

## Geology 1:50,000 Maps Legends

### Artificial Ground and Landslip

| Map Colour                                                                        | Lex Code | Rock Name                    | Rock Type                    | Min and Max Age         |
|-----------------------------------------------------------------------------------|----------|------------------------------|------------------------------|-------------------------|
|  | MGR      | Made Ground (Undivided)      | Artificial Deposit           | Not Supplied - Holocene |
|  | LSGR     | Landsaped Ground (Undivided) | Artificially Modified Ground | Not Supplied - Holocene |

### Superficial Geology

| Map Colour                                                                         | Lex Code | Rock Name                                 | Rock Type                   | Min and Max Age           |
|------------------------------------------------------------------------------------|----------|-------------------------------------------|-----------------------------|---------------------------|
|   | ALV      | Alluvium                                  | Clay, Silt, Sand and Gravel | Not Supplied - Holocene   |
|   | TILLD    | Till, Devensian                           | Diamicton                   | Not Supplied - Devensian  |
|   | GLLDD    | Glaciolacustrine Deposits, Devensian      | Clay and Silt               | Not Supplied - Devensian  |
|   | GFSDD    | Glaciofluvial Sheet Deposits, Devensian   | Sand and Gravel             | Not Supplied - Devensian  |
|   | GFDUD    | Glaciofluvial Deposits, Devensian         | Sand and Gravel             | Not Supplied - Devensian  |
|   | RTDU     | River Terrace Deposits (Undifferentiated) | Sand and Gravel             | Not Supplied - Quaternary |
|   | RTD3     | River Terrace Deposits, 3                 | Sand and Gravel             | Not Supplied - Quaternary |
|   | RTD2     | River Terrace Deposits, 2                 | Sand and Gravel             | Not Supplied - Quaternary |
|  | RTD1     | River Terrace Deposits, 1                 | Sand and Gravel             | Not Supplied - Quaternary |

### Bedrock and Faults

| Map Colour                                                                          | Lex Code | Rock Name                     | Rock Type                            | Min and Max Age               |
|-------------------------------------------------------------------------------------|----------|-------------------------------|--------------------------------------|-------------------------------|
|  | KNSF     | Kinnerton Sandstone Formation | Sandstone                            | Not Supplied - Early Triassic |
|  | SAL      | Salop Formation               | Mudstone, Sandstone and Conglomerate | Not Supplied - Westphalian    |
|  |          | Faults                        |                                      |                               |



### Geology 1:50,000 Maps

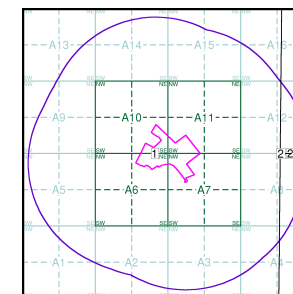
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

### Geology 1:50,000 Maps Coverage

|                      |              |                      |               |
|----------------------|--------------|----------------------|---------------|
| Map ID:              | 1            | Map ID:              | 2             |
| Map Sheet No:        | 121          | Map Sheet No:        | 122           |
| Map Name:            | Wrexham      | Map Name:            | Nantwich      |
| Map Date:            | 1993         | Map Date:            | 1967          |
| Bedrock Geology:     | Available    | Bedrock Geology:     | Available     |
| Superficial Geology: | Available    | Superficial Geology: | Available     |
| Artificial Geology:  | Available    | Artificial Geology:  | Not Available |
| Faults:              | Not Supplied | Faults:              | Not Supplied  |
| Landslip:            | Available    | Landslip:            | Available     |
| Rock Segments:       | Not Supplied | Rock Segments:       | Not Supplied  |

### Geology 1:50,000 Maps - Slice A



### Order Details:

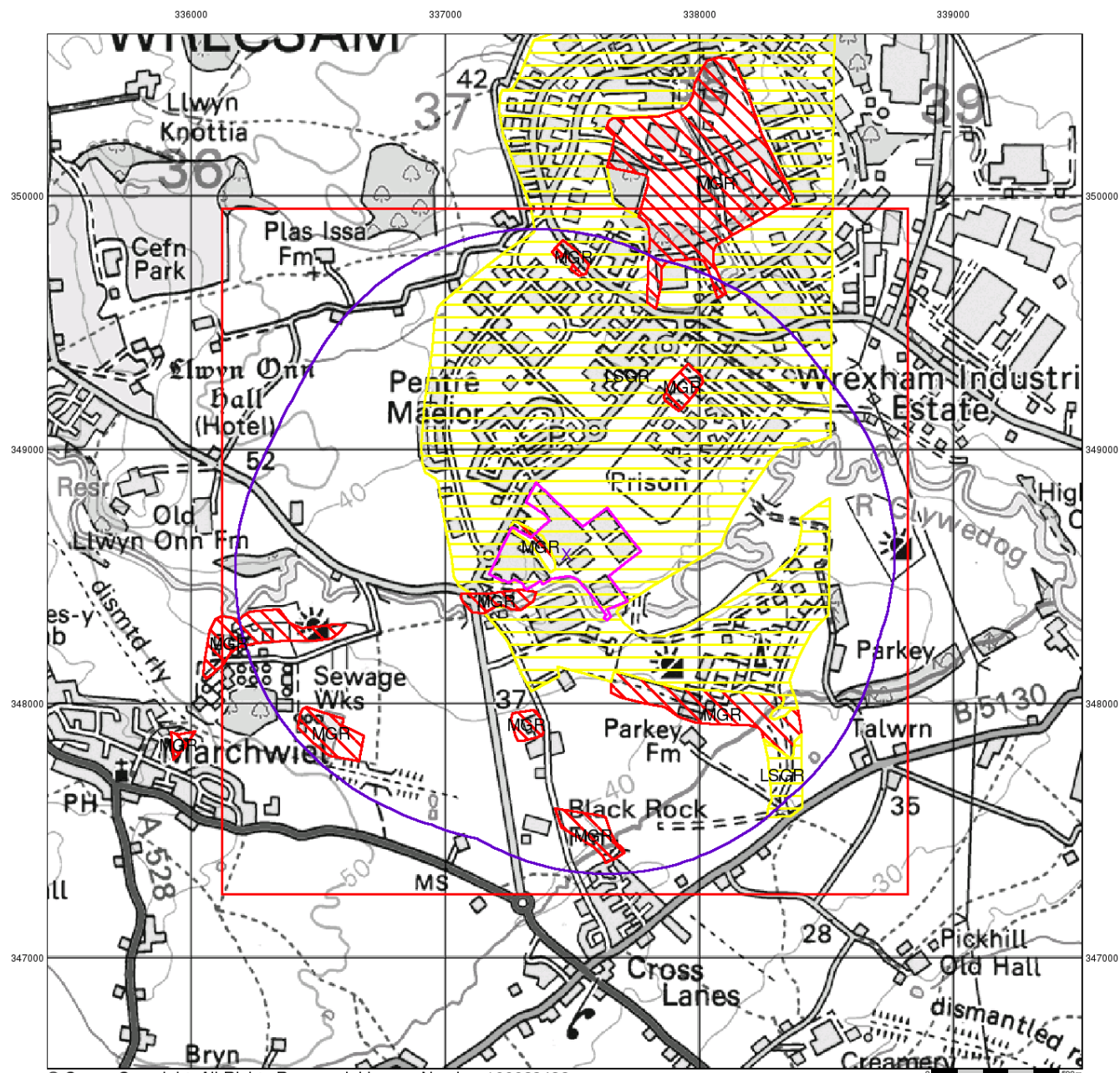
|                          |                |
|--------------------------|----------------|
| Order Number:            | 306407436_1_1  |
| Customer Reference:      | LKC 23 1018    |
| National Grid Reference: | 337480, 348590 |
| Slice:                   | A              |
| Site Area (Ha):          | 13.79          |
| Search Buffer (m):       | 1000           |

### Site Details:

Land Adjacent To f Lloyd Penley Ltd, Bridge Road South, Wrexham Industrial Estate, Wrexham, LL13 9SQ

**Landmark**  
INFORMATION GROUP

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### Artificial Ground and Landslip

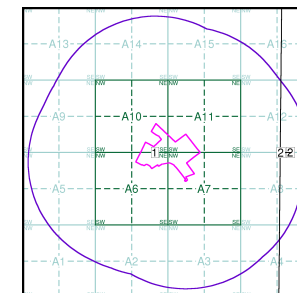
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

### Artificial Ground and Landslip Map - Slice A



### Order Details:

Order Number: 306407436\_1\_1  
 Customer Reference: LKC 23 1018  
 National Grid Reference: 337480, 348590  
 Slice: A  
 Site Area (Ha): 13.79  
 Search Buffer (m): 1000

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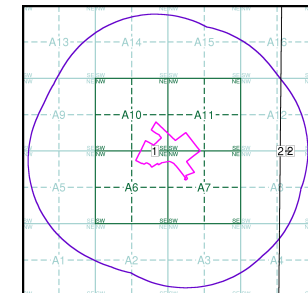
### Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

### Superficial Geology Map - Slice A



### Order Details:

Order Number: 306407436 1\_1  
 Customer Reference: LKC 23 1018  
 National Grid Reference: 337480, 348590  
 Slice: A  
 Site Area (Ha): 13.79  
 Search Buffer (m): 1000

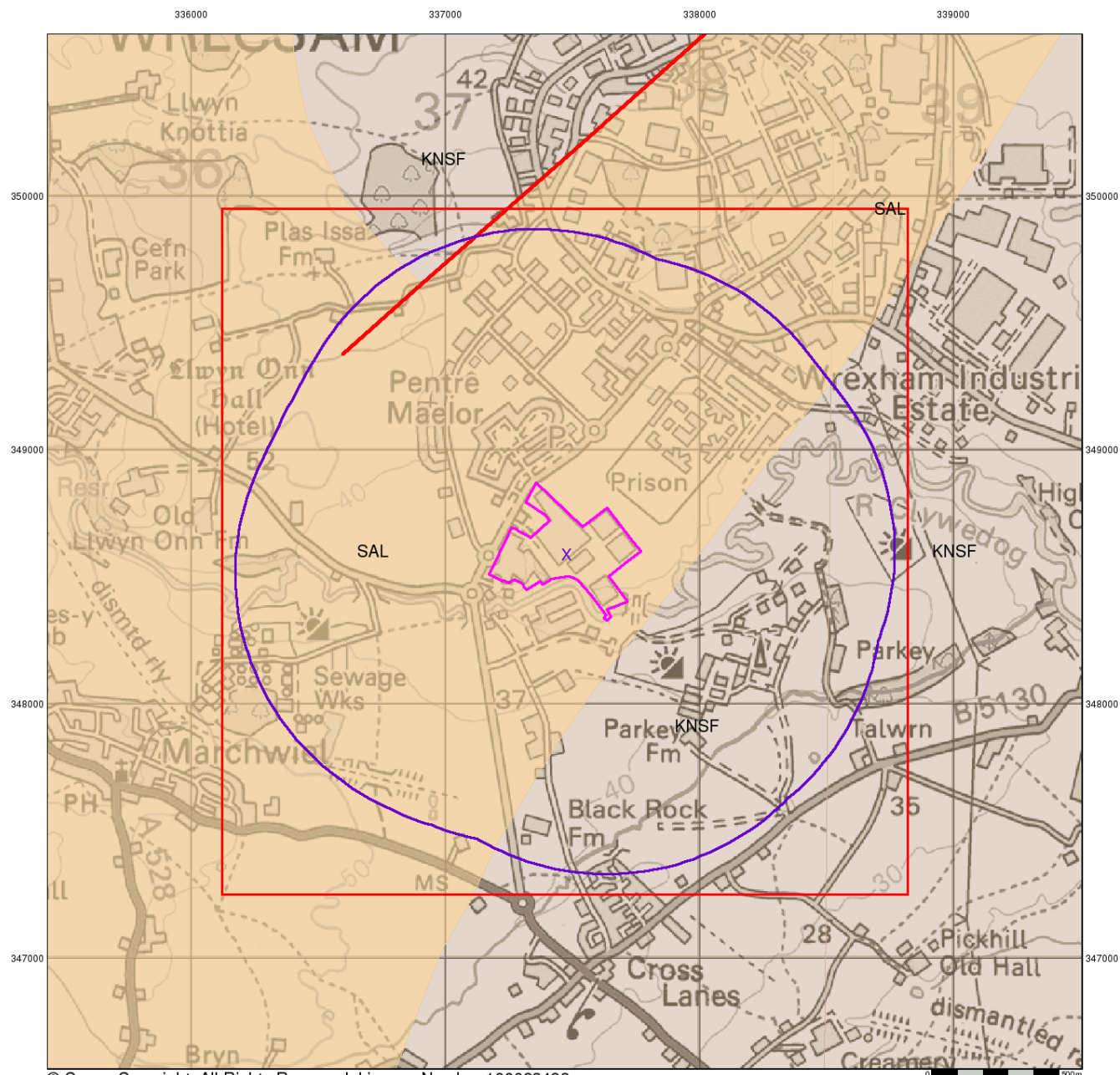
### Site Details:

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### Bedrock and Faults

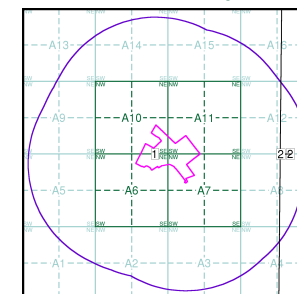
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

### Bedrock and Faults Map - Slice A



### Order Details:

|                          |                |
|--------------------------|----------------|
| Order Number:            | 306407436_1_1  |
| Customer Reference:      | LKC 23 1018    |
| National Grid Reference: | 337480, 348590 |
| Slice:                   | A              |
| Site Area (Ha):          | 13.79          |
| Search Buffer (m):       | 1000           |

### Site Details:

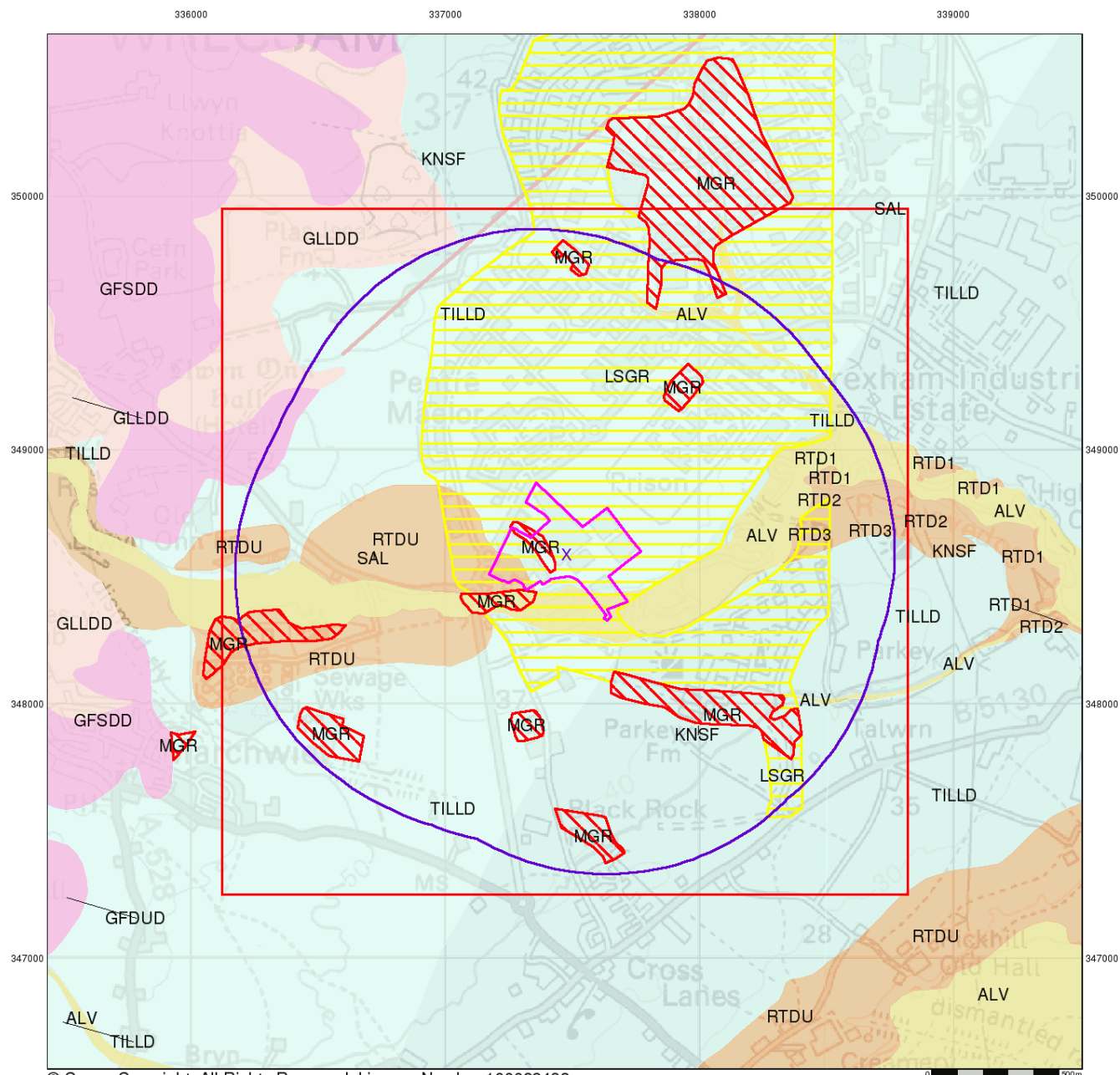
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Page 4 of 5



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### Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

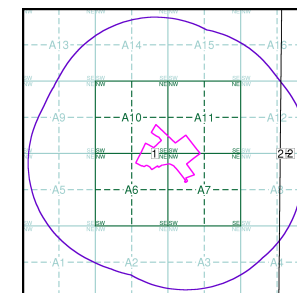
### Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

### Contact

British Geological Survey  
Kingsley Dunham Centre  
Keyworth  
Nottingham  
NG12 5GG  
Telephone: 0115 936 3143  
Fax: 0115 936 3276  
email: [enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)  
website: [www.bgs.ac.uk](http://www.bgs.ac.uk)

### Combined Geology Map - Slice A



### Order Details:

Order Number: 306407436\_1\_1  
Customer Reference: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

### Site Details:

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336800

337000

337200

337400



### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

### Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

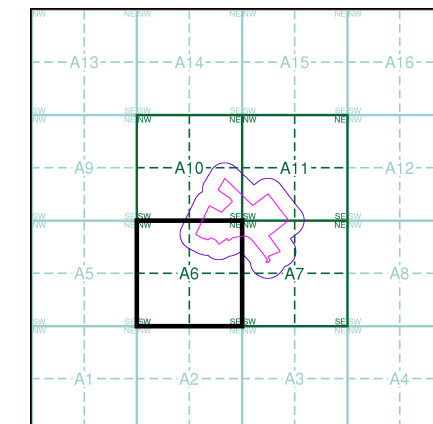
### Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement
- BGS Recorded Mineral Site
- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

### Geological

- BGS Recorded Mineral Site

### Site Sensitivity Map - Segment A6



### Order Details

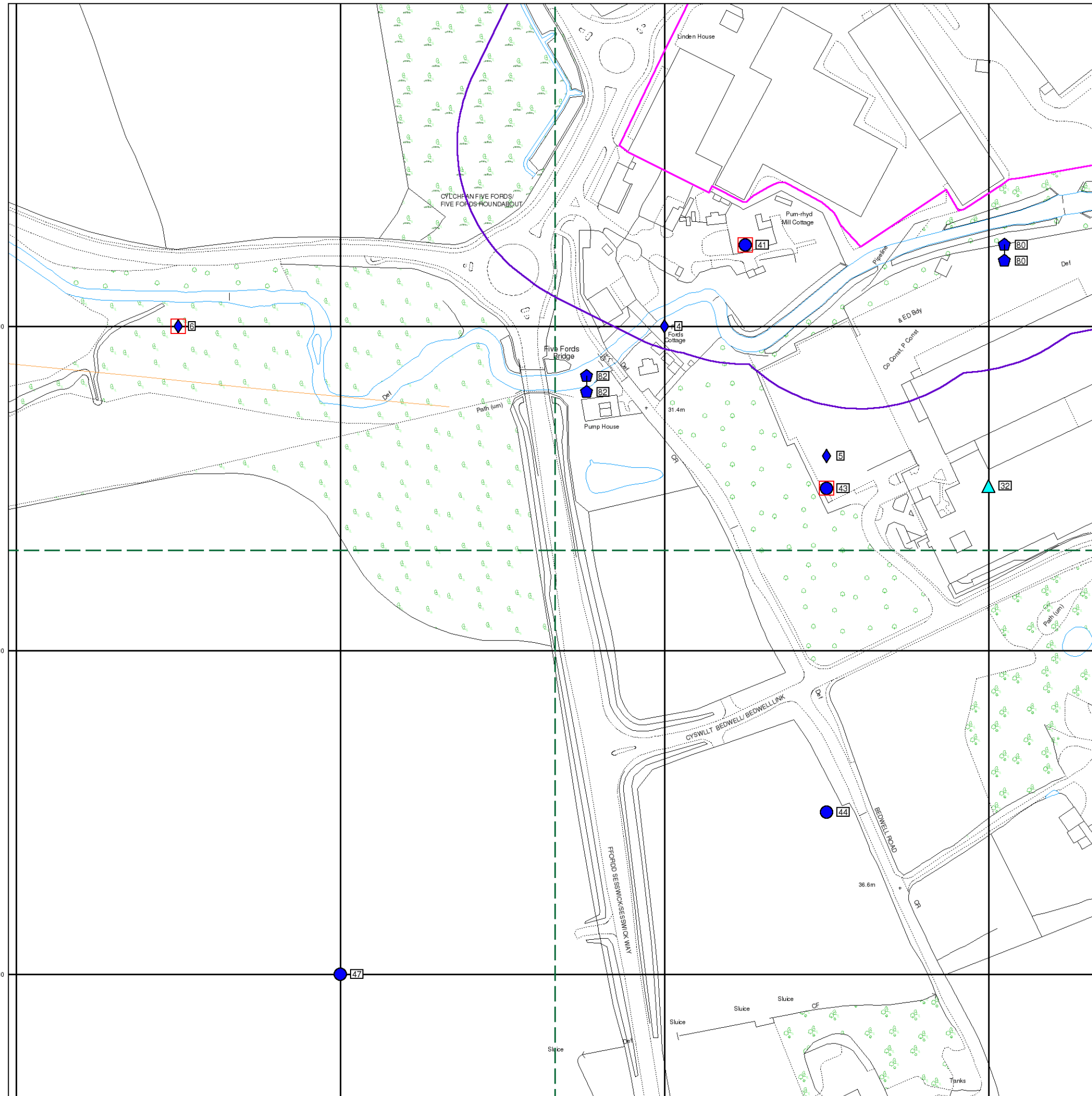
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Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Plot Buffer (m): 100

### Site Details

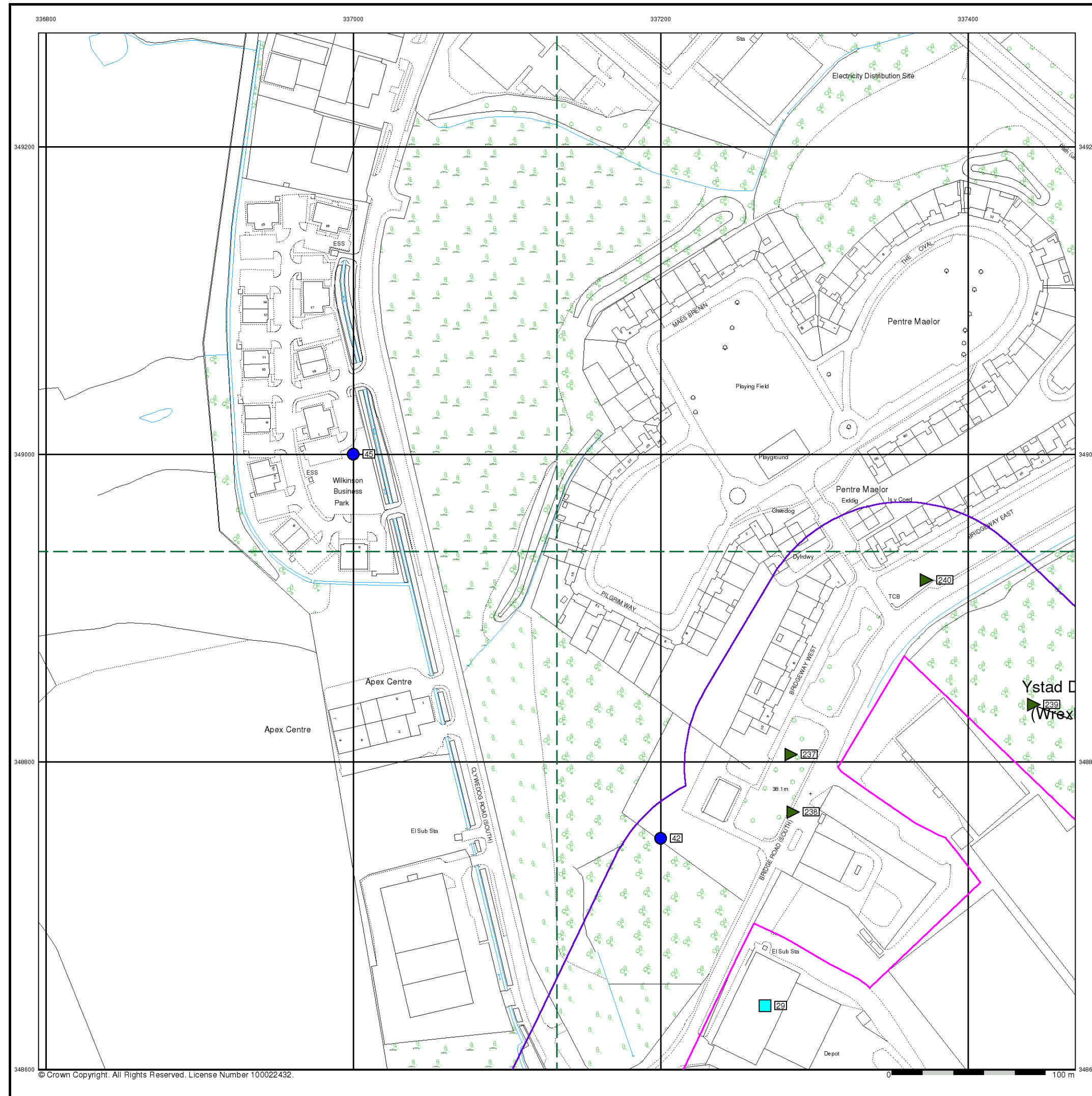
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### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

### Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

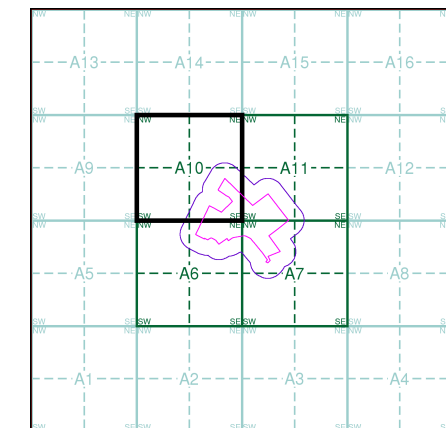
### Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement
- BGS Recorded Mineral Site
- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

### Geological

- BGS Recorded Mineral Site

### Site Sensitivity Map - Segment A10



### Order Details

Order Number: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Plot Buffer (m): 100

### Site Details

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## General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

## Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral
- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
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- Local Authority Recorded Landfill Site
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- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

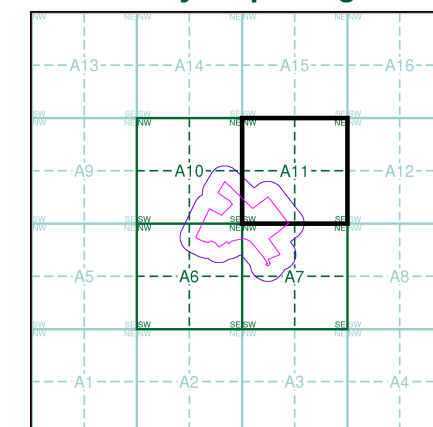
## Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

## Geological

- BGS Recorded Mineral Site

## Site Sensitivity Map - Segment A11

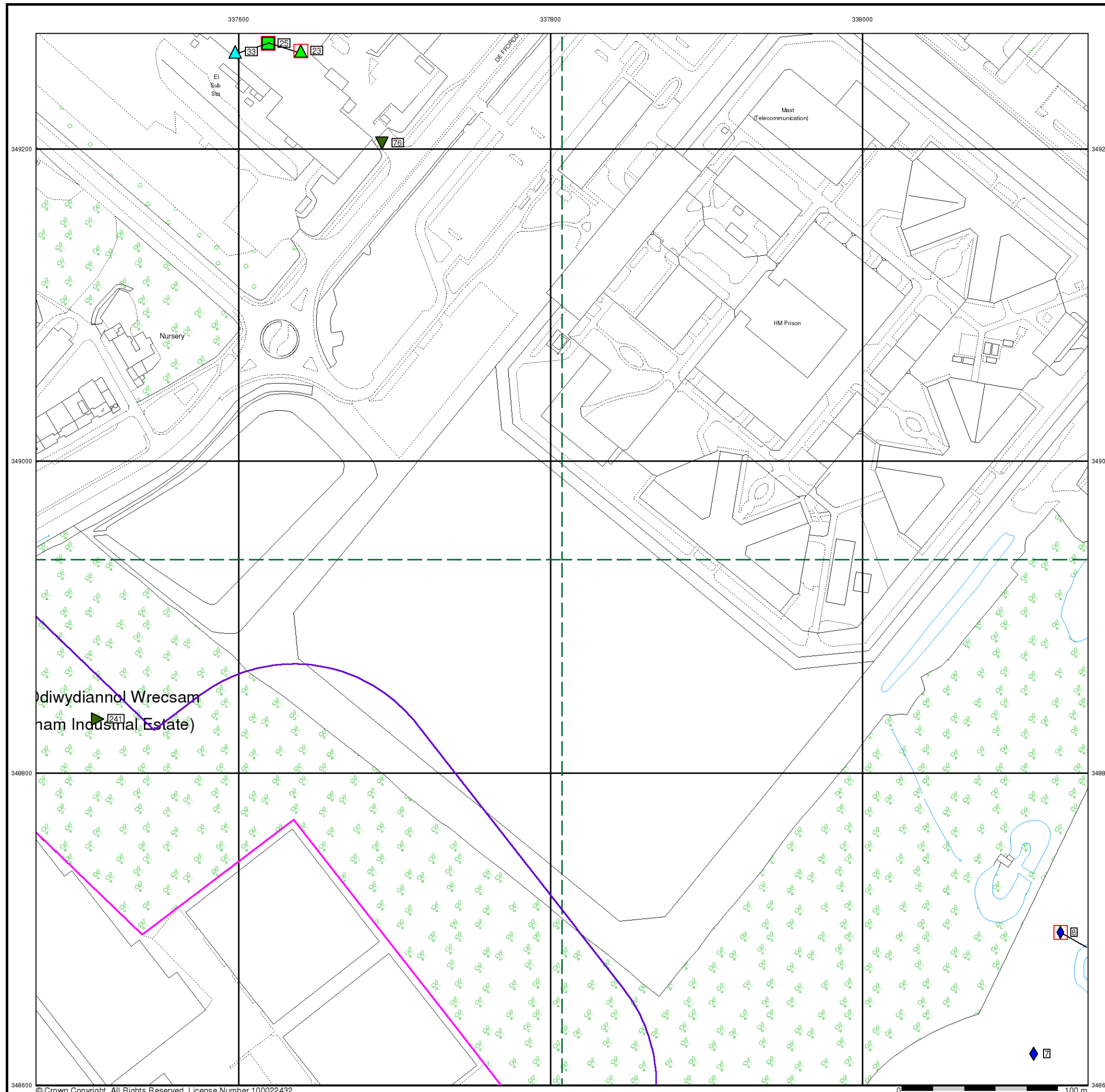


## Order Details

Order Number: 306407436\_1\_1  
 Customer Ref: LKC 23 1018  
 National Grid Reference: 337480, 348590  
 Slice: A  
 Site Area (Ha): 13.79  
 Plot Buffer (m): 100

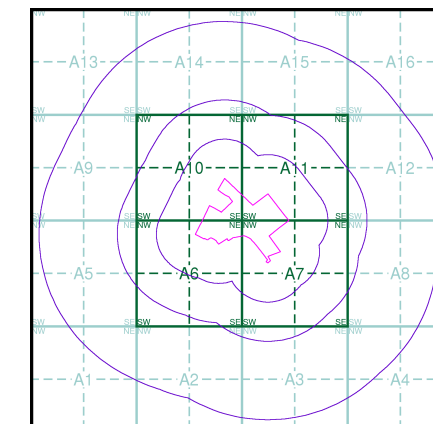
## Site Details

Land Adjacent To f Lloyd Penley Ltd, Bridge Road South, Wrexham Industrial Estate, Wrexham, LL13 9SQ



- General**
- Specified Site
  - Specified Buffer(s)
  - Bearing Reference Point
  - Map ID
  - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
  - Contaminated Land Register Entry or Notice
  - Discharge Consent
  - Enforcement or Prohibition Notice
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  - Integrated Pollution Prevention Control
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  - Registered Radioactive Substance
  - River Network or Water Feature
  - River Quality Sampling Point
  - Substantiated Pollution Incident Register
  - Water Abstraction
  - Water Industry Act Referral
- Hazardous Substances**
- COMAH Site
  - Explosive Site
  - NIHHS Site
  - Planning Hazardous Substance Consent
  - Planning Hazardous Substance Enforcement
  - BGS Recorded Mineral Site
- Waste**
- BGS Recorded Landfill Site (Location)
  - BGS Recorded Landfill Site
  - EA Historic Landfill (Buffered Point)
  - EA Historic Landfill (Polygon)
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  - Registered Landfill Site (Point Buffered to 100m)
  - Registered Landfill Site (Point Buffered to 250m)
  - Registered Waste Transfer Site (Location)
  - Registered Waste Transfer Site
  - Registered Waste Treatment or Disposal Site (Location)
  - Registered Waste Treatment or Disposal Site

## Site Sensitivity Map - Slice A

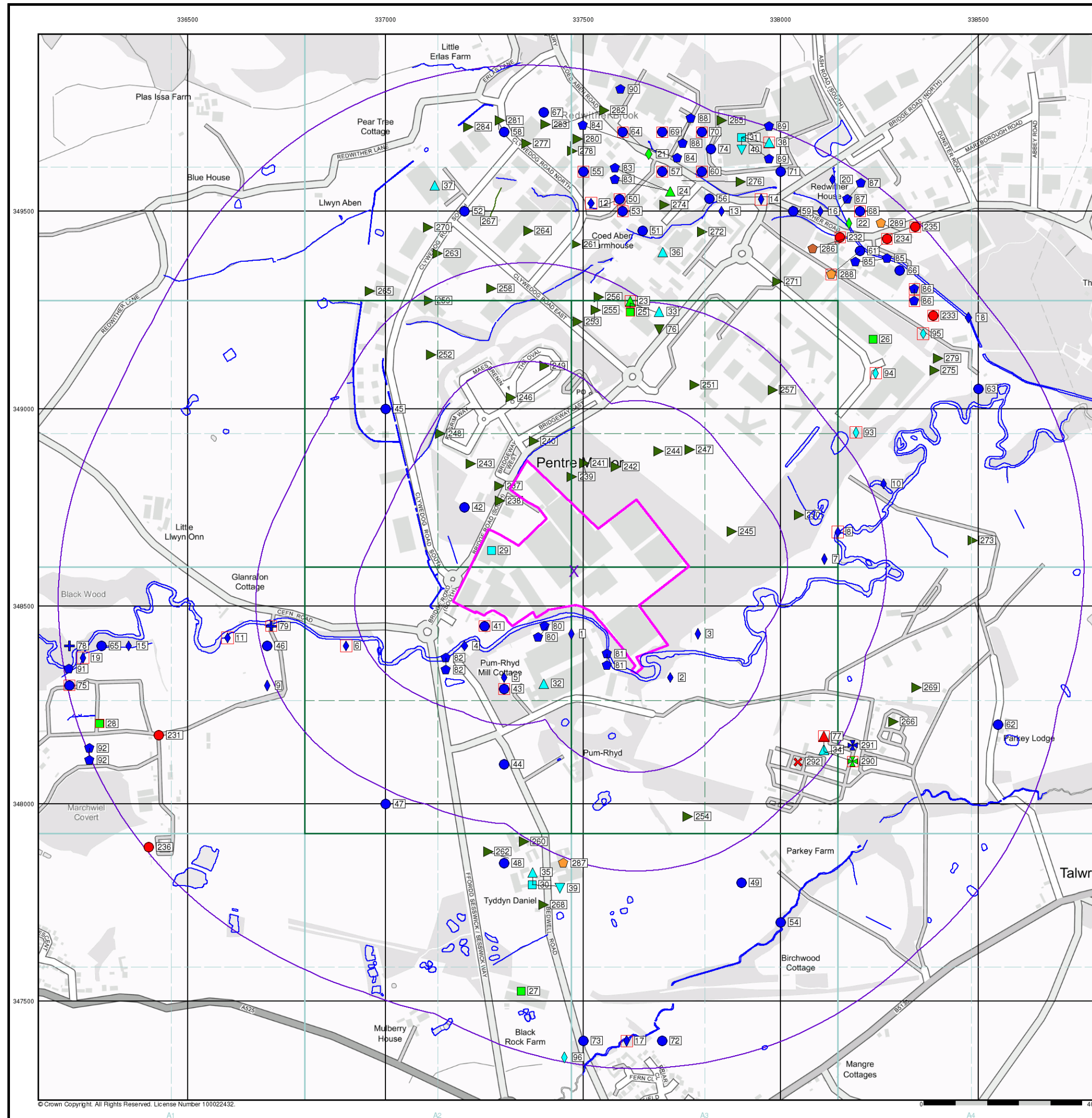


## Order Details

Order Number: 306407436\_1\_1  
 Customer Ref: LKC 23 1018  
 National Grid Reference: 337480, 348590  
 Slice: A  
 Site Area (Ha): 13.79  
 Search Buffer (m): 1000

## Site Details

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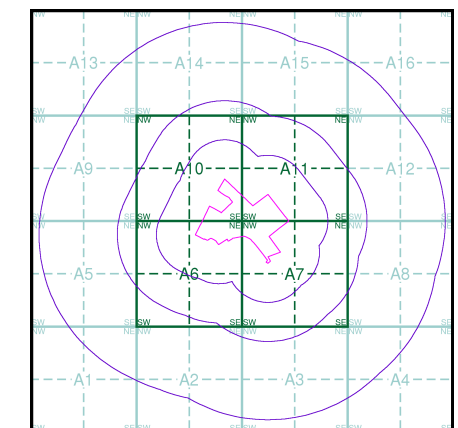
### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

### Industrial Land Use Map - Slice A

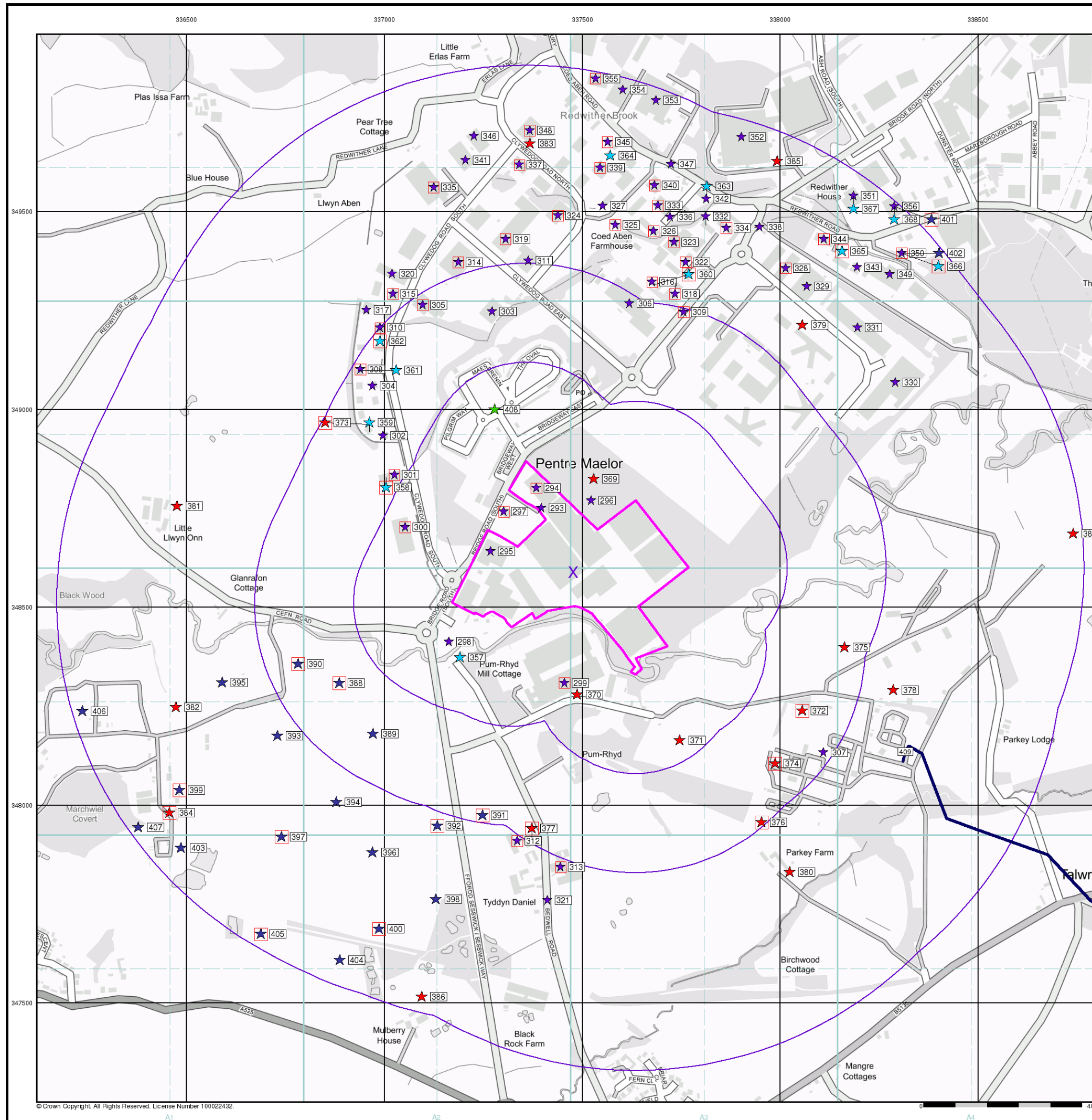


### Order Details

Order Number: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

### Site Details

Land Adjacent To f Lloyd Penley Ltd, Bridge Road South,  
Wrexham Industrial Estate, Wrexham, LL13 9SQ



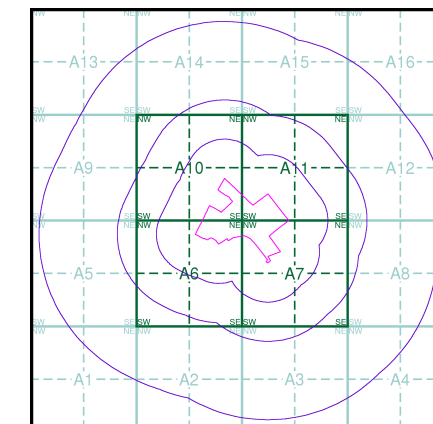
## General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

## Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

## Flood Map - Slice A

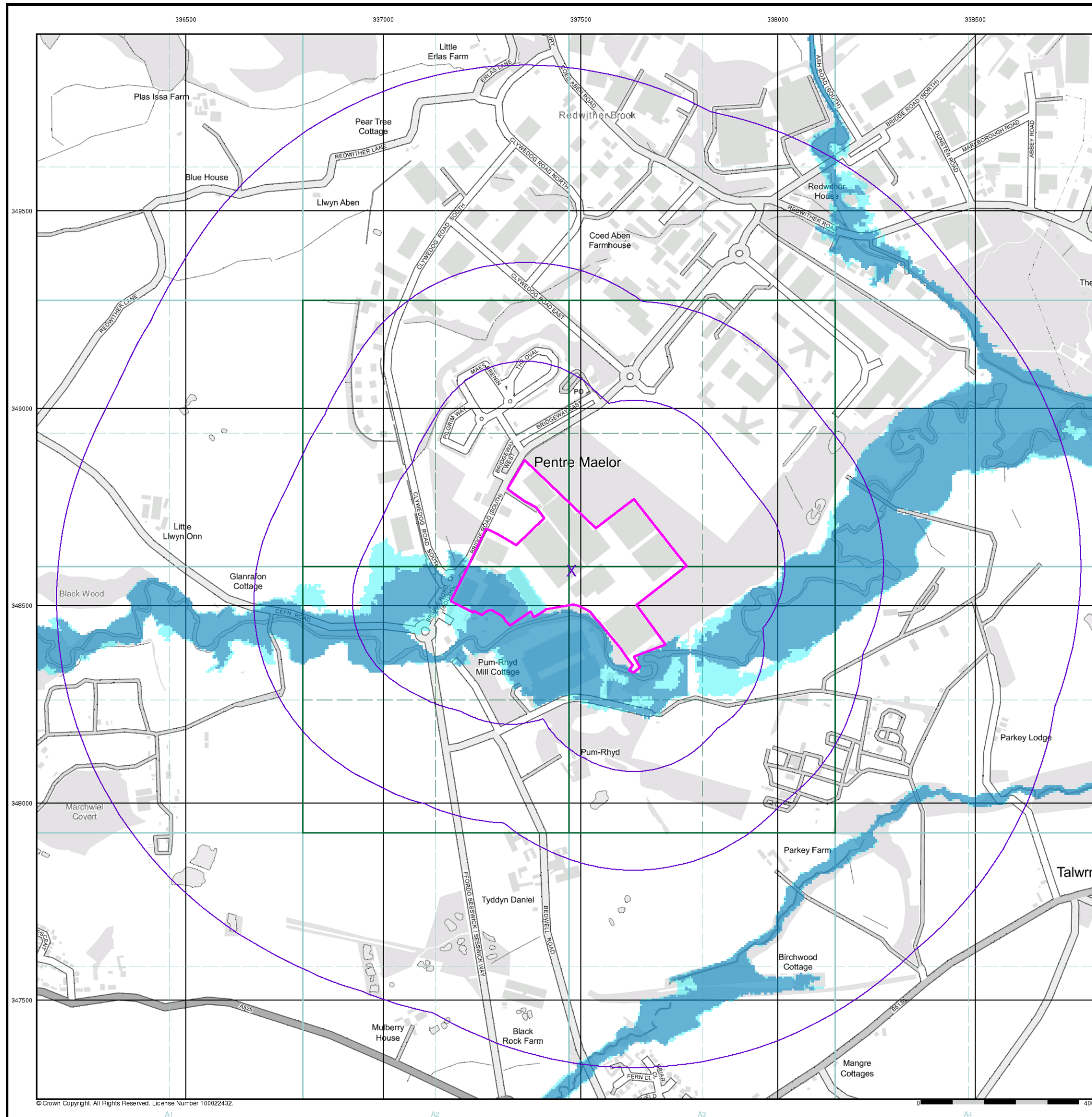


## Order Details

Order Number: 306407436\_1\_1  
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 Slice: A  
 Site Area (Ha): 13.79  
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- Bearing Reference Point
- Map ID
- Several of Type at Location

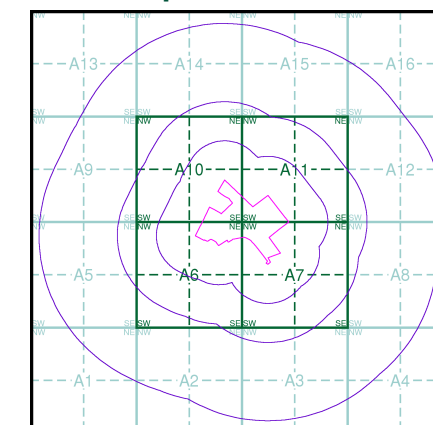
## Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of [www.envirocheck.co.uk](http://www.envirocheck.co.uk).

## Borehole Map - Slice A

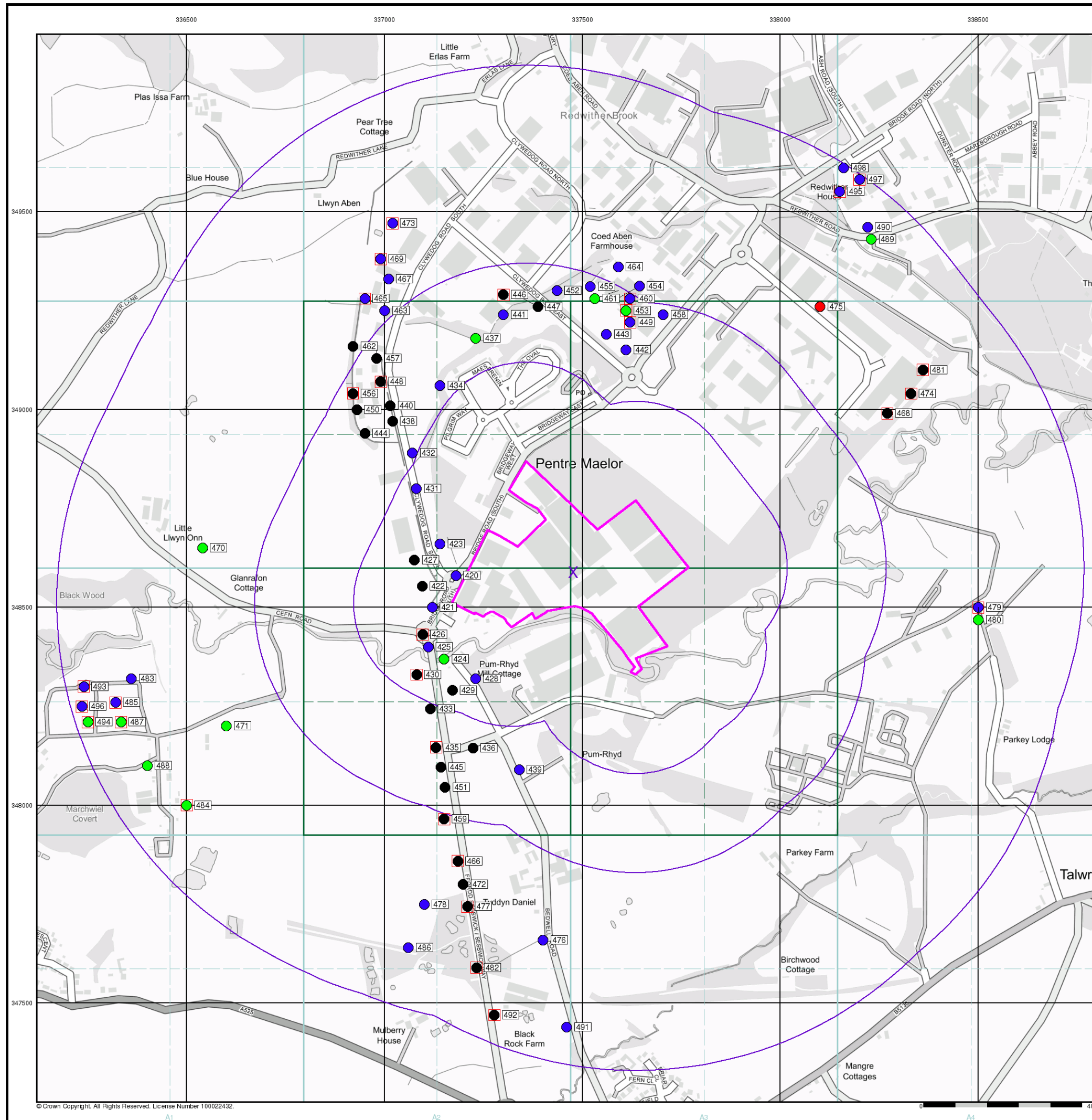


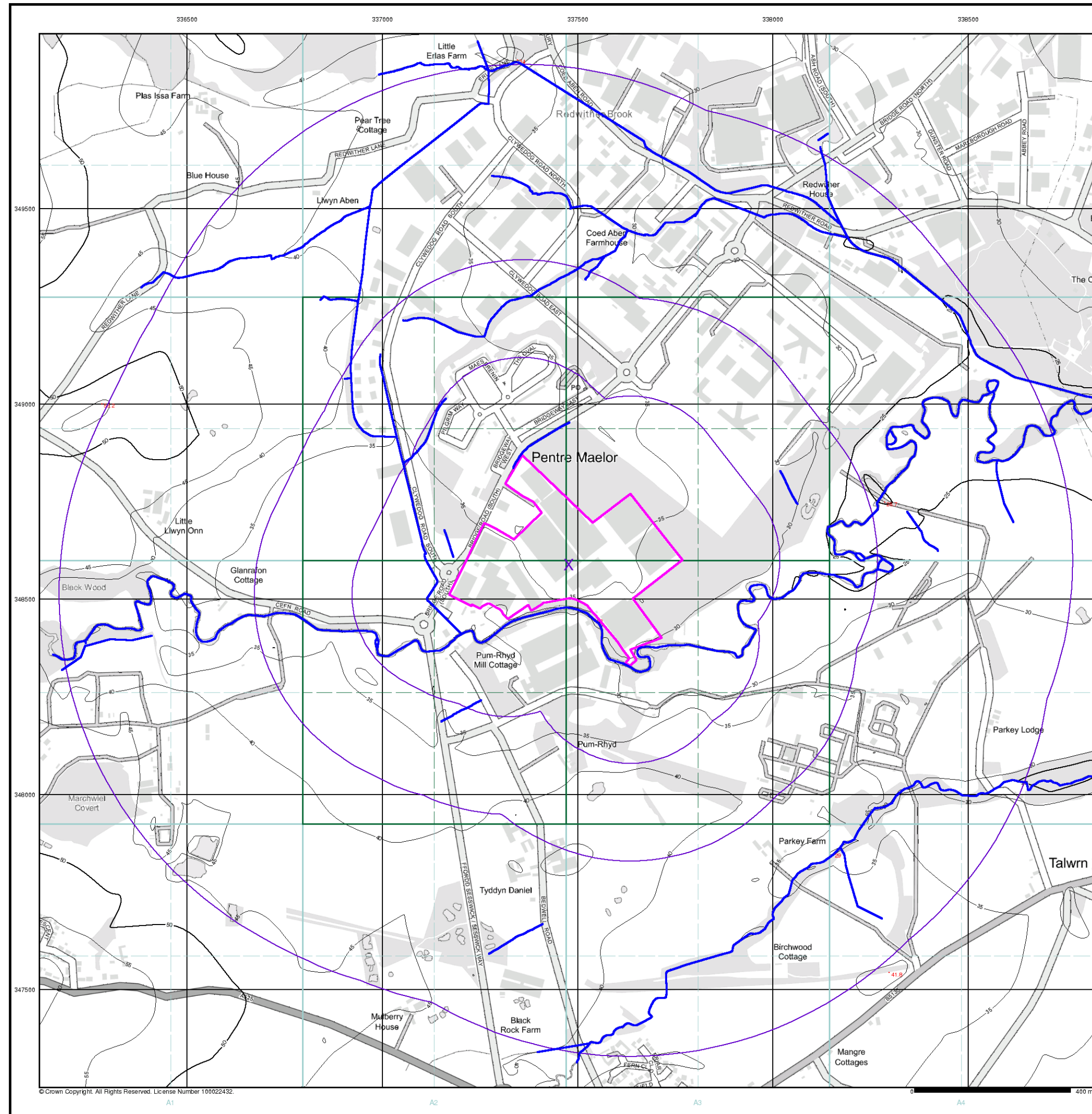
## Order Details

Order Number: 306407436\_1\_1  
 Customer Ref: LKC 23 1018  
 National Grid Reference: 337480, 348590  
 Slice: A  
 Site Area (Ha): 13.79  
 Search Buffer (m): 1000

## Site Details

Land Adjacent To f Lloyd Penley Ltd, Bridge Road South, Wrexham Industrial Estate, Wrexham, LL13 9SQ





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#### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

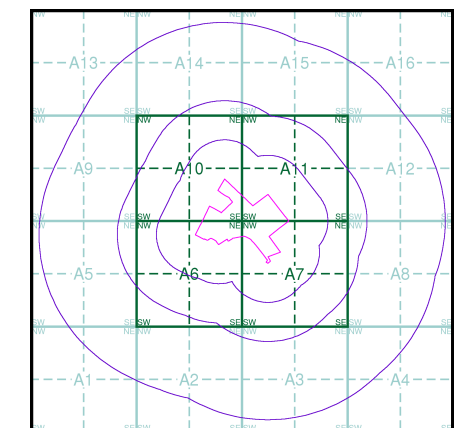
#### OS Water Network Data

- |              |                         |
|--------------|-------------------------|
| Canal        | Drain                   |
| Reservoir    | Other                   |
| Foreshore    | Lake                    |
| Marsh        | Transfer                |
| Tidal River  | Lock Or Flight Of Locks |
| Inland River | Sea                     |

#### Contours (height in meters)

- |                  |       |     |    |     |                 |
|------------------|-------|-----|----|-----|-----------------|
| Standard Contour | 105   | 100 | 95 | MLW | Mean Low Water  |
| Master Contour   | 105   | 100 | 95 | MHW | Mean High Water |
| Spot Height      | 167.3 |     |    |     |                 |

#### OS Water Network Map - Slice A



#### Order Details

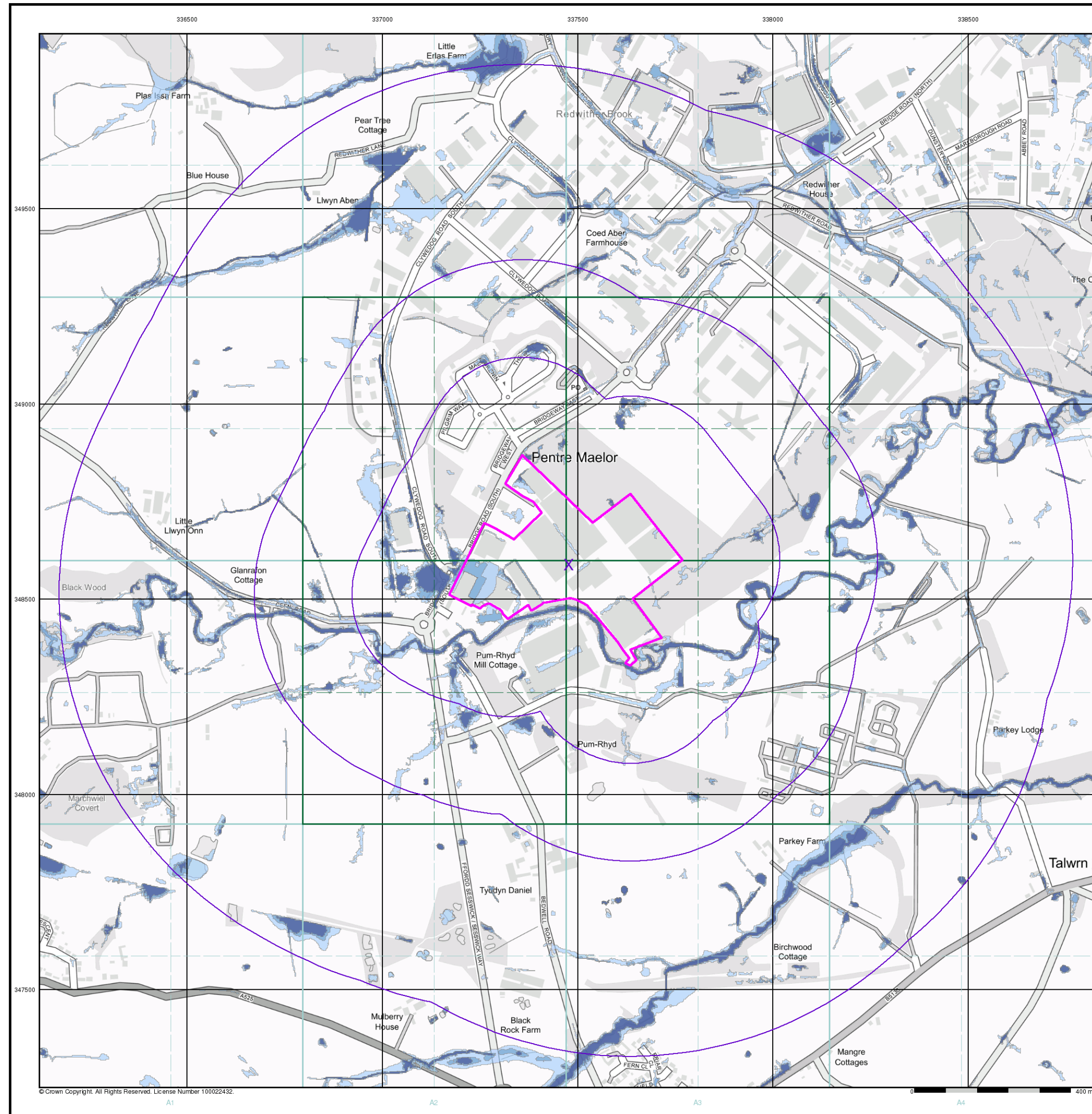
- |                          |                |
|--------------------------|----------------|
| Order Number:            | 306407436_1_1  |
| Customer Ref:            | LKC 23 1018    |
| National Grid Reference: | 337480, 348590 |
| Slice:                   | A              |
| Site Area (Ha):          | 13.79          |
| Search Buffer (m):       | 1000           |

#### Site Details

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|      |                       |
|------|-----------------------|
| Tel: | 0844 844 9952         |
| Fax: | 0844 844 9951         |
| Web: | www.envirocheck.co.uk |



### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

### Risk of Flooding from Surface Water

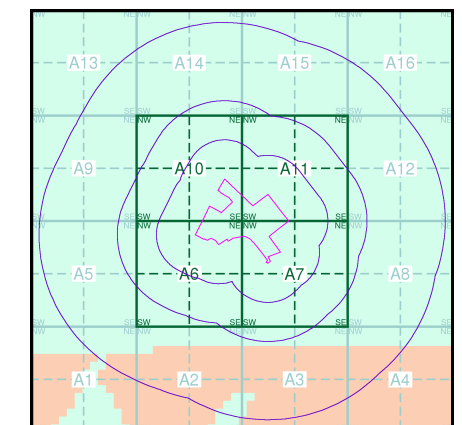
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

### Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

### EA/NRW Suitability Map - Slice A



### Order Details

Order Number: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

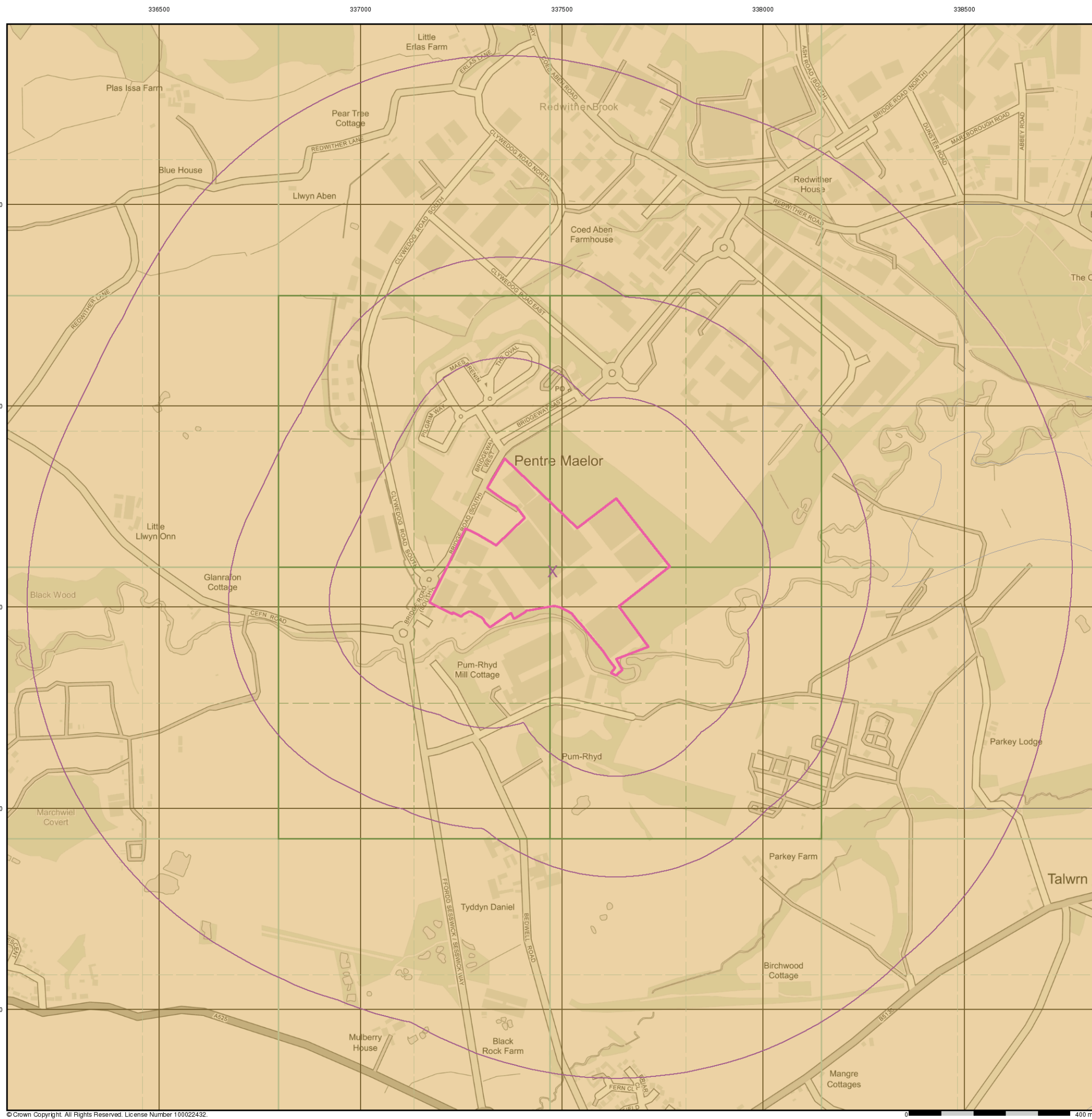
### Site Details

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Fax: 0844 844 9951  
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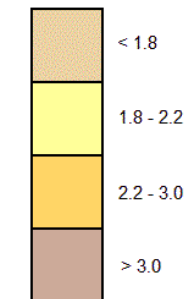


General

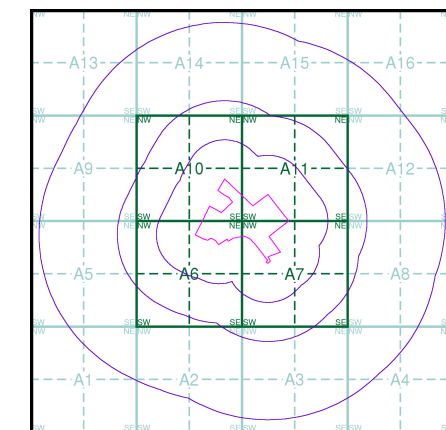
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

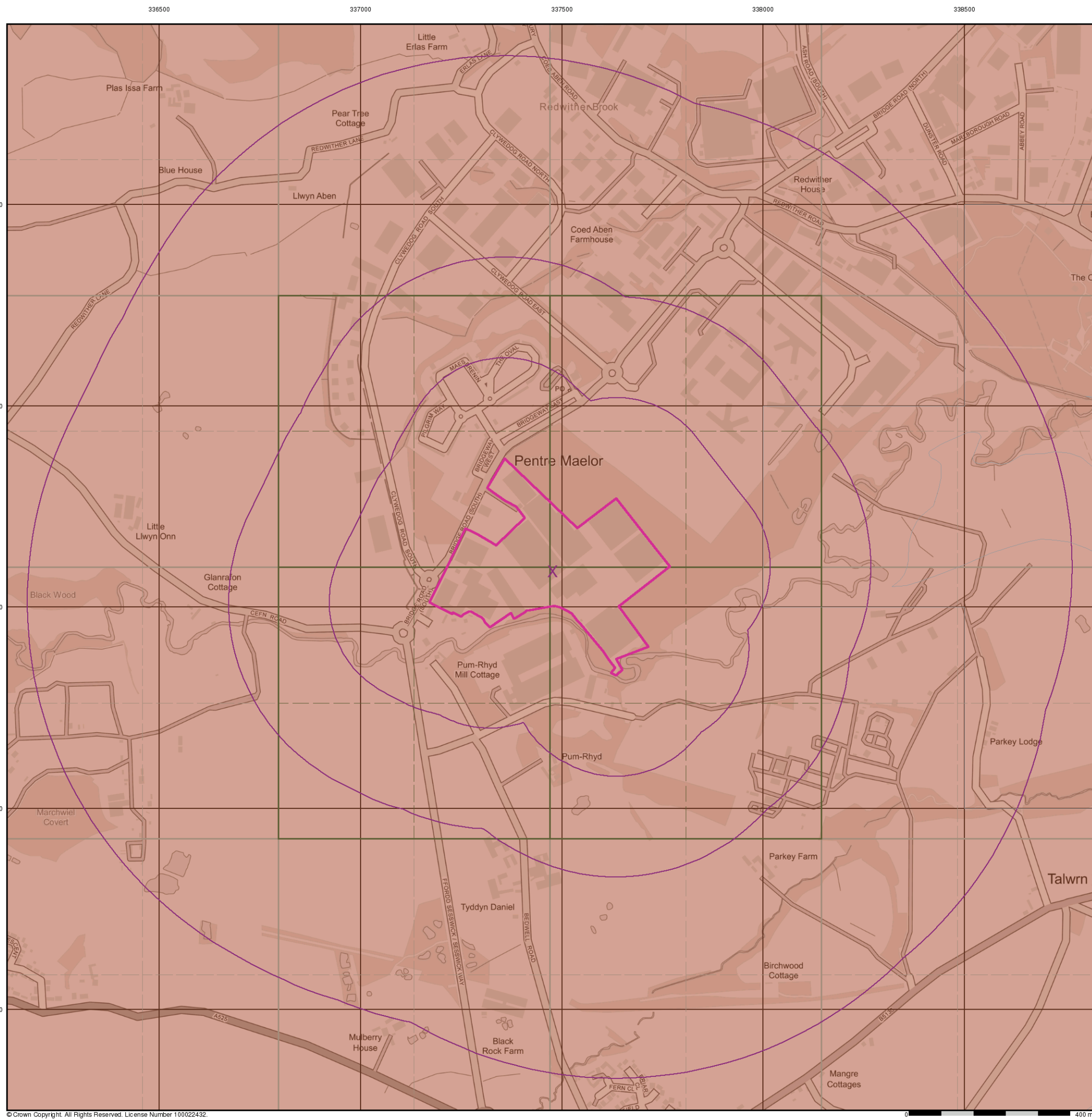
Order Details: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

Site Details

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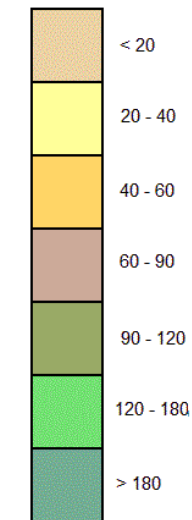


### General

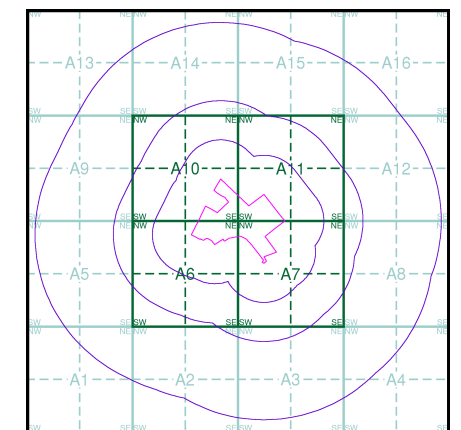
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

### Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



### Estimated Soil Chemistry Chromium - Slice A



### Order Details

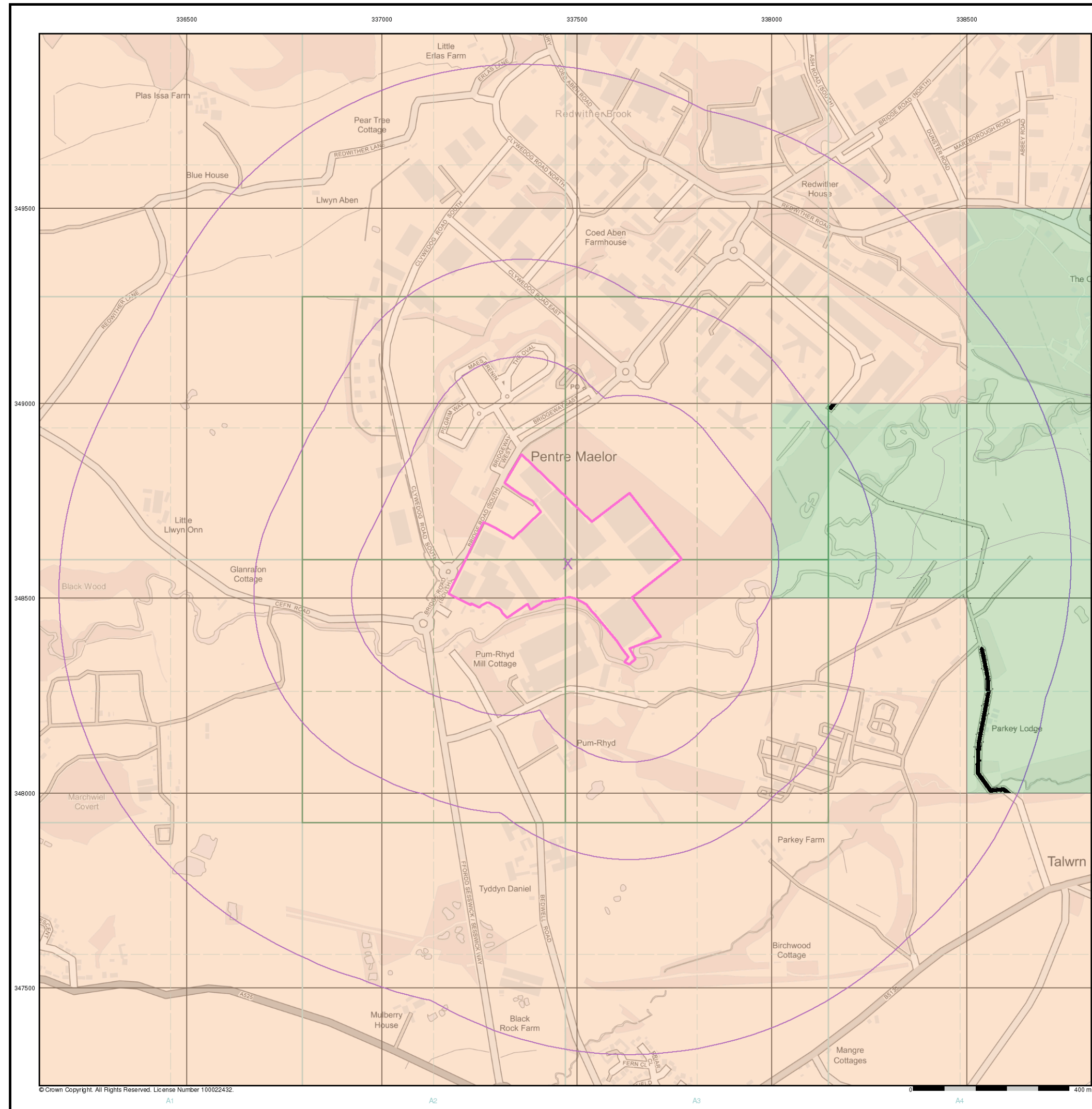
Order Details: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

### Site Details

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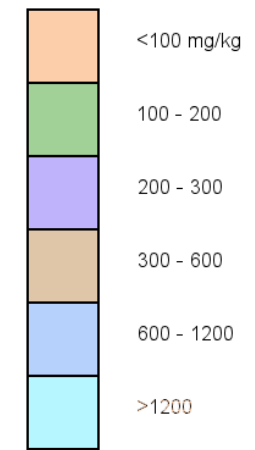


**General**

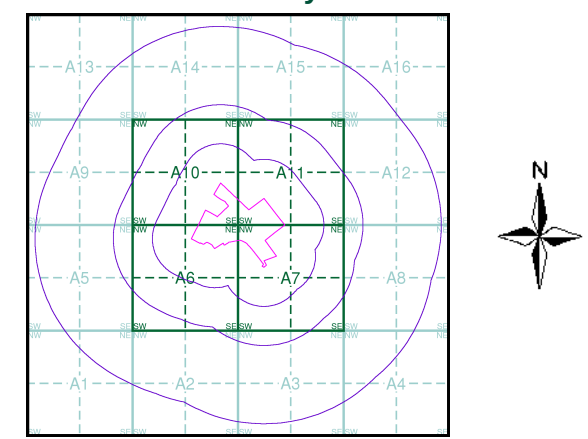
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

**Estimated Soil Chemistry Lead**

Lead Concentrations mg/kg



**Estimated Soil Chemistry Lead - Slice A**



**Order Details**

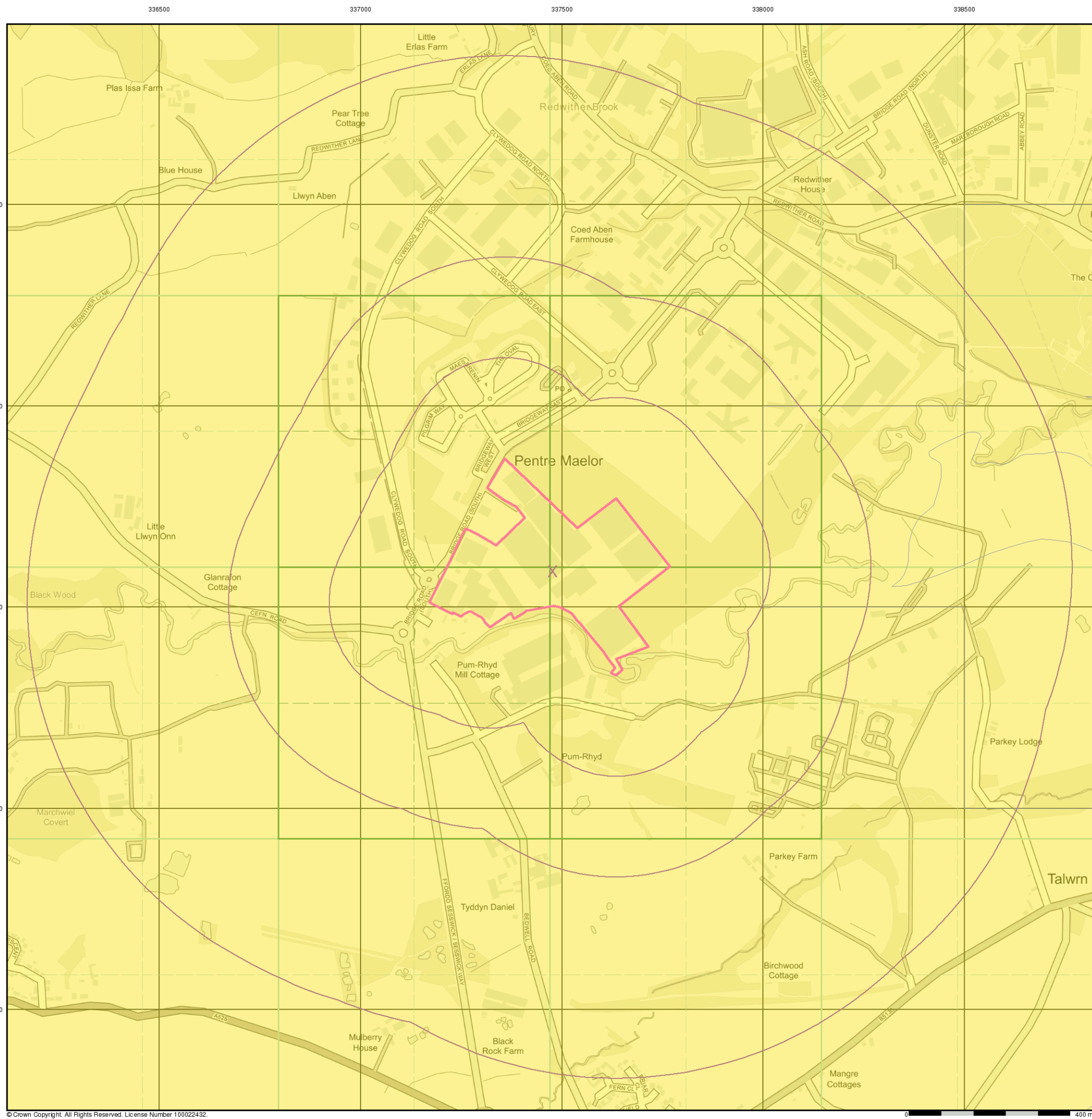
Order Details: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

**Site Details**

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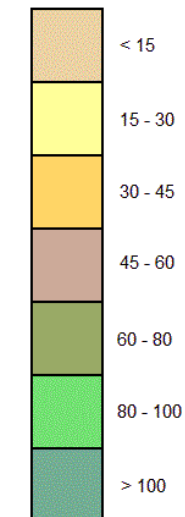


## General

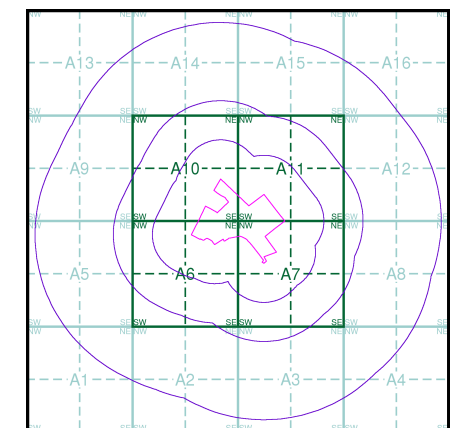
Specified Site Specified Buffer(s) Bearing Reference Point

## Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



## Estimated Soil Chemistry Nickel - Slice A



## Order Details

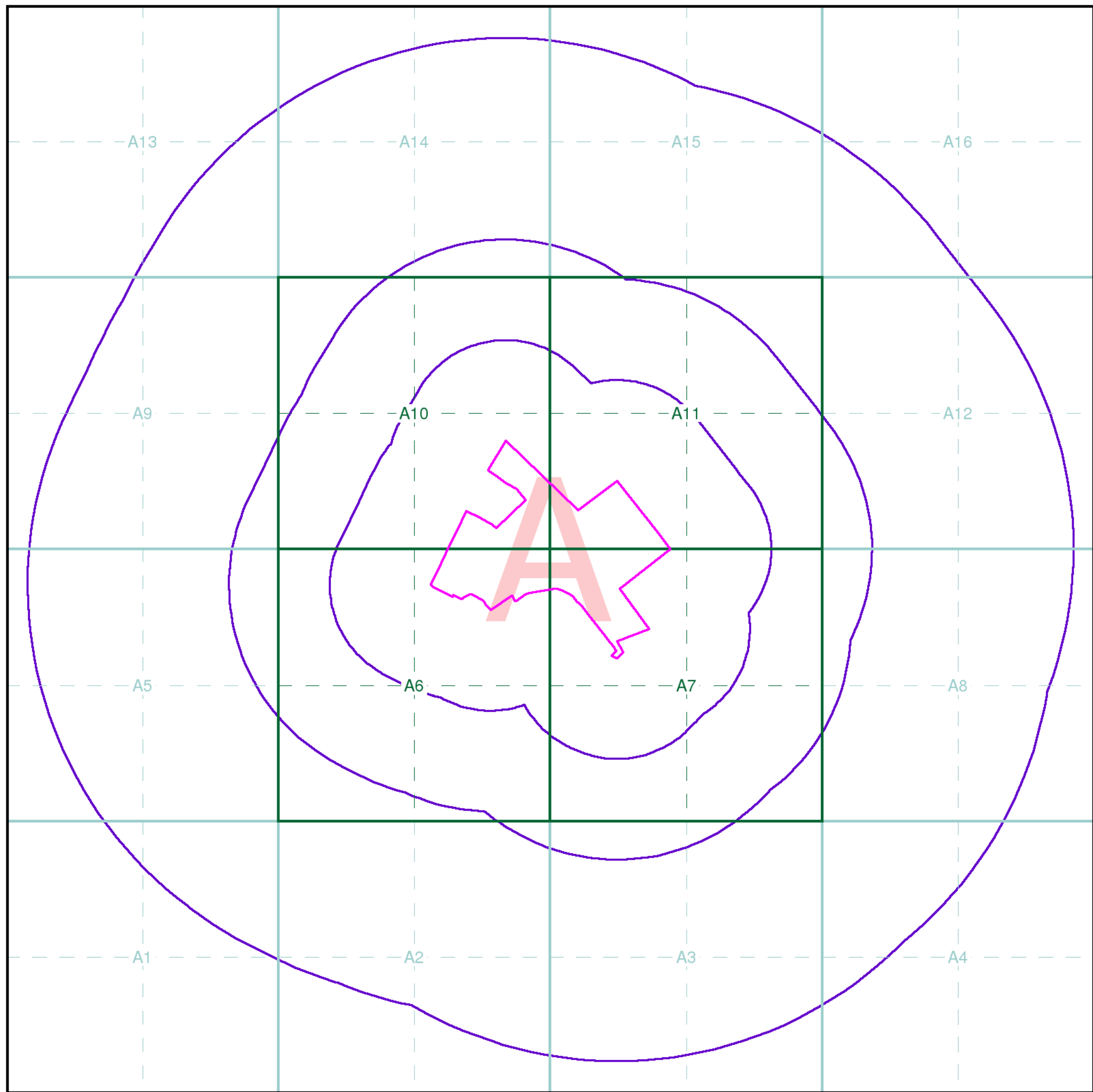
Order Details: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348590  
Slice: A  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

## Site Details

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Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)



For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

**Slice**  
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

**Segment**  
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

**Quadrant**  
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

**Client Details**  
L Consult, LK Consult Ltd, Unit 29 Eton Business Park,  
Eton Hill Road, Radcliffe, Greater Manchester, M26 2ZS

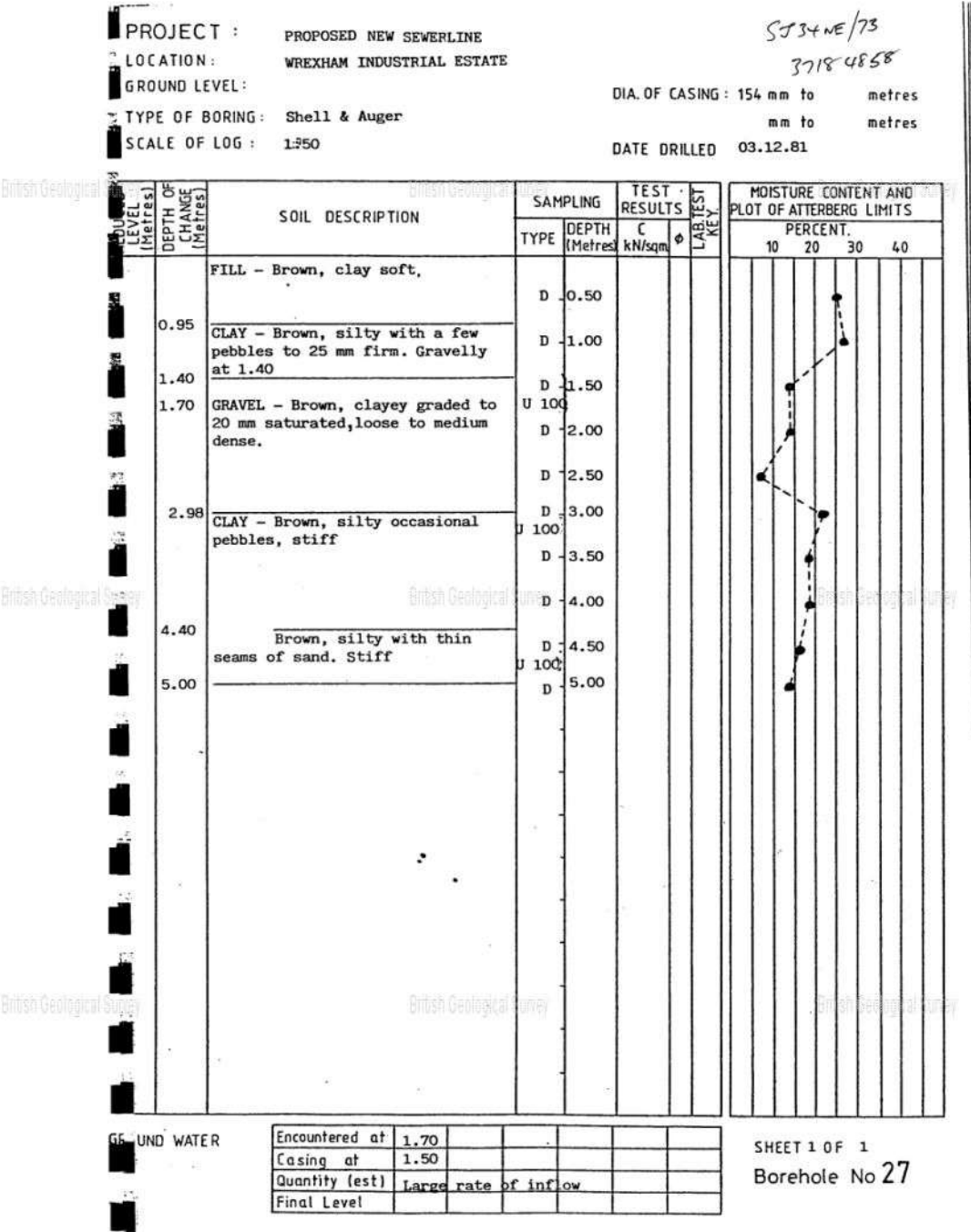
**Order Details**  
Order Number: 306407436\_1\_1  
Customer Ref: LKC 23 1018  
National Grid Reference: 337480, 348600  
Site Area (Ha): 13.79  
Search Buffer (m): 1000

**Site Details**  
Land Adjacent To f Lloyd Penley Ltd, Bridge Road South,  
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Full Terms and Conditions can be found on the following link:  
<http://www.landmarkinfo.co.uk/Terms/Show/515>

## **Appendix C**

### **Historical BGS Boreholes**



## **Appendix D**

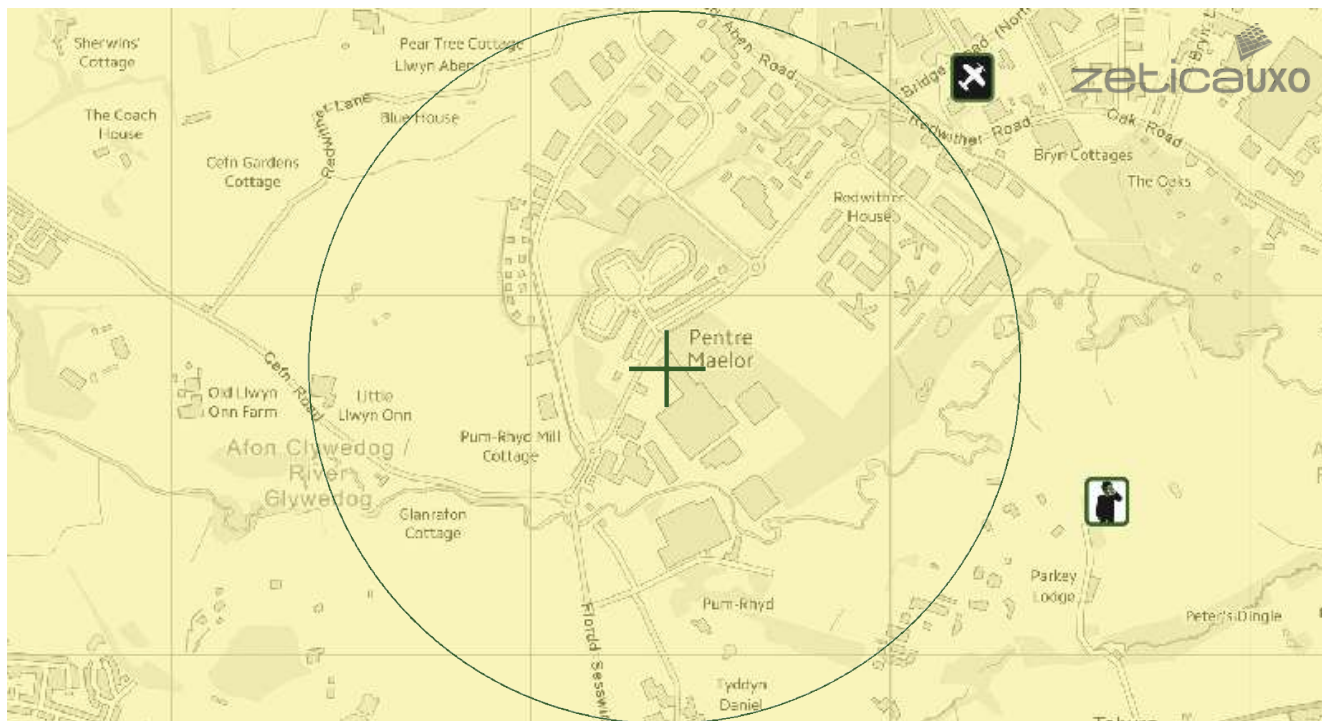
### **Zetica UXO Unexploded Bomb Risk Map**

# UNEXPLODED BOMB RISK MAP



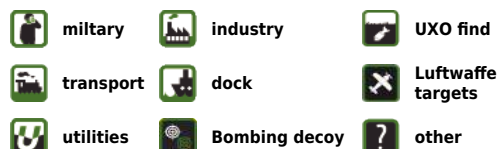
## SITE LOCATION

Location: LL13 9SQ,  
Map Centre: 337383,348801



## LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.



### How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment\* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment\* is necessary.

### What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

**Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.**

### If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

### If I have any questions, who do I contact?

tel: +44 (0) 1993 886682

email: [uxo@zetica.com](mailto:uxo@zetica.com)

web: [www.zeticauxo.com](http://www.zeticauxo.com)

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (<https://zeticauxo.com/downloads-and-resources/risk-maps/>)

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

\*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

## **Appendix E**

### **Risk Evaluation**

## Risk Evaluation

The method for risk evaluation is a qualitative method of interpreting the output from the risk estimation stage of the assessment, based on CIRIA 552<sup>14</sup>. It involves the classification of the:

- Magnitude of the potential consequence (severity) of the risk occurring (Table A).
- Magnitude of the probability (likelihood) of the risk occurring (Table B).

| Consequence (Severity) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                            |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Classification         | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Example                                                                                                                                                                                                                                                                                                                                    |
| <b>Severe</b>          | <ul style="list-style-type: none"> <li>- Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA.</li> <li>- Short term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource.</li> <li>- Catastrophic damage to buildings/properties.</li> <li>- A short term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definition of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).</li> </ul> | <ul style="list-style-type: none"> <li>- High concentrations of cyanide on the surface of an informal recreation area.</li> <li>- Major spillage of contaminants from site into controlled waters.</li> <li>- Explosion, causing building collapse (can also equate to short term human health risk if buildings are occupied).</li> </ul> |
| <b>Medium</b>          | <ul style="list-style-type: none"> <li>- Chronic damage to Human Health ('significant harm' as defined in DETR, 2000).</li> <li>- Pollution of sensitive water resources (note Water Resources Act contains no scope for considering significance of pollution).</li> <li>- A significant change in a particular ecosystem, or organism forming part of such ecosystem.</li> </ul>                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>- Concentrations of a contaminant from site exceed generic, or site specific assessment criteria.</li> <li>- Leaching of contaminants from a site to a major or minor aquifer (Principal and Secondary).</li> <li>- Death of a species within a designated nature reserve.</li> </ul>               |
| <b>Mild</b>            | <ul style="list-style-type: none"> <li>- Pollution of non-sensitive water resources.</li> <li>- Significant damage to crops, buildings, structures and services ('significant harm' as defined in DETR, 2000).</li> <li>- Damage to sensitive buildings / structures / services or the environment.</li> </ul>                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>- Pollution of non-classified groundwater.</li> <li>- Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).</li> </ul>                                                                                                                                |
| <b>Minor</b>           | <ul style="list-style-type: none"> <li>- Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve.</li> <li>- Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.).</li> <li>- Easily repairable damage to buildings, structures and services.</li> </ul>                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>- The presence of contaminants at such concentrations that protective equipment is required during site works.</li> <li>- The loss of plants in a landscaping scheme.</li> <li>- Discoloration of concrete.</li> </ul>                                                                              |

Table A: Classification of consequence.

| Probability (Likelihood) |                                                                                                                                                                                                                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Classification           | Definition                                                                                                                                                                                                                                                                                                                           |
| <b>High likelihood</b>   | - There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.                                                                                                                                   |
| <b>Likely</b>            | <ul style="list-style-type: none"> <li>- There is a pollutant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur.</li> <li>- Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.</li> </ul> |
| <b>Low likelihood</b>    | <ul style="list-style-type: none"> <li>- There is a pollutant linkage and circumstances are possible under which an event could occur.</li> <li>- However it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.</li> </ul>                                   |
| <b>Unlikely</b>          | - There is a pollutant linkage but circumstances are such that it is improbable that an event would occur in the very long term.                                                                                                                                                                                                     |

Table B: Classification of probability.

<sup>14</sup> CIRIA (2001). "Contaminated Land Risk Assessment: A Guide to Good Practice". C552.

These classifications are then compared to indicate the risk presented by each pollutant linkage (Table C). It is important that this classification is only applied where there is a possibility (which can range from high likelihood to unlikely) of a pollutant linkage existing.

|             |                 | Consequence         |                     |                     |                     |
|-------------|-----------------|---------------------|---------------------|---------------------|---------------------|
|             |                 | Severe              | Medium              | Mild                | Minor               |
| Probability | High likelihood | Very High Risk      | High Risk           | Moderate Risk       | Moderate / Low Risk |
|             | Likely          | High Risk           | Moderate Risk       | Moderate / Low Risk | Low Risk            |
|             | Low likelihood  | Moderate Risk       | Moderate / Low Risk | Low Risk            | Very Low Risk       |
|             | Unlikely        | Moderate / Low Risk | Low Risk            | Very Low Risk       | Very Low Risk       |

Table C: Comparison of consequence against probability.

Once the risk has been determined the corresponding action can be assessed (Table D).

| Risk                  | Action Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Very High Risk</b> | <ul style="list-style-type: none"> <li>- There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening.</li> <li>- This risk, if realised, is likely to result in a substantial liability.</li> <li>- Urgent investigation (if not already undertaken) and remediation are likely to be required.</li> </ul>                                                                |
| <b>High Risk</b>      | <ul style="list-style-type: none"> <li>- Harm is likely to arise to a designated receptor from an identified hazard.</li> <li>- Realisation of the risk is likely to present a substantial liability.</li> <li>- Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.</li> </ul>                                                                                                                               |
| <b>Moderate Risk</b>  | <ul style="list-style-type: none"> <li>- It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.</li> <li>- Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.</li> </ul> |
| <b>Low Risk</b>       | <ul style="list-style-type: none"> <li>- It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.</li> </ul>                                                                                                                                                                                                                                                                                       |
| <b>Very Low Risk</b>  | <ul style="list-style-type: none"> <li>- There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.</li> </ul>                                                                                                                                                                                                                                                                                                                       |

Table D: Description of the classification and likely action required.

Where LKC identified a low to very low risk either limited intrusive investigation work, a watching brief (during construction work) or no investigation work will be recommended. This will be dependent on the nature of the site and the proposed development.

Where the risk falls into the moderate/low risk, LKC will undertake an assessment to establish what category the pollutant linkage will fall into (i.e. moderate or low risk will be chosen).

Where LKC identifies a moderate or higher risk intrusive work or precautionary remedial measures will be recommended.

Based across the UK with offices in  
Manchester, London,  
Liverpool, Swindon and Glasgow.

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- » Invasive Species
- » Land Remediation
- » Project Management
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