ARUP

Carmarthenshire County Council

Machynys Hotel

Drainage & Utilities Strategy

Reference: ARP-ZZZ-ZZ-RP-C-00001

P02 | 23 October 2024

Job number 278688-00

Ove Arup & Partners Limited
111 Victoria Street
Redcliffe
Bristol
BS1 6AX
United Kingdom
arup.com

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1. Introduction

1.1 Report Scope

This report is to support an application for outline planning permission by Carmarthenshire County Council (CCC) for the development of:

- Up to 120-bedroom hotel
- Associated car parking and access roads
- new vehicular access off the B4304 road including an all-movement junction
- associated infrastructure
- land profiling and associated landscaping

at Machynys Central, Llanelli.

This report outlines the potential strategies to provide the proposed development with potable water and also the potential strategies for the collection and disposal of both storm and foul drainage.

1.2 Location and Description

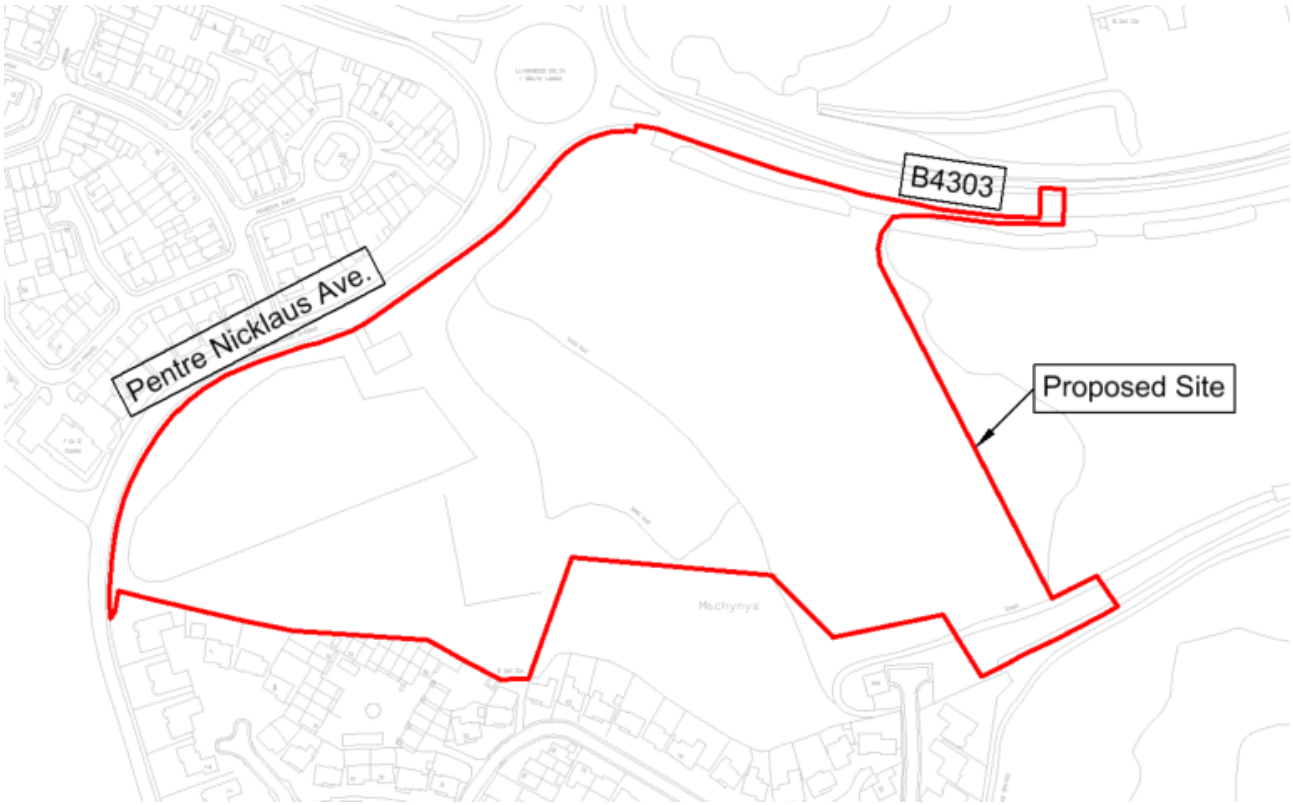


Figure 1 - Site Location Plan

The hotel site of Machynys Central is located on the Machynys promontory, to the south-east of Llanelli. The site is some 5.54 hectares in size, the centre is at Grid Reference 250854, 198351, see Figure 1 below. The site is bounded to the north by the B4304; to the west by Pentre Nicklaus Avenue, to the east by undeveloped land, to the south with residential development and an area of undeveloped land. A ditch runs along the south east boundary of the site.

The site comprises open, disused land consisting of low-level rough grass/scrub, but overgrown in the north and east. The site and surroundings have previously been subject to historical industrial development but has been disused for some time.

Available topographical and LIDAR information indicates that the site is generally flat on the eastern side, locally undulating with site levels varying between 6.0mAOD and 7.0mAOD. The ground rises towards the west with a high point of 16.5m AOD in the south of the site. Two additional mounds are located on the northern part of the site with ground levels rising up to 14.5mAOD; a bund is located along the northern and north-western edges of the site, adjacent to the B4304 and Pentre Nicklaus Avenue rising up to 8.5mAOD and local area of depression is located in the north of the hotel development site with a low spot of 6.5m AOD.

A DCWW foul pumping station is located on the western boundary of the site accessed from Pentre Nicklaus Avenue.

1.3 Published Flood Risk Maps

Fluvial and Tidal Flooding

The current published Welsh Government Technical Advice Note 15 (TAN15) Development Advice Map (DAM) indicates that the site is within Zone A and Zone C1, see Figure 2. The eastern side of the site is within Zone C1, with this zone extending into the north. The remainder of the site is located within Zone A. Zone A is considered to be at little or no risk of fluvial or tidal flooding. Zone C1 defined as an area of floodplain served by significant infrastructure, including flood defences, and liable to flood events with probability of occurrence of 0.1% or greater (i.e. 1 in 1000year flood event or greater).

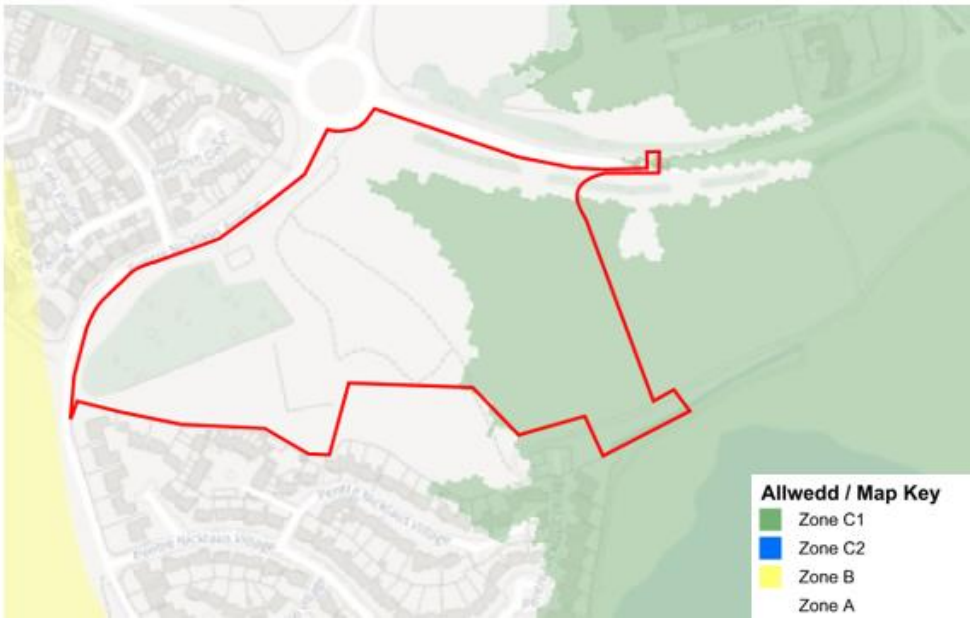


Figure 2 Extract from TAN15 DAM

The current NRW Published Flood Map shows that some of the eastern side of the site is at low risk of flooding from the sea, see extract of NRW Flood Rosk Maps in Figure 3. Low risk means that each year, the area has a chance of flooding between 1 in 1000 (0.1%) and 1 in 200 (0.5%).

As such a Flood Consequences Assessment is required for the scheme, which is contained within a separate report.

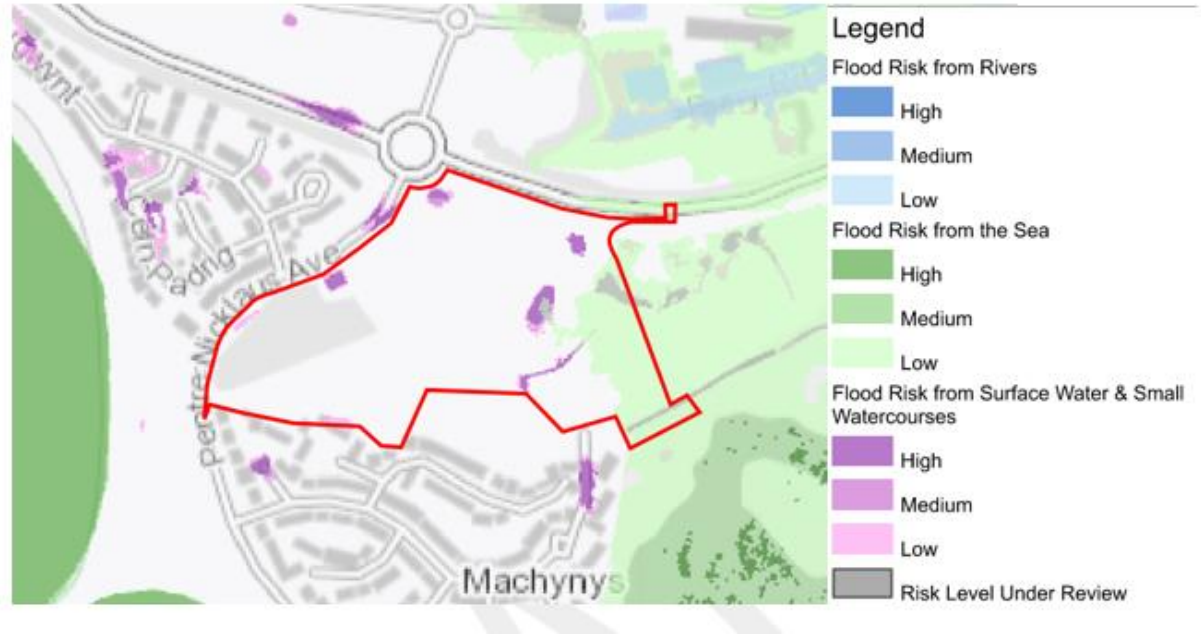


Figure 3 Extract from NRW Flood Risk Maps

It should be noted that The Welsh Government (WG) is due to implement a revised TAN15. WG have undertaken a consultation on proposed further amendments to the proposed TAN15 document. These proposed changes are currently unknown, therefore there is a level of uncertainty with regards to exact requirements in future. Figure 4 shows an extract of the Flood Map for Planning which shows how climate change will affect flood risk extents over the next century. The Flood Map for Planning has no official status until the WG implements the revised TAN15. The map shows the eastern side of the site is within a Defended Zone.

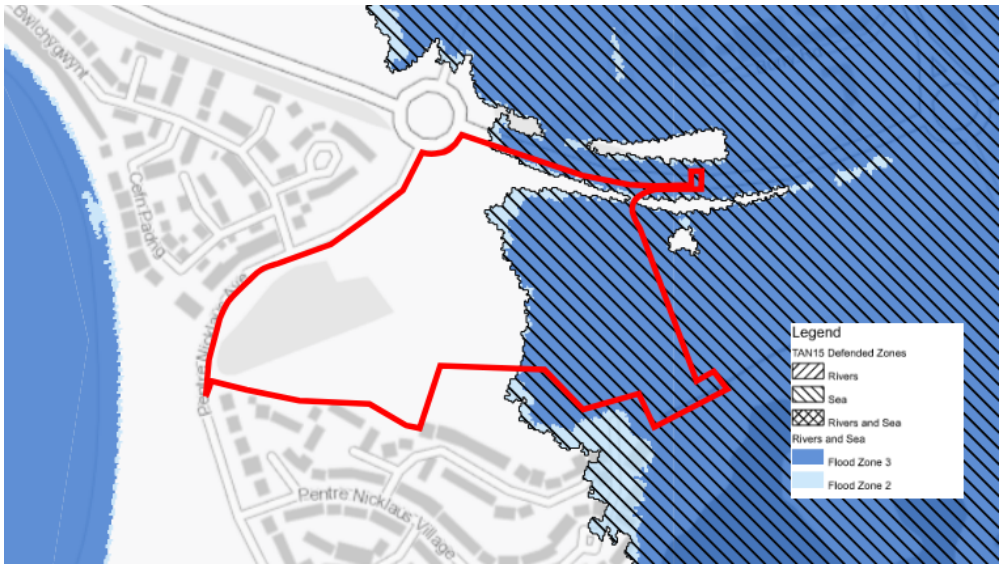


Figure 4 Extract from Flood Map for Planning

Surface Water and Small Watercourse Flooding

The NRW Surface Water and Small Watercourse Map (Figure 3) shows isolated areas within the hotel development site which are at high risk of flooding. These relate to low spots on the site which are unable to drain off the site during extreme rainfall events. These will need to be managed as part of the proposed storm drainage provision.

1.4 Development Proposals

The concept development proposals are illustrated on drawing MH-IMP-01, consisting of a 120-bed hotel and associated car parking. The development will include a new primary access to the north connecting to the B4304 and a potential secondary access road to the west connecting to Pentre Nicklaus Avenue, together with landscaped areas. As indicated in the Flood Consequences Assessment, the buildings, car parking and site access roads will need to be graded to comply with the requirements of TAN15. The proposed ground levels within the car park will need to be kept as close to existing as possible. The local area of depression in the north of the site will need to be uplifted by up to 0.5m. Retaining walls will likely be required across the hotel development site in order to tie into the existing levels, to reduce the extent of earthworks and reduce impact on the surrounding green space.

1.5 Other Reports

The following separate reports should be referenced for further information:

- Machynys Hotel: Geoenvironmental and Geotechnical Desk Study Note (Arup, October 2024
- Machynys Hotel: Flood Consequences Assessment

2. Utilities

2.1 Introduction

A utility search has been carried out for the main utility owned below ground services. The following service providers were contacted to determine the location of existing assets within or adjacent to the plot boundary:

- Gas – Wales & West Utilities (WWU)
- Electricity – Western Power Distribution (NGED
- Potable water supply – Dwr Cymru Welsh Water (DCWW)
- Storm and foul drainage – DCWW
- Telecommunications – BT Openreach, Virgin Media, City Fibre, Vodafone.

The plant records are contained in Appendix A and a summary of the findings is provided below.

2.2 Gas

No gas infrastructure exists within the site.

A 315mm PE low pressure pipe is located along the B4034 to the north of the development.

2.3 Electricity

NGED plans show the route for 11kV through the site from the B4304 roundabout access travelling south through the site to the residential development in the south. The cables is marked as assumed route NC on the plans therefore, the exact route and whether the cable is still connected to the local network should be confirmed by NGED prior to works on site. This will allow any diversion works to be determined.

A 33kV underground cable and 3No. 132kV underground cables are located along the northern boundary of the site within the southern verge of the B4304 Llanelli Coastal Road. An 11kV underground cable runs within the northern verge of the B4304.

NGED have been contacted to determine whether sufficient capacity exists in the local network to supply the proposed development. At the time of writing, no response has been received, however their Network Capacity Map online shows the local primary substation currently has spare capacity.

2.4 Potable Water

DCWW records confirm that potable water supply mains are located within and around the vicinity of the sites. A potable water supply is located within the northern verge of the B4304, and another is located to the west of the site, within the western verge of Pentre Nicklaus Avenue.

An abandoned connection enters the site from the Llynnoedd Delta roundabout. To the east of the site is another abandoned 4inch water distribution main. Although the main is abandoned; it retains its status as a public asset and therefore has a 3m protection zone either side of its centreline. There may be an opportunity to seek ownership of the main through a deed of transfer – however transferral is not guaranteed.

2.5 Surface Water Drainage

Plant records confirm that a DCWW surface water sewer network is located within the residential development to the south of the site. This outfalls to the existing ditch to the south of the proposed hotel site.

2.6 Foul Drainage

DCWW foul sewers and a foul pumping station are located to the south of the proposed development. The pressurised foul rising main from this pumping station heads north to the east of the proposed hotel site, to the B4303 where it continues to the east within the northern verge. The exact route and depth of this rising main will need to be confirmed as although the DCWW plans do not show it to be within the proposed layout, the route of the surface water connection from the site will need to be co-ordinated with the rising main. .

Another pumping station (Machynys West SPS) is located to the southwest of the site which serves the residential development to the west. The rising main from this pumping station runs north within Pentre Nicklaus Avenue

2.7 Telecommunications

BT Openreach telecommunication infrastructure currently exist within the site area. A cable with joint boxes is located within the northern and southern verges of the B4304 to the north of the site. Cables and joint boxes run within the eastern verge of Pentre Nicklaus Avenue along the western boundary of the site. Another cable is shown on the plans which crosses through the site from the Llynnoedd Delta roundabout travelling in a southeast direction to the foul pumping station to the south of the site. BT Openreach plans received show this to be overhead.

The BT Openreach poles and overhead lines within the site boundary will need to be diverted.

Virgin Media and City Fibre plans received do not show any assets within the site boundary. Vodafone have confirmed they do not have apparatus within the vicinity of the proposed works.

3. Proposed Drainage Strategies

3.1 Introduction

Dwr Cymru Welsh Water (DCWW) have been contacted to determine whether sufficient water supply and foul capacity exists in the local network to supply the proposed development. At the time of writing, no response has been received.

3.2 Potable Water

The estimated peak water demand for the whole development is approximately 1 l/sec. This estimate is preliminary and should be reviewed in subsequent design stages when further detailed information is available for occupancy and proposed hotel facilities.

The proposed strategy for supplying the development with potable water is from the DCWW potable water network. As previously stated, an application has been submitted to DCWW to connect to their local network.

3.3 Foul Drainage

3.3.1 Proposed Connection

An application has been submitted to DCWW to determine if there is capacity within the local network connect to their local public sewerage network to accommodate the foul flows from the proposed development. At the time of writing, no response has been received.

A proposed concept drainage layout is presented in Appendix D. It is assumed that the proposed foul drainage will be transferred via gravity to reach the DCWW network.

3.3.2 Foul Betterment

There is limited capacity within Llanelli's local foul drainage network, therefore any new connections need to comply with a Memorandum of Understanding (MoU), dated September 2011, which is an agreement between Carmarthenshire County Council (CCC), Dŵr Cymru Welsh Water (DCWW) and National Resources Wales (NRW).

3.3.3 Memorandum of Understanding

The MoU sets the conditions required to allow new foul drainage connections into the local network. As part of the MOU, a comparable amount of surface water flow needs to be removed from the combined network to enable development to proceed. The previous development of the old Draka site to the north of Delta Lakes into a modern primary school and playing fields has removed a net flow of 80.82 l/s from the combined drainage network in the area.

It should be noted that it was CCC that delivered the original scheme of works to remove the surface water from the public combined network at Draka. This new hotel development is being proposed by CCC who want to utilise their previous investments and use drainage savings secured at Draka to deliver its regeneration proposals for the area.

The MoU sets out hydraulic flow data which is to be used for the "Betterment" calculations. The peak foul flow to be used for the comparison for a hotel is 0.021 l/head/second. This results in a peak flow rate for the proposed hotel development of 2.52 l/s. The MOU Statement has been included in Appendix E.

3.4 Storm Drainage

Schedule 3 of the Flood and Water Management Act 2010 establishes SuDS Approving Bods (SABs) in local authorities in Wales. Since the 7th of January 2019, developments greater than 100m^2 or developments containing more than one building will be required to submit a SAB application. This application requires developers to utilise Sustainable Drainage Systems (SuDS) in their surface water management for a development. As the area of proposed development is approximately 1.08Ha, the development requires a SAB application.

SuDS aim to manage rainfall on site using methods that mimic natural processes, by making use of the landscape and vegetation to control the flow, volume and quality of the surface water runoff. In addition to this, SuDS also provide amenity and biodiversity benefits by providing aesthetically pleasing and natural landscapes, and biodiversity benefits by creating habitats for wildlife and vegetated areas.

The Welsh Government's (WG) "Statutory Standards for Sustainable Drainage Systems" contains six standards, which details the requirements for any SuDS proposed. These sections are as follows:

S1. Runoff destination

S2. Hydraulic control

S3. Water quality

S4. Amenity

S5. Biodiversity

S6. Construction, operation and maintenance

These form a set of principles which must be considered in the design of the SuDS features in order to obtain approval by the SAB.

3.4.1 Runoff Destination

The WG's SuDS Standard S1 provides a discharge hierarchy for surface water from developments, as well as exemption criteria for each level that must be met before the next level can be considered. The discharge hierarchy is shown below:

- Level 1: Surface water runoff is collected for use;
- Level 2: Surface water runoff is infiltrated to ground;
- Level 3: Surface water runoff is discharged to a surface water body;
- Level 4: Surface water runoff is discharged to a surface water sewer, highway drain, or another drainage system;
- Level 5: Surface water runoff is discharged to a combined sewer.

The aim of this is to encourage developments to use runoff as a resource and ensure that runoff is sustainably managed to avoid any negative impacts from the development, such as increased flood risk. Using this hierarchical approach, it is proposed that the surface water runoff generated from the proposed development will be discharged to the existing drainage ditch to the south of the site, see drawing presented in Appendix D. This is on the basis that the reuse of water is likely to be unfeasible and that the existing ground conditions are likely to be unfavourable to allow infiltration due to the presence of made ground and low permeability alluvial soils beneath the site.

3.4.2 Hydraulic Control

The proposed development site is currently an unused area of land, although previously developed, it could be considered as a greenfield site in terms of drainage. The peak flow rate of the rainfall runoff from the undeveloped site is the Greenfield Runoff Rate (GRR).

Standard S2 requires that:

1. The first 5mm falling on the site is intercepted, therefore producing no runoff for small storm events.
2. The peak flow rate for the 1 in 1-year event for the development is controlled to mitigate negative impacts on the flood risk of the receiving water bodies.
3. The peak flow rates and runoff volume for the 1 in 100-year event for the development is controlled to mitigate negative impacts on the flood risk of the receiving watercourse, with a suitable allowance for climate change (assumed 40% at this stage).

To meet the interception requirements, appropriately sized SuDS features are required with sufficient retention time to allow the flow to be intercepted. To meet these requirements, different SuDS components are proposed within the development, see drawing in Appendix C, these include the following:

- Rain Gardens / Bioretention Systems
- Permeable Paving
- Green roof
- Swale

To manage the peak surface water runoff generated from the proposed development hardstandings, the flows will need to be restricted and attenuated to agreed rates with the SAB. The attenuation features will be needed to either provide storage for the surface water runoff to be discharged at greenfield runoff rate (GRR) or at the mean annual flood flow (Q_{bar}) for all storm events up to and including the 1 in 100-year return period including an allowance of 40% for climate change.

Until it can be demonstrated that the difference in pre and post runoff volume for the 1 in 100-year return period, 6 hour rainfall event can be discharged at 2 l/s/ha or Q_{bar} whilst allowing the site to discharge at GRR, then hydraulic control measures are proposed to be discharged at Q_{bar} for all storm events up to and including the 1 in 100-year return period including an allowance of 40%.

The GRR and Q_{bar}, have been estimated as follows assuming the proposed illustrative site layout shown in Appendix C which has impermeable area of approximately 1.08ha contributing into the drainage catchment:

- 1 in 1 year: 3.8 l/s
- 1 in 30 year: 7.6 l/s
- 1 in 100 year: 9.4 l/s
- Q_{bar}: 4.3 l/s

The attenuation volume for the proposed development has been estimated to be 1342m³ assuming the discharge rate is limited to Q_{bar}. This will need to be reviewed in later design stages as the masterplan is developed.

3.4.3 Water Quality

The water quality standard, S3, requires treatment for surface water runoff to prevent negative impacts on the receiving waterbody in terms of its quality.

The proposed site will include non-residential car parking, roads and a service yard. The ‘Simple Index Approach' (SIA) could be used to analyse the proposed land use and SuDS components. The roads and service yard are likely to be the primary sources of pollution. Appropriate SuDS features will need to be selected to ensure anticipated pollutants from the development are sufficiently treated prior to discharge into the downstream receptor and will likely consist of:

- Green Roof
- Bioretention Features / Raingardens
- Swale
- Permeable Paving

The development proposals must ensure that such features / processes are achieved prior to discharge into the existing ditch where possible.

Figure 2 shows an indicative cross section of a bioretention feature. The planting specification and protection measures to prevent pedestrian overrun adjacent to the biorientation systems are not shown but will need to be considered in subsequent design stages and Full SABS Applications. The protection measures will need to deter people from walking over the bioretention systems whilst allowing surface water runoff to flow into the SuDS features.

Bioretention features are proposed to meet the interception requirements for each of the catchments they serve including the service roads as well as the roof drainage. These will allow treatment of water through the filter media as close to source as possible.

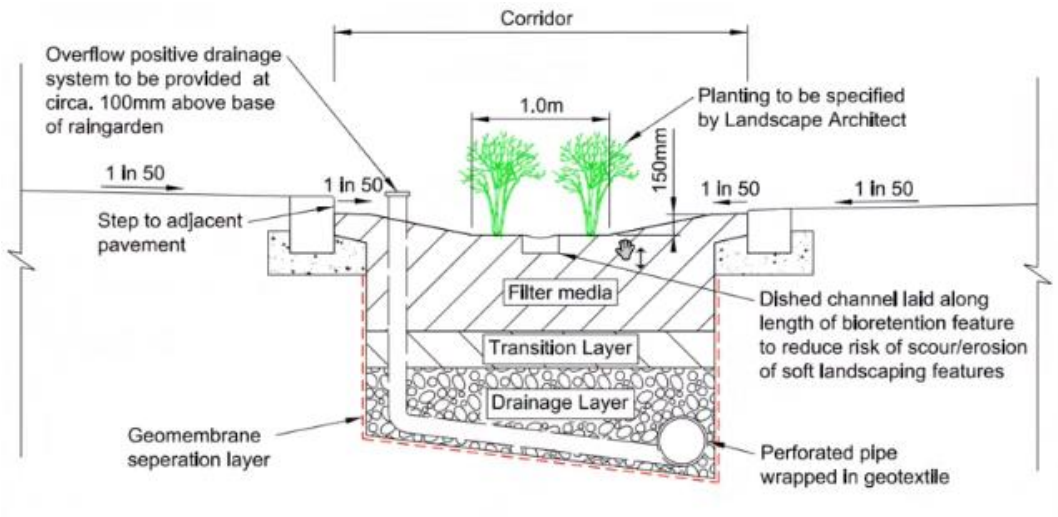


Figure 5 - Typical Section through bioretention feature

Permeable paving is proposed with the car park layout. This will allow treatment of the rainfall to occur at source, removing suspended solids and hydrocarbons from the surface water prior to discharging to the attenuation cell and swale.

The surface water drainage will be discharged to the existing drainage ditch located along the southern boundary of the site.

3.4.4 S4 – Amenity

The Welsh Standards S4 states that the surface water management systems should maximise amenity benefits.

The SuDS components proposed such as bioretention systems are well suited to providing significant amenity benefits through green, vegetated areas adjacent to the proposed development. This will be integrated with the wider landscaping proposals to ensure the amenity space can be maximised by the integration of other landscaping features such as seating and benches for people to use.

3.4.5 S5 - Biodiversity

The Standard S5 requires that surface water management systems also maximise biodiversity benefits.

Bioretention systems provide a significant contribution to biodiversity and quality habitats for wildlife. Proposed vegetation will be designed to support local diversity through liaison between landscape architects and horticultural/arboricultural experts where necessary.

3.4.6 Management and Maintenance Plan

The proposed drainage will be subject to adoption by Carmarthenshire County Council Consequently, the management and maintenance of the drainage will be subject to their specific management and maintenance requirements, however they are likely to include the following:

- Manholes and Catchpits – Inspections and cleaning with vacuum pumps, or manual removal if required
- Pipelines – Inspections, jet washing if necessary
- Headwalls – Inspections and manual sediment removal
- Attenuation cell – Inspections, vacuum pump cleaning
- Swales & Bioretention systems - Inspections, litter removal, grass cutting and shrub/weed management, sediment removal
- Vortex flow control devices – Inspections and cleaning with vacuum pumps, or manual removal if required.
- Road gullies, channel drains, flow paths – Cleaning with vacuum pumps, litter/debris removal, sediment removal

All drainage should be inspected and maintained regularly during construction prior to final handover. During the first year of operation, regular monitoring of the system will be required to identify any changes, issues or modifications required to optimise the system. Inspection should also be undertaken immediately after a significant storm event. These reviews will help confirm the performance of the system, it will also identify potential system failures such as blockages, poor infiltration and poor water quality.

4. Conclusion

This report has identified that some utilities exist within or immediately adjacent to the site. Those believed to be located within the site and need further consideration in the next design stages include:

- HV cable running through the site (may no longer be connected). If present and connected, will need diverting;
- Foul water rising main from southern pumping station.. Co-ordination required with proposed surface water swale outlet. May need diverting dependant on route and invert levels.
- Potable water main (believed to be redundant)
- BT Openreach infrastructure will need to be diverted

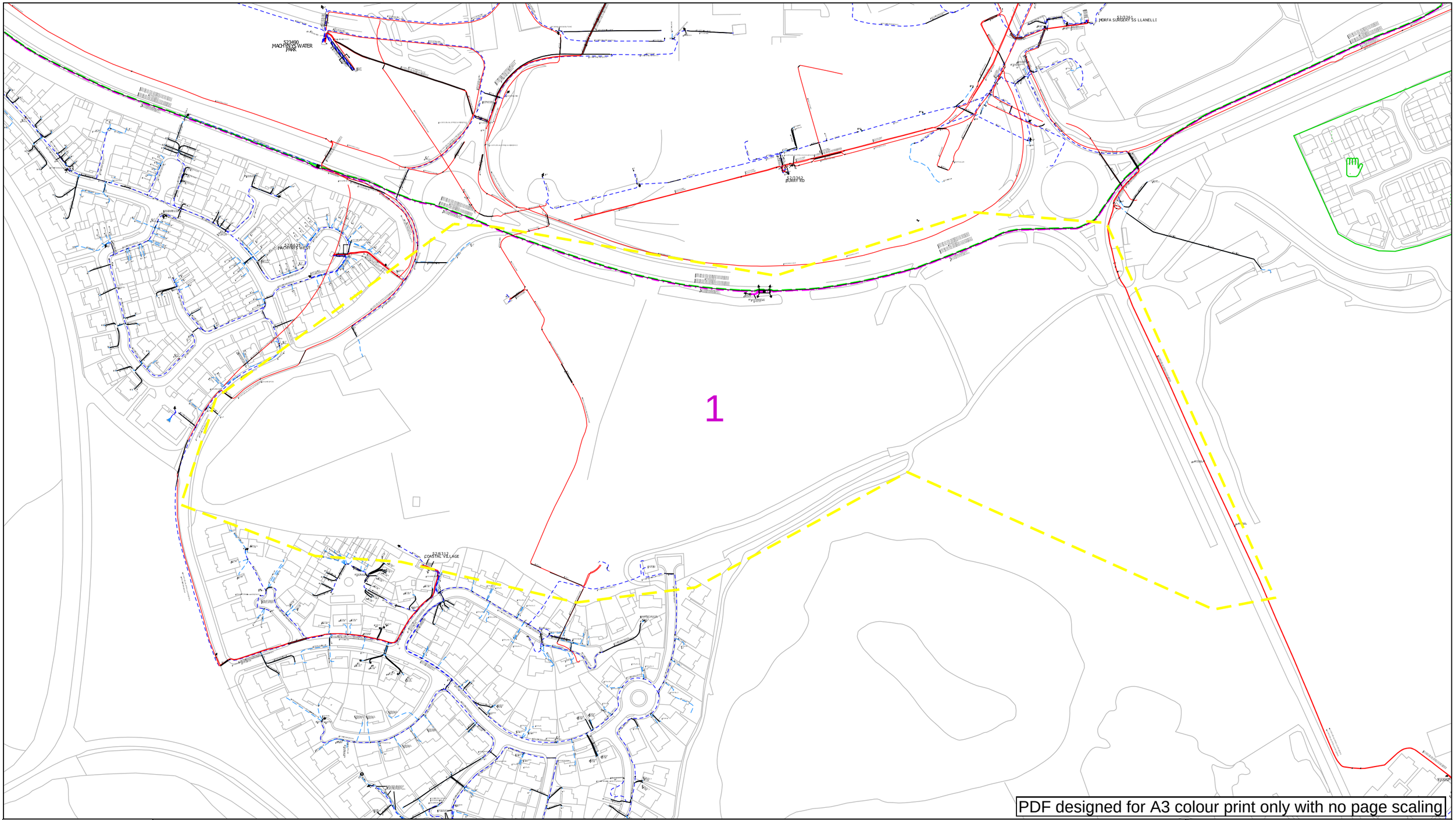
The proposed foul and surface water drainage strategy elements for the hotel site are shown on the drawing presented in Appendix C. The points of connection for the foul drainage and potable water to the DCWW networks are still to be confirmed.

Statutory utilities have been contacted to determine whether sufficient electrical supply, water supply and foul capacity exists in the local networks to supply the proposed development. At the time of writing, no responses have been received.

Sustainable drainage measures are proposed to deal with surface water discharge. Green roof, rain gardens, swales, permeable paving and attenuation cells are proposed to treat and attenuate flows before discharge into the existing ditch to the south of the site.

Appendix A

Existing Plant Records



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Contact Us

Mapping Enquiries: 0121 623 9780

General Enquiries: 0800 096 3080

Date Requested: 12/09/2024
Job Reference: 34709830
Site Location: 250998 198303
Requested by:
Mr Spiros Grimas
Your Scheme/Reference: Machynys Llanelli

Scale: 1:2500 (When plotted at A3)

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed. Services or recent additions to the network may not be shown.
- Cables, overhead lines & substations owned by other electricity network owners or private companies may be present and may not be shown.
- You should always verify exact locations of cables using a cable locator and by careful use of hand tools in accordance with HSE guidance note HSG47.
- When working within 10m of any overhead electric line you should follow the requirements of HSE Guidance Note GS6.
- For further advice on working near our electricity cables or lines, call our Contact Centre on 0800 096 3080.
- Advice should be sought from the National Grid Electricity Distribution Contact Centre for any work that is to take place in proximity to 66kV or 132kV underground cables and 66kV 132kV overhead lines – 0800 096 3080

0 200m

Link Box

Site Location
Line/Area

Overhead Line
PL
Service
LV
HV (11kV)
HV (33kV)
HV (66kV)
HV (132kV)

Underground Cable

National Grid Telecoms
S S

Private Cables

PME Earth

Underground Earth

Pilot Cables
P P

Pole Mounted Transformer

Ground Mounted Transformer

Report damage immediately KEEP EVERYONE AWAY FROM THE AREA
0800 6783 105

nationalgrid Electricity Distribution

Email: NGED.MapResponse@NationalGrid.co.uk

bitmap_layout select_raster

LEGEND

EXISTING PLANT

EXISTING PLANT

bitmap_layout select_raster

Head Office
CityFibre Holdings Ltd
15 Bedford Street,
London,
WC2E 9HE

Tel: 0845 293 0774
Web: www.cityfibre.com

Asset Office
CityFibre Holdings Ltd,
Rutherford House,
Birchwood,
Warrington,
WA3 6ZH

Email: asset.team@cityfibre.com

Project

Plant Enquiry

Drawing

Existing Plant

Drawn by:

smallworld

Date: 12/09/2024

Drawing No.

CFH_EP_000001

Revision

001

Scale: 1:2500

A4

0m 20m 40m 60m 80m 100m

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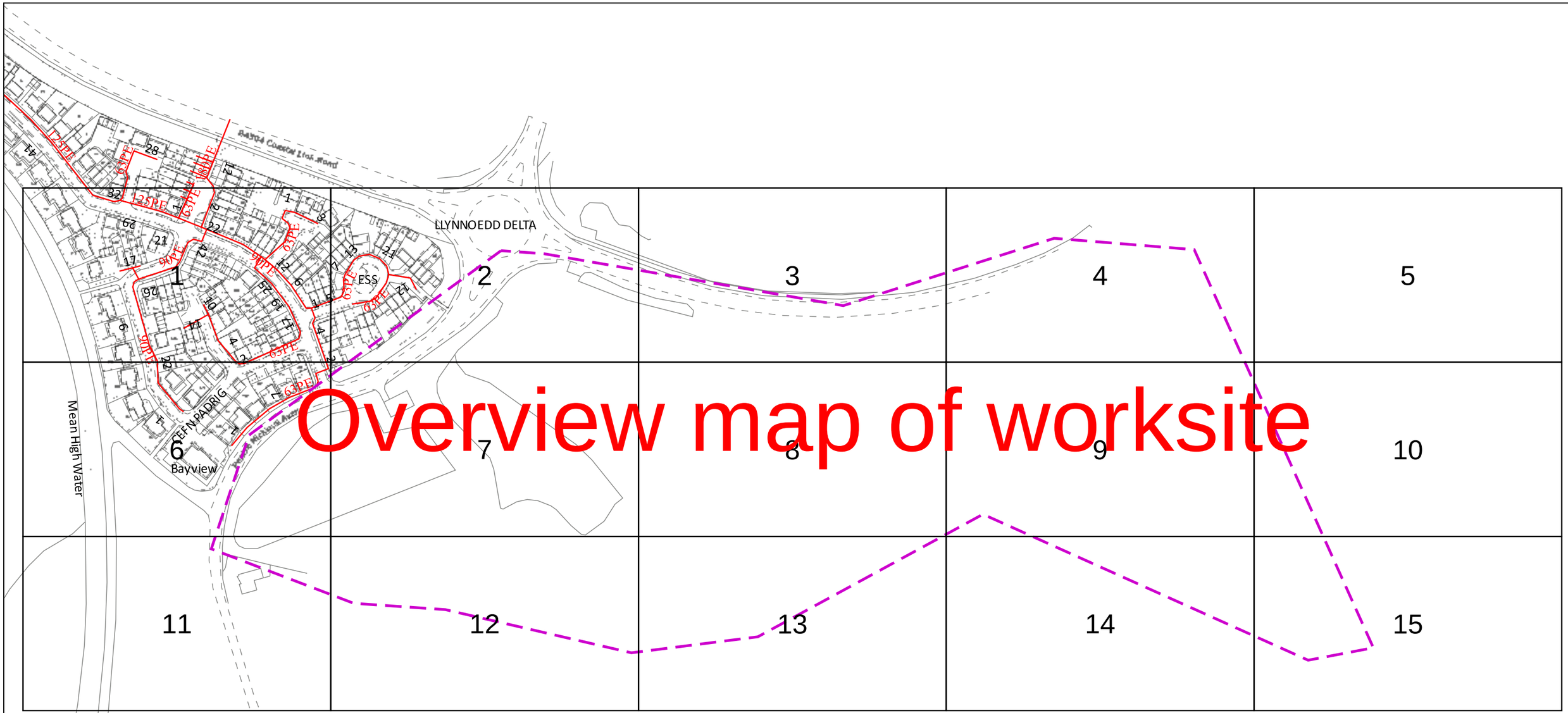

Overview map of worksite

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Dig Sites Area: Line:

Date Requested: 16/09/2024
Job Reference: 34709830
Site Location: 250998 198303
Requested by:
Mr Spiros Grimas
Your Scheme/Reference:
Machynys Llanelli

Scale: 1:2562 (When plotted at A3)

IMPORTANT NOTICES

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- The plan only shows pipes owned by SSE Utility Solutions Limited, Indigo Pipelines Limited
- Service pipes 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 SSE Enterprise Dial Before You Dig team on 0345 070 7386.

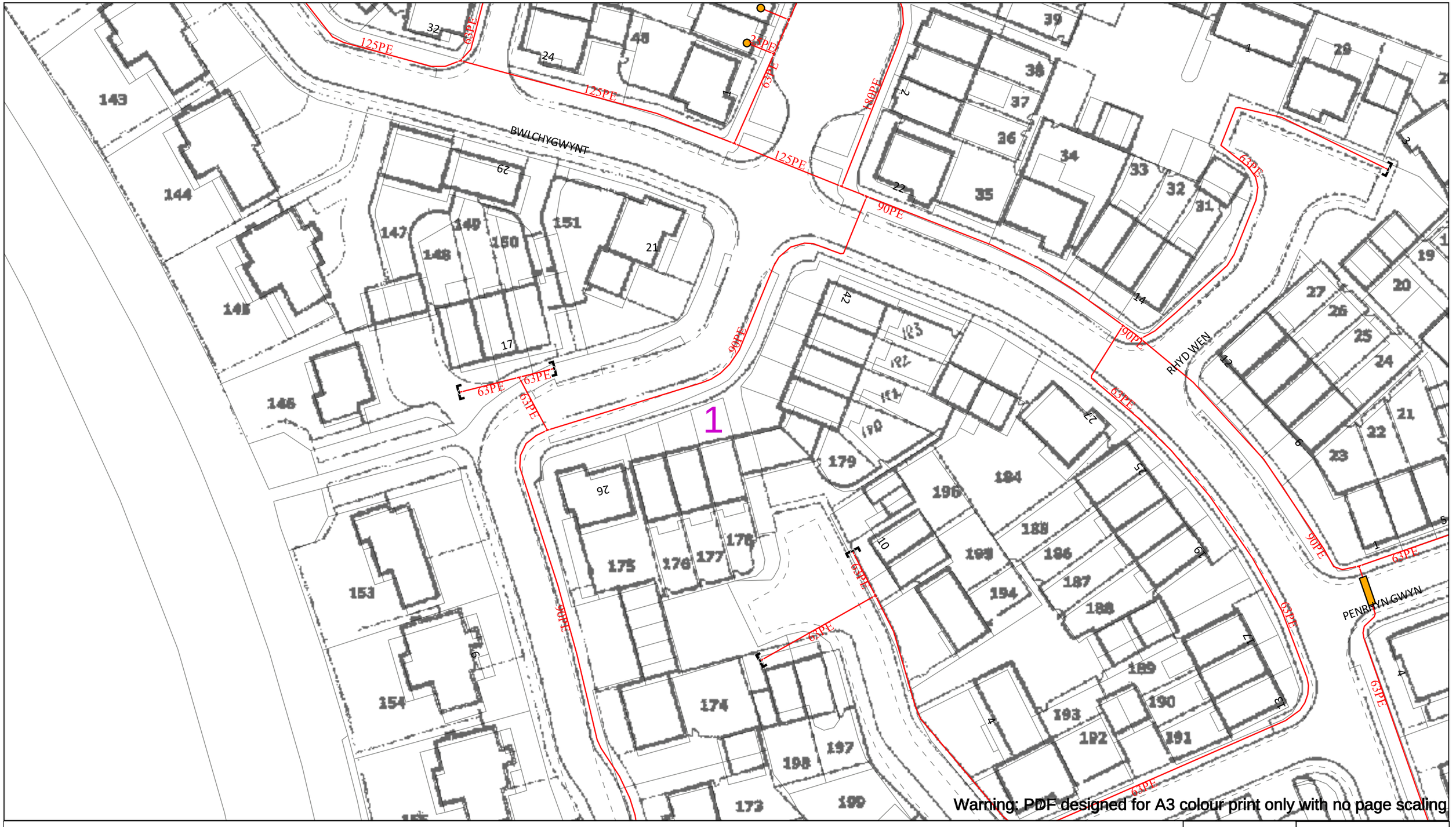
Please note: If you have overlaps or misalignments between base maps that make it difficult to understand please contact DBYDEnterpriseEnquiries@sse.com or call 0345 070 7386

LP Main
LP Service
MP Main
MP Service
IP Main

Valve Closed
Valve Open
CSEP
Pressure Reduction Station
End Closure

Reducer
Ducting
Gas Supply Point

Indigo Pipelines Ltd.
Registered Office:
Loddon Reach,
Reading Road,
Arborfield,
Reading,
Bearkshire, RG2 9HU



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Dig Sites Area: Line:

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Scale: 1:500 (When plotted at A3)

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LP Main
LP Service
MP Main
MP Service
IP Main

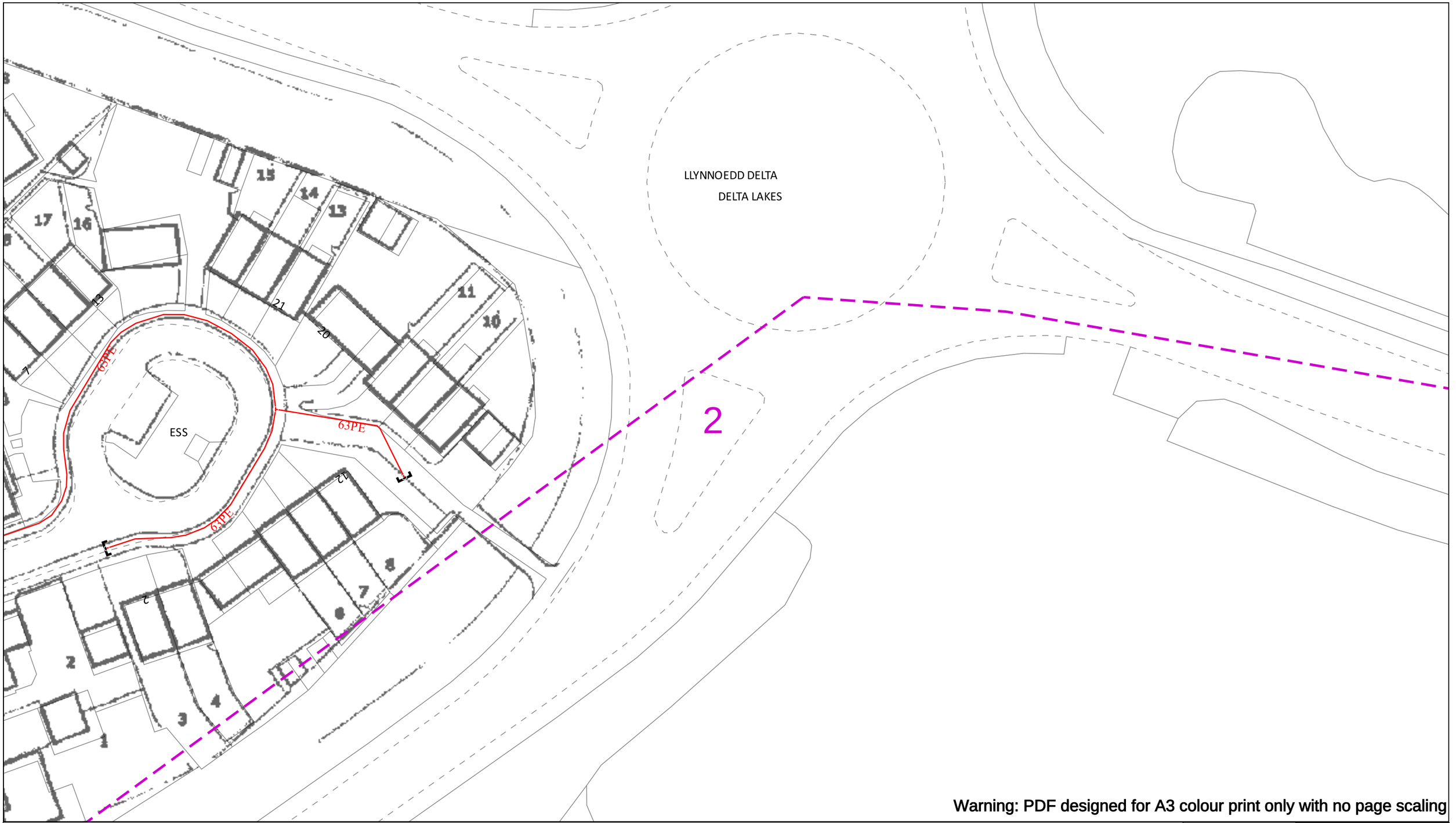
Valve Closed
Valve Open
CSEP
Pressure Reduction Station
End Closure

Reducer
Ducting
Gas Supply Point

N W E S

indigo pipelines

Indigo Pipelines Ltd.
Registered Office:
Loddon Reach,
Reading Road,
Arborfield,
Reading,
Bearkshire, RG2 9HU



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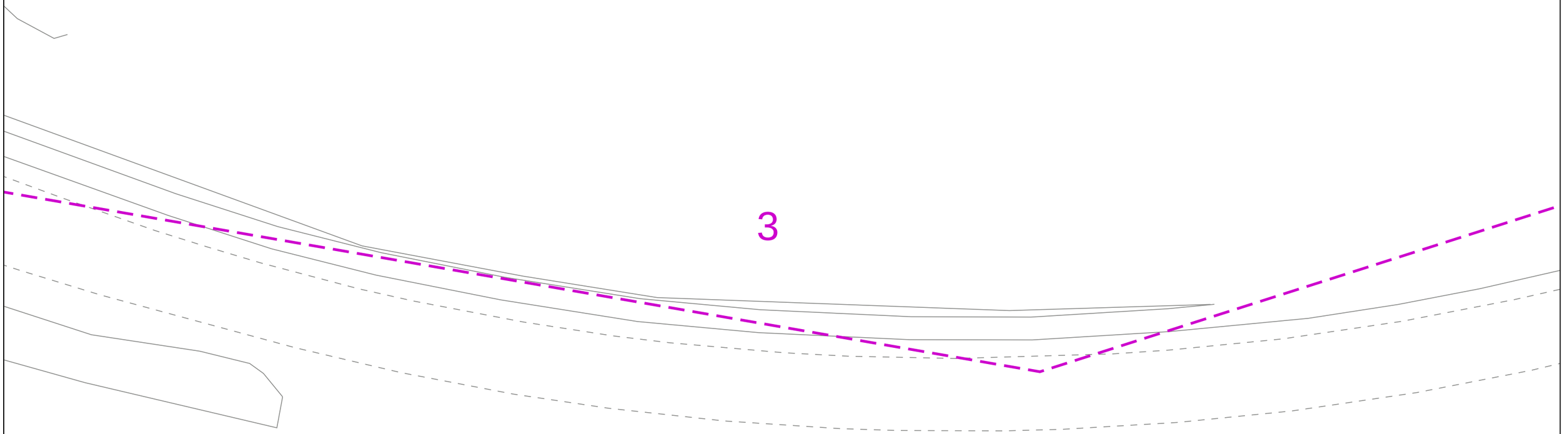
LP Main
LP Service
MP Main
MP Service
IP Main
Valve Closed
Valve Open
CSEP
Pressure Reduction Station
End Closure
Reducer
Ducting
Gas Supply Point

N W E S

indigo pipelines

Indigo Pipelines Ltd.
Registered Office:
Loddon Reach,
Reading Road,
Arborfield,
Reading,
Bearkshire, RG2 9HU



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0 50m Dig Sites Area: Line:

Date Requested: 16/09/2024
Job Reference: 34709830
Site Location: 250998 198303
Requested by:
Mr Spiros Grimas
Your Scheme/Reference: Machynys Llanelli

Scale: 1:500 (When plotted at A3)

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5

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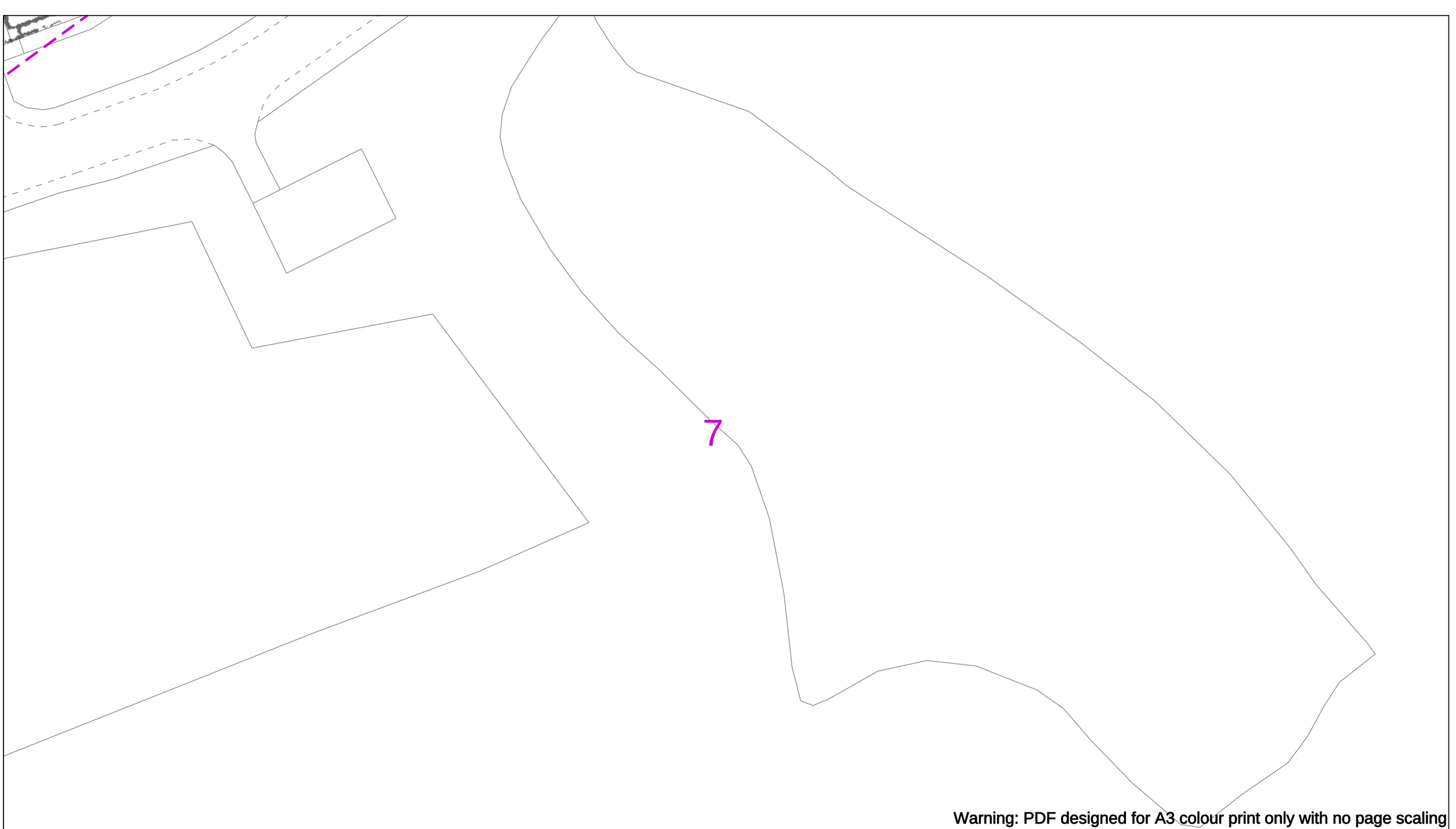

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8

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0 50m Dig Sites Area: Line:

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Job Reference: 34709830
Site Location: 250998 198303
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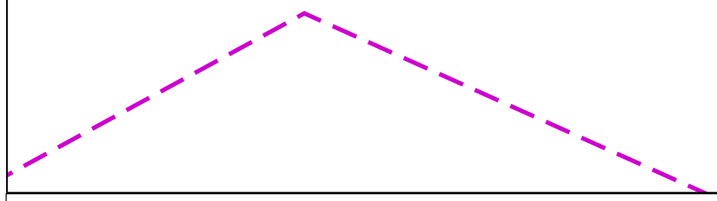
9



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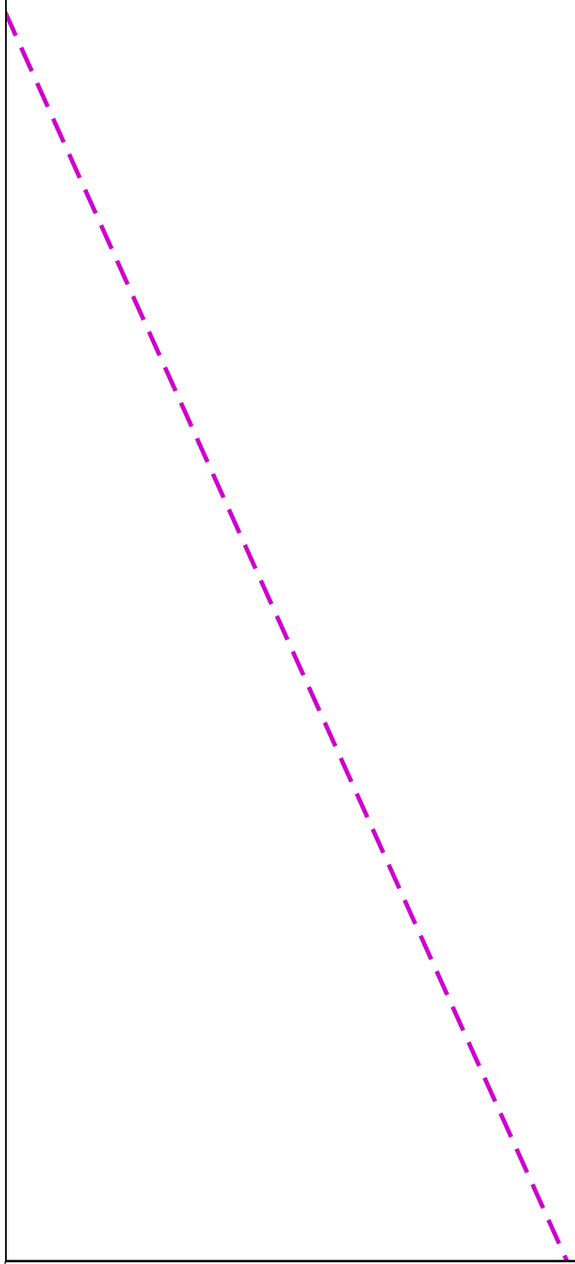

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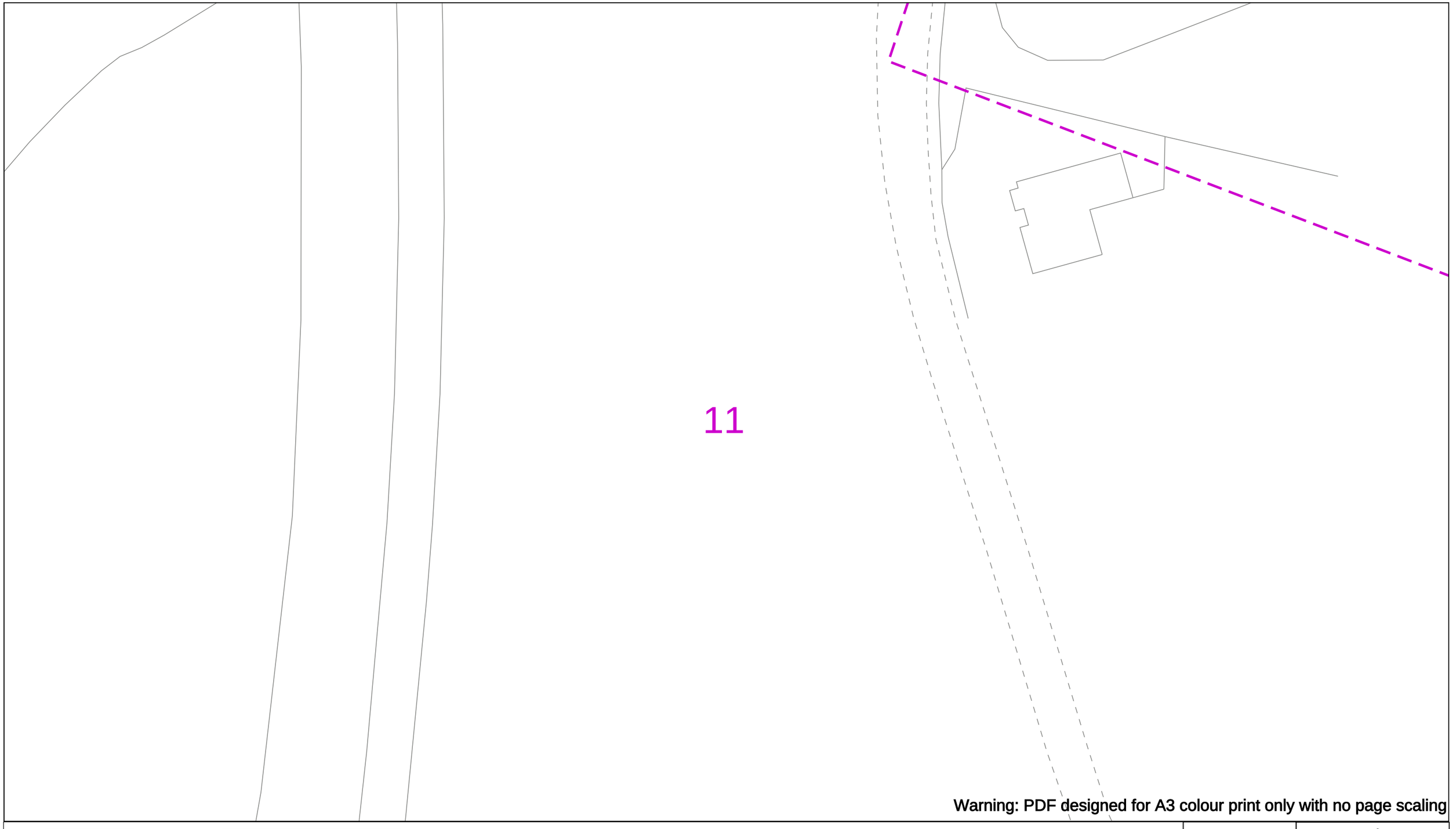

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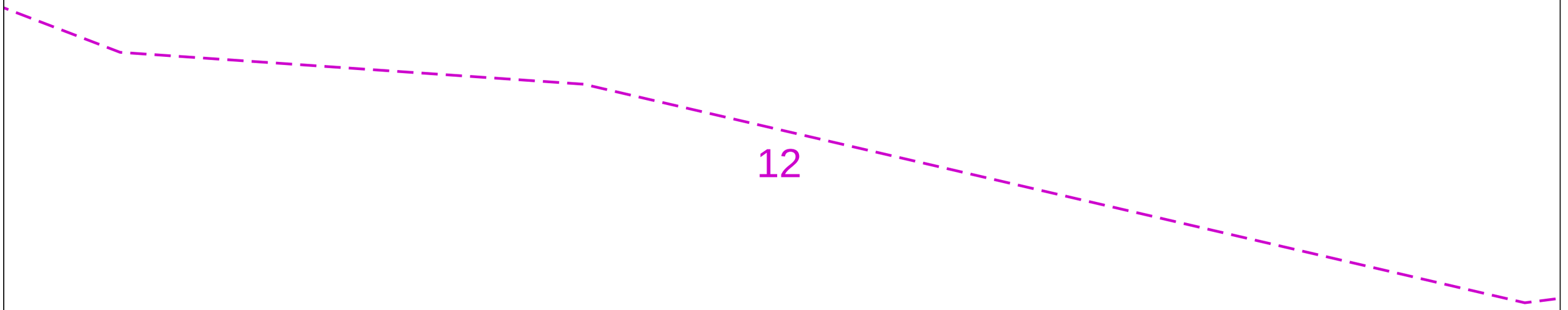

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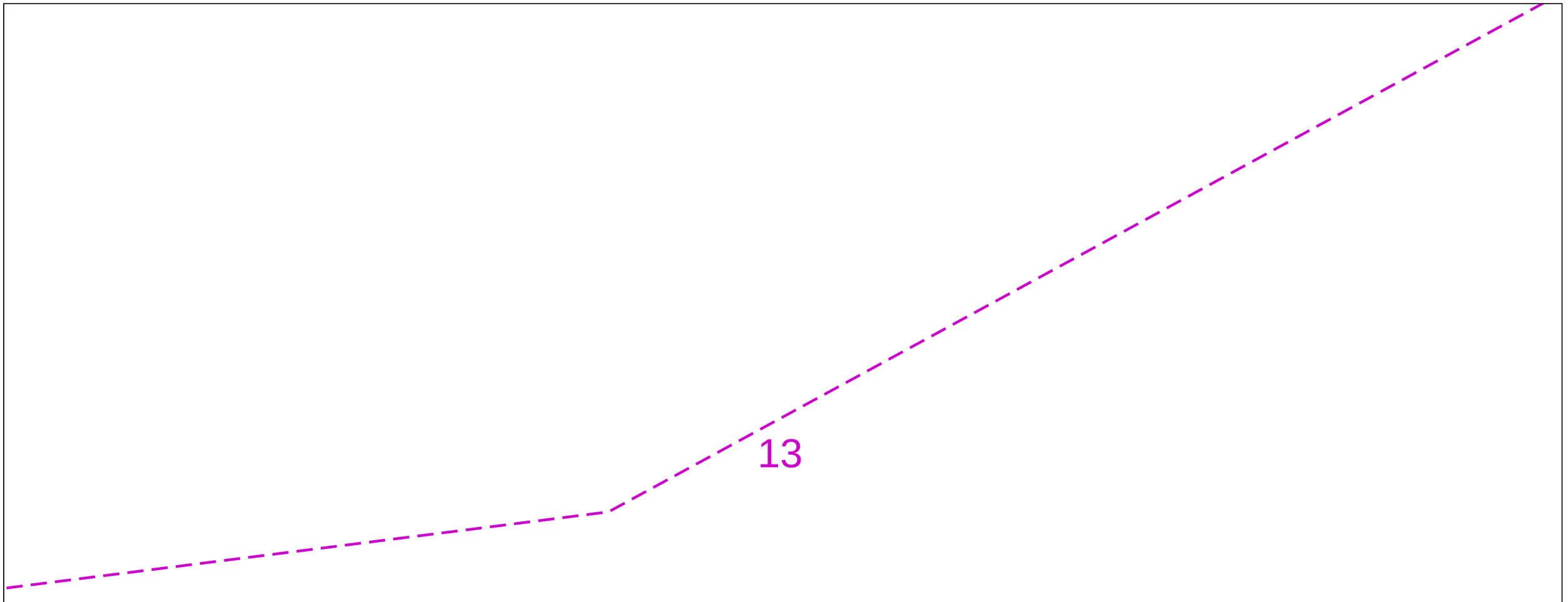

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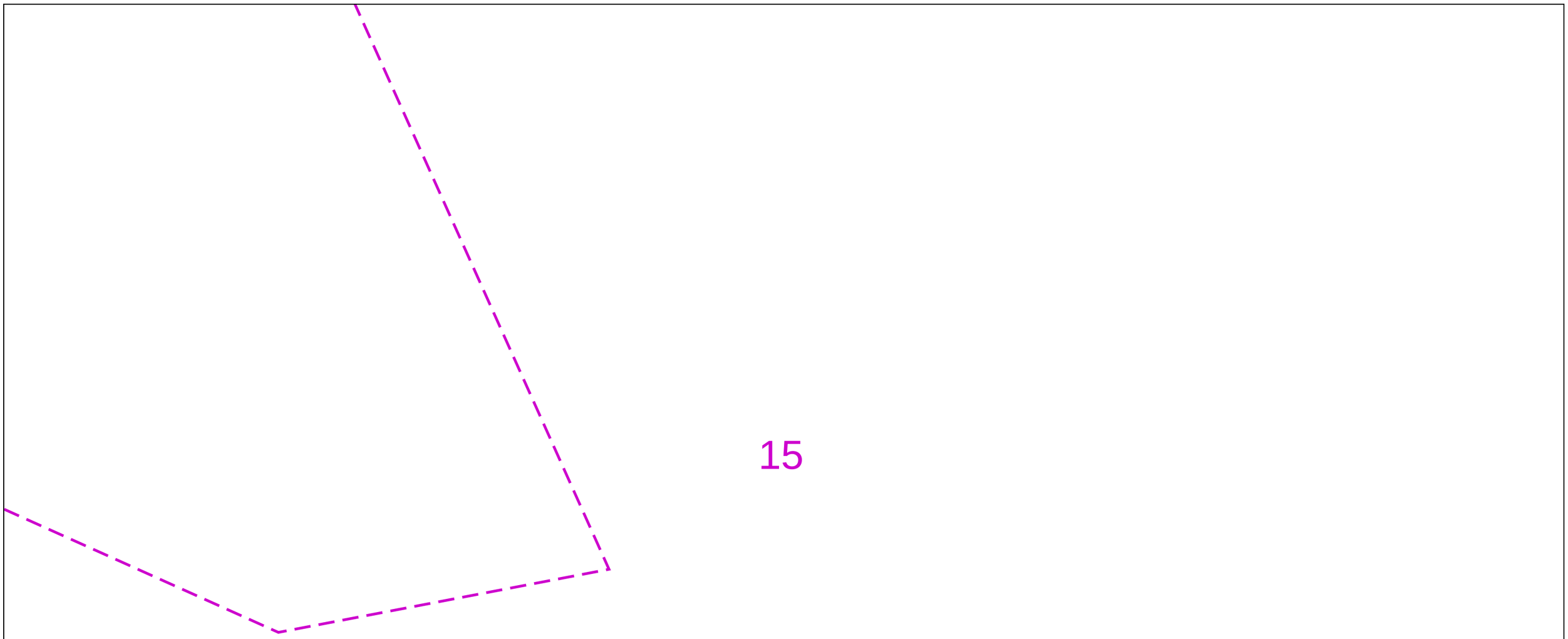

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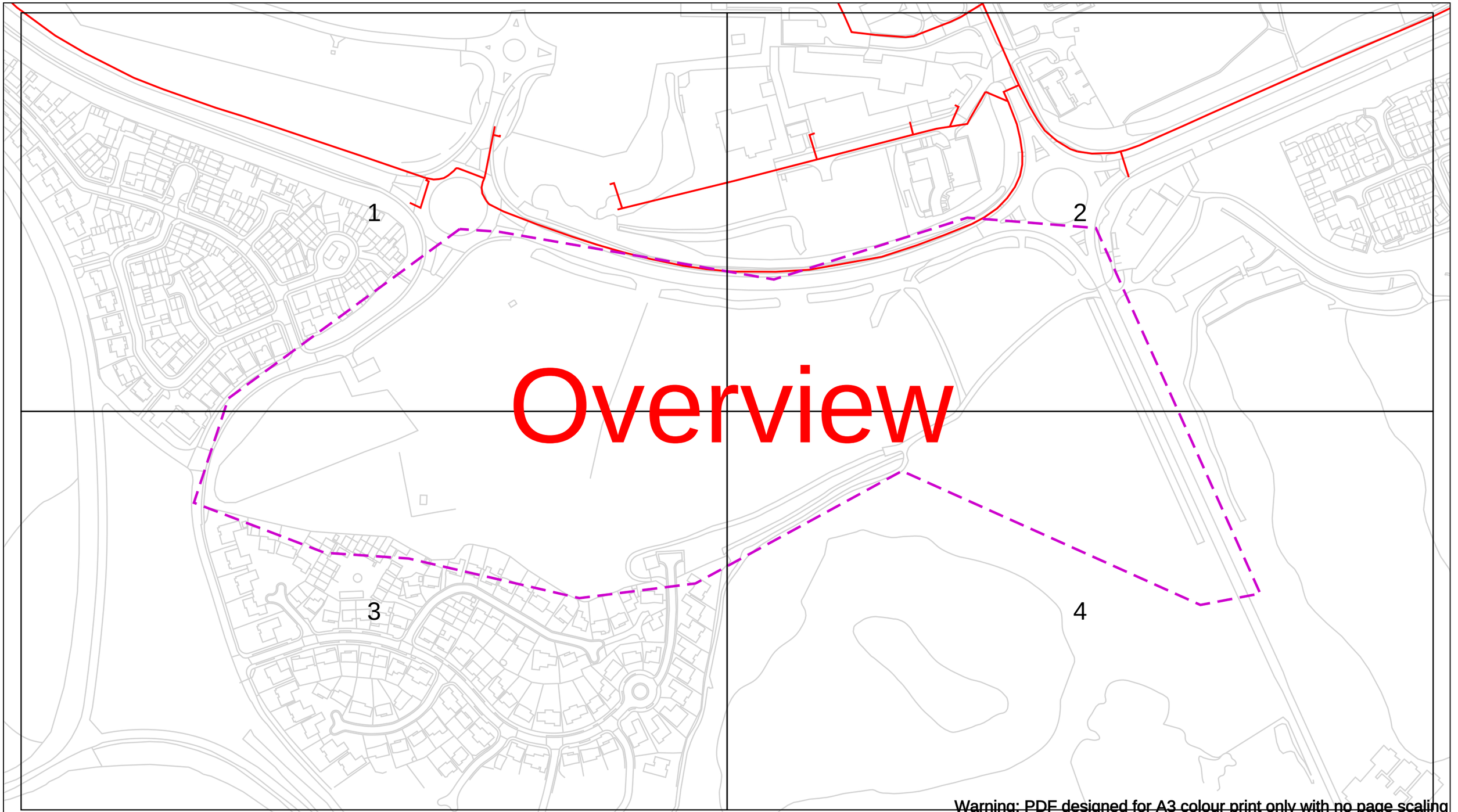

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Contact Us
Mapping Enquiries: 02920 278 912
General Enquiries: 0800 912 2999

Date Requested: 12/09/2024
Job Reference: 34709830
Site Location: 250998 198303
Requested by:
Mr Spiros Grimas
Your Scheme/Reference:
Machynys Llanelli

Scale: 1:2563 (When plotted at A3)

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- 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.

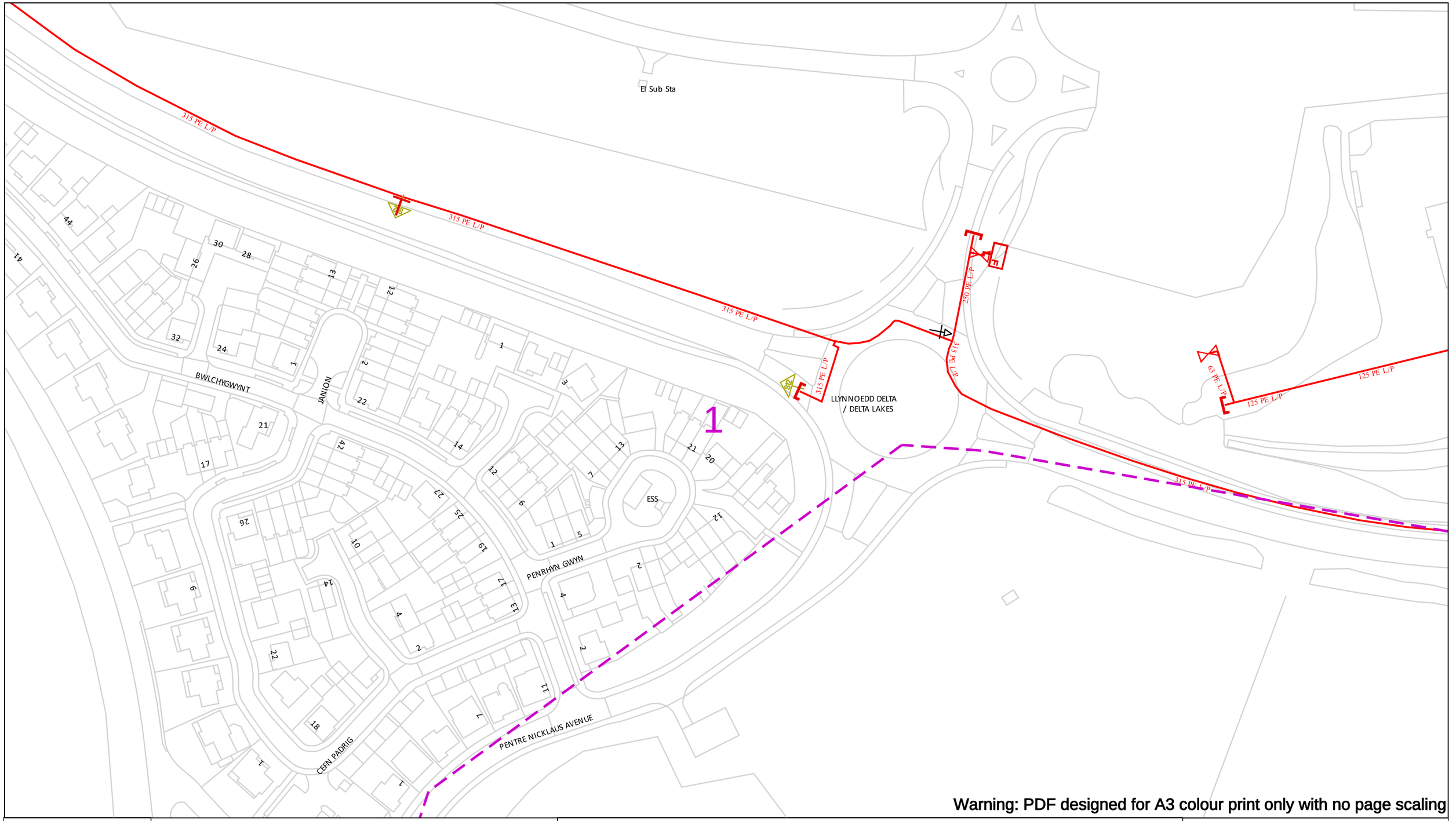
Dial before you dig

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



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Date Requested: 12/09/2024
Job Reference: 34709830
Site Location: 250998 198303
Requested by:
Mr Spiros Grimas
Your Scheme/Reference: Machynys Llanelli

Scale: 1:1250 (When plotted at A3)

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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

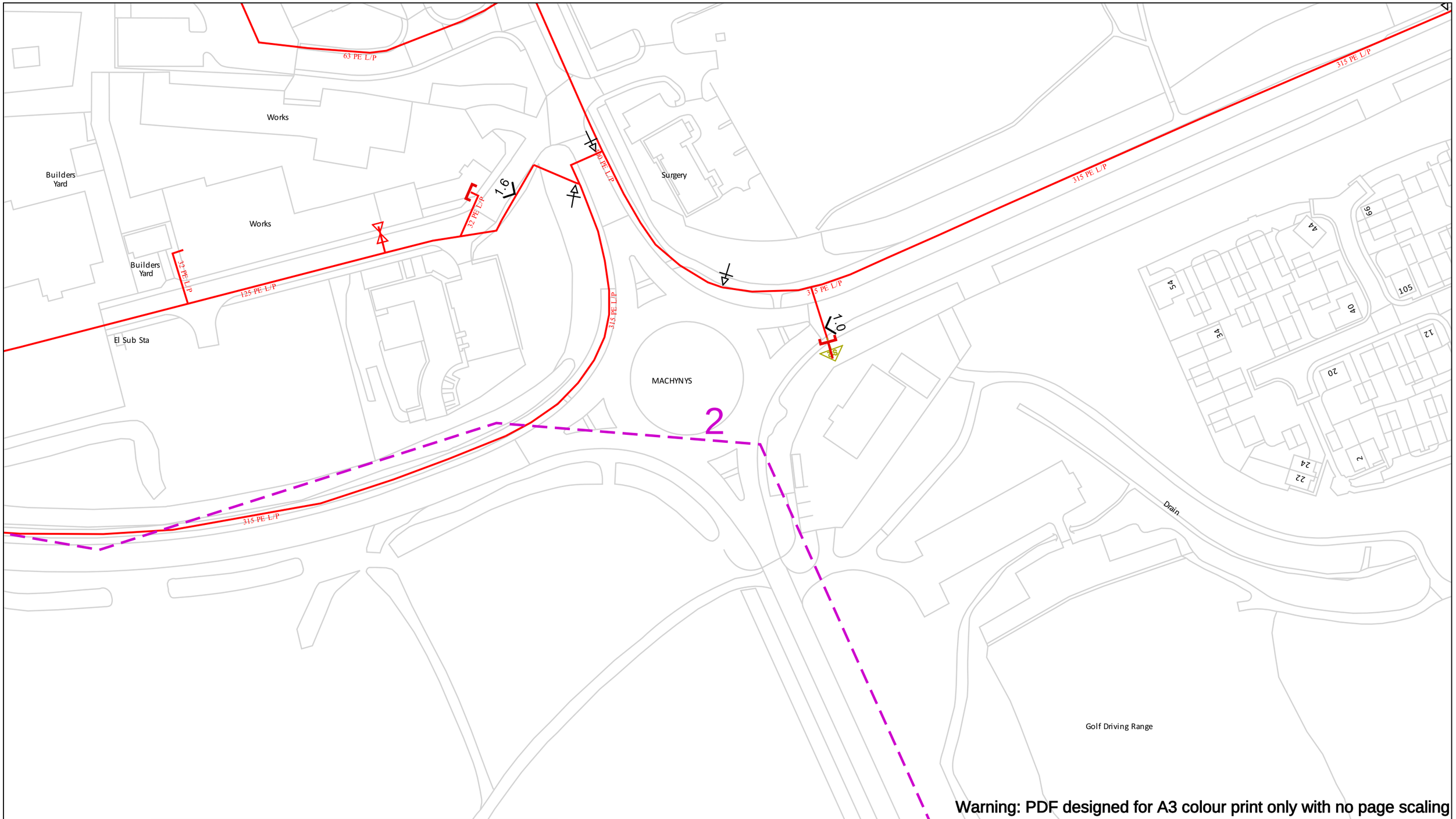
WALES&WEST UTILITIES

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.



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- 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.

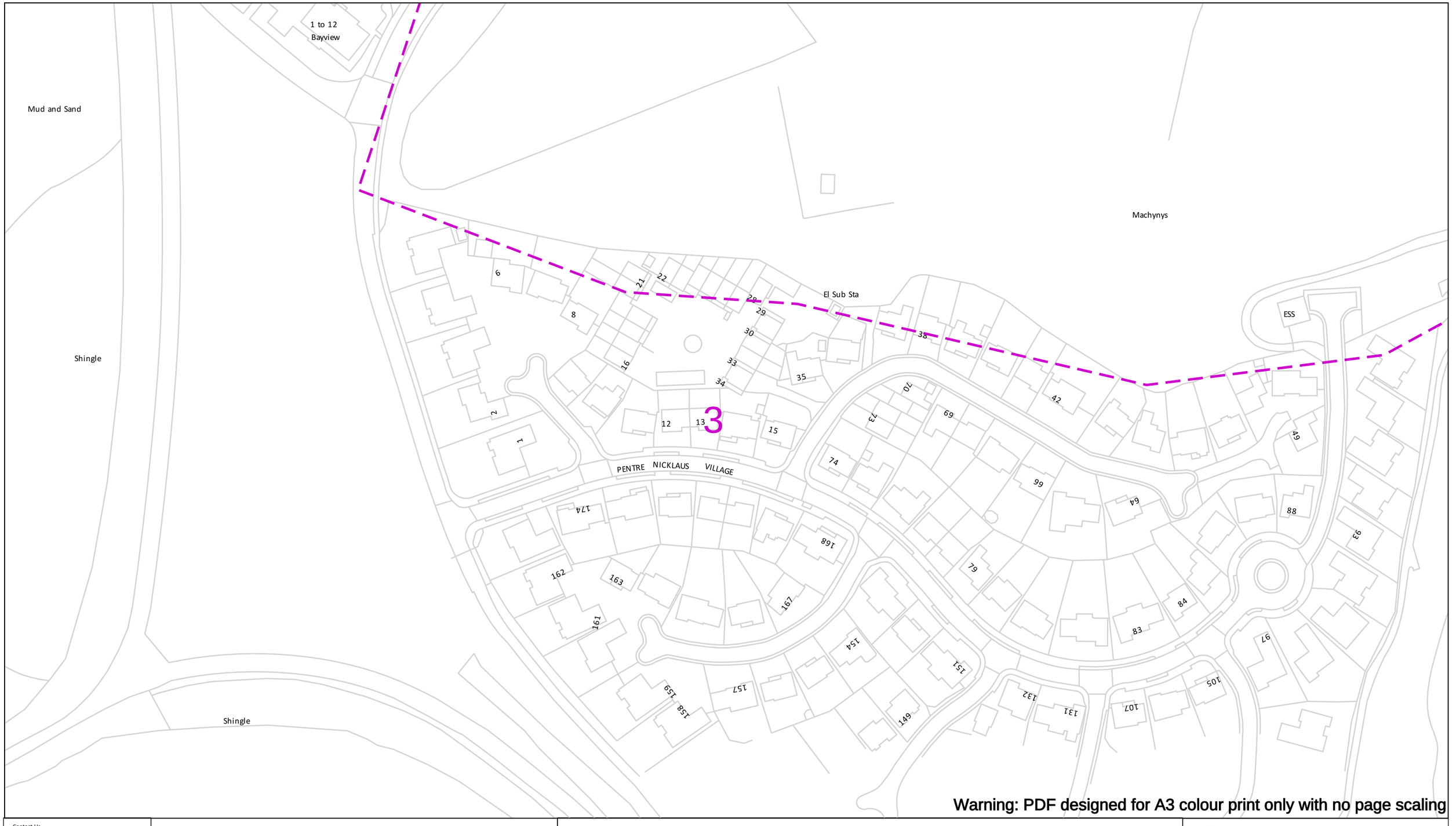
Dial before you dig

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



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: 12/09/2024
Job Reference: 34709830
Site Location: 250998 198303
Requested by:
Mr Spiros Grimas
Your Scheme/Reference: Machynys Llanelli

Scale: 1:1250 (When plotted at A3)

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
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100m

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

WALES&WEST UTILITIES

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Dial
Call 029 2027 8912 before you start work.

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

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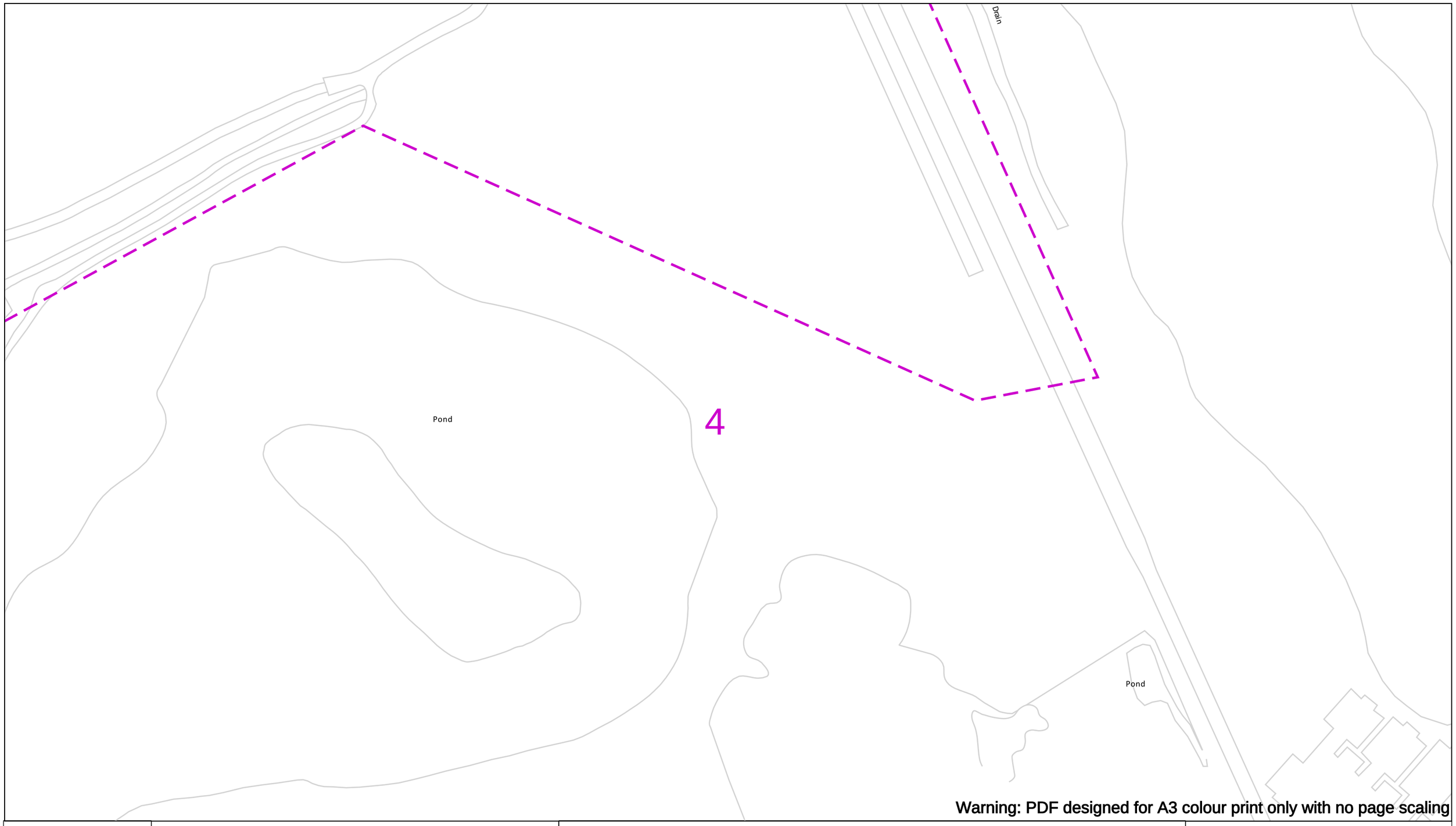

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Line/Fire Valve

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.

Dŵr Cymru Welsh Water

Machynys Development Project, Llanelli, Carmarthenshire, SA15 2DE

N W E S

LEGEND

Clean network:

- Sluice valve
- Stop tap
- Pressure reducing valve
- Water Treatment Works
- Meter
- Water Pumping Station
- Bulk meter
- Existing main
- Hydrant
- Non-operational main
- Cap end
- Raw Water
- Air valve

NB: Water main symbol colour indicates the type.

LIGHT BLUE - Trunk
DARK BLUE - Distribution
YELLOW - Raw Water

Notes:

Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases, pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be asbestos cement (AC) or Pitch Fibre (PF) . It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

Map Ref:	250960,198234
Map scale:	1:1000
Printed by:	Emily Marsden
Printed on:	19 Sep 2024

Dŵr Cymru
Welsh Water

Machynys Development Project, Llanelli, Carmarthenshire, SA15 2DE

N
W E
S

LEGEND(Representative of most common features)

Waste network:

- Foul chamber
- Surface water chamber
- Combined chamber
- Combined sewer overflow
- Special purpose chamber
- Treatment works
- Pumping station
- Outfall
- Lamphole (LH)
- Storm Overflow
- Rising main
- Gravity sewer
- Private sewer
- Private sewer subject to Sect. 104 adoption agreement (S 104)
- Private Sewer Transfer
- Lateral Drain
- Inspection Chamber

NB: Sewer symbol colour indicates the type.

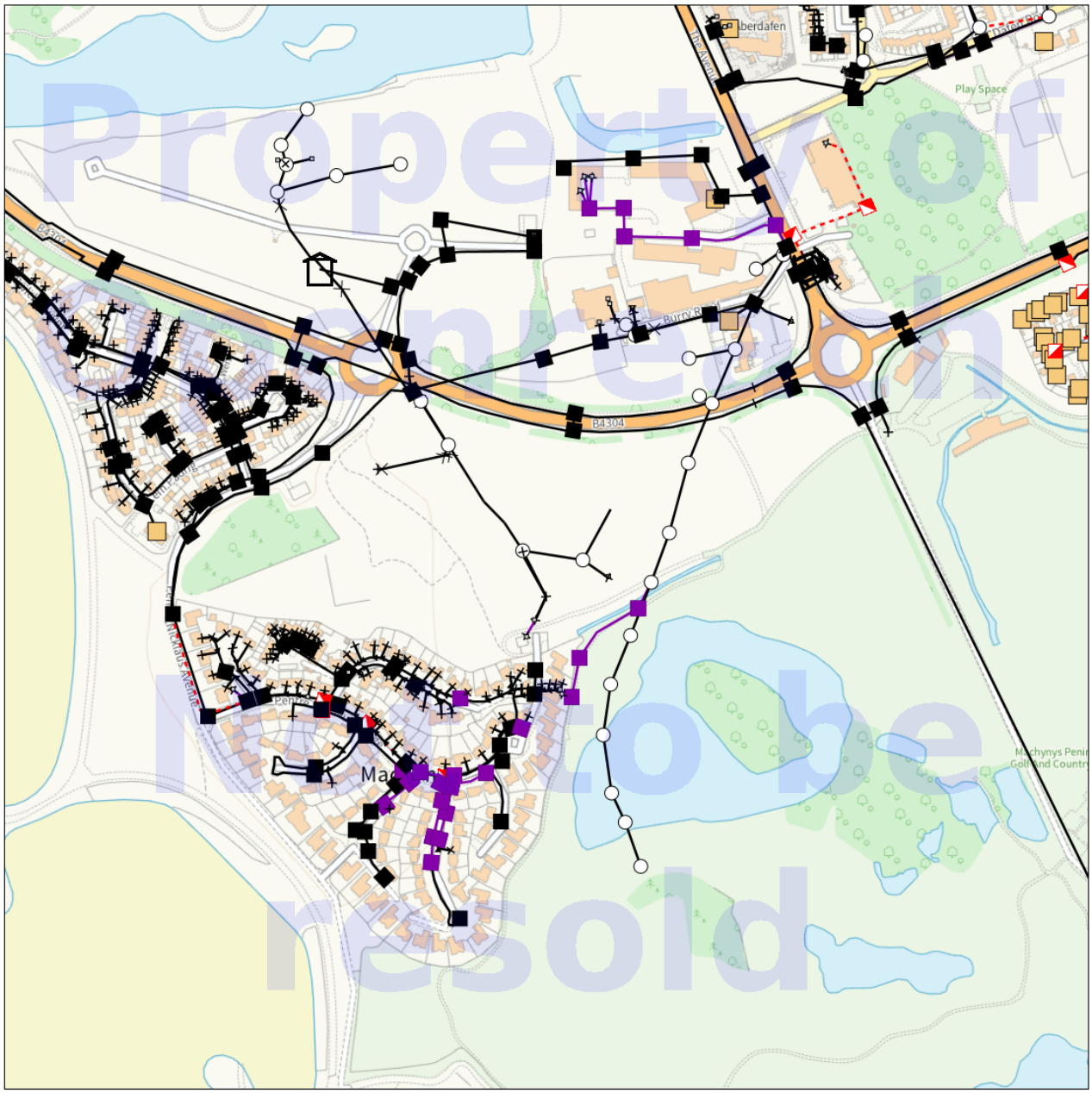
RED - Combined
GREEN - Surface Water
BROWN - Foul
Purple - Former 524 sewers (for indicative purposes only)

Notes:

Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases, pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be asbestos cement (AC) or Pitch Fibre (PF) . It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

Map Ref:	250960,198234
Map scale:	1:1000
Printed by:	Emily Marsden
Printed on:	19 Sep 2024

Maps on Demand 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 newar 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

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 : LCC16198K
Map Reference : (centre) SS5095998234
Easting/Northing : (centre) 250959,198234
Scale : 1:1000
Issued : 12/09/2024 16:20:01

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

Appendix B

Correspondence with Service Providers

Katie Amos

From: donotreply@dwrcymru.com
Sent: 03 October 2024 12:03
To: Joel Smith
Cc: BPMCopies@dwrcymru.com
Subject: Re.PPA0008978. Notification
Attachments: VATReceipt-PPA0008978-8300705885.pdf

[You don't often get email from donotreply@dwrcymru.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Dear Customer,

Please find attached important information relating to your application.

Should you wish to contact us for any reason, you must use the contact information shown on the attachment(s).

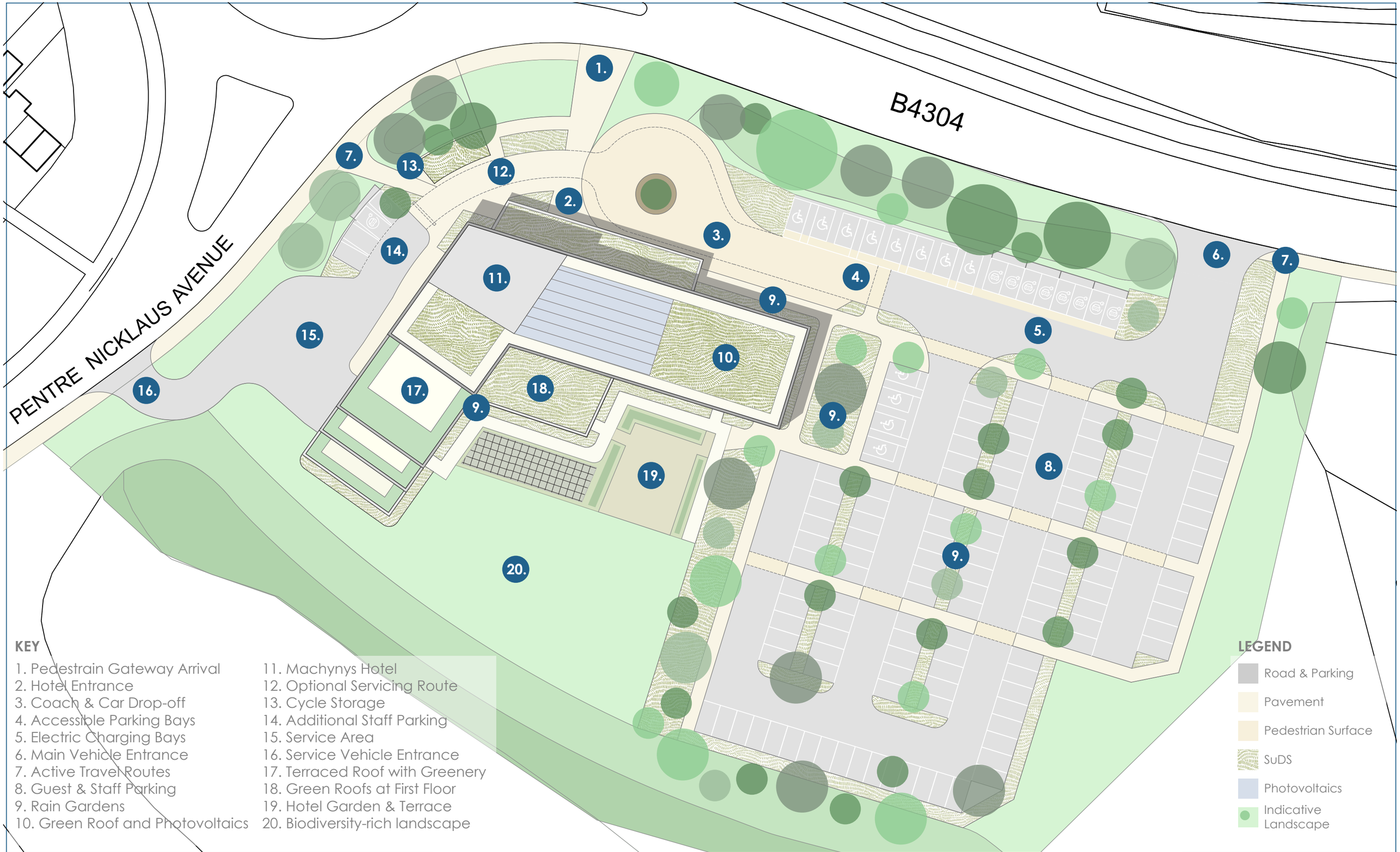
Please do not reply directly to this message.

Best regards,

Developer Services
Dwr Cymru Welsh Water
_____ Dwr Cymru Welsh Water is firmly committed to water conservation and promoting water efficiency. Please log on to our website https://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.dwrcymru.com%2Fwaterefficiency&data=05%7C02%7CJoel.smith%40arup.com%7Cfcbf9763ed7443d26fa108dce39b030b%7C4ae48b41013745998661fc641fe77bea%7C0%7C0%7C638635502766773824%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=StqNGQBURorgqPhsXa9HBtJ2LDmWytGC9dw42Oct%2BK4%3D&reserved=0 to find out how you can become water wise. Mae Dwr Cymru Welsh Water wedi ymrwymo i warchod adnoddau dwr a hyrwyddo defnydd dwr effeithiol. Mae cyngor i' ch helpu i ddefnyddio dwr yn ddoeth yn https://eur01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.dwrcymru.com%2Fwaterefficiency&data=05%7C02%7CJoel.smith%40arup.com%7Cfcbf9763ed7443d26fa108dce39b030b%7C4ae48b41013745998661fc641fe77bea%7C0%7C0%7C638635502766792314%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=p59jpUoyHzv0KRWB%2FcayzKF04AWApHiTZOvtzmTOSEY%3D&reserved=0 _____
********** This email and any file attached is confidential. If you are not a named recipient or believe you may have received this email in error please delete from your system and promptly inform the sender. Dwr Cymru Cyf (trading as Welsh Water) is a company registered in England and Wales, number 02366777, registered office Linea, Fortran Road, St Mellons, Cardiff CF3 0LT. Mae'r neges e-bost yma ac unrhyw ffeil sydd ynghlwm wrthi'n gyfrinachol. Os nad chi yw'r derbynnydd a enwir, neu os ydych chi'n credu eich bod wedi derbyn y neges yma ar gam, dylech ei dileu o'ch system ar unwaith a hysbysu'r anfonwr. Cwmni sydd wedi ei gofrestru yng Nghymru yw Dŵr Cymru Cyf (yn masnachu fel Dŵr Cymru), ei rif cofrestredig yw 02366777, ,, ac mae ei swyddfa gofrestredig yn Linea, Heol Fortran, Llaneirwg, Caerdydd, CF3 0LT.
****

Appendix C

Illustrative Site Layout



KEY

1. Pedestrain Gateway Arrival
2. Hotel Entrance
3. Coach & Car Drop-off
4. Accessible Parking Bays
5. Electric Charging Bays
6. Main Vehicle Entrance
7. Active Travel Routes
8. Guest & Staff Parking
9. Rain Gardens
10. Green Roof and Photovoltaics
11. Machynys Hotel
12. Optional Servicing Route
13. Cycle Storage
14. Additional Staff Parking
15. Service Area
16. Service Vehicle Entrance
17. Terraced Roof with Greenery
18. Green Roofs at First Floor
19. Hotel Garden & Terrace
20. Biodiversity-rich landscape

LEGEND

- Road & Parking
- Pavement
- Pedestrian Surface
- SuDS
- Photovoltaics
- Indicative Landscape

CLIENT	Carmarthenshire County Council		
JOB TITLE	Machynys Hotel OPA		
DRAWING TITLE	Illustrative Masterplan		
SCALE @ A3	1:500	DATE	September '24
DRAWN BY	BC	JOB NO.	2475
DRAWING NO.	MH_IMP 01	REVISION	A

REV.	DESCRIPTION	DATE
A	Legend added	09/10/24

Accommodation Schedule;

Rooms	
1B 2P	00
TOTAL	**120 UNITS**
PARKING	140 spaces total 120 Visitor spaces, of which: 12 Disabled spaces 10 Electric Charging spaces 20 Staff spaces

0 5 10 25

N

hammond Architectural Ltd
10 Gold Tops
Newport
NP20 4PH
t. 01633 844970
e. info@hammond-ltd.co.uk
www.hammond-ltd.co.uk

Appendix D

Indicative Drainage Plan

A1

B4304

Nickaus Avenue

Hotel Building

Connection point of foul drainage to DCWW network to be confirmed.

Exact route and depth of DCWW foul rising main to be confirmed to allow coordination with swale. Diversion of DCWW foul rising main may be required.

Proposed connection to existing ditch

Machynys

Path (um)

Track

ESS

El Sub Sta

Legend

- Site Boundary
- Foul Drainage
- Foul Rising Main
- Permeable Paving
- Below Ground Attenuation Cell
- Rain Gardens
- Swale
- Surface Water Drainage
- DCWW Foul Sewer
- DCWW Foul Rising Main
- DCWW Storm Sewer

Notes

1. All dimensions are in metres unless noted otherwise. Do not scale.

2. The drawing is for concept design purposes only. Drainage alignment indicative only and subject to change based on development of masterplan. Drawing to be read in conjunction with the Drainage Strategy Report.

Issue	Date	By	Chkd	Appd
P01	10/10/24	JS	KA	JS
Concept Design Issue				

ARUP

4 Pierhead St, Capital Waterside
Cardiff, CF10 4QP
T +44(0)29 20473727 F +44(0)29 20472277
www.arup.com

Client
Carmarthenshire County Council

Project Title
Machynys Hotel

Drawing Title
Proposed Drainage

Scale at A1	1:500	Role	Infrastructure
Suitability	Concept Design		
Job No	278688	Rev	P01

Drawing No
278688-ARUP-XX-ZZ-DR-C-000001

Appendix E

MOU Statement

ARUP

Subject	Machynys Hotel - MOU		
Date	10 October 2024	**Job No/Ref**	278688

Machynys Hotel

MOU Statement

1 Introduction

It is proposed to develop the Machynys site as a hotel. The proposed development will generate foul flows which will be connected into Dŵr Cymru Welsh Water's (DCWW) foul network. The flows have been estimated based on the current proposals with 120 bedrooms. In addition, the inclusion of flows into DCWW will need to adhere to the Memorandum of Understanding (MOU) dated September 2011. This statement summarises the requirement of the MOU and describes how the requirements are met for this specific development.

2 MOU Requirements

The MOU agreed by various parties, including Carmarthenshire County Council (CCC) and DCWW, requires that for every new development which imposes additional foul flows on the network, a comparable amount of flow is removed so that there is no net increase in flow into the sewer network. To facilitate future development, CCC have been removing surface water drainage that previously connected into the combined sewer network, and have been keeping a register of such surface water removal which can then be used for subsequent development needs.

3 Site Foul Flows

The proposed development at Machynys will generate foul flows. The foul drainage will be transferred via both gravity and rising mains. The total foul flows generated by the proposed hotel, based on the MoU, is 2.52 l/s.

4 Compensation Site

The old Draka Enfield Copperworks site is located to the north of Machynys, adjacent to DCWW's Northumberland Pumping Station. This was previously a wire factory, and was covered by buildings and hardstandings. Part of the site (2.78Ha), as shown on Figure 1, has recently been transformed into a new primary school together with associated playground, playing fields and car parking.

Figure 1 – New Primary School site north of Delta Lakes

According to the developer's advisor, Asbri Planning, the site was previously covered by hardstandings, and contained a drainage network which directed surface water and foul flows to the combined sewer network within new Dock Road to the east. Surface water flows from the new development are infiltrated into the ground, therefore a significant amount of surface water flow has been removed from the combined drainage network.

In accordance with the MOU, the removal of surface water from the combined sewer network is calculated as follows:

- Rainfall event - 1 in 30 yr storm, 5 hour duration
- Rainfall intensity Burry Inlet (i) 10.8 mm/hr
- Area 2.78ha

Actual Surface Water Removal
Peak Flow = 2.78 x Area x i
Peak Flow = 2.78 x 2.78 x 10.8 = 83.47 l/s

Foul flow generated from school development = 2.65 l/s

Flow reduction/betterment = 83.47-2.65 = 80.82 l/s

In accordance with the MOU, CCC will directly align its betterment provision with the removal of surface water at the Draka site and shall call of the register of achieved capacity held by the Local Planning Authority.

Additionally it is understood that CCC have allocated 39 l/s of capacity to the proposed the nearby Delta Lakes, Wellness and Life Science Village, development and another 0.468 l/s to the Machynys Residential Development.

Therefore, unless CCC have allocated other development flows to the Draka site there is 41.35 l/s of free capacity that the hotel development (2.52 l/s) could utilise.

5 Conclusion

The development of Hotel will generate additional flow which will discharge into DCWW's combined drainage network. The total foul flows generated is 2.52 l/s. As part of the MOU, a comparable amount of surface flow needs to be removed from the combined network to enable development to proceed. The recent development of the old Draka site to the north of Delta Lakes into a modern primary school and playing fields has removed a net flow of 80.82 l/s from the combined drainage network in the area. CCC have elected that a proportion of the benefit gained from Draka can be earmarked as MOU justification for the Machynys hotel development.