

## Groundwater Vulnerability

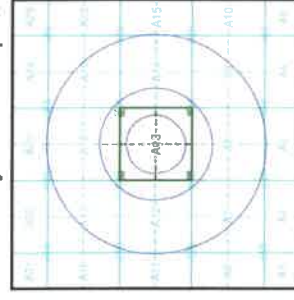
**General**  
 Specified Site Specified Buffers Bearing Reference Point   
 Site Map ID

### Agency and Hydrological

**Bedrock Aquifers**  
 High Vulnerability, Principal Aquifer   
 High Vulnerability, Secondary Aquifer   
 Medium Vulnerability, Principal Aquifer   
 Medium Vulnerability, Secondary Aquifer   
 Low Vulnerability, Principal Aquifer   
 Low Vulnerability, Secondary Aquifer   
**Superficial Aquifers**  
 High Vulnerability, Principal Aquifer   
 High Vulnerability, Secondary Aquifer   
 Medium Vulnerability, Principal Aquifer   
 Medium Vulnerability, Secondary Aquifer   
 Low Vulnerability, Principal Aquifer   
 Low Vulnerability, Secondary Aquifer

Unproductive Aquifer   
 Soluble Rock

### Site Sensitivity Context Map - Slice A

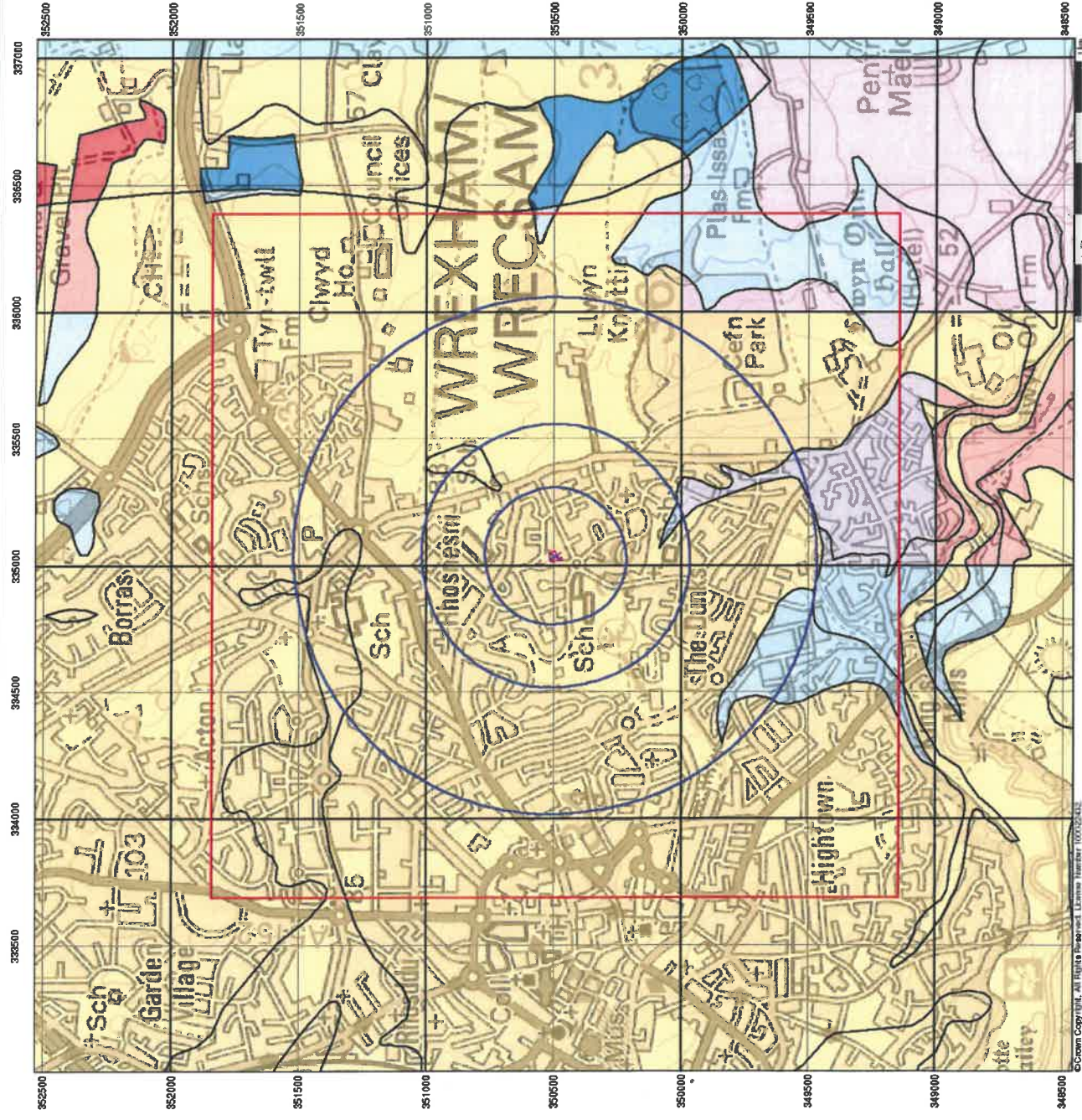


### Order Details

Order Number: 245267974\_1.1  
 Customer Ref: 2381-es  
 National Grid Reference: 335030, 350490  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

### Site Details

2, Eaton Drive, WREXHAM, LL13 9BP



## Bedrock Aquifer Designation

**General**

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

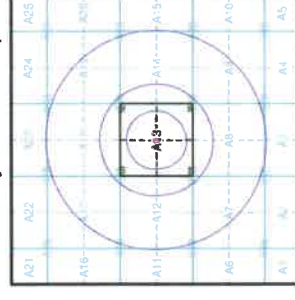
**Agency and Hydrological**

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

**Geological Classes**

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

## Site Sensitivity Context Map - Slice A

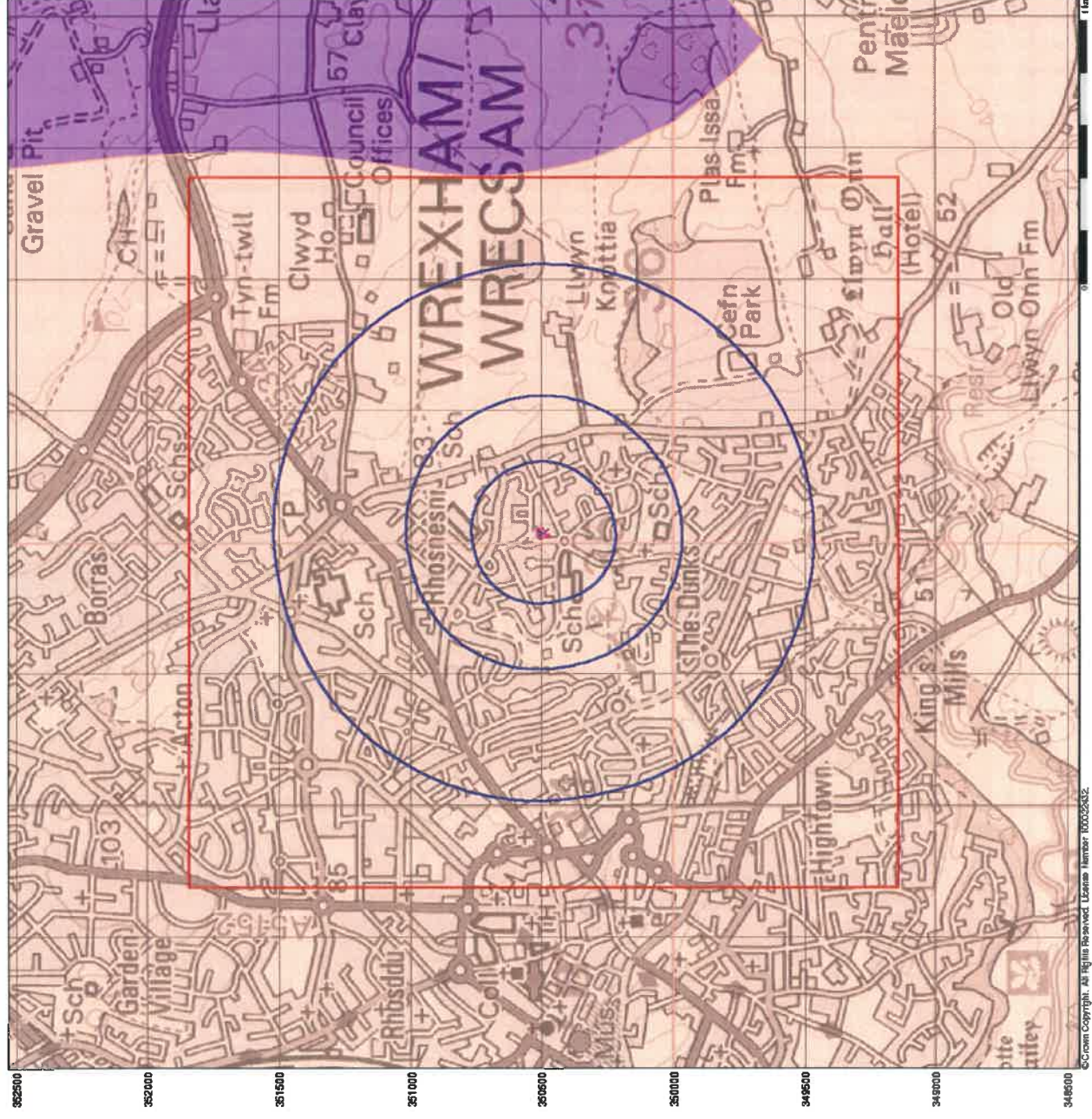


### Order Details

Order Number: 245267974\_1\_1  
 Customer Ref: 2381-48  
 National Grid Reference: 335030, 350490  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

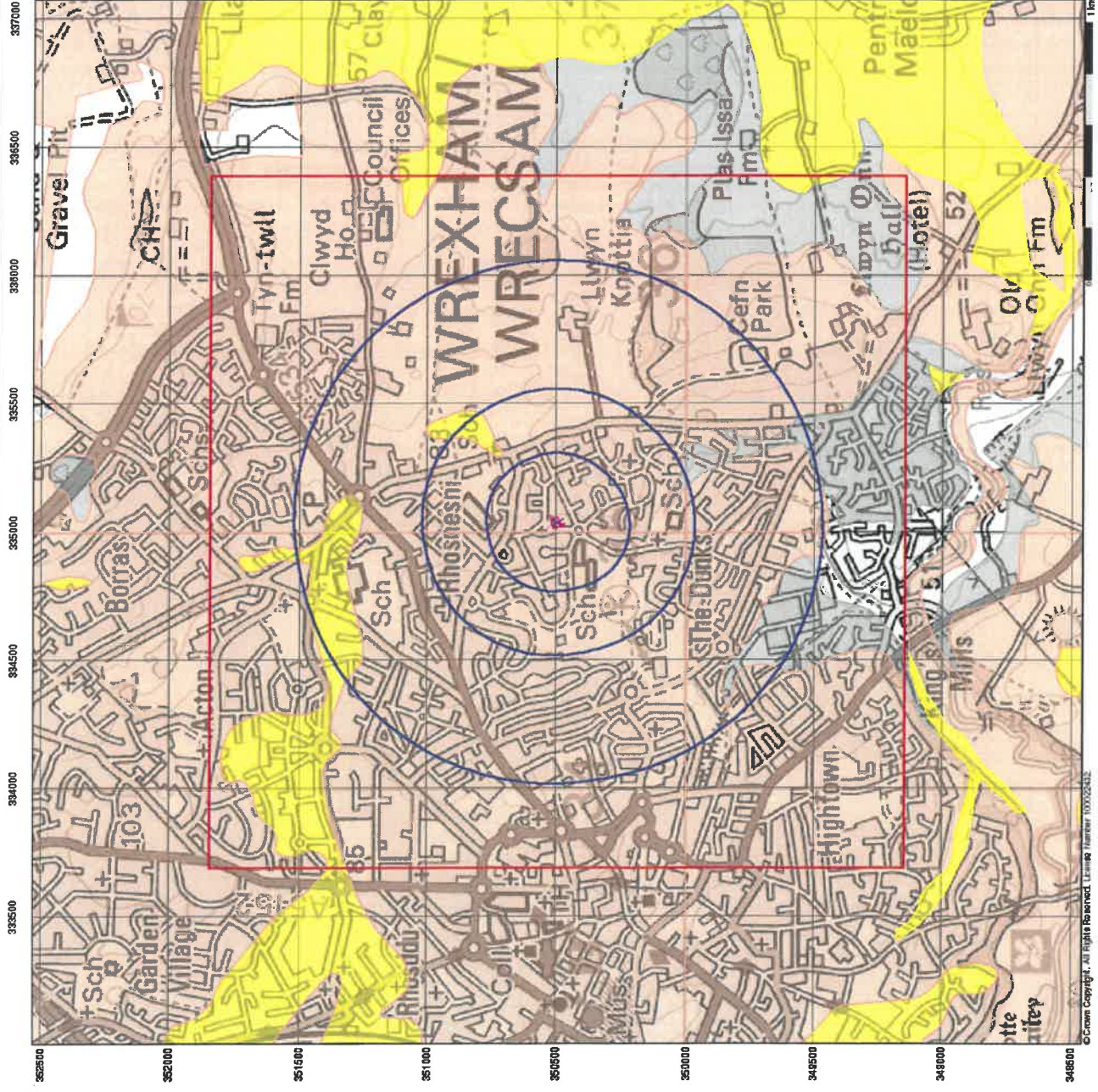
### Site Details

2, Eaton Drive, WREXHAM, LL13 9BP



## Superficial Aquifer Designation

- General**
- Specified Site
  - Specified Buffer(s)
  - Map ID
  - Bearing Reference Point
- Agency and Hydrological**
- Principal Aquifer
  - Secondary A Aquifer
  - Secondary B Aquifer
  - Secondary Undifferentiated
  - Unproductive Strata
  - Unknown
  - Unknown (Lakes and Landslip)



Site Sensitivity Context Map - Slice A



### Order Details

Order Number: 245267974\_1\_1  
 Customer Ref: 2381-es  
 National Grid Reference: 335030, 350490  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

### Site Details

2, Eaton Drive, WREXHAM, LL13 9BP

## Source Protection Zones

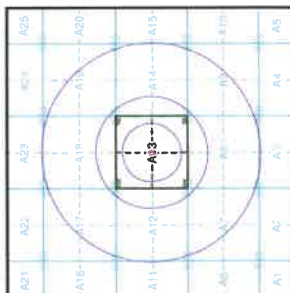
**General**

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

## Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

## Site Sensitivity Context Map - Slice A

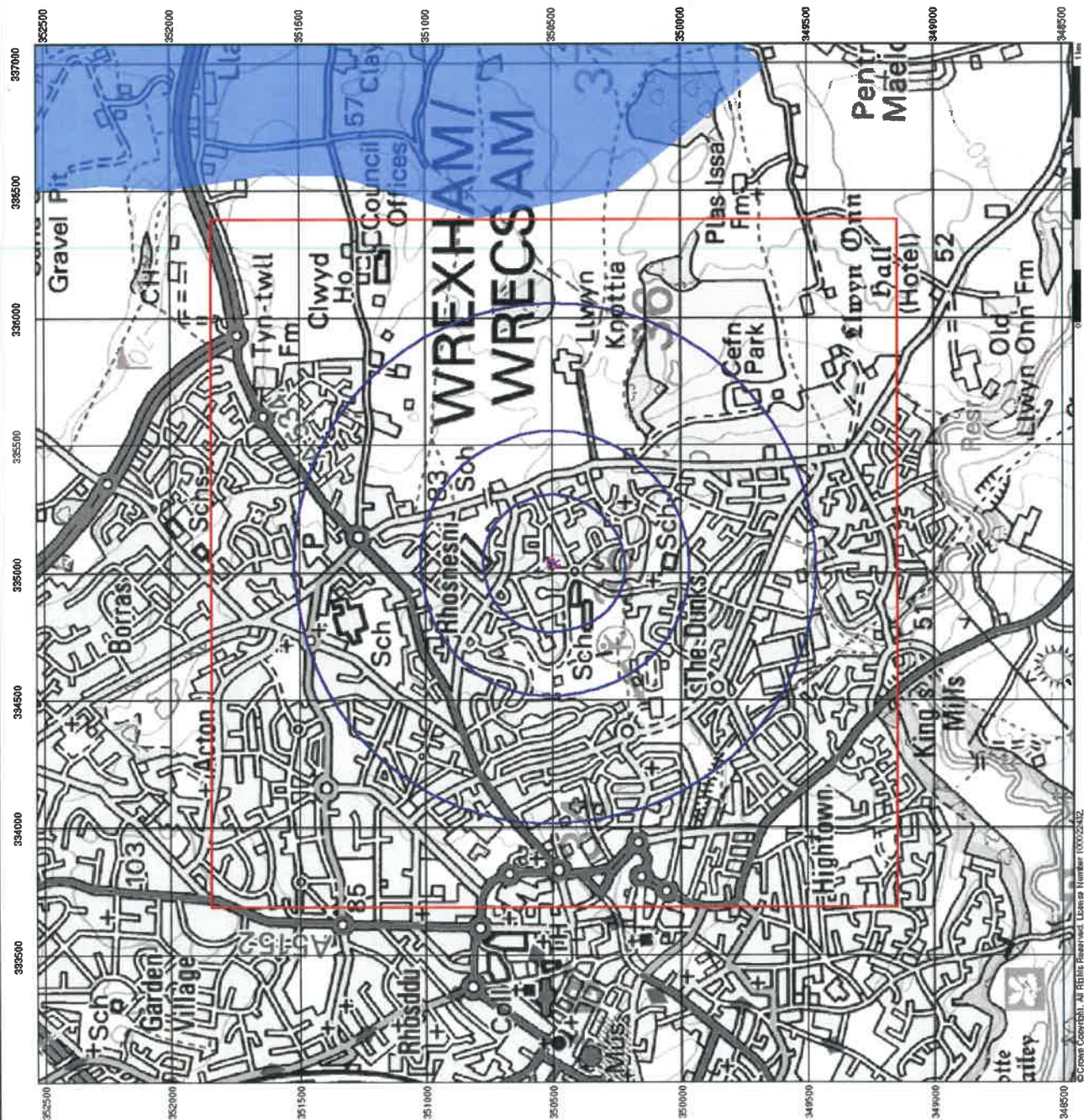


## Order Details

Order Number: 245267974\_1.1  
 Customer Ref: 2381-ss  
 National Grid Reference: 335030, 350490  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

## Site Details

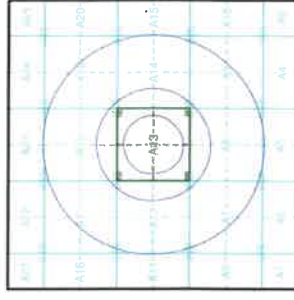
2, Eaton Drive, WREXHAM, LL13 9BP



## Sensitive Land Uses

- General**
- Specified Site
  - Specified Buffer(s)
  - Bearing Reference Point
  - Site
  - Map ID
- Sensitive Land Uses**
- Ancient Woodland
  - Area of Adapted Green Belt
  - Area of Unadopted Green Belt
  - Area of Outstanding Natural Beauty
  - Environmentally Sensitive Area
  - Forest Park
  - Local Nature Reserve
  - Marine Nature Reserve
  - National Nature Reserve
  - National Park
  - Nitrated Sensitive Area
  - Nitrated Vulnerable Zone
  - Ramsar Site
  - Site of Special Scientific Interest
  - Special Area of Conservation
  - Special Protection Area
  - World Heritage Sites

## Site Sensitivity Context Map - Slice A

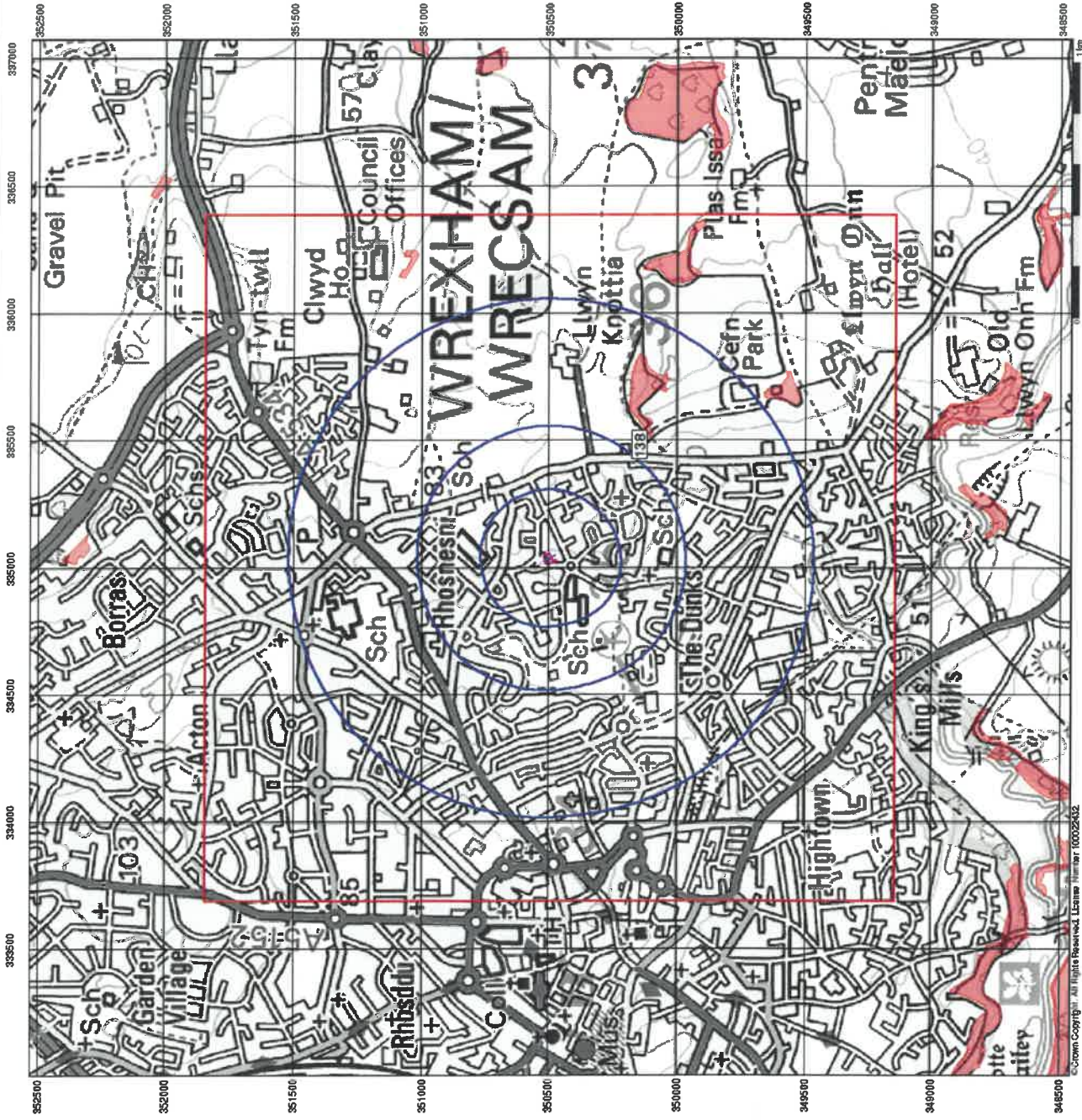


## Order Details

Order Number: 245267974\_1\_1  
 Customer Ref: 2381-as  
 National Grid Reference: 335030, 350490  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

## Site Details

2, Eaton Drive, WREXHAM, LL13 9BP



## General

**Agency and Hydrological (Flood)**

### Potential for Groundwater Flooding to Occur at Surface



### Site Details

Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.astrocheck.co.uk](http://www.astrocheck.co.uk)

335200

334800

334600

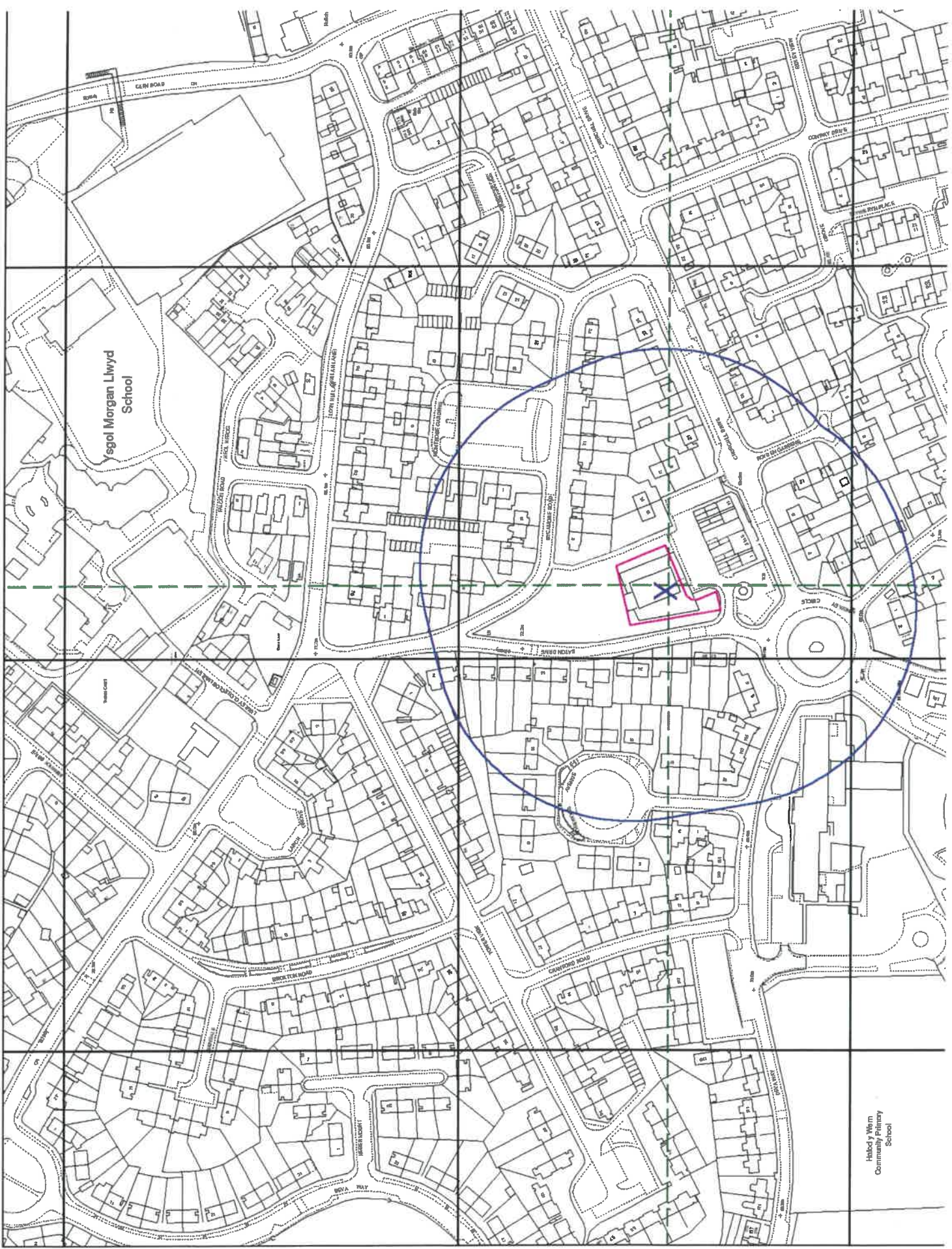
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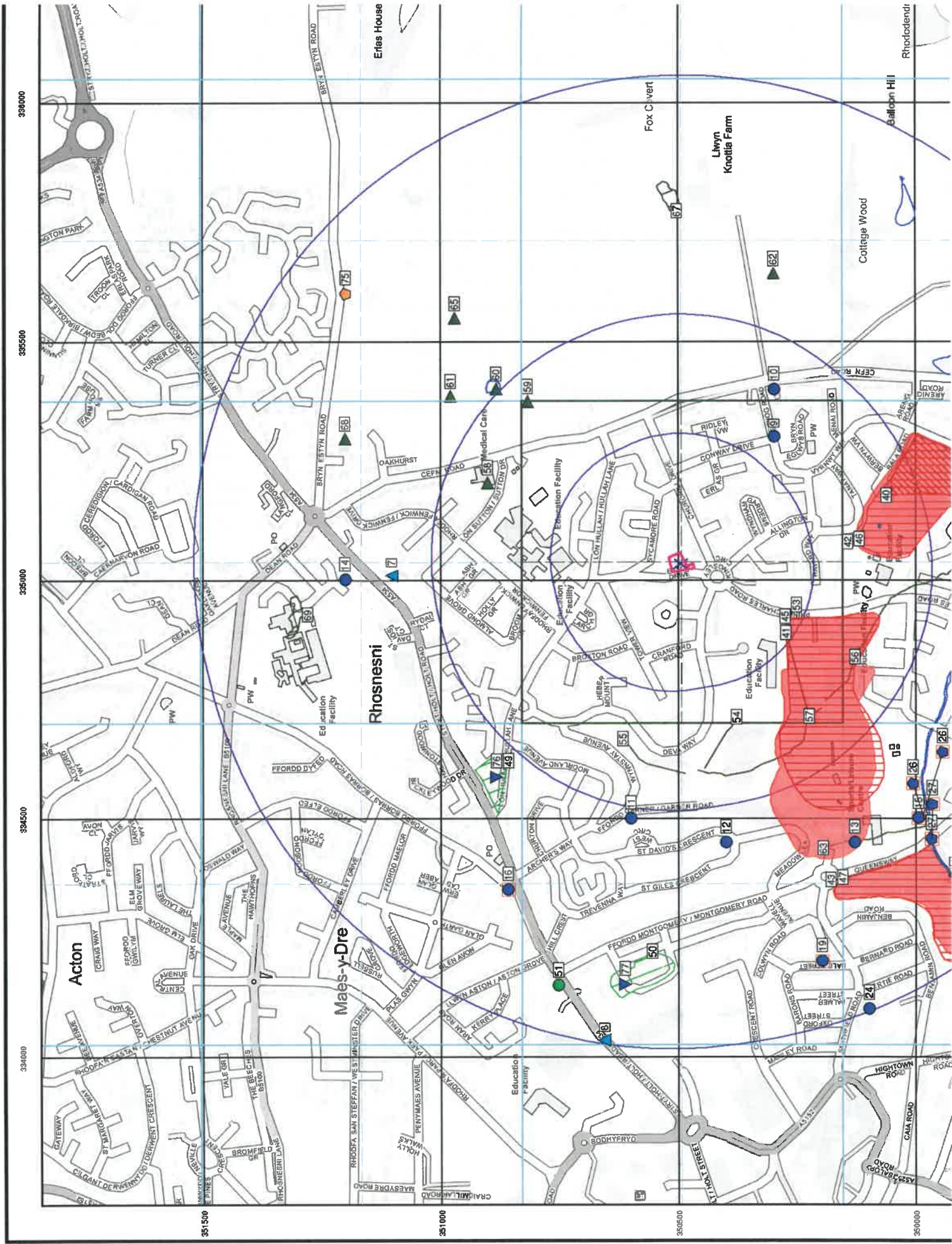
335000

335400

Ysgol Morgan Llwyd  
School

Haled y Wern  
Community Primary  
School





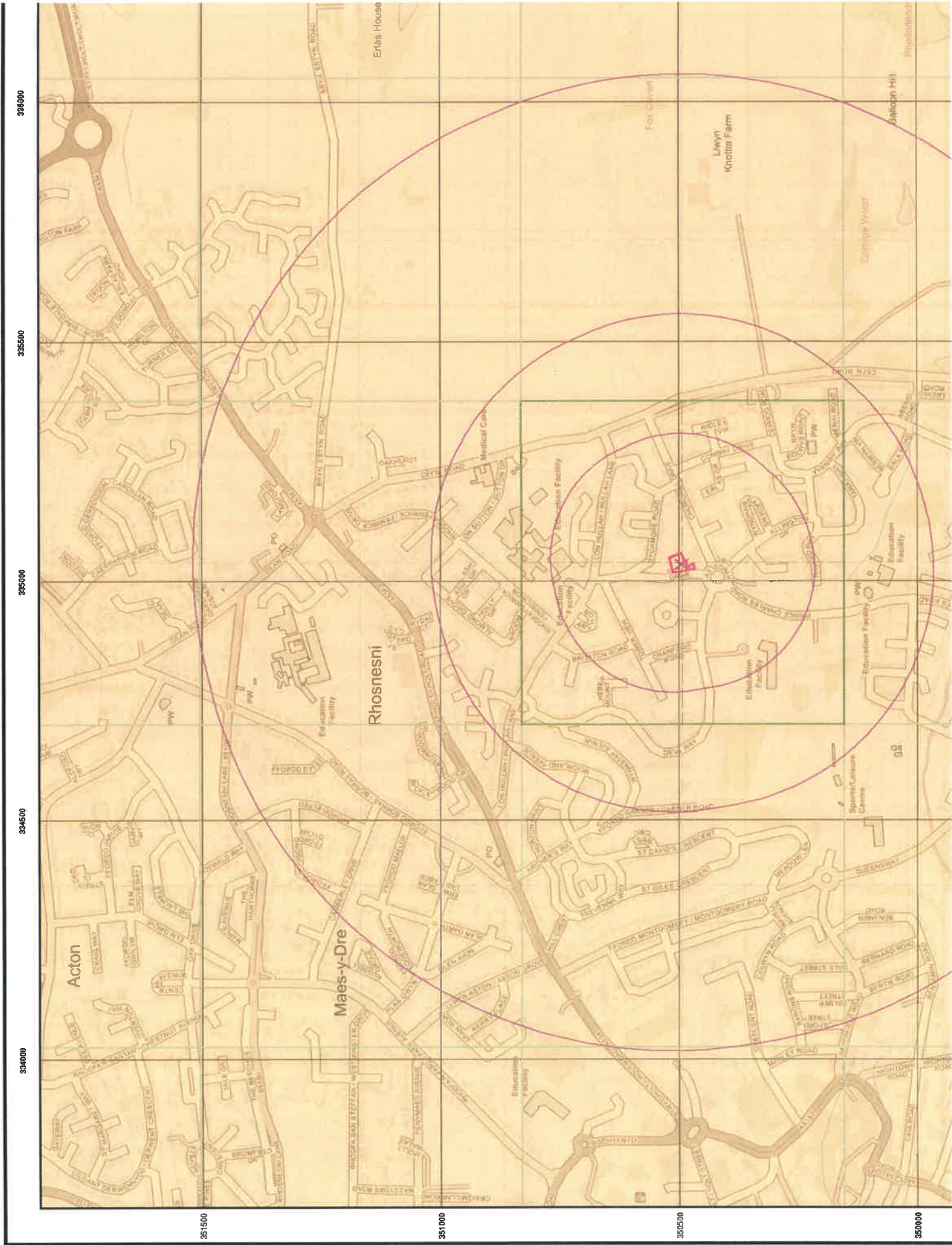




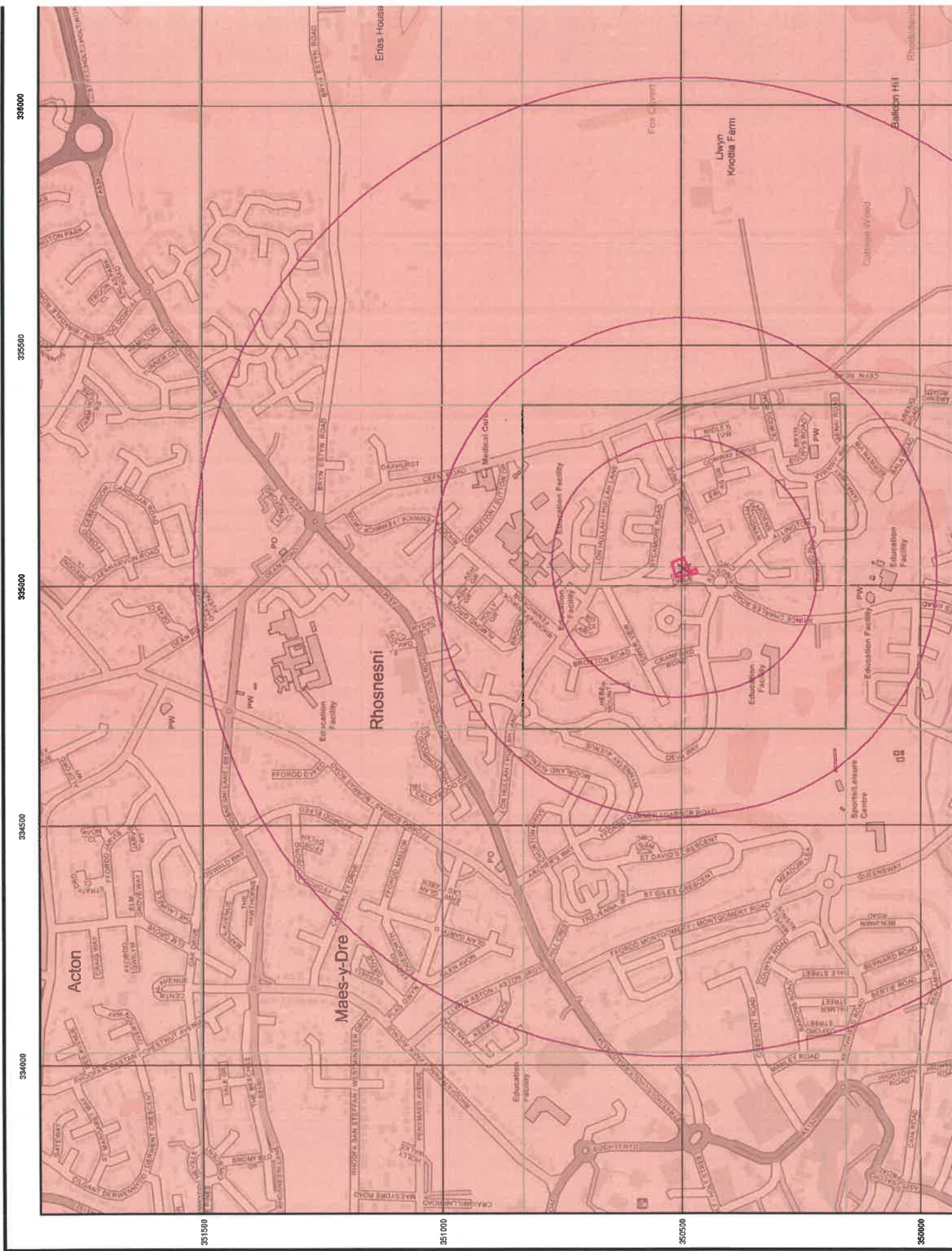




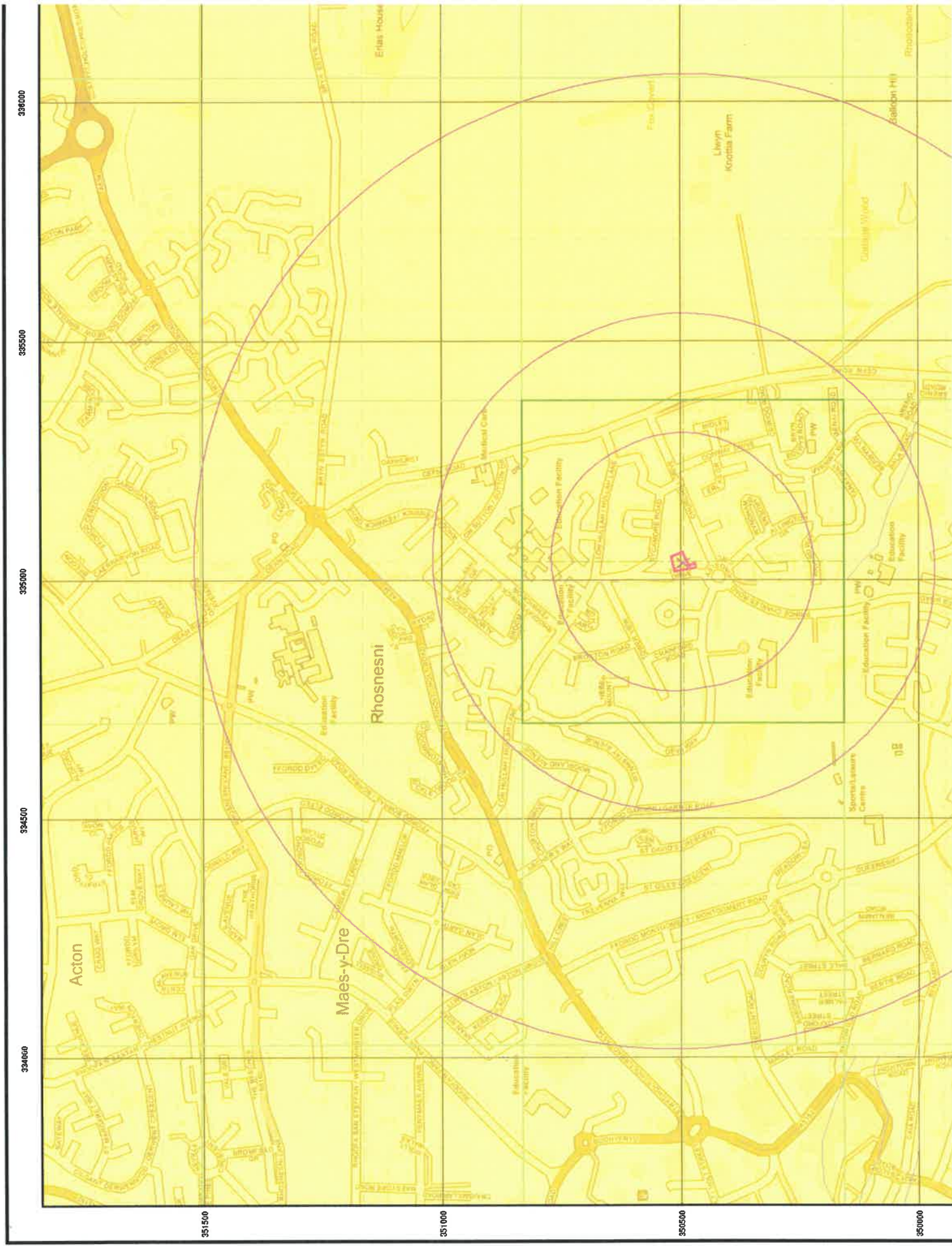












# Geology 1:50,000 Maps Legends

## 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   |
|            | WGR      | Worked Ground (Undivided)      | Void                           | Not Supplied - Holocene   |
|            | LSGR     | Landslipped Ground (Undivided) | Artificially Modified Ground   | Not Supplied - Holocene   |
|            | SLIP     | Landslide Deposit              | Unknown/Undifferentiated Entry | Not Supplied - Quaternary |

## Superficial Geology

| Map Colour | Lex Code | Rock Name                                 | Rock Type                   | Min and Max Age           |
|------------|----------|-------------------------------------------|-----------------------------|---------------------------|
|            | ALV      | Alluvium                                  | Clay, Silt, Sand and Gravel | Not Supplied - Holocene   |
|            | GFSDD    | Glaciofluvial Sheet Deposits, Devensian   | Sand and Gravel             | Not Supplied - Devensian  |
|            | TILLD    | Till, Devensian                           | Diamicton                   | Not Supplied - Devensian  |
|            | GLLDD    | Glaciolacustrine Deposits, Devensian      | Clay and Silt               | Not Supplied - Devensian  |
|            | RTDU     | River Terrace Deposits (Undifferentiated) | Sand and Gravel             | Not Supplied - Quaternary |
|            | PEAT     | Peat                                      | Peat                        | 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    |
|            | HA       | Halesowen Formation                                                                                 | Mudstone, Siltstone and Sandstone    | Not Supplied - Westphalian    |
|            | PLMC     | Pennine Lower Coal Measures Formation and Pennine Middle Coal Measures Formation (Undifferentiated) | Mudstone, Siltstone and Sandstone    | Not Supplied - Westphalian    |
|            | ETM      | Etruria Formation                                                                                   | Mudstone                             | Not Supplied - Westphalian    |
|            |          | Faults                                                                                              |                                      |                               |

### Geology 1:50,000 Maps

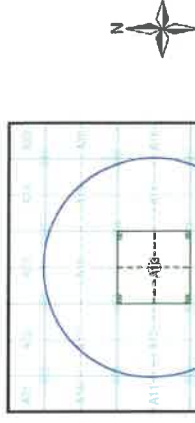
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published 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 Sheet No:        | 121          |
| Map Name:            | Wrexham      |
| Map Date:            | 1993         |
| Bedrock Geology:     | Available    |
| Superficial Geology: | Available    |
| Artificial Geology:  | Available    |
| Faults:              | Not Supplied |
| Landslip:            | Available    |
| Rock Segments:       | Not Supplied |

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



### Order Details:

Order Number: 245267974\_1\_1  
Customer Reference: 2381-as  
National Grid Reference: 335030, 330490  
Slice: A  
Site Area (Ha): 0.12  
Search Buffer (m): 1000

### Site Details:

2, Ealon Drive, WREXHAM, LL13 9BP

## Artificial Ground and Landslip

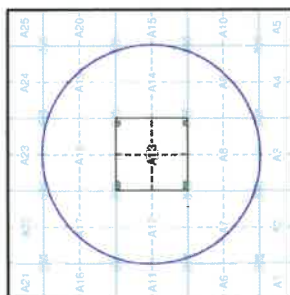
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions 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.
- In-filled 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 faulted strata, where the ground has collapsed due to subsidence.

## Artificial Ground and Landslip Map - Slice A

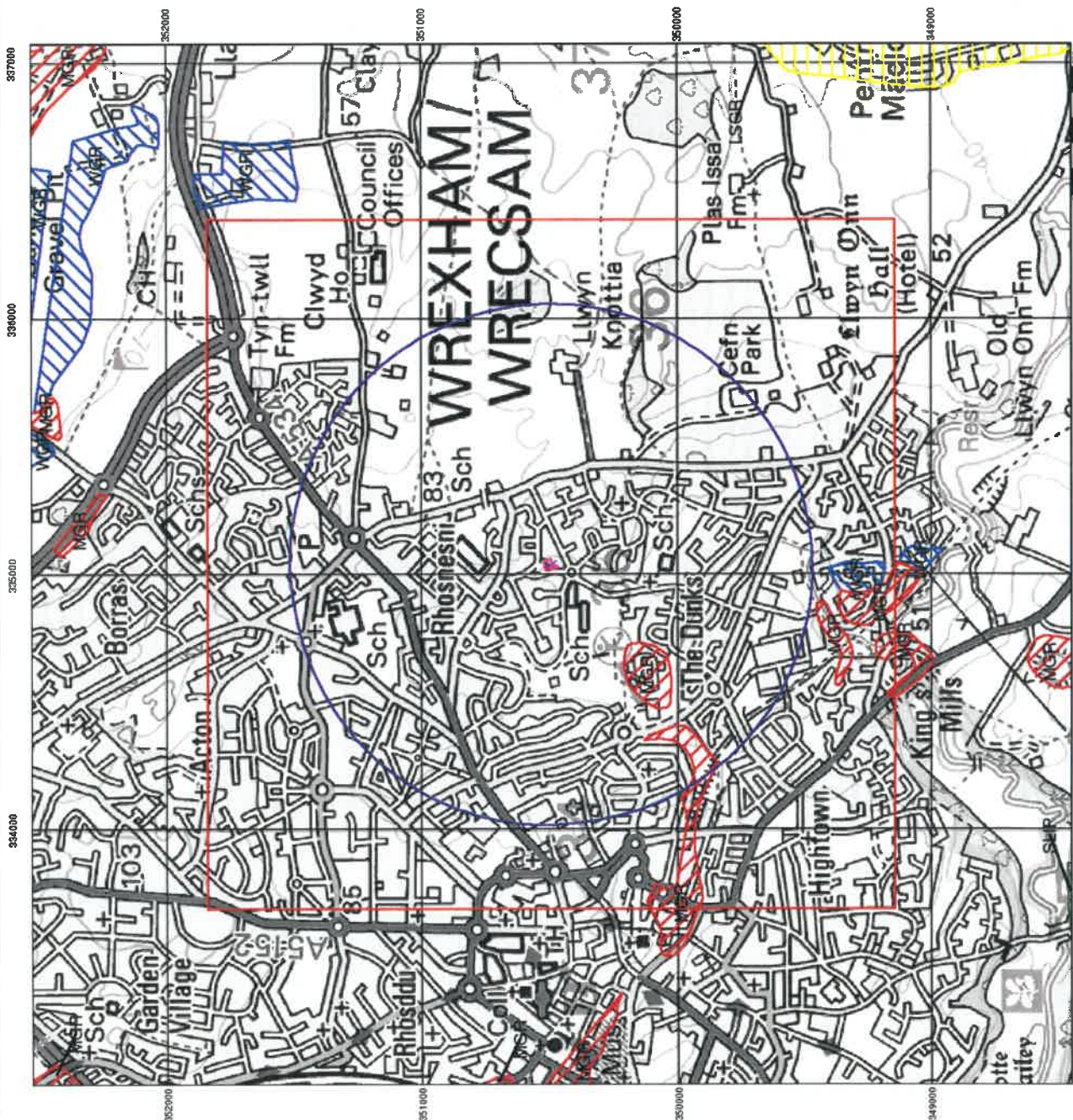


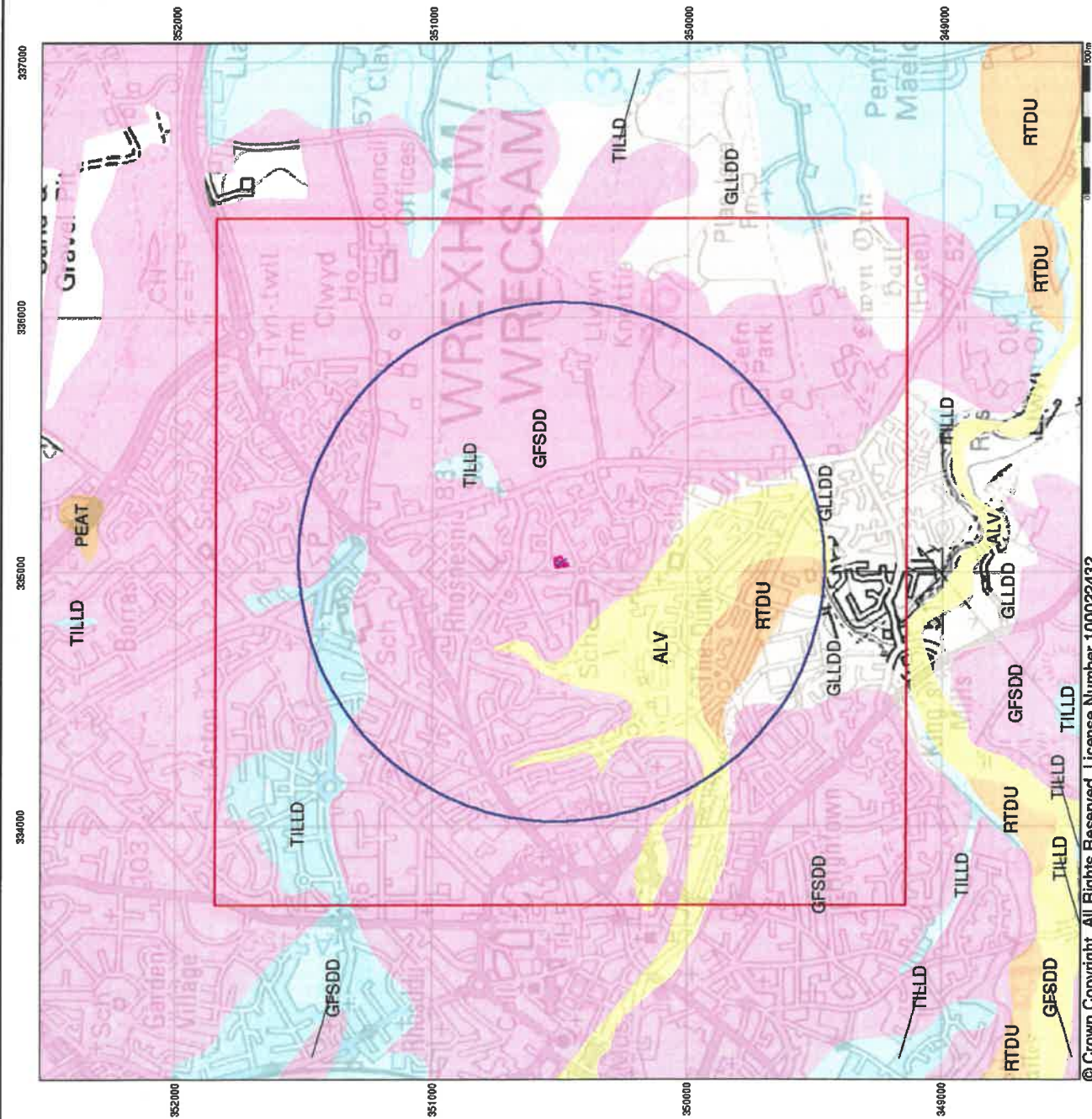
### Order Details:

Order Number: 245267974\_1\_1  
 Customer Reference: 2381-ES  
 National Grid Reference: 335030, 350490  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

### Site Details:

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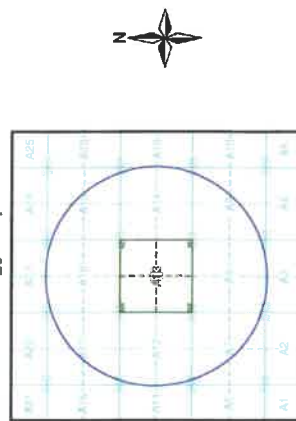
## Superficial Geology

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: 245267974\_1\_1  
 Customer Reference: 2381-es  
 National Grid Reference: 335030, 350480  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

## Site Details:

2, Eaton Drive, WREXHAM, LL13 9BP

## Bedrock and Faults

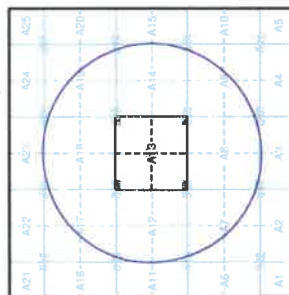
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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: 245267974\_1\_1  
 Customer Reference: 2381-ss  
 National Grid Reference: 335030, 350490  
 Slice: A  
 Site Area (Ha): 0.12  
 Search Buffer (m): 1000

## Site Details:

2, Eaton Drive, WREXHAM, LL13 9BP

## 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.

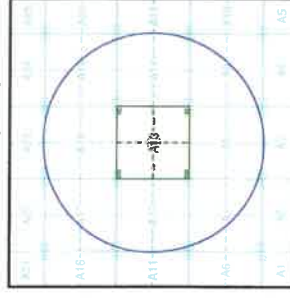
## Additional Information

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  
website: www.bgs.ac.uk

## Combined Geology Map - Slice A

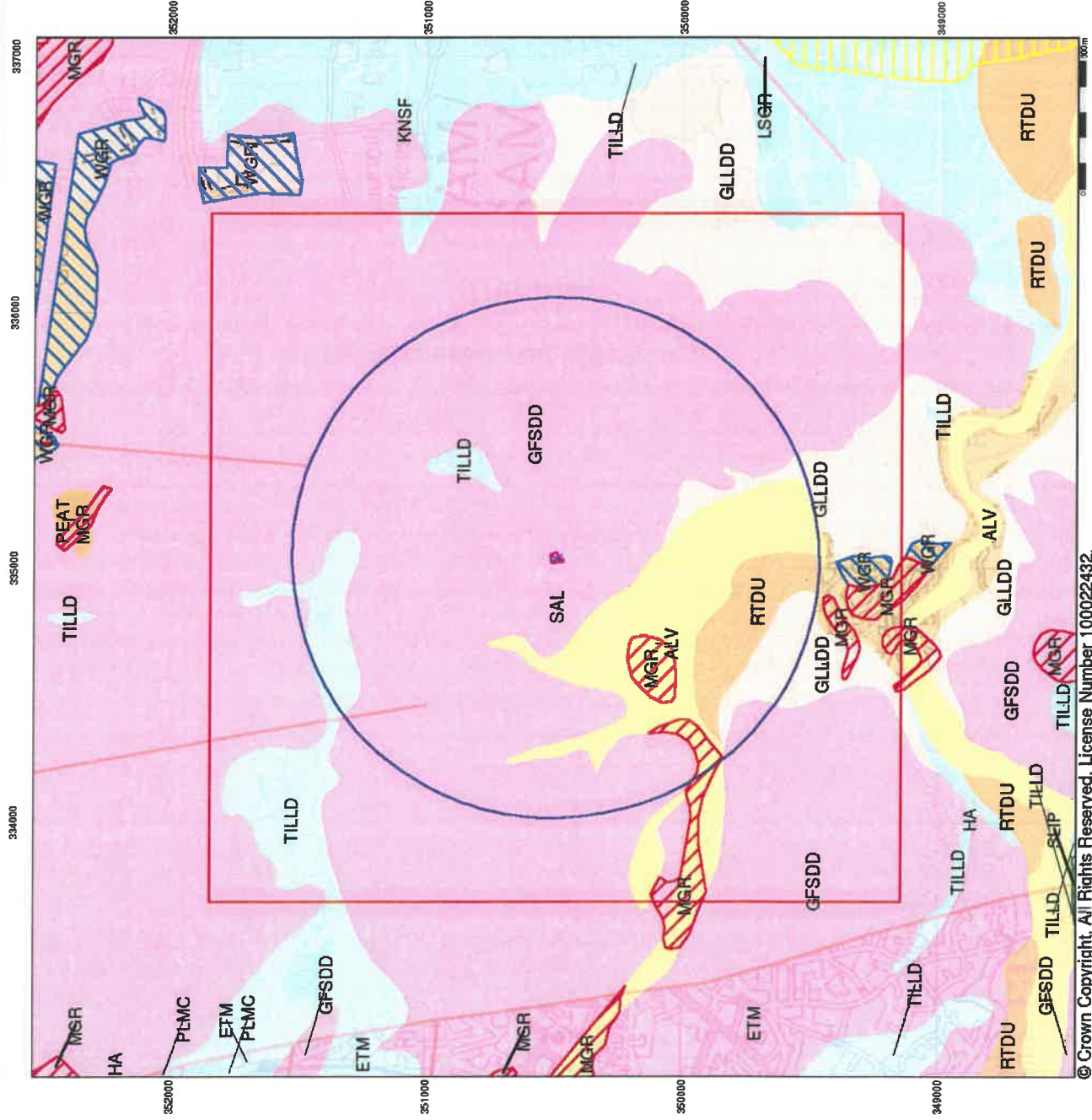


## Order Details:

Order Number: 245267974\_1\_1  
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National Grid Reference: 335030, 350490  
Slice: A  
Site Area (Ha): 0.12  
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## **APPENDIX C**

### **Previous Site Investigation (GSL)**