requirement for any diversionary or lowering works provided no change is made to the line or level of the footpath.

Virgin Media infrastructure record also indicates a section of underground apparats routed within the site side footpath of Cefn Road outside of the existing units at 'Hullah Farm'. Desktop review of the current concept layout plan indicates the location of the apparatus within the site side footpath does not appear to conflict with the location of the proposed site entrances off Cefn Road. Therefore, based on the information currently available for review, an assumption can be made that it may not be affected by the development proposals.

Proposed Connections

A reasonable assumption can be made that a connection can be taken from the existing infrastructure located in the immediate vicinity of the development site if required. Should Virgin Media connections be a preferred option for the site, it is recommended it is are contacted at the earliest opportunity to discuss the potential expansion of its existing network to provide telecommunications services to the development site.

As part of the provision of new connections to the development, Virgin Media will undertake all off-site works to enable the required connections, however it will be the responsibility of the main contractor to undertake all on-site works as detailed by Virgin Media to their specification. Typically, the work undertaken by the developer will consist of laying all on-site duct (roped) and the installation of all on-site chambers as per the agreed layout provided by Virgin Media. The contractor will also be required to install 1 no. Omni box at the cable exit point (external), install 1 no. external ground level termination box, install a minimum of 2 no. internal sockets at agreed locations and install Virgin Media faceplates over the connection points within each dwelling.

If the specified works are completed by the contractor within agreed timescales and to the required standard, Virgin Media may provide a rebate payment of up to £125.00 plus VAT per plot. The actual rebate payment will be agreed by the appointed New Build Officer on issue of the proposal. For rebates, Virgin Media have a number of options for the Client. The first option is for a clause to be included within the land agreement to ensure all parcels developed are to install Virgin Media connections to each property and the rebate offered can then be claimed back from the landowner. Alternatively, the free issue Virgin Media infrstructure can be installed within the spine access roads to the parcel boudnaries based on an agreed rate card, for the developer to then install Virgin Media apparatus within each parcel and to claim the rebate from Virgin Media.

Please note, Virgin Media networks are constructed as Closed Access Networks. The infrastructure installed within the development site as part of a Virgin Media installation can only be utilised by Virgin Media as the ISP, and cannot be utilised by any alternative ISP's.

9.0

9.0 Other

In addition to the statutory network operators operating within the vicinity of the development site, UCML has contacted a number of Independent Distribution Networks Operators (IDNOs), Independent Gas Transporters (IGTs), telecommunications providers, pipeline operators, and other third parties who own and operate apparatus nationwide to determine whether any apparatus is located within the vicinity of the development site.

The companies contacted, and their associated response, are summarised within Table 9.2 overleaf. Please refer to the key provided below for further detail on the definitions used.

Table Key	Definition
Affected	Utility apparatus is indicated as being located within the vicinity of the development site.
Not Affected	Utility apparatus is not indicated as being located within the vicinity of the development site.
No Response	No response has been received from the utility provider to date.
Desk Research	Any response determined from desktop research is indicated in this column. This indicates utility infrastructure records have been obtained in house using mapping software provided by the relevant utility provider.

Table 9.1 – Plant Enquiry Response Key

Utility	Company	Desk Research	Affected (date issued)	Not Affected (date issued)	No Response
IDNO	Engie				
IDNO	Last Mile (Energetics)			20/10/2020	
IDNO	Utility Assets			19/10/2020	
IDNO	Eclipse Power Networks Ltd			20/10/2020	
IDNO	G2 Energy				
IGT	BBL Company				
IGT	GTC*	✓		23/10/2020	
IGT	Indigo Pipelines				
IGT	Interconnector UK LTD				
Comms	Arqiva				
Comms	Cityfibre	✓			
Comms	Colt (Catelecom)			31/10/2020	
Comms	Instalcom**			23/10/2020	
Comms	Interoute (Plancast)				
Comms	KPN			26/10/2020	
Comms	McNicholas (TATA)				
Comms	Mobile Broadband Network LTD		20/10/2020		
Comms	Sky UK LTD			20/10/2020	
Comms	SOTA			23/10/2020	
Comms	Spectrum Communications				
Comms	Telent			27/10/2020	
Comms	Verizon			20/10/2020	
Comms	Vodafone				
Transport	Network Rail			19/10/2020	
Transport	NTRS				
Transport	Traffic Master			29/10/2020	
Other	Mastdata.com (Mobile Phone Masts)	✓	12/02/2021		

Table 9.2 – Plant Enquiry Responses

*Note GTC includes: GTC Pipelines Ltd, Independent Pipelines Ltd, Quadrant Pipelines Ltd, Electricity Network Company Ltd, Independent Power Networks Ltd, Independent Water Networks Ltd, Independent Fibre Networks Ltd, and Independent Community Heating Ltd.
** Instalcom includes: CenturyLink Communications UK Ltd (formerly Level 3), Global Crossing (UK) Ltd, Global Crossing Pec and Fibernet UK Ltd and Fibrespan Ltd

Optional Searches

Some utility providers are rarely confirmed to be in the vicinity of infrastructure record searches and are therefore only included within the search upon request, as the charge per enquiry is disproportionate to the number of affected responses received. Please advise UCML if you would like to include these additional searches at an additional cost. These optional searches are as follows;

Optional Searches		
IDNO	Harlaxton	Approximate cost £35 (plus VAT)
IDNO	UK Power Distribution	Cost ranges from £9 - £95 (plus VAT) subject to site size
Comms	Vtesse	Approximate cost £55 (plus VAT)

Table 9.3 – Optional Searches

LinesearchbeforeUDig

A number of asset owners are registered with LinesearchbeforeUDig (LSBUD), an online service used to review the location of utility assets in relation to a development site location. UCML has undertaken an LSBUD search for this development site, and the response is shown in Figure 9.1 below.

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

List of affected LSBUD members			
Asset Owner	Phone/Email	Emergency Only	Status
Wales and West Utilities	02920278912	0800111999	Await response

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.

List of not affected LSBUD members		
AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
Box Broadband	BP Exploration Operating Company Limited	BPA
Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN	Cemex
Centrica Storage Ltd	Chrysaor Production (UK) Limited	CLH Pipeline System Ltd
CNG Services Ltd	Concept Solutions People Ltd	ConocoPhillips (UK) Teesside Operator Ltd
Diamond Transmission Corporation	DIO (MOD Abandoned Pipelines)	DIO (MOD Live Pipelines)
Drax Group	E.ON UK CHP Limited	EirGrid
Electricity North West Limited	ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited
EP Langage Limited	ESP Utilities Group	ESSAR
Esso Petroleum Company Limited	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Gtt	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN ChlorVinyls Limited	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Jurassic Fibre Ltd	Mainline Pipelines Limited	Manchester Jetline Limited
Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)	Melbourn Solar Limited
Murphy Utility Assets	National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	Northumbrian Water Group
NPower CHP Pipelines	NYnet Ltd	Oikos Storage Limited
Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Portsmouth Water	Premier Transmission Ltd (SNIP)
Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)	RWEnpower (Little Barford and South Haven)
SABIC UK Petrochemicals	Scottish and Southern Electricity Networks	Scottish Power Generation
Seabank Power Ltd	SES Water	SGN
Shell	Shell NOP	SSE Enterprise Telecoms
SSE Generation Ltd	SSE Utility Solutions Limited	Tata Communications (c/o JSM Construction Ltd)
Total (Colnbrook & Colwick Pipelines)	Total Finaline Pipelines	Transmission Capital
UK Power Networks	Uniper UK Ltd	University of Cambridge Granta Backbone Network
Vattenfall	Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd
West of Duddon Sands Transmission Ltd	Western Power Distribution	Westminster City Council
Zayo Group UK Ltd c/o JSM Group Ltd		

Figure 9.1 – LSBUD search result

10.1 MBNL

Turner & Townsend Project Management are appointed on behalf of MBNL to conduct plant searches in accordance with the relevant NRSWA Act 1991 – Diversionary Works legislation. These searches considered plant belonging to EE (T-Mobile and Orange sites) and the HG3 mobile telecommunication networks, and confirm that MBNL plant is present within the immediate vicinity of the development site. Their search response indicates an existing mobile mast present to the rear of the existing units at 'Home Farm' and 'Old Bungalow Garage', located off Bryn Estyn Road. The mast installation is located outside of the development boundary, and should not be directly affected by the development proposals. However; it is recommended that further consultation is undertaken with MBNL to confirm the installation will not have an impact on the development proposals. Figure 10.2 below indicates the location of the mast.



Figure 9.2 – Satellite image showing location of MBNL mast

10.2 Mast Data

Mast Data is an online UK mobile telecoms base station resource tool, which can be used to locate existing mobile network installations across the UK. A search of the Mast Data online map indicates a second mobile mast installation in the same location as the MBNL mast to the rear of the existing units at 'Home Farm' and 'Old Bungalow Garage', located off Bryn Estyn Road. The mast installation is located outside of the development boundary, and should not be directly affected by the development proposals. However; it is recommended that further consultation is undertaken with the mast owner and operator to confirm the installation will not have an impact on the development proposals. Figure 10.3 below indicates the location of the mast.



Figure 9.3 – Satellite image showing location of second mast installation

10.0 Conclusion

Based on the information currently available for review, the existing utility infrastructure within the vicinity of the development site may be capable of supporting the additional demand required to provide connections for the proposed development There are existing electricity, gas, clean water and telecoms services within the wider vicinity of the development site, which may have sufficient capacity to serve the development.

It is recommended that formal applications are made to the relevant statutory network operators to confirm the actual availability of capacity within the existing networks, and to provide firm points of connection as well as to identify the extent and costs associated with any required network reinforcement works. Formal connection offers will only be valid for a limited period of time, and no capacity can be reserved until acceptance and payment of a formal quotation has been made.

This desktop utility study covers statutory infrastructures surrounding the site. All information has been taken from the records of the statutory authorities and although this information is the most accurate available it may be prudent to undertake trial excavations in strategic locations to definitively determine the depth and location of infrastructure. Utility Providers Networks are constantly under review and subject to applications from other parties and the capacities and loads currently available may be subject to change.

The costs provided are advised as a predicted worst-case scenario of the foreseeable works. However, as these are only budget figures the actual costs entailed will not be determined until detailed proposals are received from the owners of the infrastructure.

Produced;
Joanne Blackburn BA (Hons) – Senior Technical Engineer
Utilities Connections Management Ltd.

Checked by;
Ryan Elliman BEng (Hons) MIET – Technical Engineer
Utilities Connections Management Ltd.

This document has been prepared solely as a Desktop Utility Study for Harworth Group. Utilities Connections Management Ltd accepts no responsibility or liability for any use that is made of this document other than by Harworth Group for the purposes for which it was originally commissioned and prepared.

No individual is personally liable in connection with the preparation of this Desktop Utility Study. By receiving this study and acting on it, the client or any other person accepts that no individual is personally liable whether in contract, tort, for breach of statutory duty or otherwise.

Completeness – Due care and effort is made to locate all Utility companies in a search area, however, due to the existence of redundant utilities, emergence of new companies and the combining of, takeover or sale of existing companies, UCML cannot guarantee to provide details on all utilities in a given area.

There may be a time delay between the physical installation, repair or upgrading of utilities networks and the subsequent recording of the works on utility infrastructure records. Therefore, it should be noted there may be utilities present that are not shown on the records.

11.0 Further UCML Services

Utility Study – Level 2

UCML's Level 2 Utility Study provides a detailed overview of the electricity, gas clean water, and communications statutory infrastructure in the vicinity of development site, ideal for;

- Due diligence prior to land purchase to aid negotiation.
- Risk assessment prior to tender.
- Assistance with site layout design to minimize impact on existing utilities, taking into account statutory utility infrastructure and legal requirements.

The services provided within UCML's Level 2 Utility Study includes;

- Application for existing statutory infrastructure records.
- Technical review of all statutory authority infrastructure affected by proposed on-site and off-site works.
- Application for firm point of connection for electricity, gas and water supplies to the site to determine location of proposed connection and firm cost for required electricity network reinforcement works.
- Provision of budget figures for disconnection, diversion and connection works derived from firm non-contestable charges including required reinforcement works where applicable.
- Cost risk and analysis.
- Timescales for provision and execution of quotations for the required works, highlighting risks to project programme.
- Highlight abnormal legal requirements including wayleaves and easements and explanation of requirements to mitigate risk.

Technical Procurement

UCML's technical procurement service deals with the obtaining of capacity checks as well as disconnection, diversion, connection, service alteration and temporary supply quotations. These include electricity, gas, clean water and telecom supplies for all forms of residential, commercial and industrial developments. Use of our technical procurement services can result in;

- Considerable cost savings.
- Reduced overheads.
- Reduced timescales.
- Reduced delays.
- Reduced time expenditure.
- Removal of provisional sums from tender submissions.

The services provided by UCML's Technical Procurement service includes;

- Review of proposed meter positions to ensure technical and regulatory viability.
- Application for:
  - Existing statutory infrastructure records.
  - Disconnection quotations including meter removals where required.
  - Statutory infrastructure diversion quotations.
  - Temporary building supplies.
  - New connections quotations.
  - Legal searches including easement, wayleaves and Land Registry title searches.
- Technical review of all quotations received including technical and commercial comparison across all competing quotes.
- Submission of successful quotations for acceptance.
- Single point of contact for project administration, and an assigned Technical Engineer to each scheme.

Project Management

UCML's Project Management service deals with the project management of disconnections, diversions, connections, service alterations, capacity checks and temporary supply installations for all forms of residential, commercial and industrial developments. Our Project Management team can work in conjunction with our Technical Procurement service or as a stand-alone offering to manage the delivery of all electricity, gas, clean water and telecom works. Use of our Project Management service can result in:

- Improved program planning accuracy.
- Reduced time expenditure.
- Reduced abortive visit charges.
- Reduced delivery timescales and as a result less delays.

The services provided by UCML's Project Management service includes;

- Management of statutory connections from quotation acceptance to completion.
- Assigned Project Manager to the scheme to provide a single point of contact for site staff, and attend site meetings and design team meetings as required.
- Provision of a site pack including existing and proposed drawings and relevant technical information relating to dimensions and layout of metering enclosures.
- Management of legal agreements required including wayleaves, easements and adoption agreements.
- Programming of all mains, connections and metering works through proactive communication with site staff.

Appendices

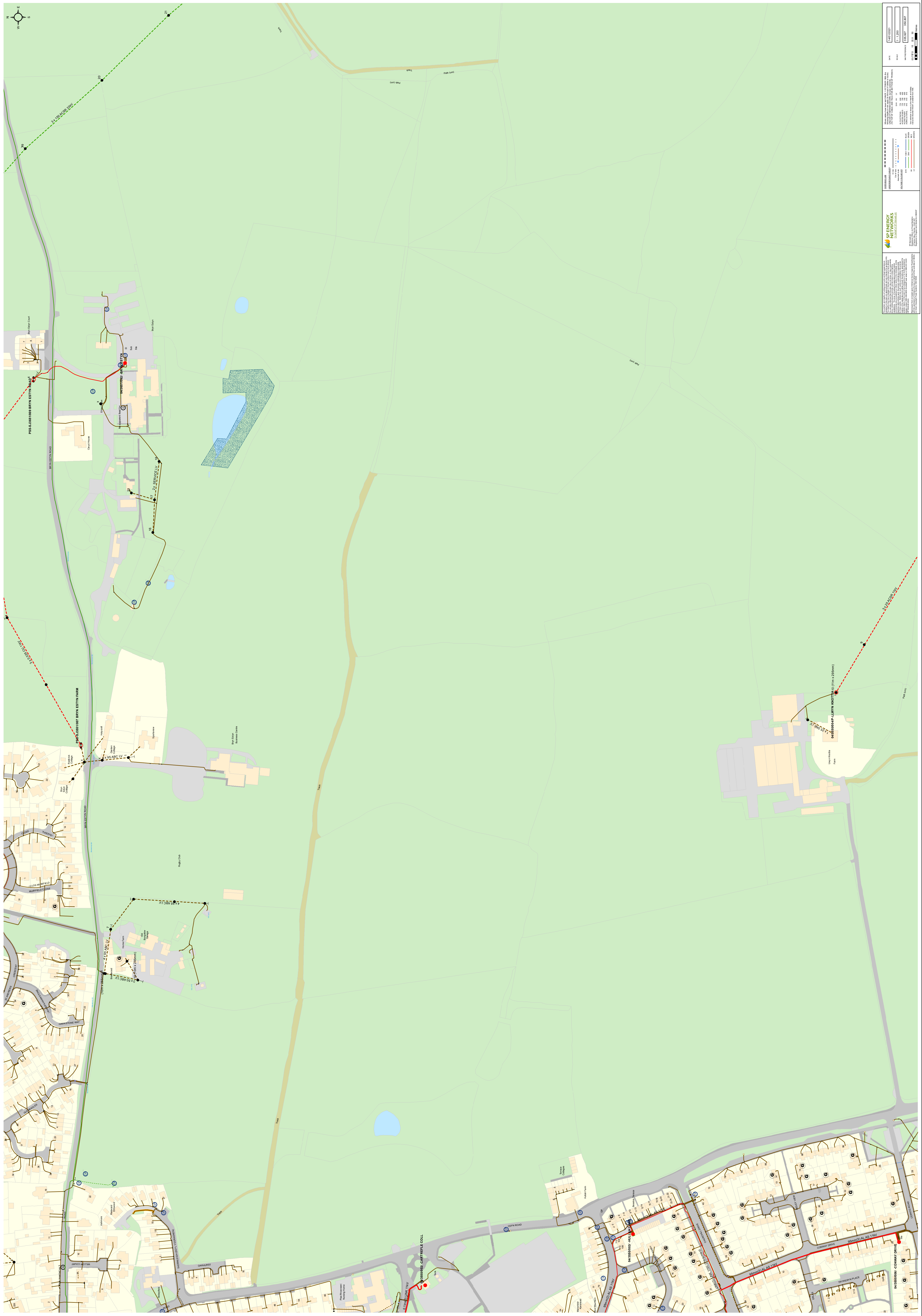
Appendix 1 – SP Energy Networks Infrastructure Plan

Appendix 2 – Wales & West Utilities Infrastructure Plan

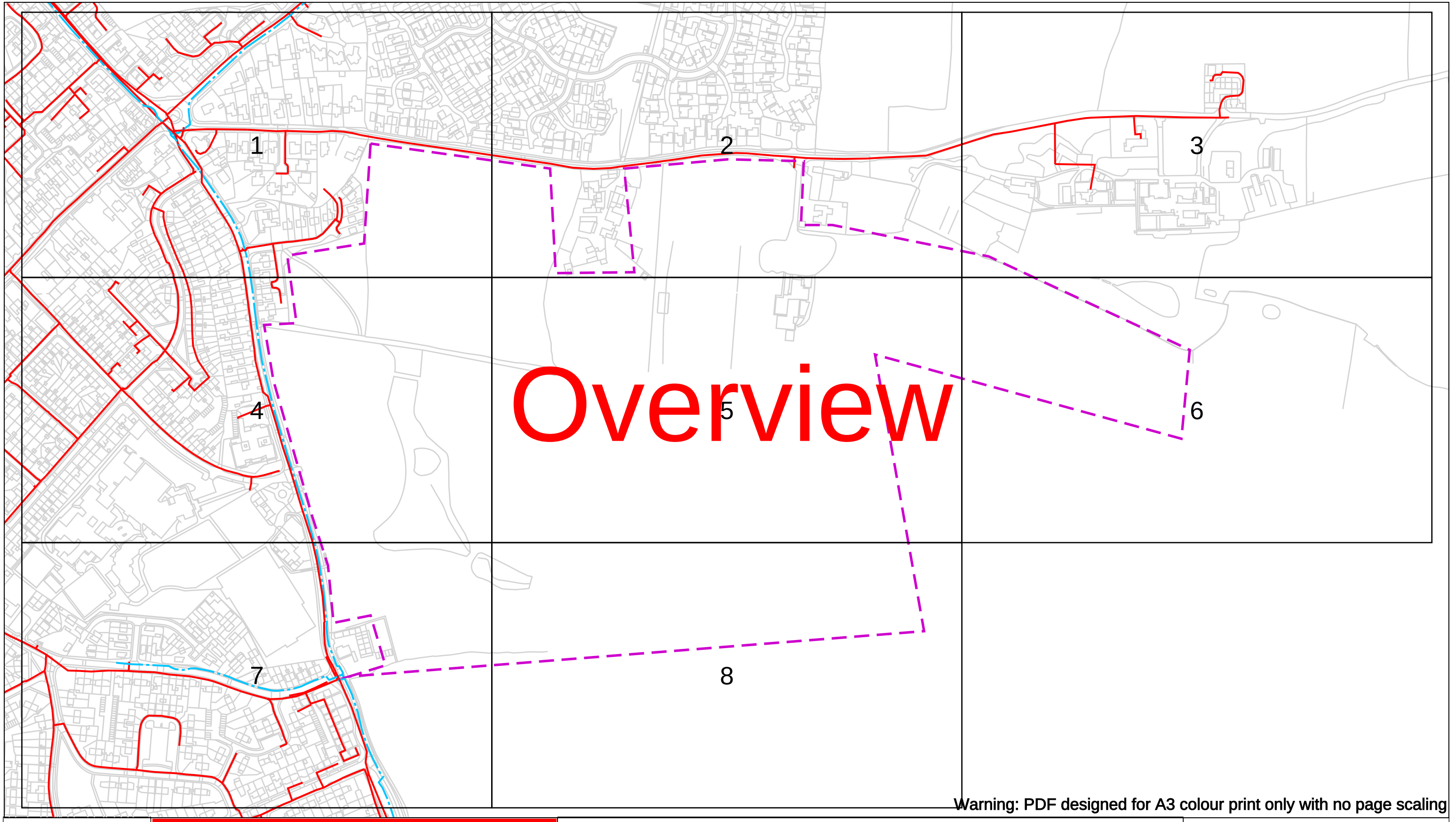
Appendix 3 – Hafren Dyfrdwy Infrastructure Plan

Appendix 4 – Openreach Infrastructure Plan

Appendix 5 – Virgin Media Infrastructure Plan



1
3 x 150 ACSR 33kV
PSS-SJ3651/009 BRYN ESTYN ROAD
04/3651/002/ -BRYN ESTYN
No apparent feed for
Bryn Estyn Court
Bryn Estyn
El Sub Sta
Erlas House
Cwyd House
BRYN ESTYN ROAD
2x SERVICE LV
3 x 0.025 CU 11kV
PSS-SJ3551/007 BRYN ESTYN FARM
Holycroft
Garden Cottage
Sportsview
Redbrick Cottage
Bryn Estyn Cottage
5 x 95 ABC LV
Bryn Estyn Business Centre
Track
Path (um)
Rugby Club
4 x 95 ABC LV
3 x 50 ABC LV
Home Farm
Old Bungalow Garage
Brentwood
CLOS MUIRFIELD
MUIRFIELD CLOSE
RHODFA
CLOSE
ST ANDREWS CRESCENT
HAWKSTONE WAY
GLENEAGLES
WILLOW COURT
OAKHURST
THORNLEIGH (DOL YDDRAENEN)
Ashmore
Redwood Elmwood
Abbeyfield
Plas Rhosnesni Nursing Home
04/3550/002/ -CARTREFLE COLL
UNK 11kV
Tank
CEFN ROAD
Terrace Cottages
Hullah Farm
Beeston Terrace
04/3550/003/ -HULLAH LANE
95mm(3) AL AS 11kV
CHURCHILL DRIVE
UNK(3) UNK 11kV (presumed)
RIDLEY VIEW
CONWAY DRIVE
TRYWERYN PLACE
ERLAS
CEIRIOG ROAD
04/3550/006/ -CONWAY DRIVE
Manorbier
Kavastead
Blue Mountain
3 x 25 ACSR 11kV
04/3550/004/P-LLWYN KNOTTIA
10 (11m x 295mm)
1 x 25 SNE LV
Llwyn Knottia Farm
The position and depths of underground and overhead apparatus as indicated on this plan are approximate and are intended for guidance only.
Reproduced from or based upon Ordnance Survey maps by PowerSystems with the permission of Ordnance Survey on behalf of the controller of HMSO. (c) Crown Copyright Power Systems 100019038
SP ENERGY NETWORKS
On behalf of SP Manweb plc
SP Manweb plc
Registered Office: c/o PowerSystems
3 Prenton Way, Prenton, CH43 3ET
Registered in England and Wales No 2366937
OVERHEAD LINE
UNDERGROUND CABLES
In Use
Out of Use
Assumed route
VOLTAGE COLOUR KEY
EHV 132kV BLUE
33kV GREEN
HV RED
LV BROWN
Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply (to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)
EHV HV LV
IN FOOTPATHS : 775 600 450
ACROSS ROADS : 775 700 600
ALONG ROADS : 775 700 600
AGRICULTURAL : 910 910 910
Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.
DATE 14/01/2021
SCALE 1 : 1,250
MAP REFERENCE 335,927 350,807
0 3.75 7.5 15 22.5 30 Metres



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference:
PR6359

Scale: 1:3844 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

Dig Sites

Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the **Gas Emergency Service** on **0800 111 999.**

Dial before you dig

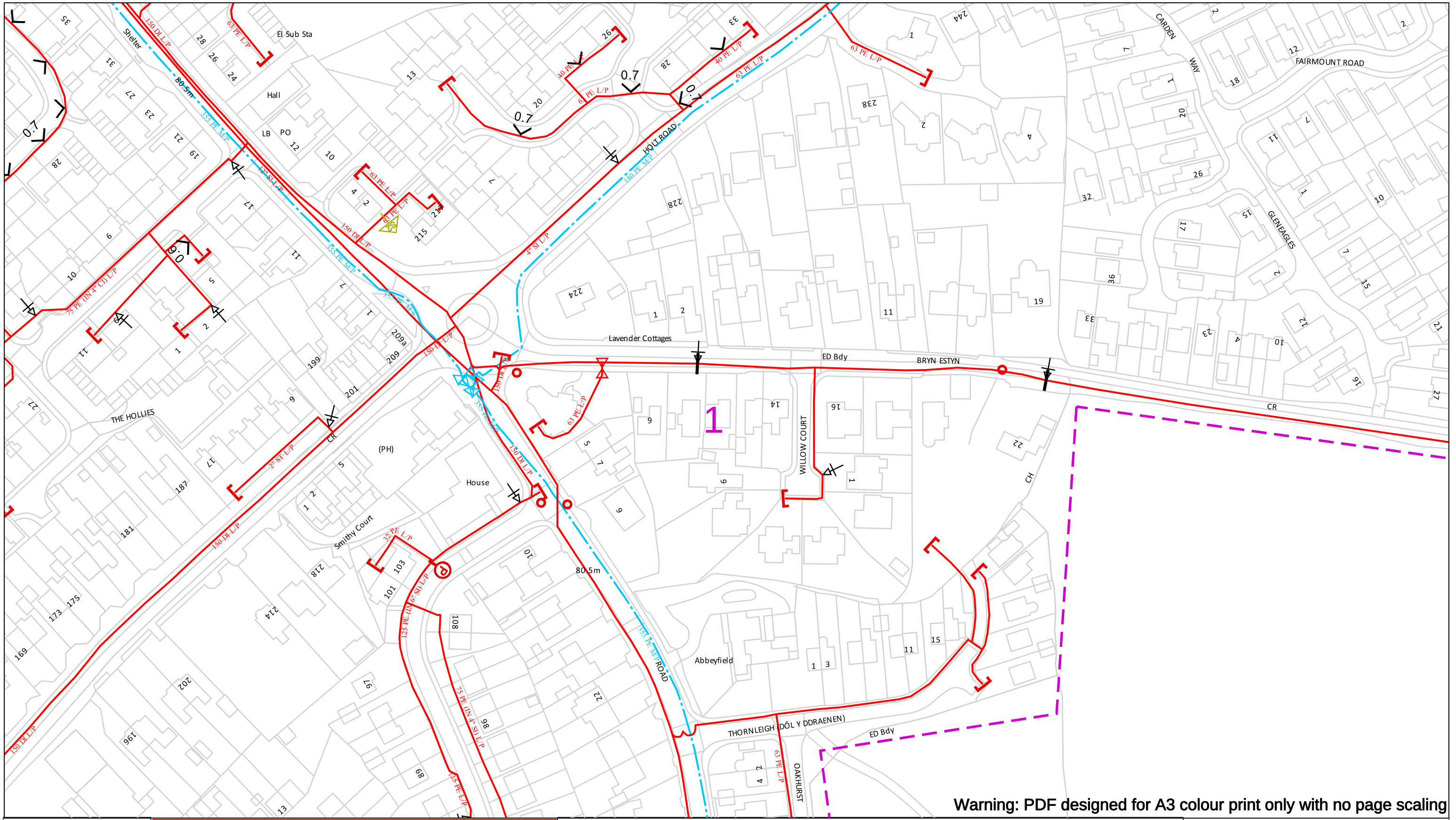
We need **10 days'** notice

Dial
Call **029 2027 8912** before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas? Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

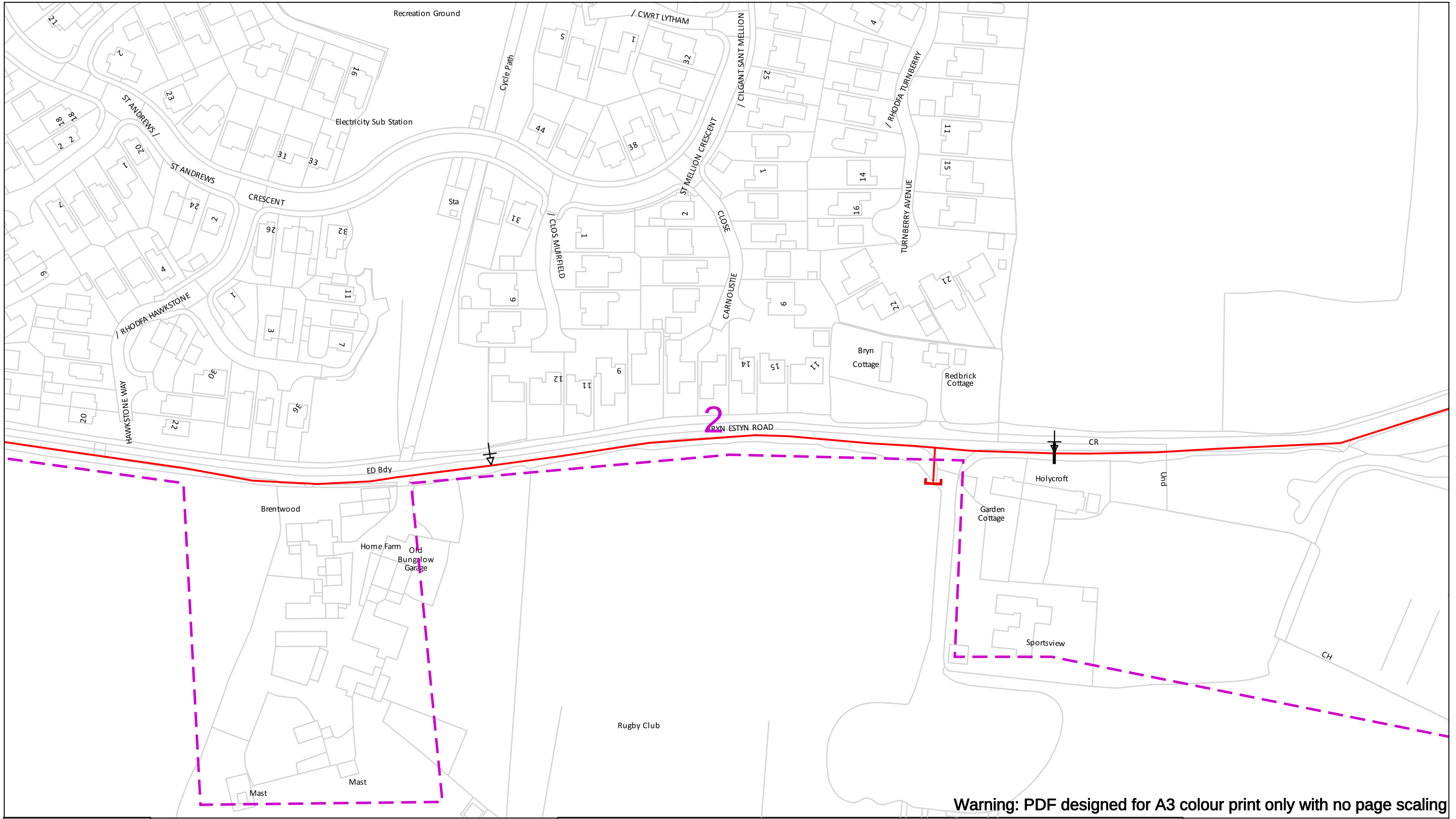
Dial Call 029 2027 8912 before you start work.

Investigate Before you dig, make sure you know what's below.

Go ahead Done your research? Now you can dig safely.

We need 10 days' notice

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites — Area: — Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas? Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

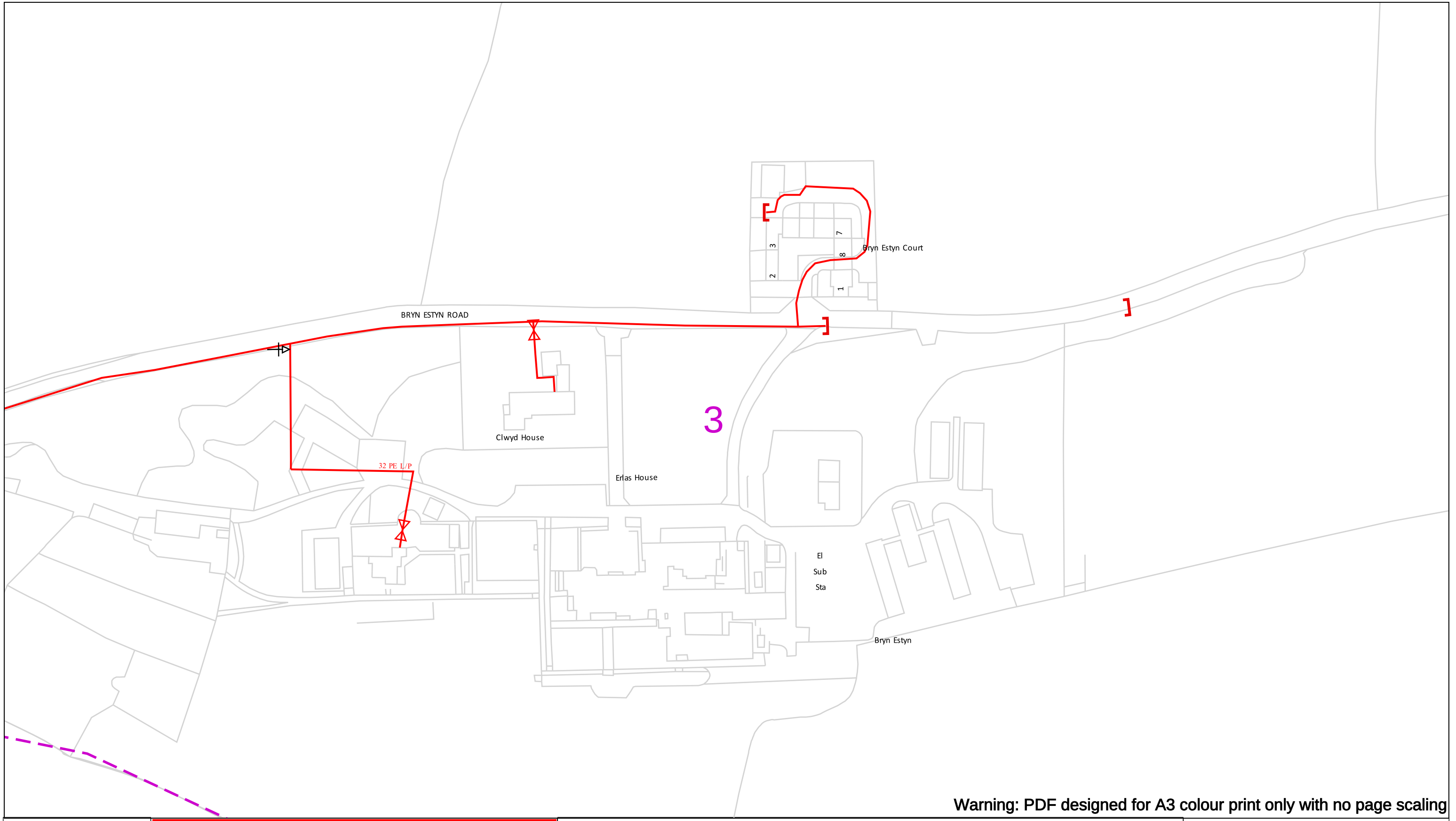
Dial Call 029 2027 8912 before you start work.

Investigate Before you dig, make sure you know what's below.

Go ahead Done your research? Now you can dig safely.

We need 10 days' notice

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

Low Pressure (LP) 21mbar – 75mbar
Medium Pressure (MP) 350mbar – 2bar
Intermediate Pressure (IP) 2bar – 7bar
High Pressure (HP) >7bar

Line/Fire Valve
Governor Station
Change of Diameter
End Cap
Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the **Gas Emergency Service** on **0800 111 999**.

Dial before you dig

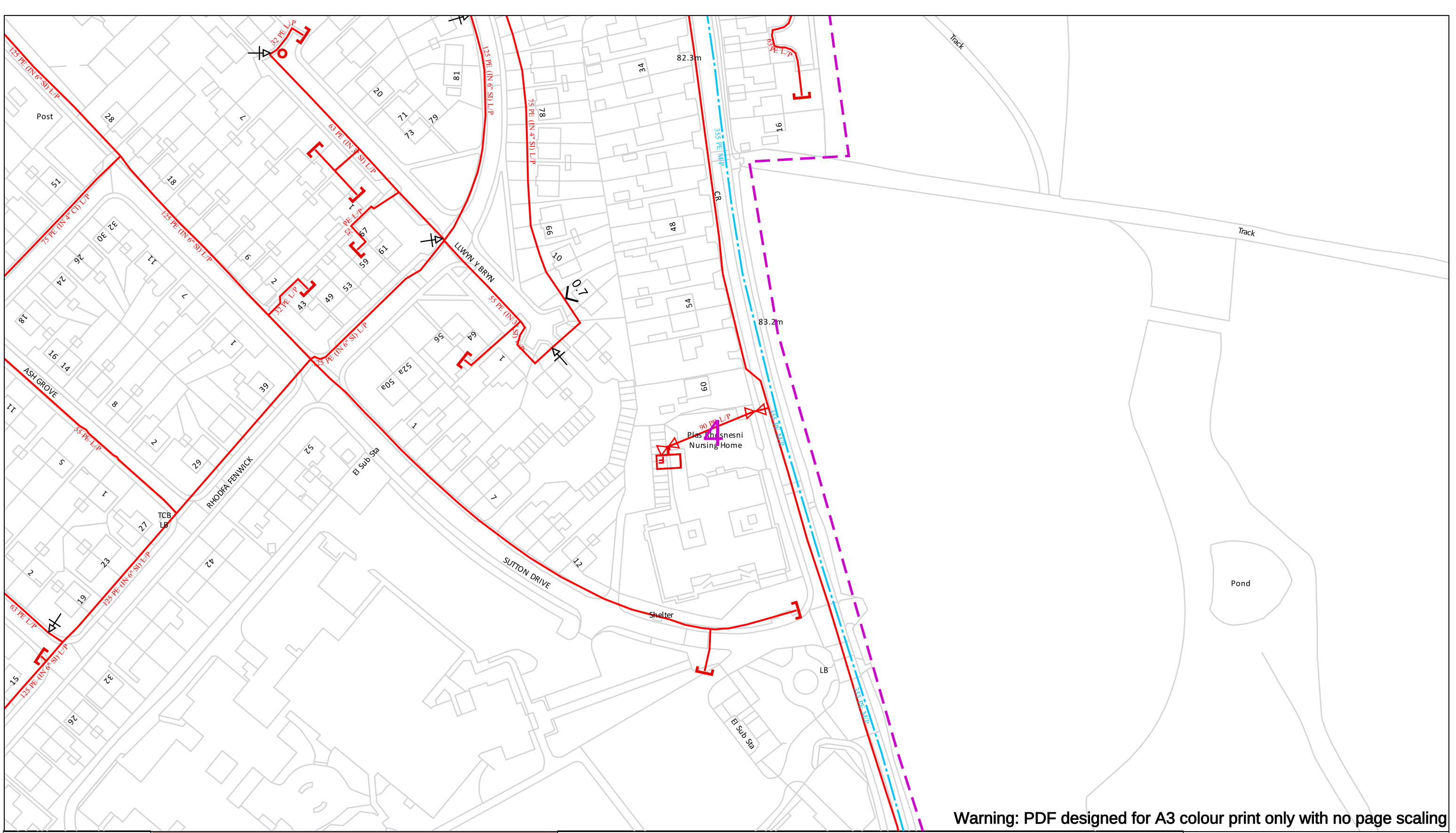
We need **10 days'** notice

Dial
Call **029 2027 8912** before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

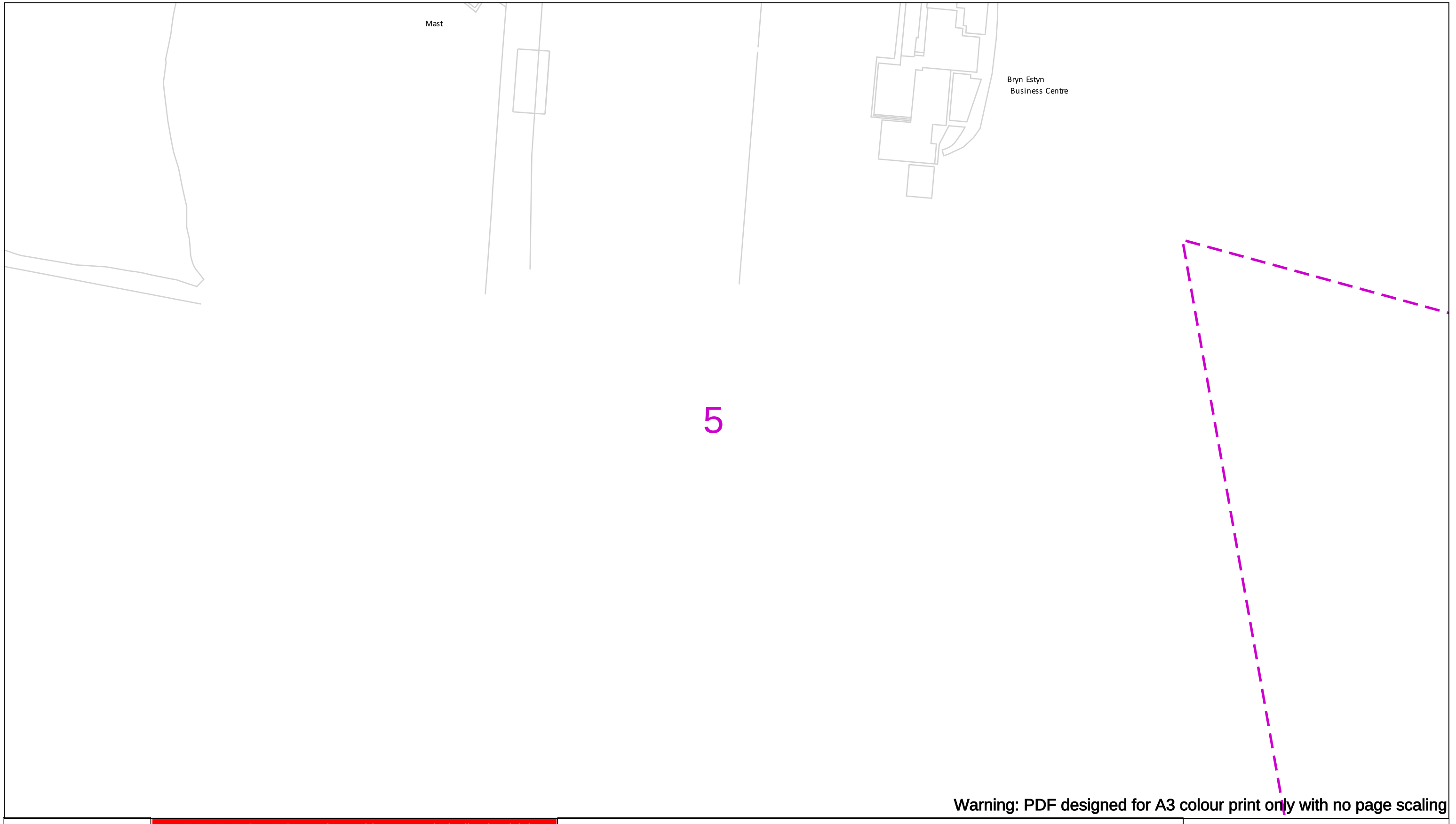
Smell gas?
Call the **Gas Emergency Service** on **0800 111 999.**

Dial before you dig

We need 10 days' notice

Dial Call **029 2027 8912** before you start work.
Investigate Before you dig, make sure you know what's below.
Go ahead Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites — Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the **Gas Emergency Service** on **0800 111 999.**

Dial before you dig

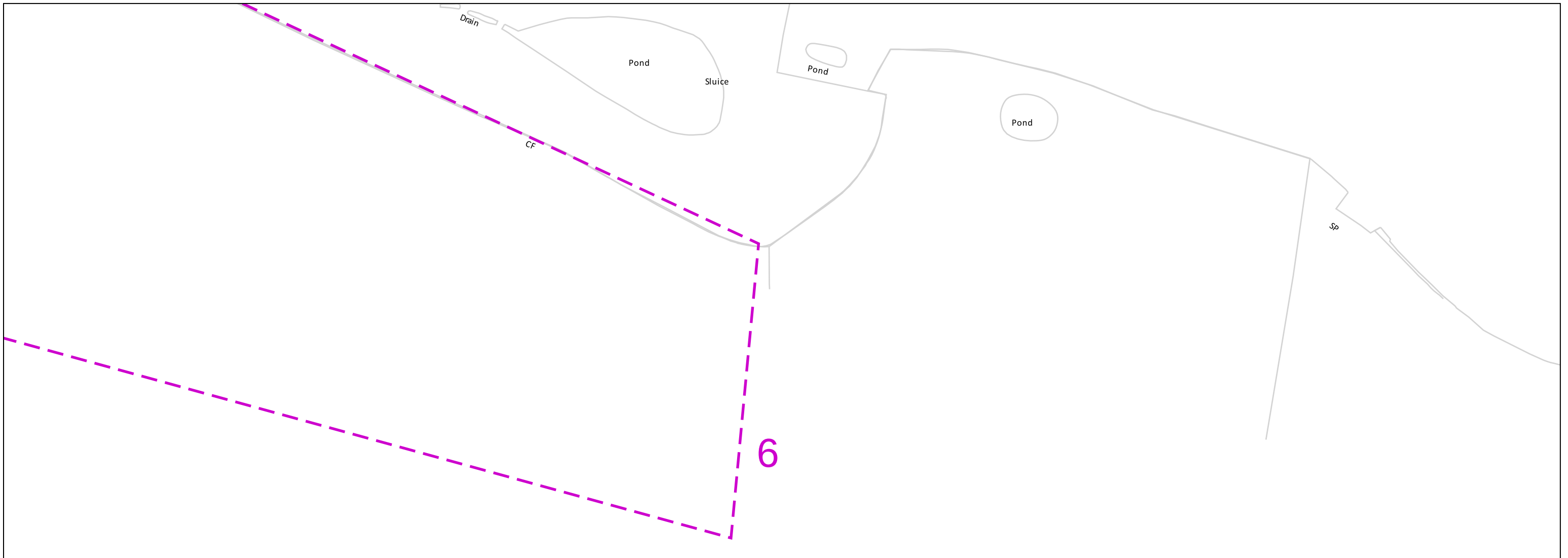
Dial
Call **029 2027 8912** before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

We need **10 days'** notice

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
RISK OF DEATH OR SERIOUS INJURY
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

Low Pressure (LP) 21mbar – 75mbar
Medium Pressure (MP) 350mbar – 2bar
Intermediate Pressure (IP) 2bar – 7bar
High Pressure (HP) >7bar

Line/Fire Valve
Governor Station
Change of Diameter
End Cap
Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

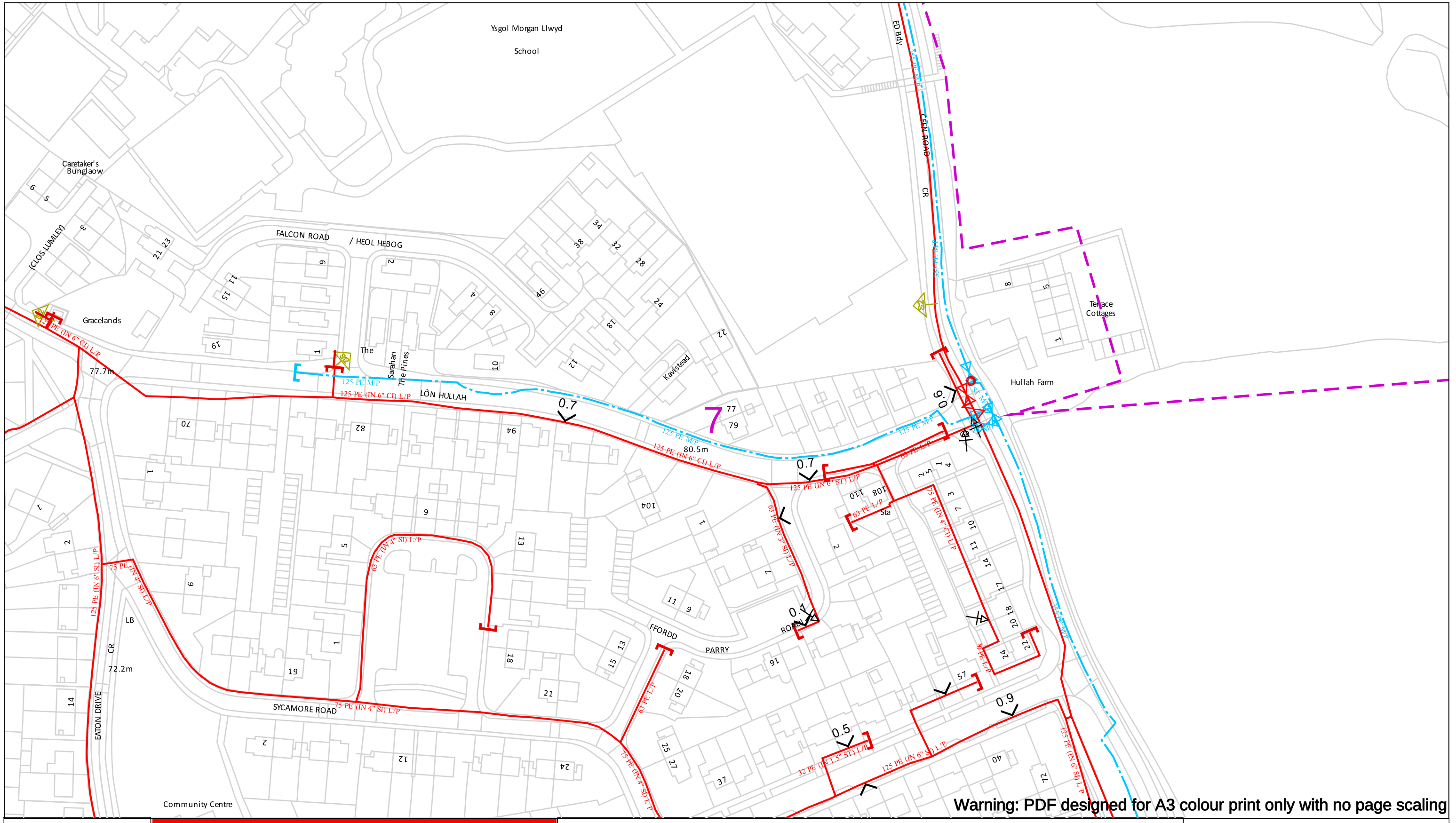
Dial
Call 029 2027 8912 before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

We need 10 days' notice

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas? Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

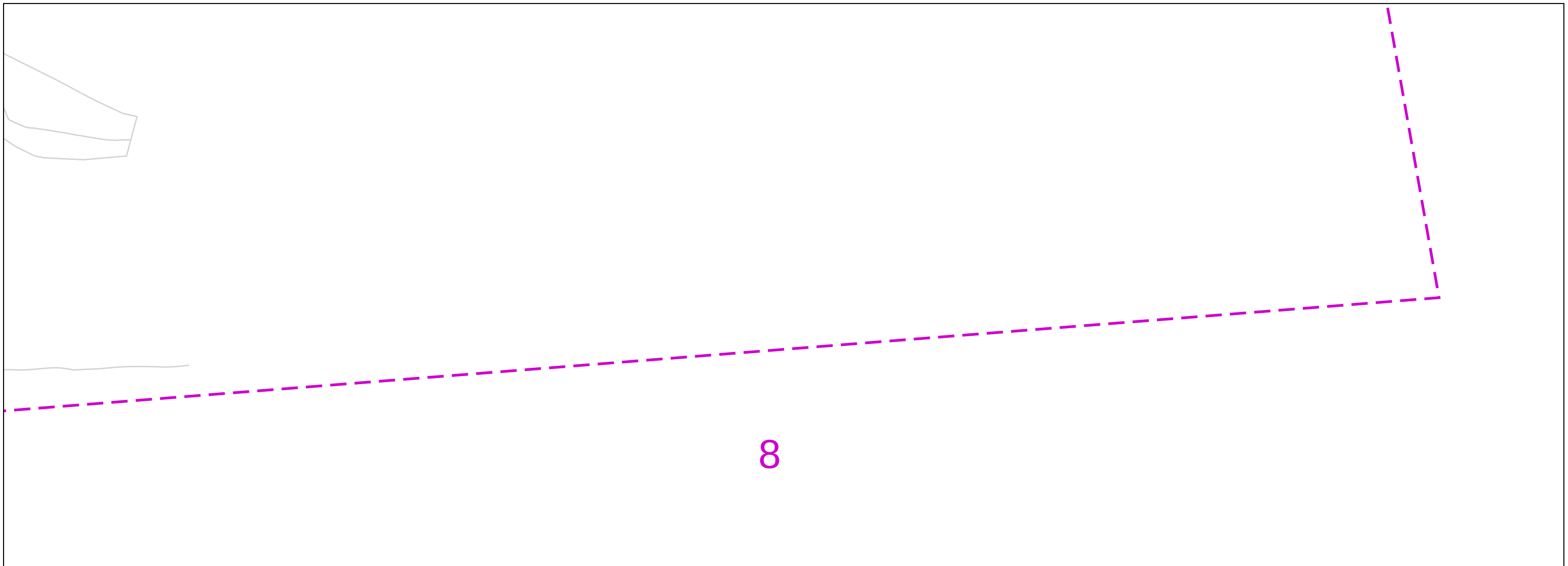
We need 10 days' notice

Dial Call 029 2027 8912 before you start work.

Investigate Before you dig, make sure you know what's below.

Go ahead Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863250
Site Location: 335576 350948
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

Low Pressure (LP) 21mbar – 75mbar

Medium Pressure (MP) 350mbar – 2bar

Intermediate Pressure (IP) 2bar – 7bar

High Pressure (HP) >7bar

Line/Fire Valve

Governor Station

Change of Diameter

End Cap

Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

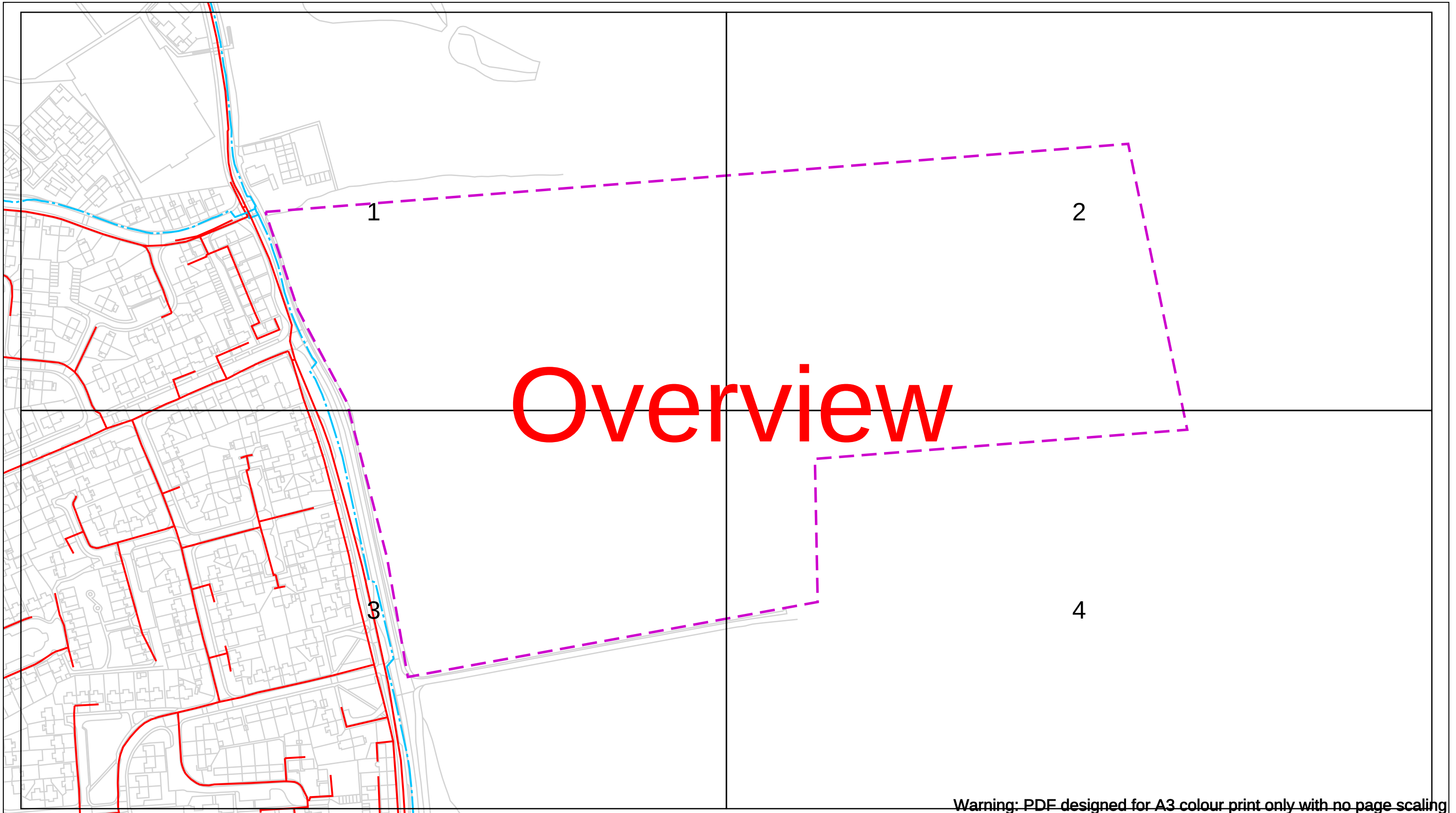
We need 10 days' notice

Dial
Call 029 2027 8912 before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863263
Site Location: 335685 350511
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference:
PR6359

Scale: 1:2562 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

Dig Sites

Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

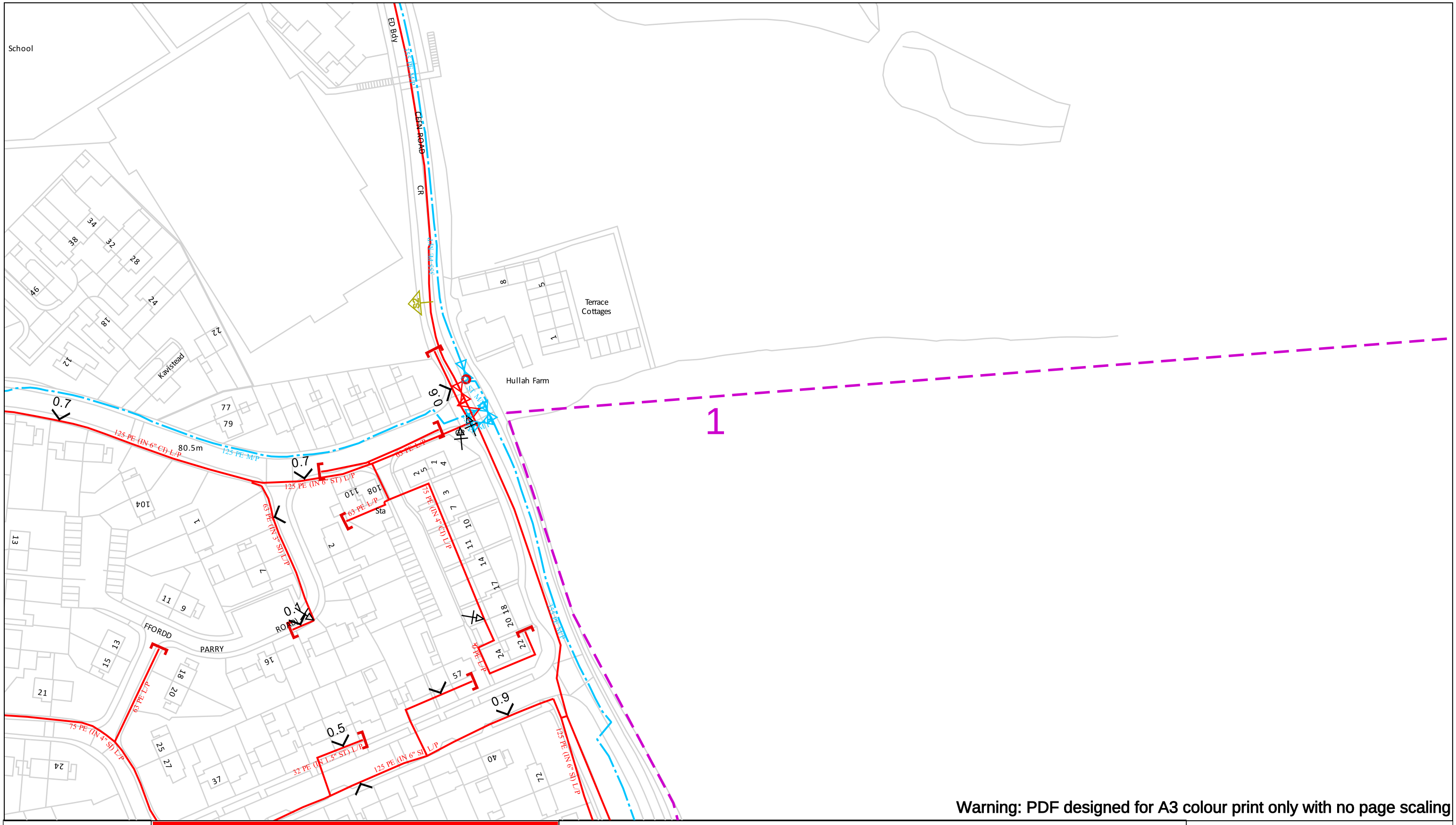
Dial
Call 029 2027 8912 before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

We need 10 days' notice

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863263
Site Location: 335685 350511
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites
Area:
Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the **Gas Emergency Service** on **0800 111 999.**

Dial before you dig

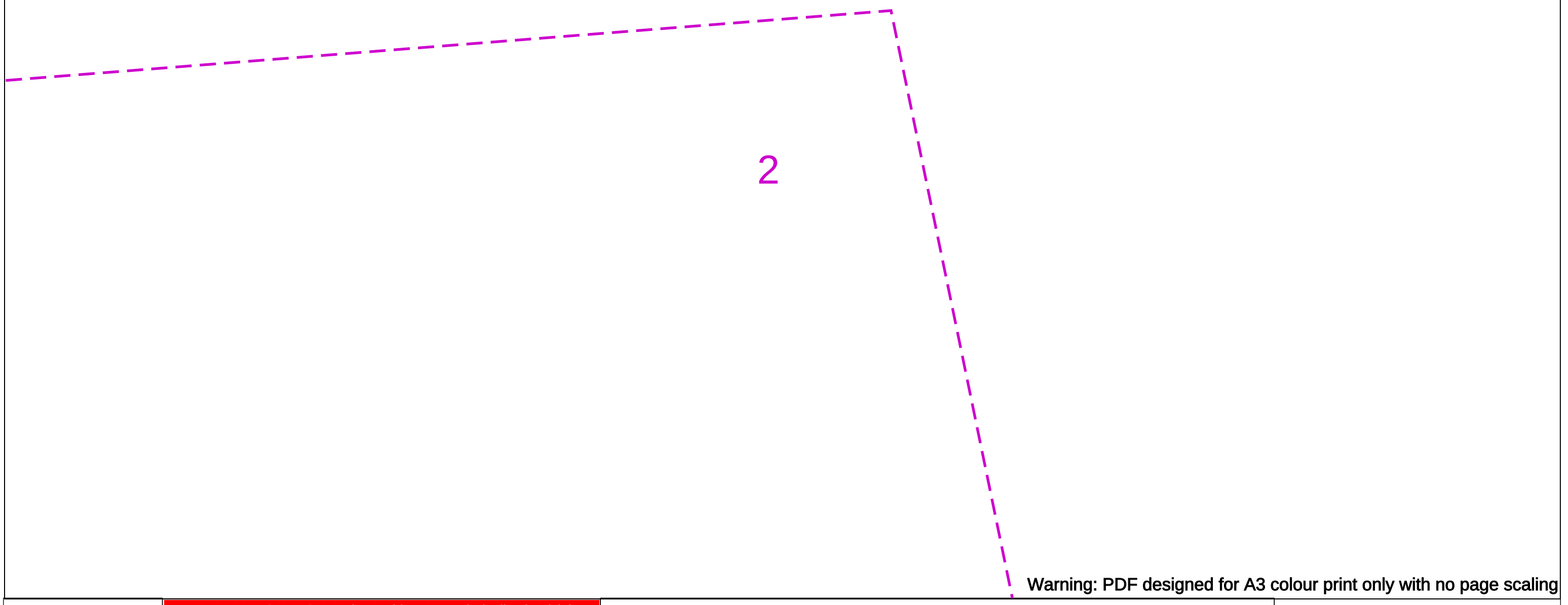
We need 10 days' notice

Dial
Call **029 2027 8912** before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863263
Site Location: 335685 350511
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

Low Pressure (LP) 21mbar – 75mbar
Medium Pressure (MP) 350mbar – 2bar
Intermediate Pressure (IP) 2bar – 7bar
High Pressure (HP) >7bar

Line/Fire Valve
Governor Station
Change of Diameter
End Cap
Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the **Gas Emergency Service** on **0800 111 999.**

Dial before you dig

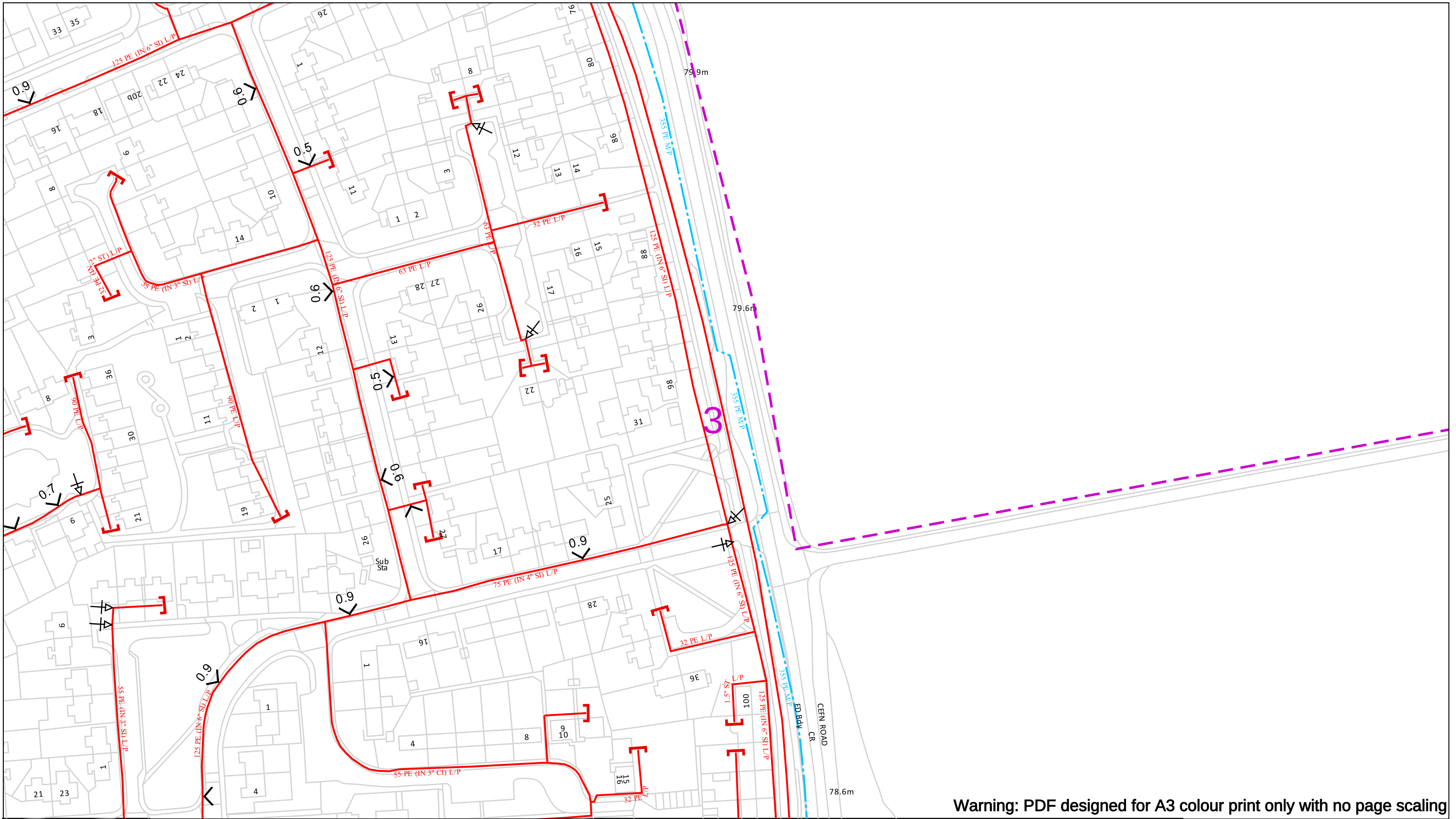
We need 10 days' notice

Dial
Call **029 2027 8912** before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863263
Site Location: 335685 350511
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

- Low Pressure (LP) 21mbar – 75mbar
- Medium Pressure (MP) 350mbar – 2bar
- Intermediate Pressure (IP) 2bar – 7bar
- High Pressure (HP) >7bar

- Line/Fire Valve
- Governor Station
- Change of Diameter
- End Cap
- Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the **Gas Emergency Service** on **0800 111 999**.

Dial before you dig

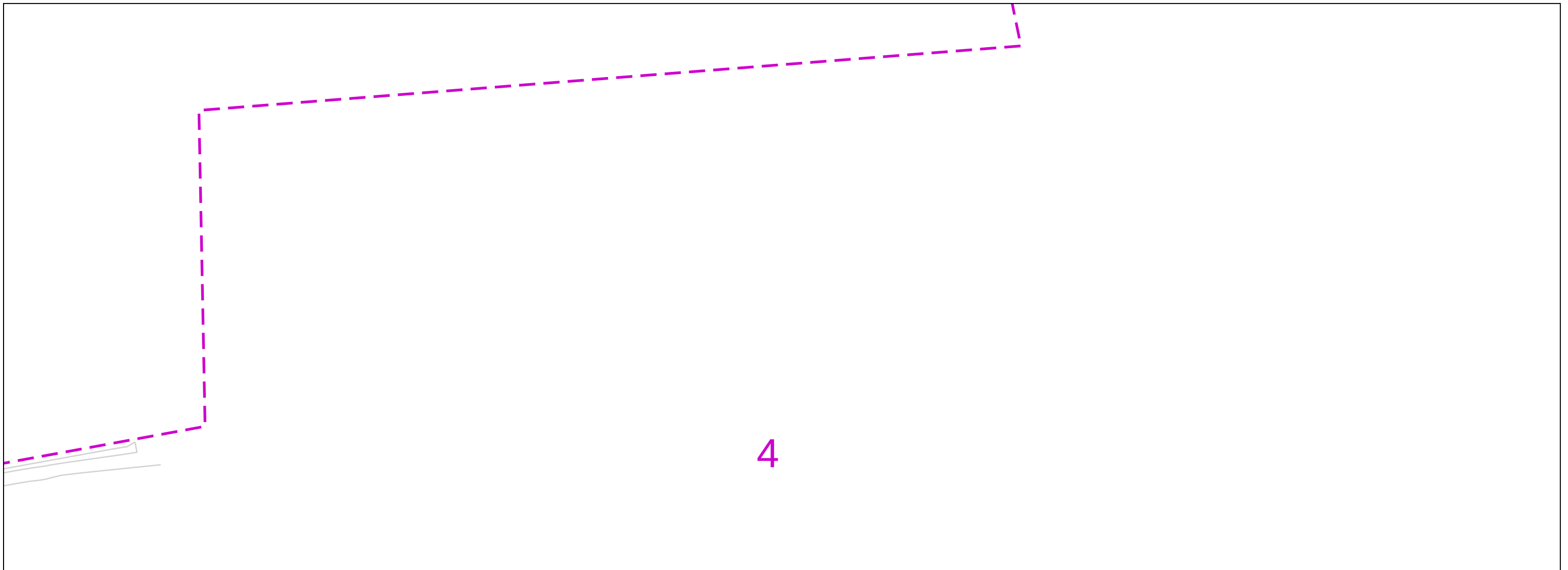
Dial
Call **029 2027 8912** before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

We need 10 days' notice

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



Warning: PDF designed for A3 colour print only with no page scaling

Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 22/12/2020
Job Reference: 20863263
Site Location: 335685 350511
Requested by:
Mrs Joanne Blackburn
Your Scheme/Reference: PR6359

Scale: 1:1250 (When plotted at A3)

EXTREME CAUTION. Major Accident Hazard Pipeline in Vicinity
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed
- The plan only shows those pipes owned by Wales & West Utilities (WWU) as its role as a licensed Gas Transporter
- Service pipes, valves, syphons, stub connections etc. may not be shown but their presence should be anticipated
- You must use safe digging practices in accordance with HS(G)47 to establish the actual position of mains, services and other apparatus before any mechanical excavation is used
- It is your responsibility to ensure this information is provided to all persons working near our plant
- If in doubt call the WWU dig team on 02920 278912

In case of an emergency call 0800 111 999

100m

Dig Sites

Area: Line:

Low Pressure (LP) 21mbar – 75mbar

Medium Pressure (MP) 350mbar – 2bar

Intermediate Pressure (IP) 2bar – 7bar

High Pressure (HP) >7bar

Line/Fire Valve

Governor Station

Change of Diameter

End Cap

Depth of cover

WALES&WEST UTILITIES

Smell gas?
Call the Gas Emergency Service on 0800 111 999.

Dial before you dig

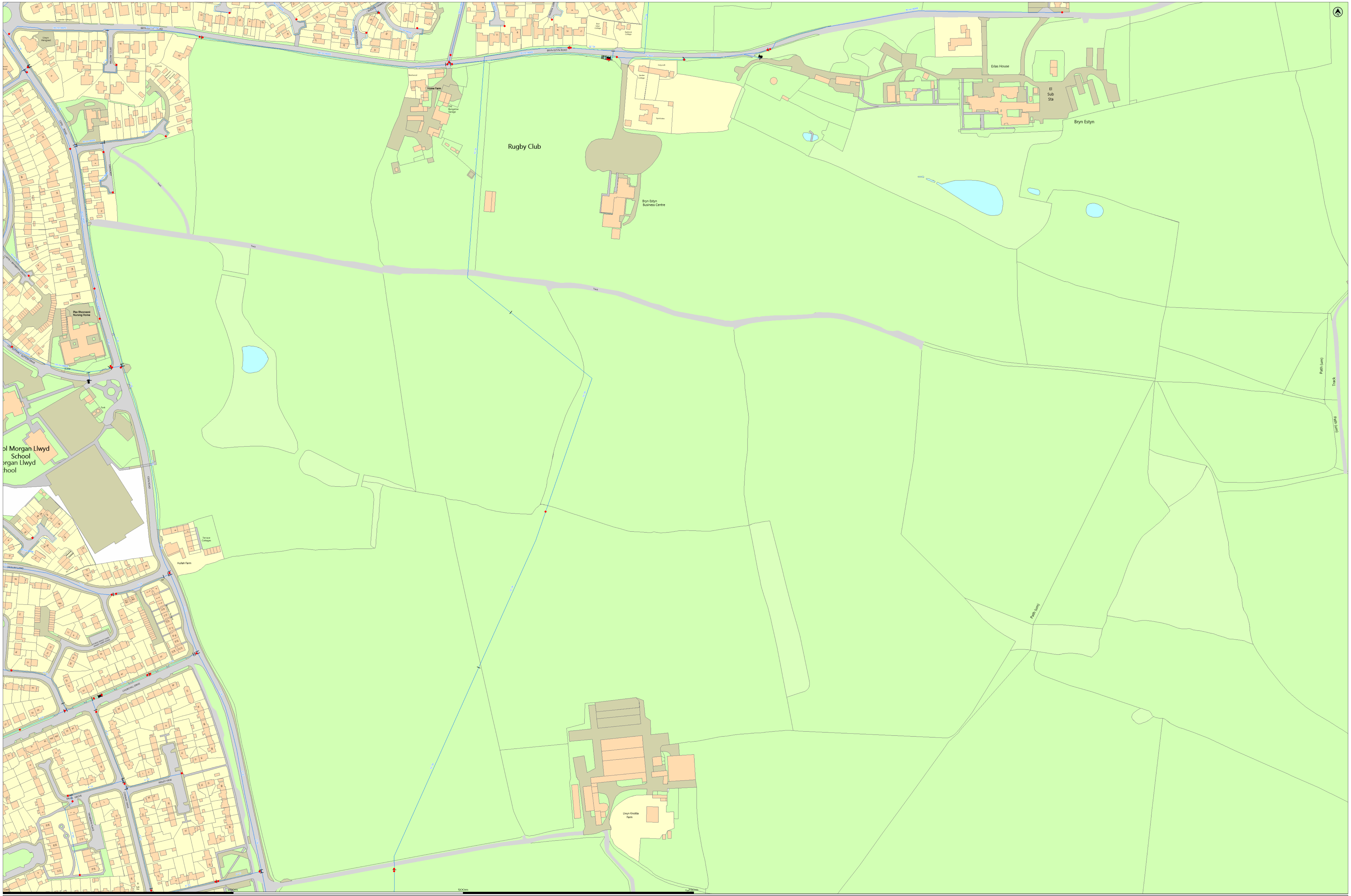
We need 10 days' notice

Dial
Call 029 2027 8912 before you start work.

Investigate
Before you dig, make sure you know what's below.

Go ahead
Done your research? Now you can dig safely.

Crown Copyright © - Reproduced by permission of Ordnance Survey on behalf of HMSO. And database right 2020. All rights reserved. Ordnance Survey Licence number 0100044308.



(c) Crown copyright and database rights 2020 Ordnance Survey 100031673

Date: 03/12/20

Scale: 1:1250

Map Centre: 335865,350793

Data updated: 14/11/20

Our Ref: 464775 - 1

Clean Water Plan A0

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database rights 2020. All rights reserved. Ordnance Survey Licence number 100031673. All rights in such data reserved. This plan and any information supplied with it is furnished as a general guide, is only valid at the date of issue and no warranty as to its correctness is given or implied. In particular this plan and any information shown on it must not be relied upon in the event of any development or works (including but not limited to excavations) in the vicinity of Hafren Dyfrdwy assets or for the purposes of determining the suitability of a point of connection to the sewerage or distribution systems. Document users other than SEVERN TRENT WATER business users are advised that this document is provided for reference purpose only and is subject to copyright, therefore, no further copies should be made from it.

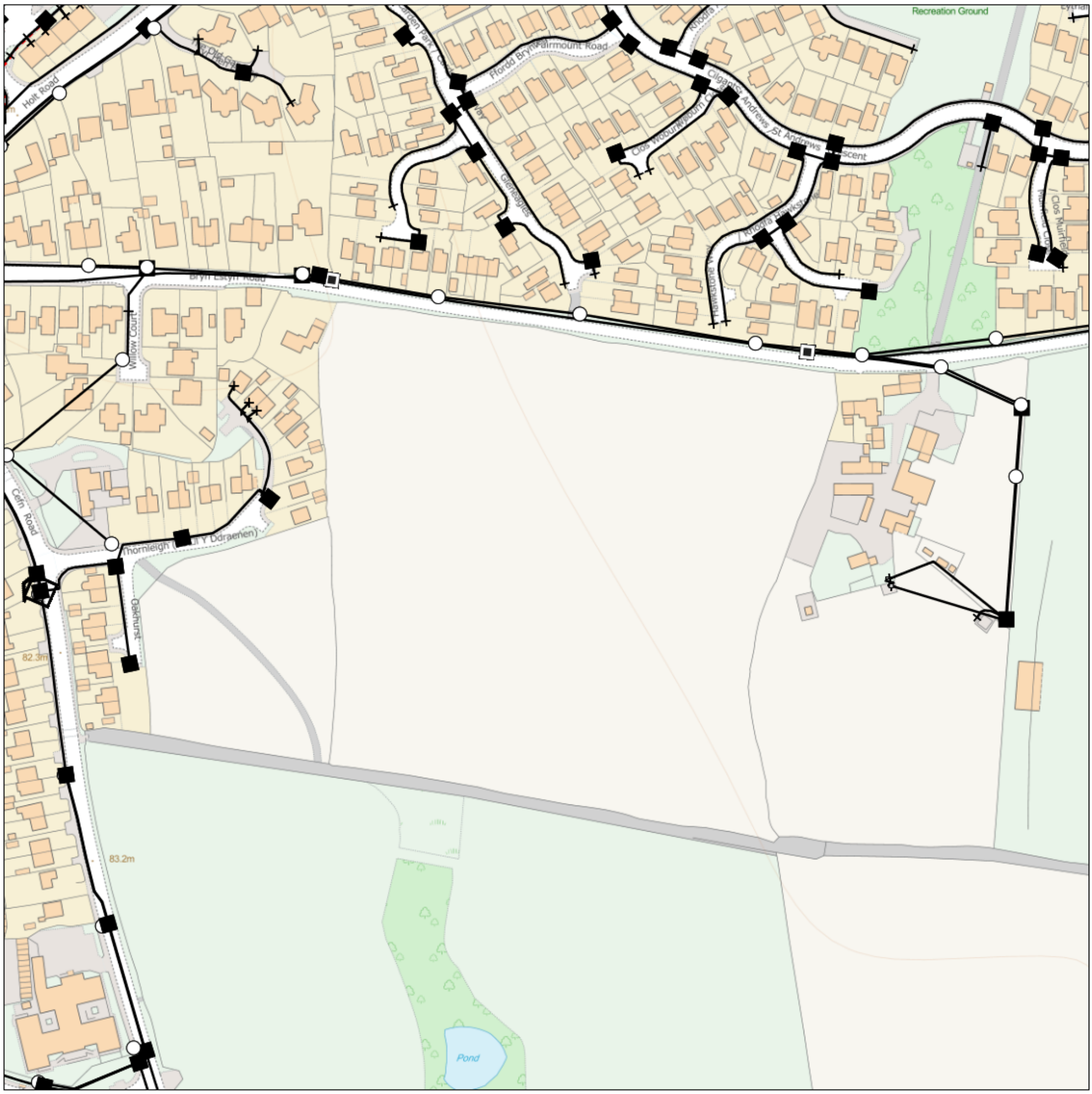
Hydrant | Valve | Aqueduct
Meter | Water Main | Duct
AirValve | Abandoned Pipe | Service Pipe

joanne.pugh@ucml.co.uk

1

HAFREN DYFRDWY severn dee

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

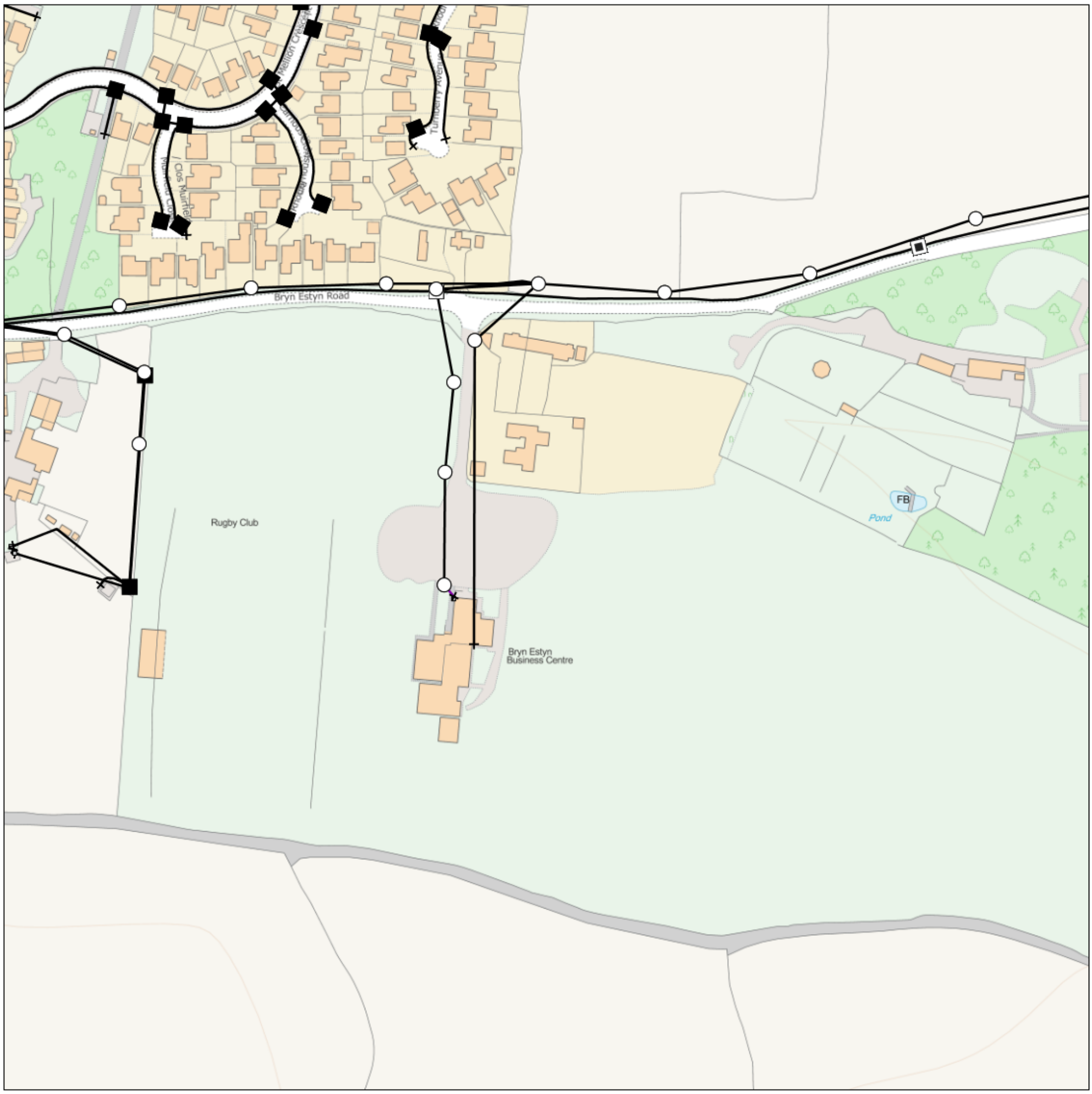
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : WJC05112G
Map Reference : (centre) SJ3544151125
Easting/Northing : (centre) 335441,351125
Issued : 11/02/2021 17:11:59

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

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

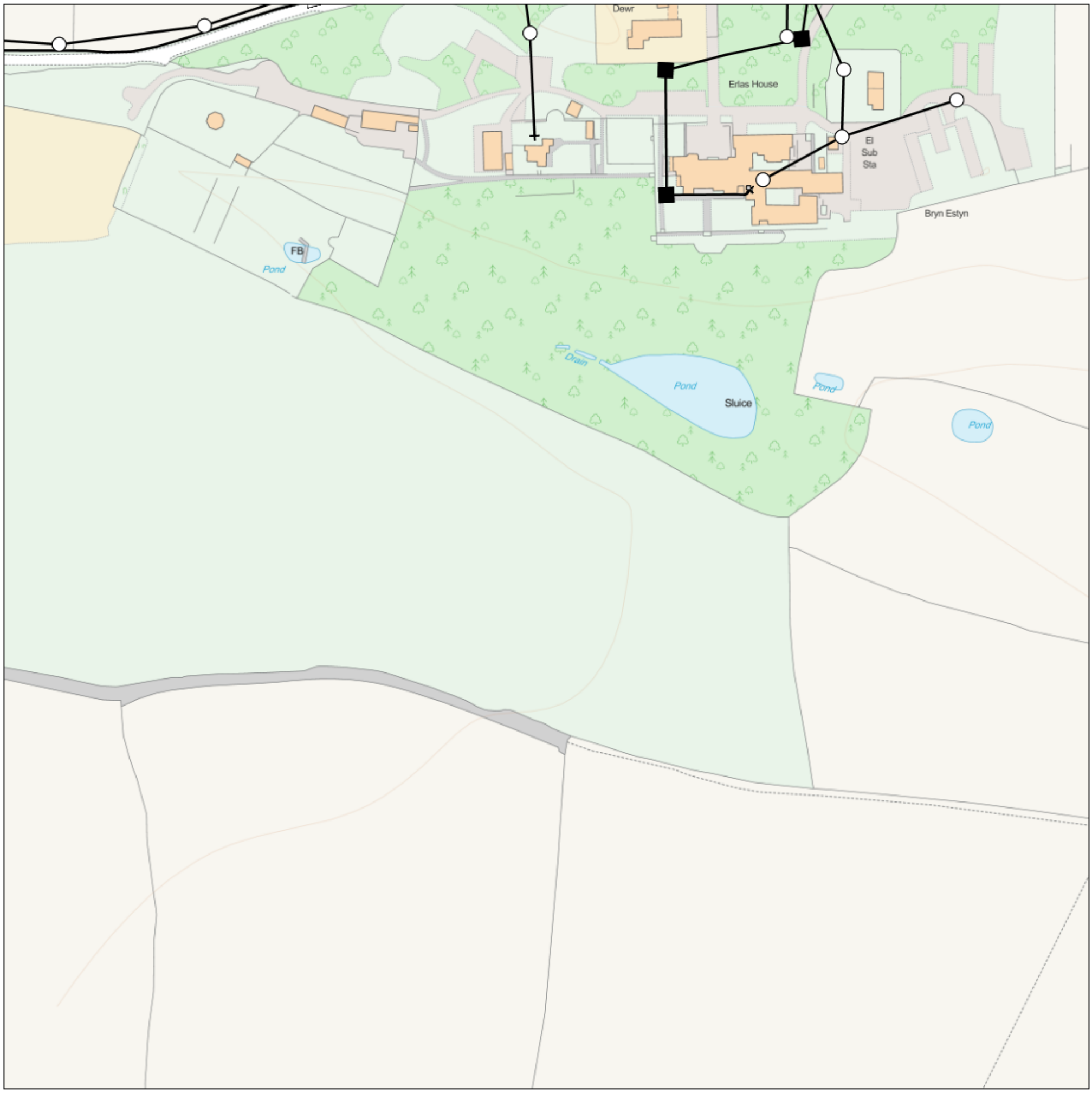
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : BUS05126X
Map Reference : (centre) SJ3584551110
Easting/Northing : (centre) 335845,351110
Issued : 11/02/2021 17:12:21

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

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	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.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : AXA05123G
Map Reference : (centre) SJ3612450996
Easting/Northing : (centre) 336124,350996
Issued : 11/02/2021 17:12:45

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

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	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.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : MJK05134Q
Map Reference : (centre) SJ3603650713
Easting/Northing : (centre) 336036,350713
Issued : 11/02/2021 17:13:32

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

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

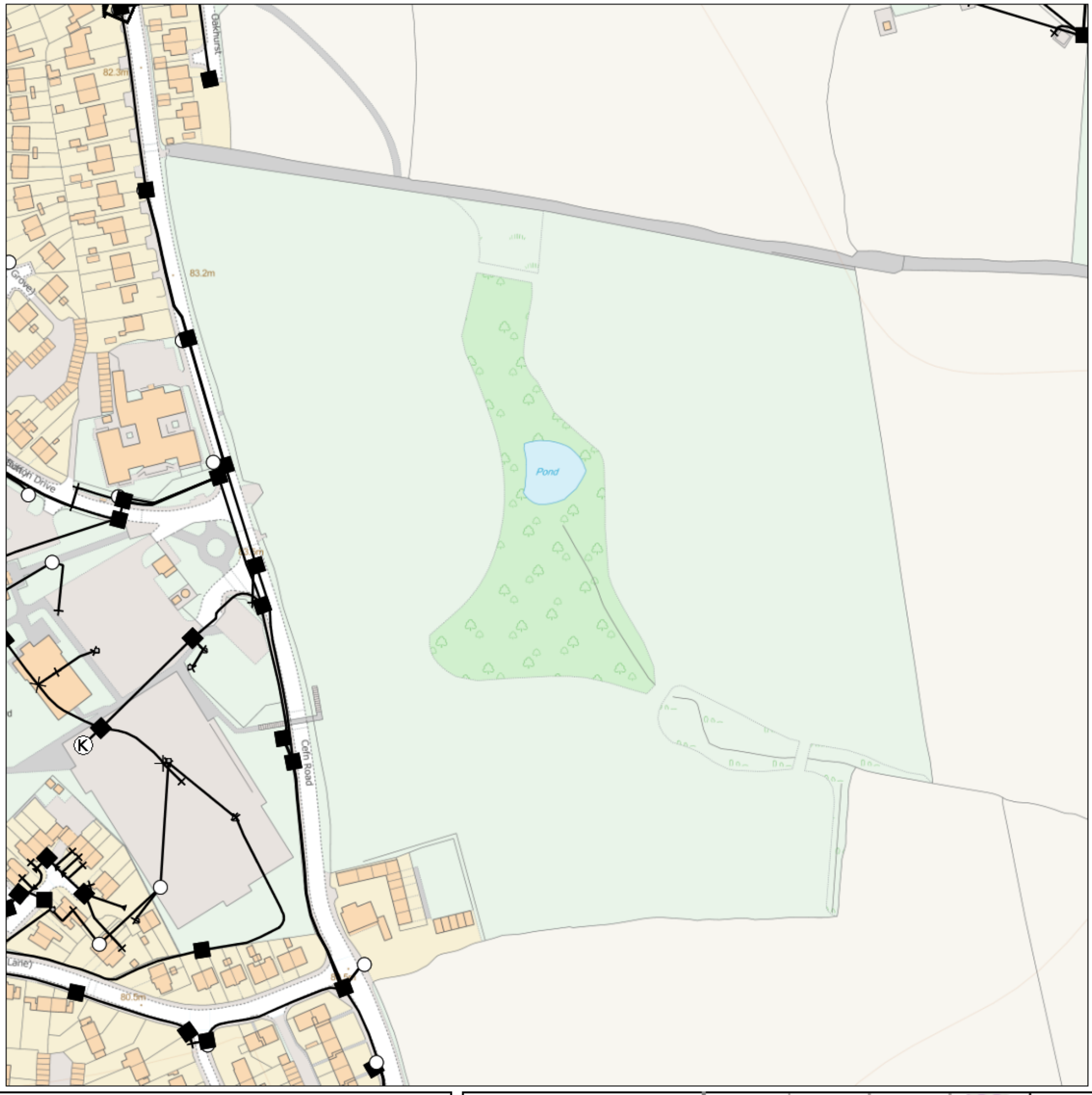
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : XJK05149X
Map Reference : (centre) SJ3570750812
Easting/Northing : (centre) 335707,350812
Issued : 11/02/2021 17:14:25

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

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

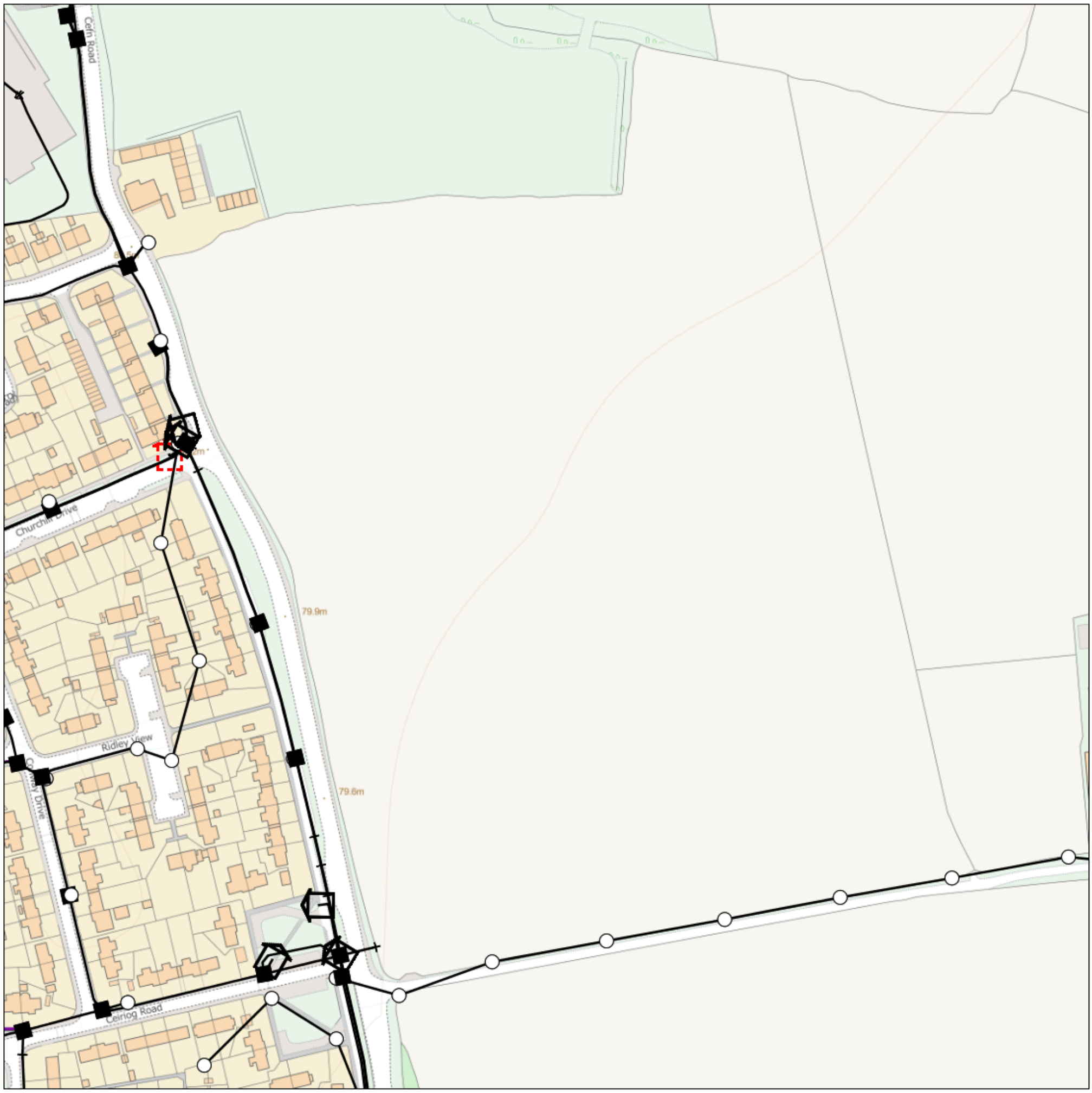
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : EWV05145A
Map Reference : (centre) SJ3540550856
Easting/Northing : (centre) 335405,350856
Issued : 11/02/2021 17:14:58

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

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

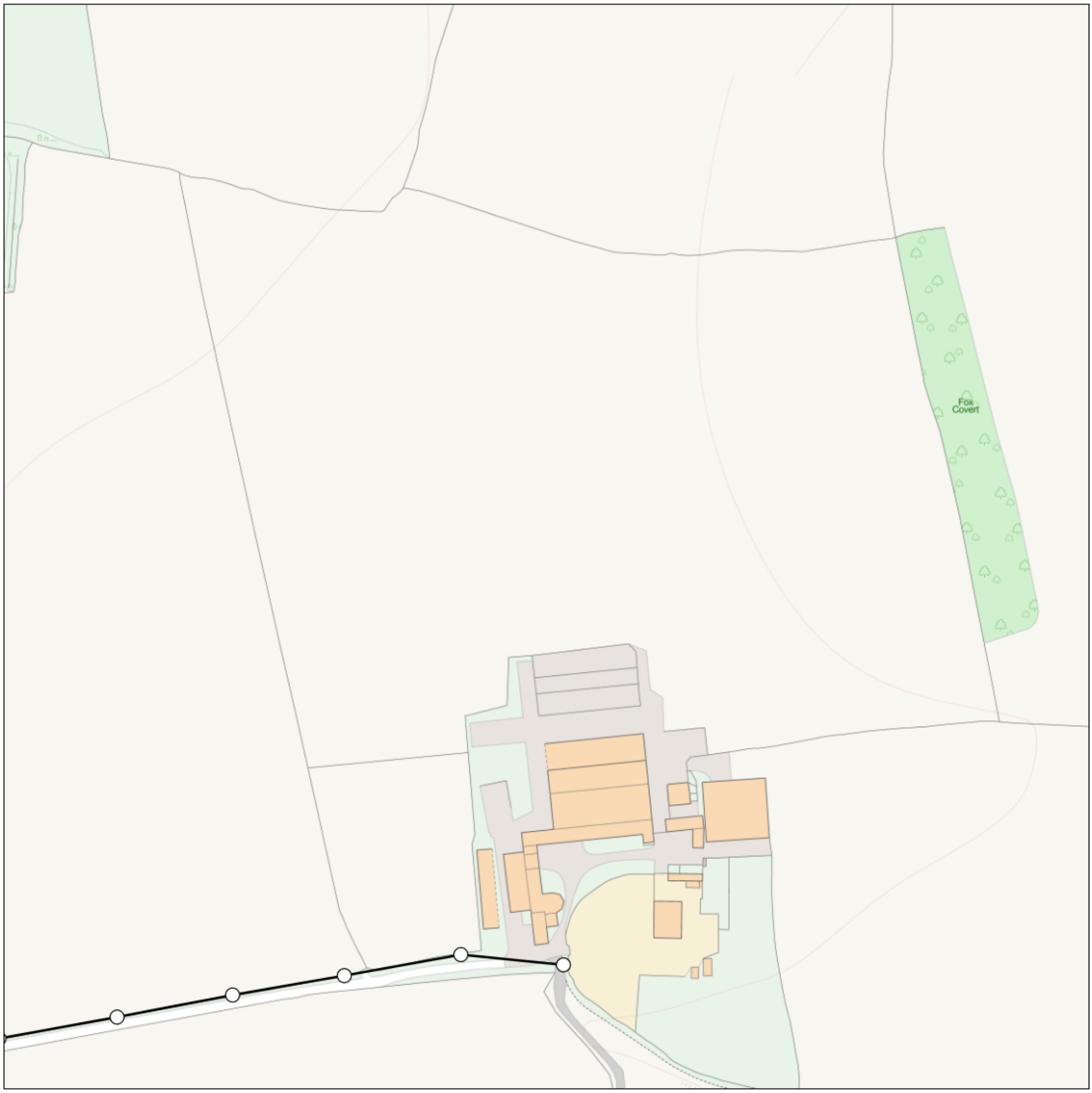
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : JNK05156G
Map Reference : (centre) SJ3550450522
Easting/Northing : (centre) 335504,350522
Issued : 11/02/2021 17:15:14

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

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

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 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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

KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	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.

	Pending Add	In Place	Pending Remove	Not In Use
Power Cable				
Power Duct				N/A

BT Ref : QYY05155O
Map Reference : (centre) SJ3578450567
Easting/Northing : (centre) 335784,350567
Issued : 11/02/2021 17:15:46

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



(c) Crown copyright and database rights 2020 Ordnance Survey 100019209 | Date: 30/09/20 | Scale: 1:3557 | Map Centre: 335641,350989 | Data updated: 03/08/20 | Telecoms Plan A4

Important Information - please read The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the "Affected Postcodes.pdf", which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2020 Ordnance Survey 100019209.

Duct, Trench | Chamber | Cabinet

chilakala.apsar@virginmedia.co.uk

1



(c) Crown copyright and database rights 2020 Ordnance Survey 100019209 | Date: 30/09/20 | Scale: 1:3557 | Map Centre: 335670,350512 | Data updated: 03/08/20 | Telecoms Plan A4

Important Information - please read The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the "Affected Postcodes.pdf", which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2020 Ordnance Survey 100019209.

Duct, Trench | Chamber | Cabinet

chilakala.apsar@virginmedia.co.uk

2