# Caulmert Limited

Engineering, Environmental & Planning
Consultancy Services

**Land Adjacent to H-Pack, Davy Way, Llay, Wrexham LL12 0PG**

**H-Pack Packaging UK Ltd**

**Erection of 1no B8 Storage and Distribution Building and Associated Access and External Works at Land adjacent to H-Pack, Davy Way, Llay**

## Flood Consequence Assessment

**Prepared by:**

**Caulmert Limited**
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August 2022

Caulmert
engineering environmental planning

**APPROVAL RECORD**

| | |
|---|---|
| **Site:** | Land Adjacent to H-Pack, Davy Way, Llay, Wrexham LL12 0PG |
| **Client:** | H-Pack Packaging UK Ltd |
| **Project Title:** | Storage and Distribution Building and Associated Access and External Works |
| **Document Title:** | Flood Consequence Assessment |
| **Document Ref:** | 5473-CAU-XX-XX-RP-C-0300.S4-P02 |
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| **Project Manager:** | **Jon Hartley** |
| **Caulmert Limited:** | Glyndwr Innovations Ltd, St Asaph Business Park, St Asaph, LL17 0JD |

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| **Approved** | Jon Hartley | **Date** | 25/08/2022 |

| **Revision Log** | | | |
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| **Revision** | **Description of Change** | **Approved** | **Effective Date** |
| P01 | Initial Release | SBB | 25/08/2022 |
| P02 | Final Issue | SBB | 29/09/2022 |
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**Flood Consequence Assessment**

**TABLE OF CONTENTS**



**APPENDICES**

- Topographical Survey Drawing
- Existing Site Layout
- Proposed Site Layout

# 1.0 INTRODUCTION

## 1.1 Background

1.1.1 H-Pack Packaging UK Ltd is to apply for planning consent for a new Warehouse building on an existing industrial site in the Llay Industrial Estate. The application site is in excess of 1 hectare and this flood consequences assessment (FCA) report has been prepared to support the application. The report has been made with reference to the Welsh Government's Technical Advice Note 15 – Development and Flood Risk (TAN15) 2004.

## 1.2 Site Details

1.2.1 The application site is within the northern area of the Llay Industrial Estate. The site encompasses an existing industrial unit plus an area of land to its west. The site can be accessed from Davy Way that has its junction with the B5373 (Rackery Lane) to the southeast. The site's post code is LL12 0PG and has a grid reference of SJ322568.

It is located on the north side of the Llay Industrial Estate. There are established industrial and commercial properties to the south and west of the site, with agricultural land to the north and east. Figure 1 below shows the relative location of the site within the Industrial Estate.

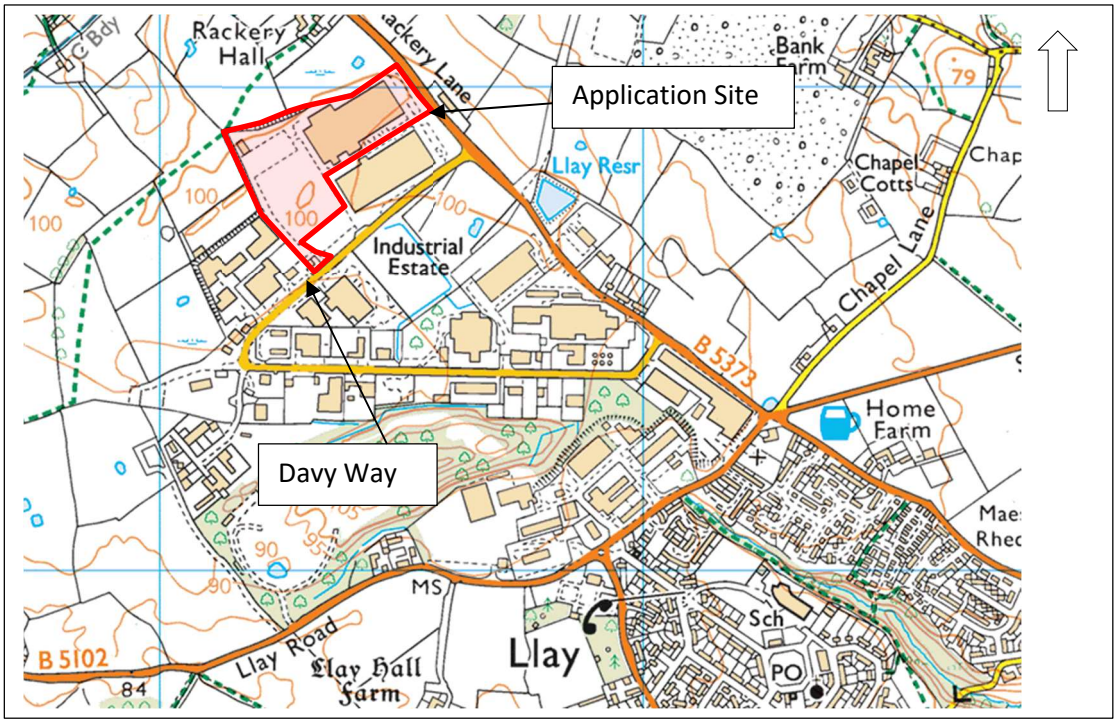



**Figure 1: Site Location**

1.2.2 The area of land ownership is an irregular shape that spans between the B5373 Rackery Road and Davy Way. The plan area is approximately 6.8ha. Within the ownership boundary are two application sites that forms the areas of proposed development:

- A new Highbay Warehouse in the west that has an area of approximately 3.7ha;
- A new entry to an existing car park in the east that has an area of approximately 0.2ha.

1.2.3 The site is bounded on three sides by security fencing. The fourth side is a shared vehicular access between the two existing warehouse buildings. The general arrangement of the site is at Figure 2. There is an existing grassed area in the western area of the site that covers an area of about 1.7ha. The remaining areas of the site affected by the application sites is access road, parking, and hardstandings.

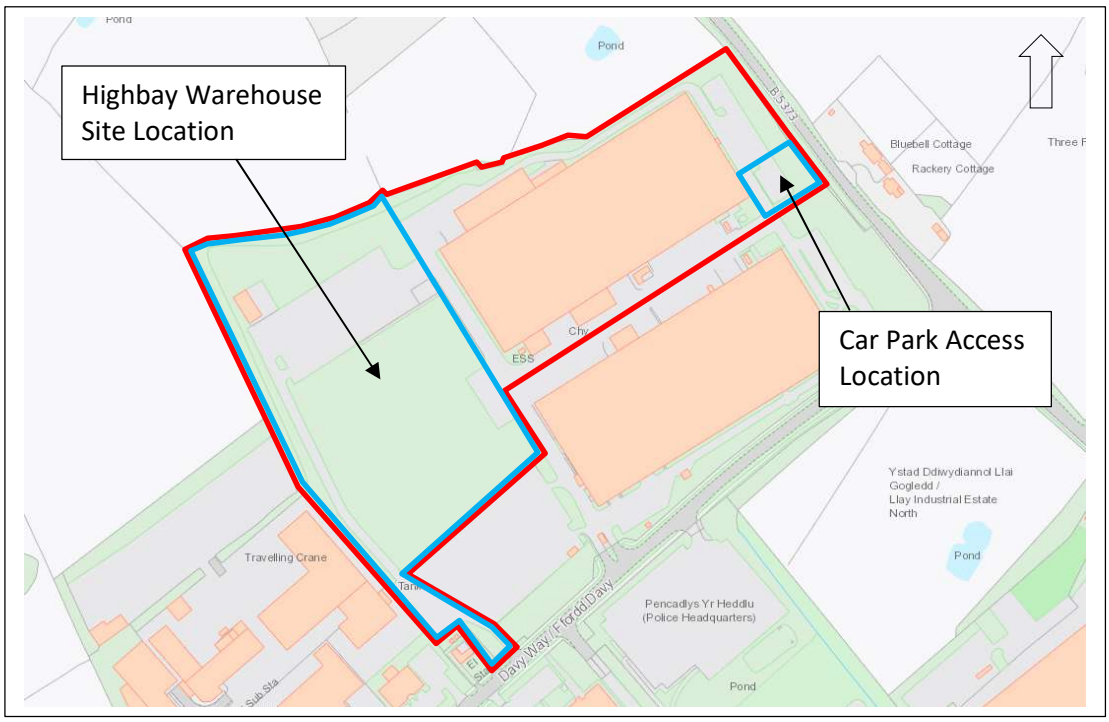



**Figure 2: Site Layout Plan - Existing**

## 1.3 Development Proposal

1.3.1 The development proposal is for (1) the erection of a new Warehouse Unit with associated vehicular parking, loading, and hardstanding areas, and (2) the provision of a new vehicular access to an existing car park.

1.3.2 The proposed warehouse will comprise a steel framed structure that occupies a footprint of approximately 15,000m$^2$. The proposed warehouse will be serviced from HGV access loading bays along the south elevation via Davy Way. The existing access roadway would be modified to suit vehicle movements and will incorporate a series of parking areas for light vehicles.

1.3.3 The existing car park at the east end of the existing unit is to have a dedicated access from the B5373 (Rackery Lane). This new access is being installed so that light and heavy vehicles will have separate access/egress points at the application site.

1.3.4 The general arrangement of the proposed developments is at Figure 3. A larger copy of the drawing is included in the Appendix.

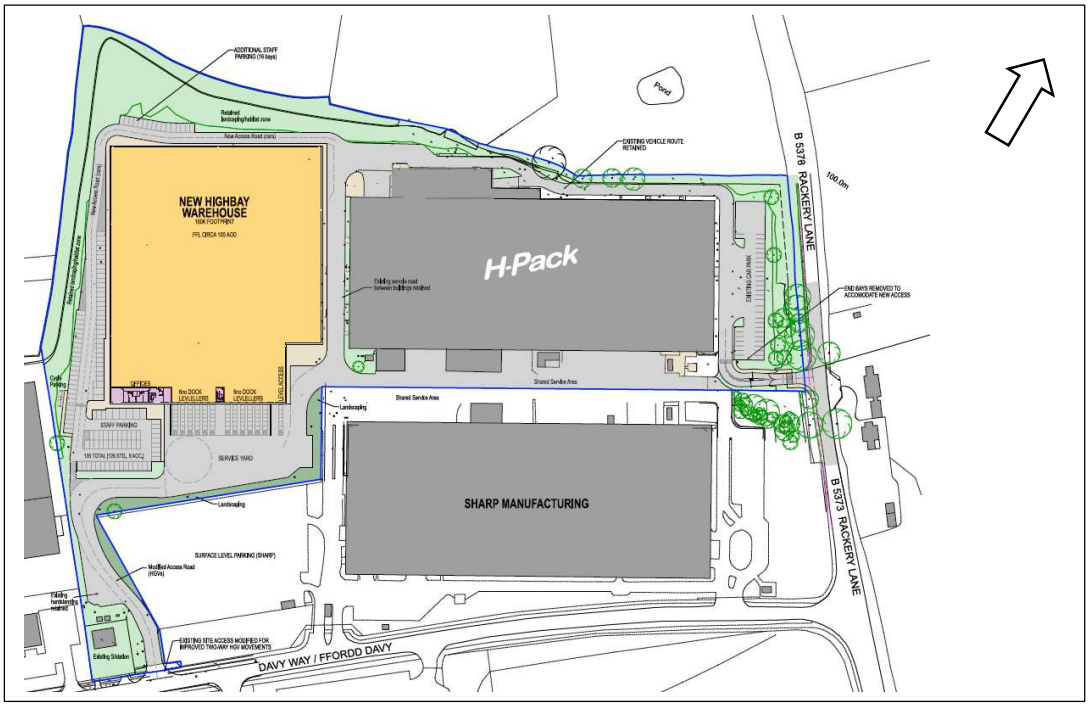



**Figure 3: Proposed Development Layouts (Excerpt from RGP Drg No 11373/Pl/L08)**

1.3.5 In accordance with TAN15 (2004) Section 5 Figure 2, the proposed land use is classified as a 'less vulnerable' development.

# 2.0 BASELINE CONDITIONS

## 2.1 Sources of Flood Risk Information

2.1.1 Associated with TAN15 are Development Advice Maps (DAMs) prepared by Natural Resources Wales (NRW). These maps set out the perceived risk of flooding from tidal and fluvial sources affecting the site. The extent of flooding indicated on the DAMs do not take account of the predicted effects of climate change.

2.1.2 Flooding may also result from sources not indicated on the DAMs. Such sources include but are not limited to:

- Surface water and small watercourses
- Reservoirs
- Sewers and drains
- Groundwater

2.1.3 The following section includes extracts from the DAMs with a brief commentary and notes relating to the development site.

## 2.2 Fluvial and Tidal Flood Risk

2.2.1 The DAM extract at Figure 4 shows that the development sites within the ownership boundary are wholly within Flood Zone A. This flood zone indicates that the area is at a very low risk of flooding from rivers with a probability of less than 1 in 1,000 (0.1%) chance of occurrence in any given year.

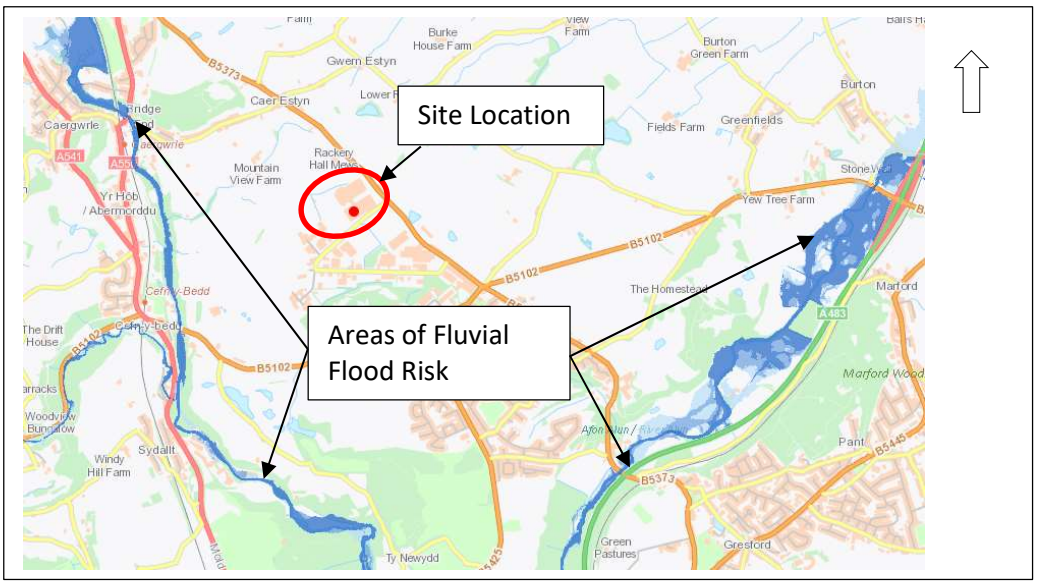



**Figure 4: Extract – NRW's Development Advice Map (July 2022)**

2.2.2 There are areas of higher flood risk within 1km of the application site and associated with the River Alyn. The river is topographically lower than the site and is not considered to be a flood risk at the site.

There is a section of Flood Zone B within the ownership boundary but outwith the development sites – see Figure 5. Flood Zone B is an indication of areas that have flooded in the past and is based on advice from a variety of sources. It is believed that at this site the Flood Zone B is attributable to geological characterisation of a superficial alluvium deposit, which may give an elevated flood risk.

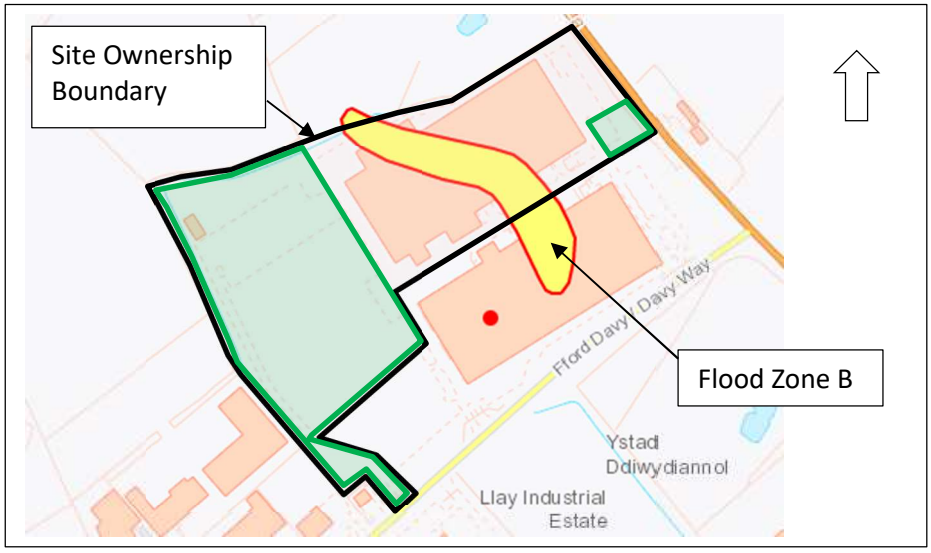



**Figure 5: Extract – NRW's Development Advice Map (July 2022)**

2.2.3 The application site is not affected by tidal flood.

## 2.3 Surface Water and Small Watercourses

2.3.1 NRW's Flood Risk Assessment Wales Map for Surface Water and Small Watercourses shows that there are parts of the application site that have a high risk of surface water flood. A high risk means that an area has a chance of flooding greater than 1 in 30 (3.3%) in each year. NRW point out that this type of flooding can be difficult to predict as it is hard to forecast exactly where or how much rain will fall in any storm.

2.3.2 An extract from the flood risk map is at Figure 6. It would appear that the areas of high risk of flood are confined to topographically low spots of the roadway around the existing unit and the access road between the proposed unit and Davy Way. There are also flood risk areas indicated to be on or just beyond the application site boundary which are localised areas on topographically lower land.

## 2.4 Reservoir Flood Risk

2.4.1 NRW's Flood Risk Assessment Wales Map for reservoir flood shows that the site is not at risk of flooding.

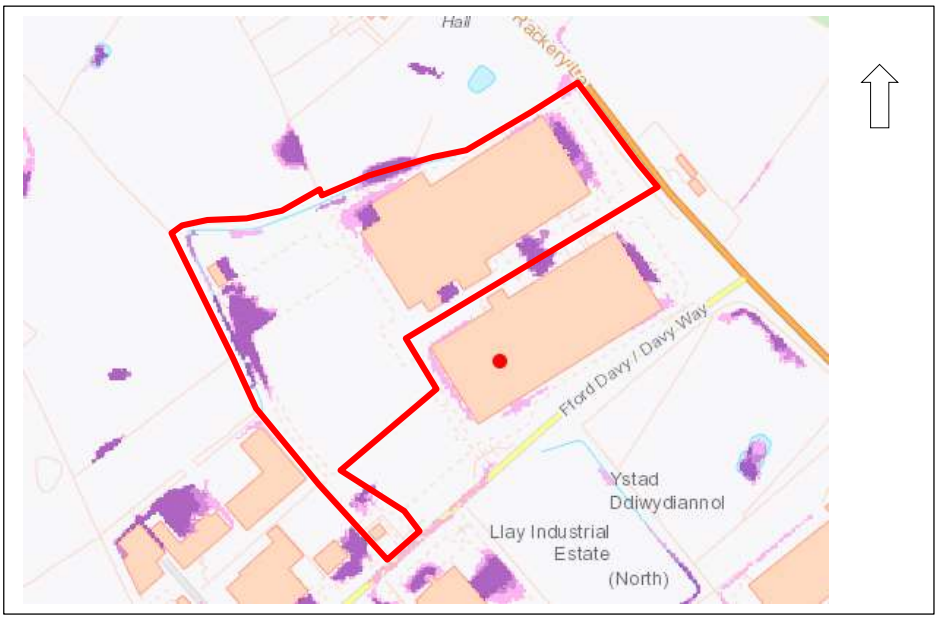



**Figure 6: Extract – NRW's Flood Risk from Surface Water & Small Watercourses (July 2022)**

## 2.5 Flood Risk from Drains and Sewers

2.5.1 The expected flood risk associated with sewerage at the site has not been ascertained. It is apparent from the position of public sewerage relative to the application site that there is a negligible risk of flood affecting the site from sewerage.

## 2.6 Groundwater Flood Risk

2.6.1 The application site is within an area that has a relatively low risk of groundwater flood. According to information from Envirocheck, the site is within an area that has a 'limited potential for groundwater flooding to occur'. An extract from the Envirocheck information is at Figure 7.

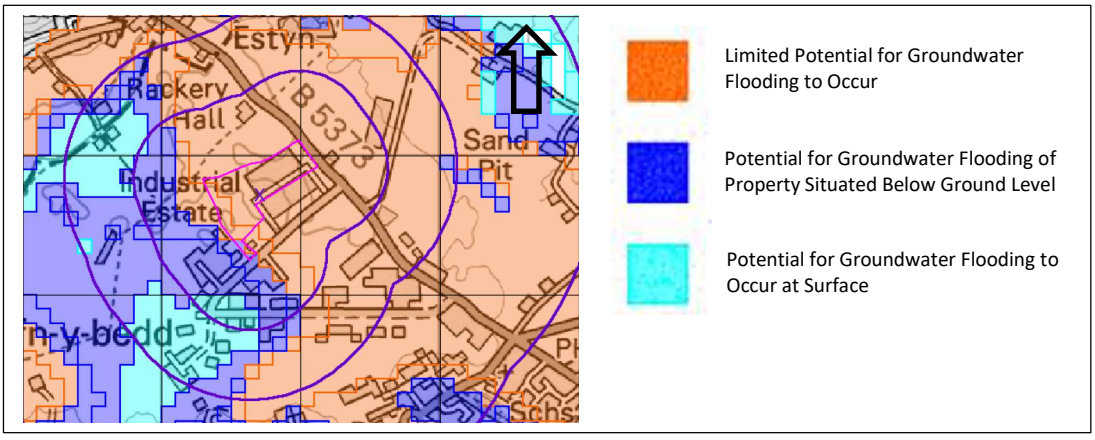



**Figure 7: BGS Flood Risk – Hydrological (Source – Landmark Envirocheck)**

2.6.2 Groundwater flood risk at the application site is considered to be low.

## 2.7 Other Sources of Flooding

2.7.1 There are few other sources of flood risk that could affect the site. The nearest body of water to the application site is a fishing lake some 300m from the site boundary. This is a body of water that has a 3,500m$^2$ surface area and is at a similar topographic level to the site. Land to the east and north of the fishing lake falls to lower levels in the north and east and which offer pathway for any flood flows away from the application sites. The sites are not considered to be at risk from this lake.

2.7.2 Ordnance Survey mapping shows there are several small or ephemeral ponds within 250m of the site boundary. Each of these appear to be topographically lower than the site and are not considered to pose a flood risk to the site.

2.7.3 There is an existing ditchcourse to the west and north of the application site. Ordnance Survey mapping shows a line of a watercourse that is not connected to any other body of water. Site inspection in June 2022 suggested that the ditchcourse may be a local feature only that receives surface water runoff from the application sites and from third party land. There is considered to be a negligible flood risk from the existing ditchcourse.

# 3.0 ASSESSMENT OF FLOODING IN RESPECT OF PROPOSED DEVELOPMENT

## 3.1 Principal Flood Risk

3.1.1 The principal flood risk to the site is from surface water and which is associated with existing roadways at a number of points within the application site's ownership boundary.

## 3.2 Fluvial Flood Risk

3.2.1 Fluvial flood risk is not considered to be significant now or following completion of the proposed development. It is considered that the existing 'very low risk' of flooding will remain.

## 3.3 Surface Water Flood Risk

3.3.1 The predicted location of surface water flooding appears coincident with ground features within the application sites, specifically the access roadways and vehicle loading/parking areas. The risk of surface water flood is medium and at locations that occupy relatively small areas of the site.

3.3.2 It is expected that the design development of the proposed new access and parking arrangements can reduce or eliminate the indicated areas of surface water flood.

3.3.3 The proposed developments should not affect the risk of surface water flood to any third-party property immediately adjacent to the site.

## 3.4 Compliance with Technical Advice Note (TAN) 15 (2004)

3.4.1 Table 1 of TAN15 advises that areas of Flood Zone A can be considered for less vulnerable development. There is no requirement to apply the justification test should there be no increase in flooding elsewhere.

3.4.2 Surface water requirements for the proposed development should take cognisance of statutory requirements for sustainable drainage. Surface water drainage guidance for the proposed development is contained the site-specific Drainage Strategy report.

# 4.0 FLOOD AVOIDANCE, MITIGATION AND RESILIENCE MEASURES

## 4.1 General

4.1.1 There is predicted to be no fluvial flooding at the application sites. Accordingly, there should be no requirement to provide avoidance, mitigation, or resilience measures.

4.1.2 Instances of surface water flooding at the existing landuse have been identified. The proposed surface water for the application sites should be able to implement drainage that reduces or eliminates such flooding. Nevertheless, it will be necessary to identify flood exceedance routes should the installed drainage becomes ineffective, and such routes should avoid buildings and access routes.

# 5.0 DRAINAGE

## 5.1 Surface Water Drainage

5.1.1 Drainage for the application site. Is subject to a separate Drainage Strategy report. This report advises on current surface water collection and disposal, and on the outline management of surface water for the proposed development.

5.1.2 The plan area of the proposed is more than 100m$^2$ and as such the detailed design and implementation of surface water management will be subject to application with the SuDS Approving Body.

5.1.3 Relevant pollution prevention guidance should be followed during the execution of the proposed works to prevent pollution and to comply with environmental law. Proposals to manage the construction process should be incorporated into a Construction Environmental Management Plan (CEMP) for the development.

## 5.2 Foul Water Drainage

5.2.1 Foul water drainage requirements associated with the proposed development will outfall to an existing public water sewer that crosses the site near Davy Way, subject to application with Welsh Water.

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Conclusions

6.1.1 This report demonstrates that the current and future flood risks associated with the proposed development are acceptable and can be allowed for in the design of the proposed development. The resultant development is considered safe for operator attendance as it presents a:

- Minimal risk to life;
- Minimal disruption to people living and working in the area;
- Minimal potential to damage property;
- Minimal impact on flood risk generally;
- Minimal disruption to the sustainable management of natural resources.

## 6.2 Recommendations

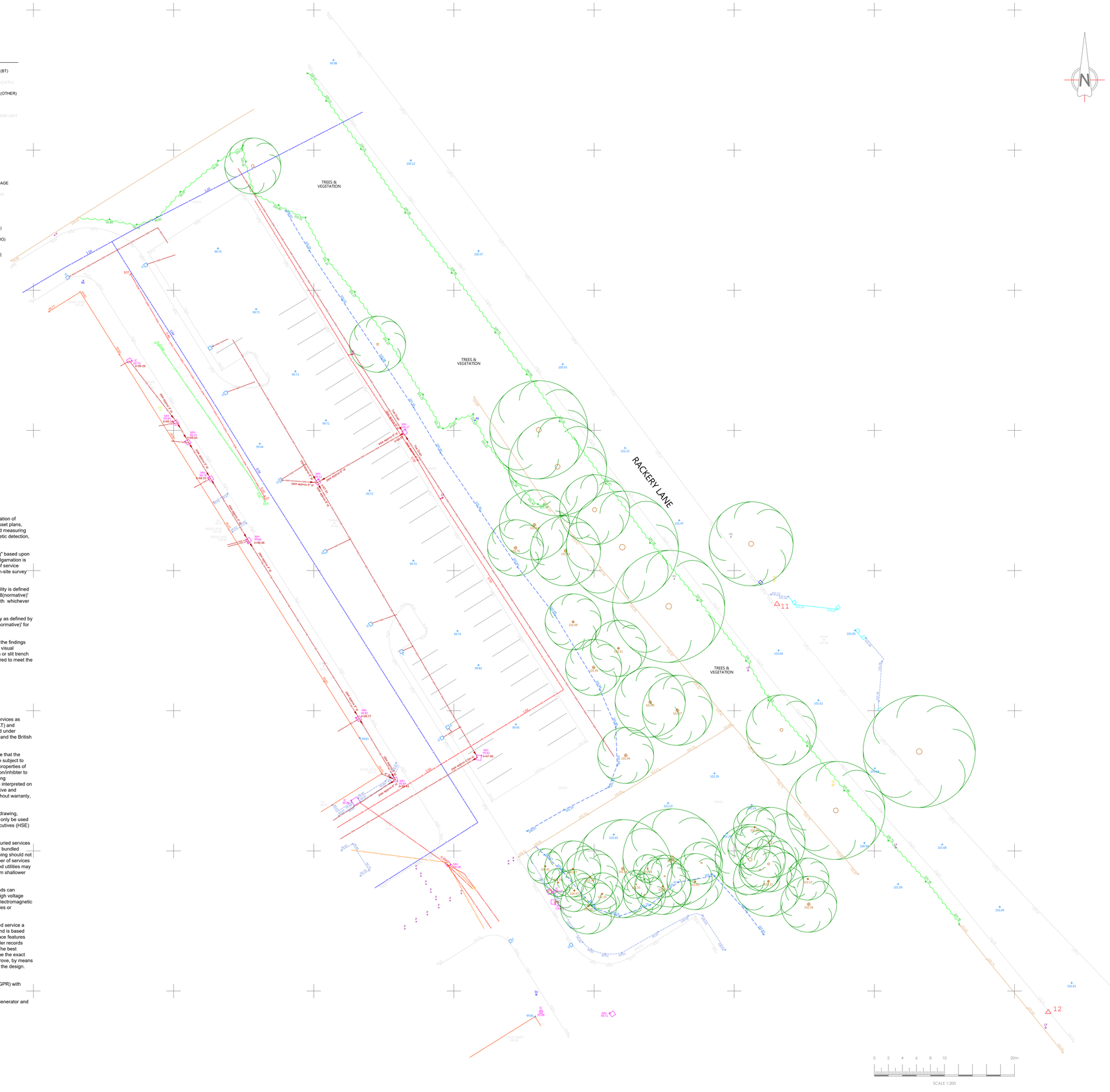
6.2.1 Detailed design of the proposed development is to take account of topographic low spots in order to reduce or eliminate areas of surface water flood.

# APPENDICES

## BURIED ASSETS DETECTED ON SITE:

| LINETYPE | SERVICE DESCRIPTION |
|---|---|
| BT BT | TELECOMMUNICATIONS (BT) |
| CATV | TELECOMMUNICATIONS (CATV) |
| TELE | TELECOMMUNICATIONS (OTHER) |
| G G | GAS |
| TCSU | TRAFFIC CONTROL SENSOR UNIT |
| SL SL | STREET LIGHTING |
| LV | LOW VOLTAGE |
| HV | HIGH VOLTAGE |
| W W | WATER |
| FWD | FOUL WATER DRAINAGE |
| SWD | SURFACE WATER DRAINAGE |
| FWRM | FOUL WATER RISING MAIN |
| CS | COMBINED SEWER |
| OF | OIL/FUEL |
| U(GPR) | UNKNOWN UTILITY (GPR) |
| U(EML) | UNKNOWN UTILITY (RADIO) |

EOT END OF TRACE A/R ASSUMED ROUTE




| Station | Easting | Northing | Level |
|---|---|---|---|
| 4 | 332302.351 | 356683.785 | 97.621 |
| 6 | 332237.091 | 356733.812 | 98.465 |
| 7 | 332195.266 | 356854.804 | 98.316 |
| 8 | 332285.357 | 356918.237 | 99.788 |
| 11 | 332566.104 | 356975.224 | 101.548 |
| 12 | 332604.807 | 356916.986 | 101.445 |
| C2 | 332627.387 | 356888.972 | 101.464 |

### Abbreviations/Symbols (Measured Building Surveys):

| | |
|---|---|
| C: | Window Cill Height |
| H: | Window Head Height |
| BH: | Beam Height |
| DH: | Door Height |
| COL: | Column |
| SVP: | Soil Vent Pipe |
| FL: | Floor Level |
| TH: | Threshold Level |
| 2.5m | Floor to Ceiling Height |
| | Vaulted Ceiling |

### Line types

| | |
|---|---|
| | Hedge Lines |
| | Drainage Runs |
| | Overhead Electricity Cables |
| | Overhead Telephone Cables |

### Symbols

| | | | |
|---|---|---|---|
| | Tree/Bush | | Glass House |
| | Control Station | | Osbm |
| | Borehole | | |
| | Trial Hole | | |

### Abbreviations (Topographic Survey):

| | |
|---|---|
| AH: | Arch Height |
| A/V: | Air Valve |
| BB: | Belisha Beacon |
| BOX: | Electricity Box, Cables Box, Etc. |
| BOL: | Bollard |
| BT/IC: | British Telecom Inspection Chamber |
| BS: | Bus Stop |
| BS/LP: | Bus Stop / Lamp Post |
| CATV: | CATV Inspection Chamber |
| CCTV: | Closed Circuit Television |
| CL: | Cellar Light |
| C_PIT: | Catch Pit |
| ER: | Earth Rod |
| EC: | Electricity Inspection Chamber |
| EP: | Electricity Pole |
| FH: | Fire Hydrant |
| FP: | Flag Pole |
| GV: | Gas Valve |
| G: | Gully |
| iC: | Inspection Chamber |
| KO: | Kerb Outlet |
| LP: | Lamp Post |
| LB: | Letter Box |
| LC: | Lighting Column |
| MKR: | Marker |
| MH: | Manhole |
| MP: | Mooring Point |
| MS: | Mile Stone |
| NYNEX: | Nynex Inspection Chamber |
| O/H: | Over Hang |
| P: | Post |
| PO/IC: | Post Office Inspection Chamber |
| R/S: | Road Sign |
| RE: | Rodding Eye |
| RTW: | Retaining Wall |
| S/P: | Sign Post |
| SNP: | Street Name Plate |
| ST: | Stop Tap |
| SV: | Stop Valve |
| T: | Telecom Inspection Chamber |
| TCB: | Telephone Call Box |
| TH: | Threshold Level |
| TL: | Traffic Light |
| TP: | Telegraph Pole |
| TROUGH: | Trough |
| WO: | Water Outlet |
| WM: | Water Meter |

### Fence Descriptions:

| | |
|---|---|
| B/W: | Barbed Wire |
| C/B: | Close Boarded |
| C/BARRIER: | Crash Barrier |
| C/L: | Chain Link |
| C/P: | Chestnut Paling |
| C/I: | Corrugated Iron |
| I/R: | Iron Railing |
| MISC: | Miscellaneous |
| P/R: | Post & Rail |
| P/W: | Post & Wire |
| P/C: | Post & Chain |
| S/PAL: | Steel Palisade |
| W/M: | Wire Mesh |

### Quality Level of Utility Survey Outputs:

The drawing has been derived from the amalgamation of several data sets: utility service provider buried asset plans, visual confirmation by way of lifting manholes, and measuring depth, type and location of services, electromagnetic detection, and GPR scans.

All the data sets have been allocated a "weighting" based upon the likely accuracy and confidence. The final amalgamation is performed by polynomial rubber sheet distortion of service provider assets plans for a 'best fit' to resemble on-site survey data findings as close as possible

The accuracy of the horizontal location of each utility is defined by Table 1 'Quality level of survey outputs PAS128(normative)' for QL-B2P = +/-0.25m or +/-40% of detected depth whichever is greater.

The accuracy of the vertical location of each utility as defined by Table 1 'Quality level of survey outputs PAS128(normative)' for QL-B2P = +/-40% of detected depth.

Care should be taken by designers when utilising the findings within this drawing, and should confirm depths by visual confirmation/verification using vacuum excavation or slit trench technology if a higher degree of accuracy is required to meet the design brief specification.

### Utility Survey Disclaimer:

We have endeavored to locate as many buried services as possible using the Best Available Technology (BAT) and applying the Best available Techniques as defined under guidance from the The Survey Association (TSA) and the British Standard PAS128 for Utility Surveys.

However, the user of this drawing should be aware that the results found using Best Available Technology are subject to errors and tolerances resulting from geophysical properties of the subsurface (which can be a significant limitation/inhibter to the survey) , out of the control of the operator, being surveyed/scanned. In addition survey findings are interpreted on site in real-time and thus are subject to interpretative and subjective variations. This information is given without warranty, the accuracy thereof cannot be guaranteed.

The accuracy of the findings indicated within this drawing, cannot be guaranteed or indemnified, and should only be used as a guide as defined by the Health & Safety Executives (HSE) guideline - HSG47.

Lines on this drawing indicating the presence of buried services may actually be indicating the presence of closely bundled cables or pipelines, therefore the user of this drawing should not assume that a single line is indicative of the number of services within the area. In addition services below detected utilities may be masked from detection by the shadow cast from shallower depth services.

Metal pipes, communication cables and earth bonds can 'present' electromagnetic fields similar to that of high voltage and low voltage cables under load, if alternating electromagnetic fields are in close proximity from other power cables or sub-stations etc.

The designation of the services (i.e. is the detected service a water pipe or as pipe?) is open to interpretation and is based upon a number of references such as visible surface features (water stop valves, or gas meter) and utility provider records (indicating whether high voltage or low voltage). The best technology deployed is limited in its ability to define the exact type of service. The user of this drawing should prove, by means of safe-excavation, the type of service if critical to the design.

### Equipment Deployed:

IDS Dual Frequency Ground Penetrating Radar (GPR) with on-site operator interpretation.

Radiodetection RD8000 & T10 Electromagnetic Generator and Precision Cable Locator.

Survey Notes:

Coordinates and Levels related to Ordnance Survey Datum - GPS OSGB36

| Revision | Date | Description |
|---|---|---|
| | | |
| | | |
| | | |
| | | |


CPLS
Chris Partington Land Surveyors
44a Green Lane
Sale
Cheshire
M33 5PP
t: 0161 976 1194
www.cpls.co.uk e:survey@cpls.co.uk


ices

Client

Liberty properties

Project

H Pack, Davy Way, Llay, Wrexham
Site Utilities Survey

| | | | |
|---|---|---|---|
| Scale | 1:200 | Surveyed By | CW |
| | | Date | 24.06.22 |
| Drawing No. | 090522JC-01 | Checked By | CPLS |
| | | Date | 27.06.22 |
| | | Drawn By | CW |
| | | Date | 27.06.22 |

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| SWD | |
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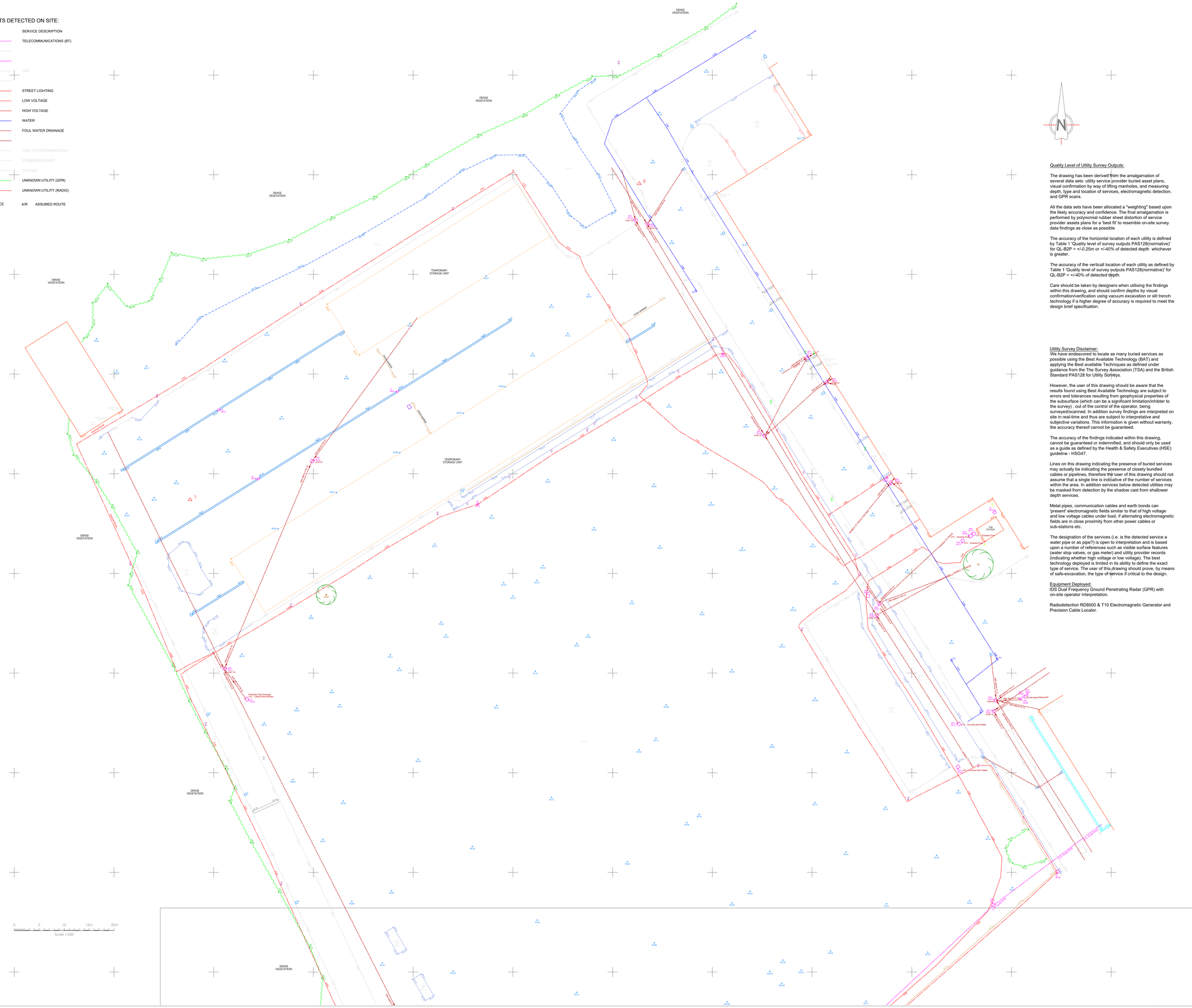


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Lines on this drawing indicating the presence of buried services may actually be indicating the presence of closely bundled cables or pipelines, therefore the user of this drawing should not assume that a single line is indicative of the number of services within the area. In addition services below detected utilities may be masked from detection by the shadow cast from shallower depth services.

Metal pipes, communication cables and earth bonds can 'present' electromagnetic fields similar to that of high voltage and low voltage cables under load, if alternating electromagnetic fields are in close proximity from other power cables or sub-stations etc.

The designation of the services (i.e. is the detected service a water pipe or as pipe?) is open to interpretation and is based upon a number of references such as visible surface features (water stop valves, or gas meter) and utility provider records (indicating whether high voltage or low voltage). The best technology deployed is limited in its ability to define the exact type of service. The user of this drawing should prove, by means of safe-excavation, the type of service if critical to the design.

### Equipment Deployed:

IDS Dual Frequency Ground Penetrating Radar (GPR) with on-site operator interpretation.

Radiodetection RD8000 & T10 Electromagnetic Generator and Precision Cable Locator.

### Abbreviations/Symbols (Measured Building Surveys):

| | |
|---|---|
| C: | Window Cill Height |
| H: | Window Head Height |
| BH: | Beam Height |
| DH: | Door Height |
| COL: | Column |
| SVP: | Soil Vent Pipe |
| FL: | Floor Level |
| TH: | Threshold Level |
| 2.5m | Floor to Ceiling Height |
| | Vaulted Ceiling |

### Line types

| | |
|---|---|
| | Hedge Lines |
| | Drainage Runs |
| | Overhead Electricity Cables |
| | Overhead Telephone Cables |

### Symbols

| | | | |
|---|---|---|---|
| | Tree/Bush | | Glass House |
| | Control Station | | Osbm |
| | Borehole | | |
| | Trial Hole | | |

### Abbreviations (Topographic Survey):

| | |
|---|---|
| AH: | Arch Height |
| AV: | Air Valve |
| BB: | Bellsha Beacon |
| BOX: | Electricity Box, Cables Box, Etc. |
| BOL: | Bollard |
| BT/IC: | British Telecom Inspection Chamber |
| BS: | Bus Stop |
| BS/LP: | Bus Stop / Lamp Post |
| CATV: | CATV Inspection Chamber |
| CCTV: | Closed Circuit Television |
| CL: | Cellar Light |
| C_PIT: | Catch Pit |
| ER: | Earth Rod |
| EC: | Electricity Inspection Chamber |
| EP: | Electricity Pole |
| FH: | Fire Hydrant |
| FP: | Flag Pole |
| GV: | Gas Valve |
| G: | Gully |
| iC: | Inspection Chamber |
| KO: | Kerb Outlet |
| LP: | Lamp Post |
| LB: | Letter Box |
| LC: | Lighting Column |
| MKR: | Marker |
| MH: | Manhole |
| MP: | Mooring Point |
| MS: | Mile Stone |
| NYNEX: | Nynex Inspection Chamber |
| O/H: | Over Hang |
| P: | Post |
| PO/IC: | Post Office Inspection Chamber |
| R/S: | Road Sign |
| RE: | Rodding Eye |
| RTW: | Retaining Wall |
| S/P: | Sign Post |
| SNP: | Street Name Plate |
| ST: | Stop Tap |
| SV: | Stop Valve |
| T: | Telecom Inspection Chamber |
| TCB: | Telephone Call Box |
| TH: | Threshold Level |
| TL: | Traffic Light |
| TP: | Telegraph Pole |
| TROUGH: | Trough |
| WO: | Water Outlet |
| WM: | Water Meter |

### Fence Descriptions:

| | |
|---|---|
| B/W: | Barbed Wire |
| C/B: | Close Boarded |
| C/BARRIER: | Crash Barrier |
| C/L: | Chain Link |
| C/P: | Chestnut Paling |
| C/I: | Corrugated Iron |
| I/R: | Iron Railing |
| MISC: | Miscellaneous |
| P/R: | Post & Rail |
| P/W: | Post & Wire |
| P/C: | Post & Chain |
| S/PAL: | Steel Palisade |
| W/M: | Wire Mesh |

Survey Notes:

Coordinates and Levels related to Ordnance Survey Datum - GPS OSGB36

| Revision | Date | Description |
|---|---|---|
| | | |
| | | |
| | | |
| | | |


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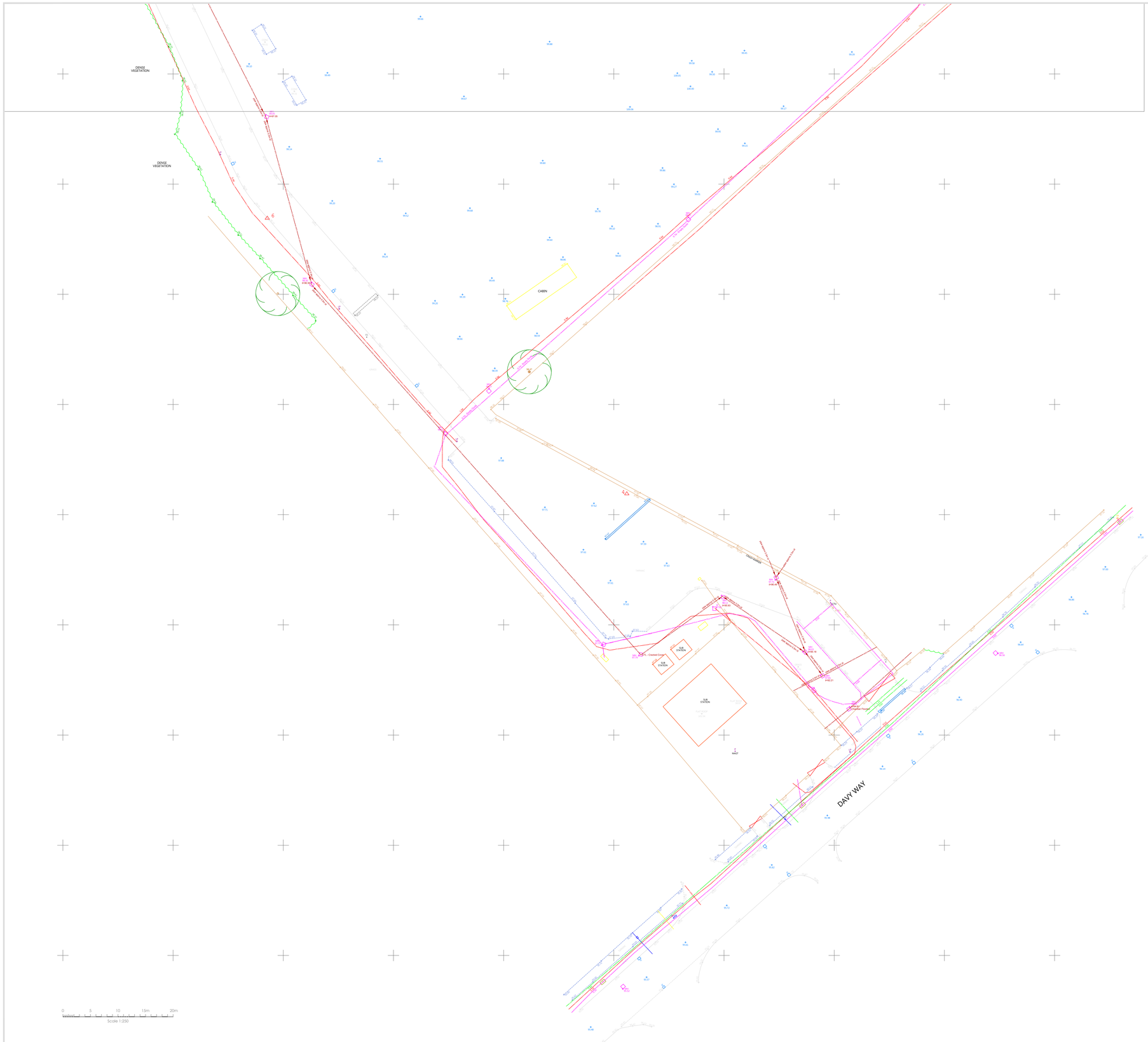
Chris Partington Land Surveyors
44a Green Lane
Sale
Cheshire
M33 5PP
t: 0161 976 1194
www.cpls.co.uk e:survey@cpls.co.uk


ices

Client: Liberty properties

Project: H Pack, Davy Way, Llay, Wrexham
Site Utilities Survey

| | | | |
|---|---|---|---|
| Scale | 1:250 | Surveyed By | CW C |
| | | Date | 24.06.22 |
| Drawing No. | 090522JC-02 | Checked By | CPLS |
| | | Date | 27.06.22 |
| | | Drawn By | CW C |
| | | Date | 27.06.22 |




| Station | Easting | Northing | Level |
|---|---|---|---|
| 4 | 332302.351 | 356683.785 | 97.621 |
| 6 | 332237.091 | 356733.812 | 98.465 |
| 7 | 332195.266 | 356854.804 | 98.316 |
| 8 | 332285.357 | 356918.237 | 99.788 |
| 11 | 332566.104 | 356975.224 | 101.548 |
| 12 | 332604.807 | 356916.986 | 101.445 |
| C2 | 332627.387 | 356888.972 | 101.464 |

## BURIED ASSETS DETECTED ON SITE:

| LINETYPE | SERVICE DESCRIPTION |
|---|---|
| BT BT | TELECOMMUNICATIONS (BT) |
| CATV | |
| TELE | |
| G G | GAS |
| TOSU | |
| SL SL | STREET LIGHTING |
| LV | LOW VOLTAGE |
| HV | HIGH VOLTAGE |
| W W | WATER |
| FWD | FOUL WATER DRAINAGE |
| SWD | |
| FWRM | FOUL WATER RISING MAIN |
| CS | COMBINED SEWER |
| OF | OIL/FUEL |
| U(GPR) | UNKNOWN UTILITY (GPR) |
| U(EML) | UNKNOWN UTILITY (RADIO) |

EOT END OF TRACE A/R ASSUMED ROUTE

Quality Level of Utility Survey Outputs:

The drawing has been derived from the amalgamation of several data sets: utility service provider buried asset plans, visual confirmation by way of lifting manholes, and measuring depth, type and location of services, electromagnetic detection, and GPR scans.

All the data sets have been allocated a "weighting" based upon the likely accuracy and confidence. The final amalgamation is performed by polynomial rubber sheet distortion of service provider assets plans for a 'best fit' to resemble on-site survey data findings as close as possible

The accuracy of the horizontal location of each utility is defined by Table 1 'Quality level of survey outputs PAS128(normative)' for QL-B2P = +/-0.25m or +/-40% of detected depth whichever is greater.

The accuracy of the verticall location of each utility as defined by Table 1 'Quality level of survey outputs PAS128(normative)' for QL-B2P = +/-40% of detected depth.

Care should be taken by designers when utilising the findings within this drawing, and should confirm depths by visual confirmation/verification using vacuum excavation or slit trench technology if a higher degree of accuracy is required to meet the design brief specification.

Utility Survey Disclaimer:
We have endeavored to locate as many buried services as possible using the Best Available Technology (BAT) and applying the Best available Techniques as defined under guidance from the The Survey Association (TSA) and the British Standard PAS128 for Utility Surveys.

However, the user of this drawing should be aware that the results found using Best Available Technology are subject to errors and tolerances resulting from geophysical properties of the subsurface (which can be a significant limitation/inhibiter to the survey) , out of the control of the operator, being surveyed/scanned. In addition survey findings are interpreted on site in real-time and thus are subject to interpretative and subjective variations. This information is given without warranty, the accuracy thereof cannot be guaranteed.

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| MS: | Mile Stone |
| NYNEX: | Nynex Inspection Chamber |
| O/H: | Over Hang |
| P: | Post |
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| R/S: | Road Sign |
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| S/P: | Sign Post |
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| P/W: | Post & Wire |
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| S/PAL: | Steel Palisade |
| W/M: | Wire Mesh |

Survey Notes:

Coordinates and Levels related to Ordnance Survey Datum - GPS OSGB36

| Revision | Date | Description |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |


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t: 0161 976 1194
www.cpls.co.uk e:survey@cpls.co.uk


ices

Client
Liberty properties

Project
H Pack, Davy Way, Llay, Wrexham
Site Utilities Survey

| | | | |
|---|---|---|---|
| Scale | 1:250 | Surveyed By | CW |
| Drawing No. | 090522JC-03 | Checked By | CPLS |
| | | Drawn By | CW |
| | | Date | 24.06.22 |
| | | Date | 27.06.22 |
| | | Date | 27.06.22 |

SITE SPECIFIC HAZARDS

IN ACCORDANCE WITH THE REQUIREMENTS OF THE CDM REGULATIONS 2015 THE FOLLOWING SIGNIFICANT RESIDUAL HAZARDS HAVE NOT BEEN DESIGNED OUT OF THIS PROJECT AND MUST BE TAKEN INTO CONSIDERATION BY CONTRACTORS PLANNING TO UNDERTAKE THE WORKS SHOWN ON THIS DRAWING:

DRAWING PRODUCED BASED ON OS DATA

Pond

100.0m

B 5373 RACKERY LANE

**APPLICATION SITE**
0.15 Ha 0.37 Ac

**SITE AREA - 6.8 HA**

N

APPLICATION BOUNDARY

OWNERSHIP BOUNDARY

H-Pack

Chy

ESS

SHARP MANUFACTURING

**APPLICATION SITE**
circa 3.6 Ha 8.9 Ac

Travelling Crane

MARLIN INDUSTRIES

Tank

Pencadlys Yr Heddlu

DAVY WAY / FFORDD DAVY

El Sub Sta

ELSTEEL UK

ELITE GROUP

PARK ELECTRICAL SERVICES

El Sub Sta

NORTH WALES POLICE

REV. DATE NOTES INIT.

CLIENT / PROJECT

H-Pack Liberty Properties

DAVY WAY, WREXHAM

DRAWING TITLE

SITE LOCATION PLAN

STATUS

PLANNING

| DATE | DRAWN | SCALE @ A2 |
|---|---|---|
| SEPT. '22 | AJP | 1:1250 |

| PROJECT NUMBER | UNIT / BLOCK | CI / SFB CODE | TYPE & NUMBER | REVISION LETTER |
|---|---|---|---|---|
| 11373 | | PL | L01 | |

| | | | | | |
|---|---|---|---|---|---|
| Site Location Plans | L | GA Plans | P | Elevations | E |
| Sections | S | Details | D | Prefix: Colour | C |

THE RATCLIFFE GROVES PARTNERSHIP

**MANCHESTER**
**105 MANCHESTER ROAD**
**BURY LANCASHIRE BL9 0TD**
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**www.rgp.uk.com**

LONDON
19 BEDFORD ROW
LONDON WC1R 4EB
T. 020 7600 6666 E. london@rgp.uk.com

RGP architects

John.bartelker Wrexham - H-Pack Storage Facility 26/09/2022 16/12/18 P:\Apps\100\11300-11399\11373\1-Sheets\R-LAND\SG\11373-R-L01.dgn

SITE SPECIFIC HAZARDS

IN ACCORDANCE WITH THE REQUIREMENTS OF THE CDM REGULATIONS 2015 THE FOLLOWING SIGNIFICANT RESIDUAL HAZARDS HAVE NOT BEEN DESIGNED OUT OF THIS PROJECT AND MUST BE TAKEN INTO CONSIDERATION BY CONTRACTORS PLANNING TO UNDERTAKE THE WORKS SHOWN ON THIS DRAWING:

SCALE 1:1000

0m 10 20 30 40 50 60

N

LEGEND

OWNERSHIP BOUNDARY

NOTES

1. DRAWING PRODUCED BASED UPON OS AND TOPOGRAPHICIAL SURVEY DATA.
2. LAYOUT SUBJECT HAS BEEN SUBJECT TO VEHICLE TRACKING
3. REFER TO DRAWING 11373-PL-L10 FOR DETAILED SITE PLAN TO WESTERN PORTION OF SITE
4. FOR PROPOSED LANDSCAPING REFER TO SEPARATE LANDSCAPE PROPOSALS SUBMITTED WITH THIS APPLICATION

ADDITIONAL STAFF PARKING (16 bays)
Retained landcaping/habitat zone
New Access Road (cars)
Pond
EXISTING VEHICLE ROUTE RETAINED
B 5373 RACKERY LANE
100.0m
NEW HIGHBAY WAREHOUSE
160K FOOTPRINT
FFL CIRCA 100 AOD
Retained landcaping/habitat zone
New Access Road (cars)
H-Pack
Existing servcie road between buildings retained
EXISTING CAR PARK
END BAYS REMOVED TO ACCOMODATE NEW ACCESS
NEW VEHICLE ACCESS FORMED FOR MOTORISTS & CYCLISTS ONLY (ACCESS & EGRESS) REFER TO SEPARATE DETAILS
Cycle Parking
OFFICES
6no DOCK LEVELLERS
6no DOCK LEVELLERS
LEVEL ACCESS
Shared Service Area
Shared Service Area
Landscaping
STAFF PARKING
135 TOTAL [126 STD. 9 ACC.]
SERVICE YARD
SHARP MANUFACTURING
Landscaping
SURFACE LEVEL PARKING (SHARP)
Modified Access Road (HGVs)
Existing hardstanding retained
Existing S/station
EXISTING SITE ACCESS MODIFIED FOR IMPROVED TWO-WAY HGV MOVEMENTS
DAVY WAY / FFORDD DAVY
B 5373 RACKERY LANE
Pencadlys

| REV. | DATE | NOTES | INIT. |
|---|---|---|---|

CLIENT / PROJECT

H-Pack Liberty Properties

DAVY WAY, WREXHAM

DRAWING TITLE

WIDER SITE PLAN

STATUS

PLANNING

| DATE | DRAWN | SCALE @ A2 |
|---|---|---|
| SEPT. '22 | AJP | 1:1000 |

| PROJECT NUMBER | UNIT / BLOCK | CI / SFB CODE | TYPE & NUMBER | REVISION LETTER |
|---|---|---|---|---|
| | | | | |

DRAWING NO.

11373 PL L08

| | | | | | |
|---|---|---|---|---|---|
| Site Location Plans | L | GA Plans | P | Elevations | E |
| Sections | S | Details | D | Prelim. Colour | C |

THE RATCLIFFE GROVES PARTNERSHIP

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LONDON
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LONDON WC1R 4EB
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RGP architects

John.Jackaman Wrexham - H-Pack Storage Facility 26/09/2022 16/12/24 P:\DOCS\11000\11300-11399\11373\1-Sheets\PLANNING\11373-PL-L05.dgn

**WWW.CAULMERT.COM**

Caulmert
engineering environmental planning

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**Email:** contact@caulmert.com
**Web:** www.caulmert.com