Land North of Bronwylfa Road, Wrexham - Flood Risk Statement

Version 3

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Contract

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This report describes work commissioned by Innova Renewables Developments by an instruction dated 28th March 2023. The Client's representative for the contract was William Griffiths of Innova Renewables Developments. Erica Skinner of JBA Consulting carried out this work.

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Unless otherwise stated in this Report, the assessments made assume that the sites and facilities will continue to be used for their current purpose without significant changes.

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Abbreviations

AEP	Annual Exceedance Probability
BGS	British Geological Survey
FCA	Flood Consequence Assessment
FMfP	Flood Map For Planning
FRS	Flood Risk Statement
LiDAR	Light Detection And Ranging
NGR	National Grid Reference
NRW	Natural Resources for Wales
OS	Ordnance Survey
OS NGR	Ordnance Survey National Grid Reference
PFRA	Preliminary Flood Risk Assessment

1 Introduction

1.1 Terms of Reference

JBA Consulting (JBA) were commissioned by Innova Renewables Developments in March 2023 to undertake a Flood Risk Statement (FRS) to support a planning application for the development for a proposed energy storage location at land north of Bronwylfa Road, Rhostyllen, Wrexham.

2 Site Description

2.1 Site Summary

The main development site is broadly triangular in shape, comprising a single agricultural field parcel and extends to approximately 5.5 ha in area. The site's boundaries feature a broad tree belt to the north and east, with hedgerows to the south and west. A former railway line runs along the northern boundary (set at a higher level and bounded by the mature vegetation) whilst the A483 lies to the east which is also elevated and bounded by mature established vegetation. The B5097 / Bronwylfa Road forms the southern boundary and Cadwgan Lane, a single-track road, forms the western boundary.

An existing vehicular access is located at the main development site's southern boundary from the B5097.

The land to the west of Cadwgan Lane comprises an L-shaped agricultural field and extends to approximately 3.4ha. It is bounded a tree belt to the north, Bersham Cricket Club to the southwest, and the B5097 / Bronwylfa Road to the south. An access track for abnormal loads extending to approximately 0.2ha is proposed on the southern part of this field.

Agricultural land and uses form the site's predominant surroundings to the north, south and west with pockets of residential properties dispersed throughout. To the east of the site (approx. 500m), on the opposite side of the A483, is the village of Rhostyllen. The Legacy National Grid Substation, which the proposals will connect to, is located approximately 750m west of the site.

Wrexham City Centre is located approximately 3km north-east.

Site details are summarised in Table 2-1, and a site location plan is shown in Figure 2-1.

Table 2-1 Site Summary

Site name	Legacy Substation
Main Site area	5.5 ha
Existing land use	Greenfield
Proposal	Energy storage and substation
OS NGR	SJ 30707 48525
Local Planning Authorities	Wrexham County Borough Council
Lead Local Flood Authority	Wrexham County Borough Council

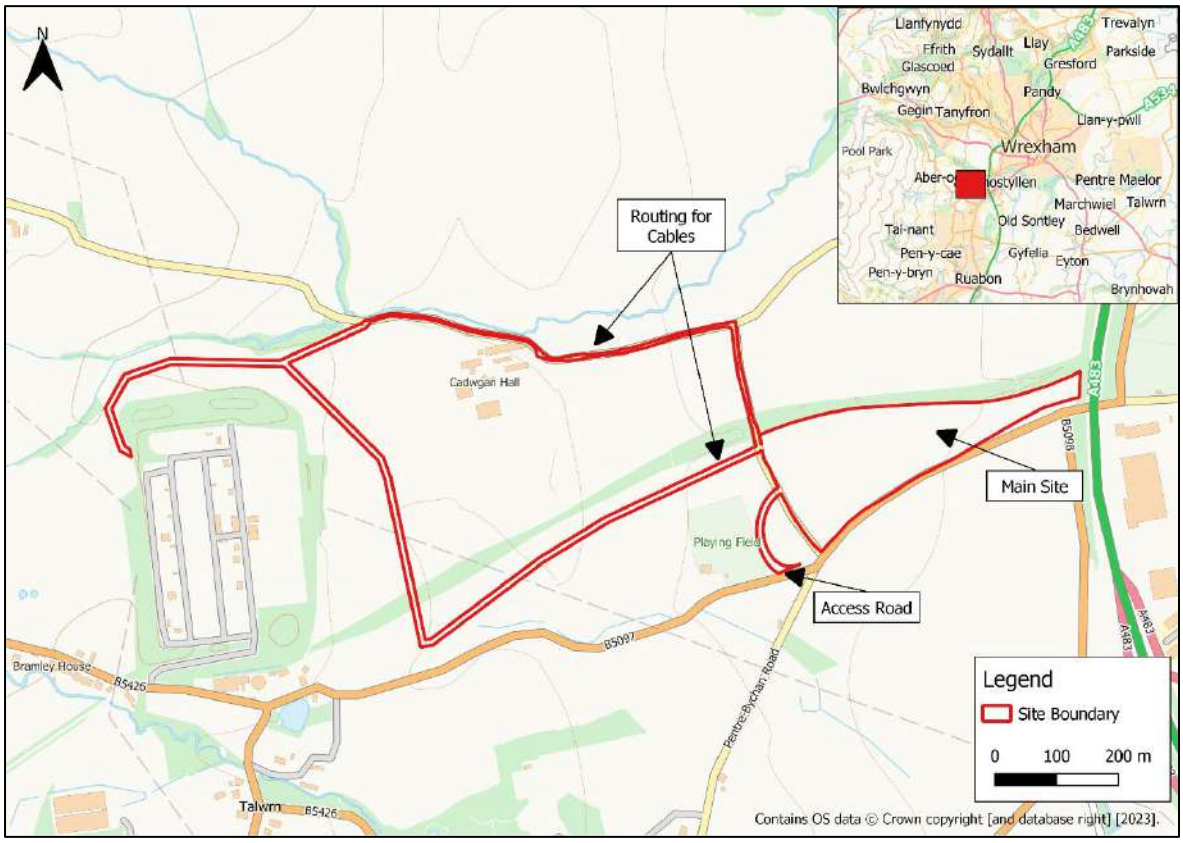

Figure 2-1 Site Location

2.2 Site Topography

A topographic survey undertaken by RPS Group in March 2023 has been conducted across the Main Site only and is shown in Appendix A. The topographic survey indicates that ground levels on the Main Site are highest in the west along the northern boundary at approximately 116.36mAOD. A raised area of ground in the south-west of the site is shown to be at approximately 116.22mAOD. From these highest points, ground levels fall in a general easterly direction to approximately 105.61mAOD in the eastern boundary of the site.

Levels across the cable routing areas reach approximately 151mAOD near the power station.

Figure 2-2 shows Natural Resources Wales (NRW) Open Source 1m Light Detection and Ranging (LiDAR) data, which provides an alternative illustration of the site's topography.

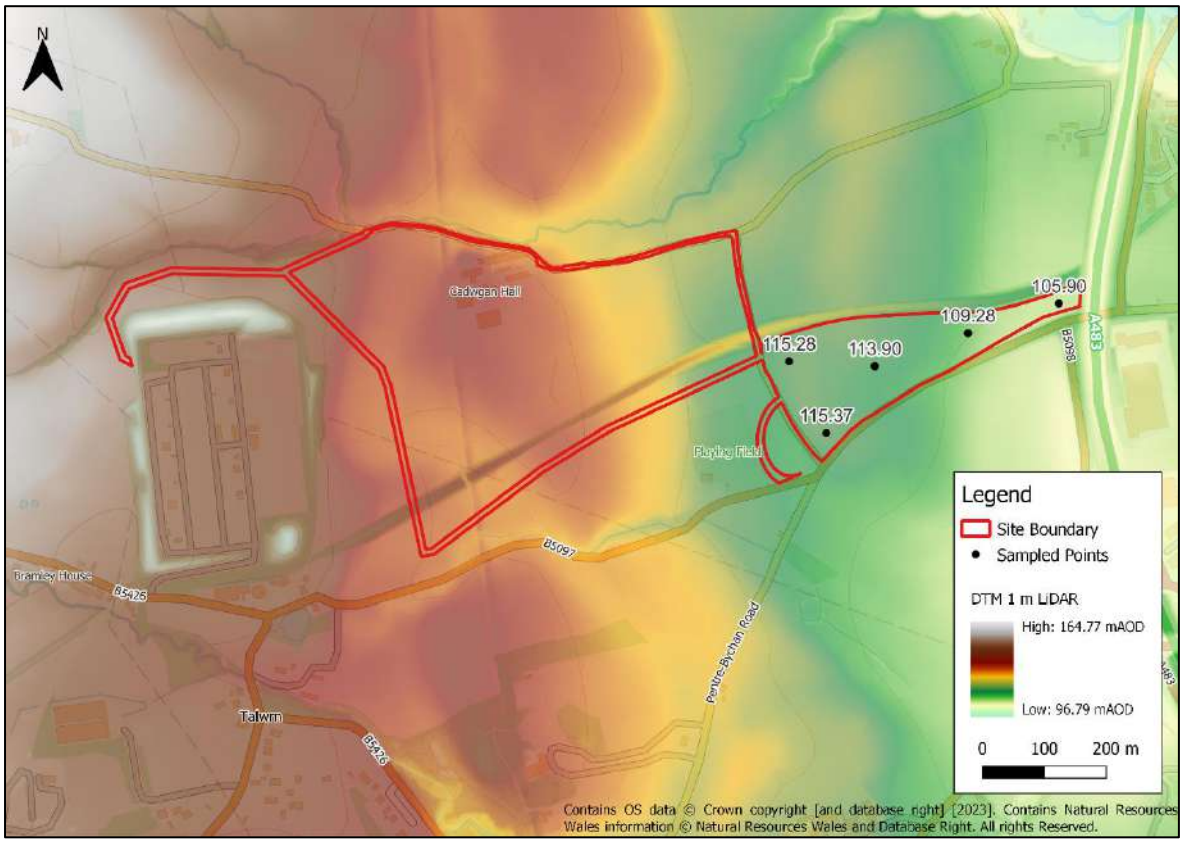

Figure 2-2 LiDAR Topographic data from NRW (1m resolution) with sample points

2.3 Soils and Geology

The geology of the site has been assessed using the British Geological Survey (BGS) GeoIndex[1]. The bedrock is shown to be Etruria Formation in the east comprised of mudstone, and Pennine Lower Coal Measures Formation and Pennine Middle Coal Measures Formation in the west, comprised of mudstone, siltstone and sandstone. The superficial geology is formed of Devensian Till, comprised of Diamicton in the east, and far west for the cable routing, and Devensian Glaciofluvial Deposits, comprised of sand and gravel in the west.

The soils on the site have been assessed on the Cranfield University Soilscape viewer[2] and are shown to be freely draining slightly acid loamy soils.

1 https://mapapps2.bgs.ac.uk/geoindex/home.html
2 https://www.landis.org.uk/soilscapes/index.cfm

2.4 Watercourses

No watercourses cross the proposed development site. The River Clywedog, an NRW Main River, flows in a general easterly direction approximately 500m to the north of the site, as shown in Figure 2-3. An unnamed ordinary watercourse (a tributary to the River Clywedog) flows adjacent to the northern cable routing spur and approximately 250m to the north-west of the Main Site. Approximately 550m to the south of the site is the Pentrebychan Brook, which flows into the Glanyrafon Brook to the eastern side of the A483. The Glanyrafon Brook then flows in a general easterly direction before converging with the River Clywedog around 2km to the east of the site.

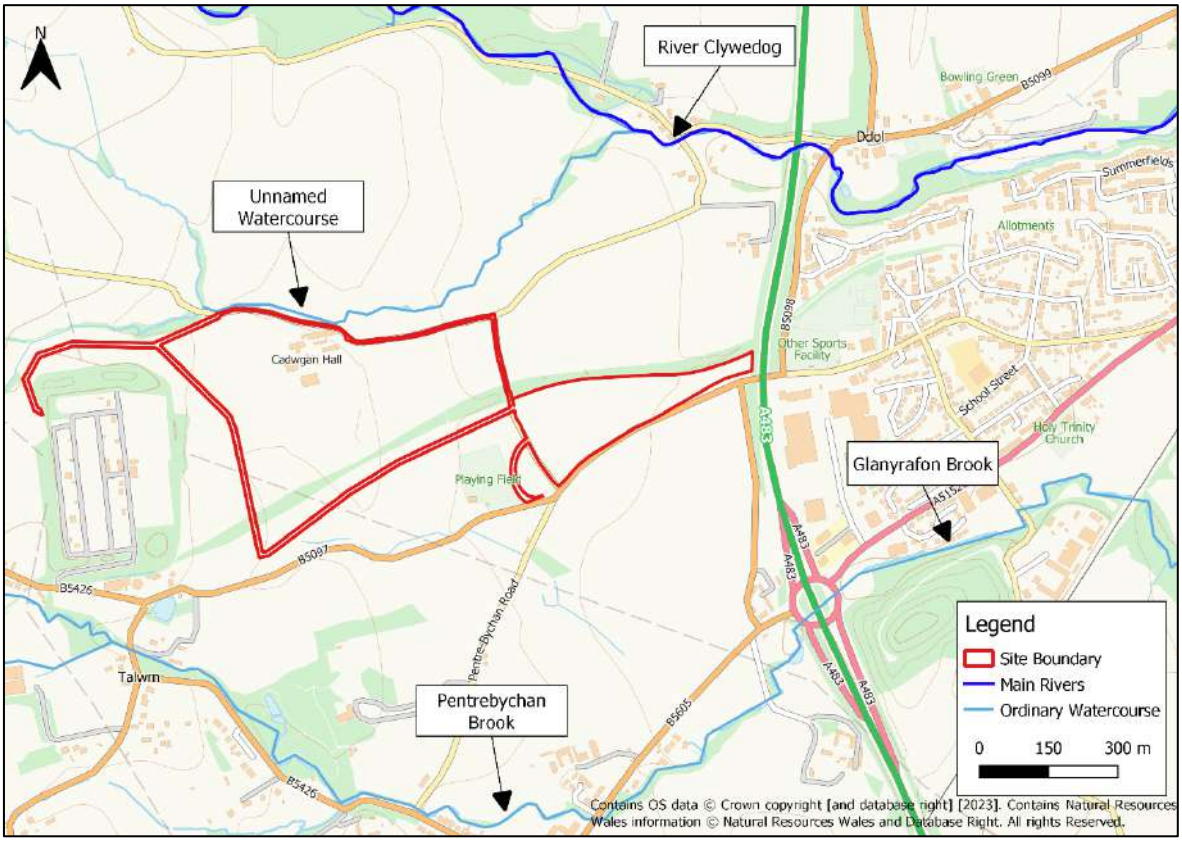

Figure 2-3 Nearby Watercourses

2.5 Development Proposal

The proposal comprises installation and operation of an Energy Storage System (ESS) including energy storage units, substation, site access, cable connection, landscaping and ancillary infrastructure. It should be noted that the two cable routes shown are options, where only one will be delivered. A masterplan for the proposed development site is contained in Appendix B.

Access for construction and operation will be from the existing B5097 access and the new access established from the unnamed lane on the site's western boundary.

As part of the development proposals, a desk-based cut and fill exercise has been undertaken to alter ground levels across the site. A plan of the proposed ground levels across the site is included within Appendix A.

The proposed ESS development comprises:

- 400kV Substation with Gas Insulated Switchgear (GIS) building & Transformers;
- Energy storage containers;
- 33kV transformer bays;
- Medium Voltage (MV) Skid – Inverters & Transformers;
- Control buildings;
- Access from the adopted highway;
- Internal access road and crushed stone tracks;
- Drainage infrastructure, landscape, and ecological planting; and
- Security fencing and CCTV.

A masterplan for the proposed development site is shown in Appendix B.

3 Planning Policy and Flood Risk

3.1 Planning Context

Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. These policies have the aim that all development in Wales is sustainable and improve the social, economic, environmental, and cultural wellbeing of Wales as set out in the Wellbeing of Future Generations Act 2015.

Technical Advice Note 15 (TAN-15), introduced by the Welsh Government in 2004, provides technical guidance relating to development planning and flood risk in Wales. The initial requirements of TAN-15 are to identify the vulnerability classification(s) and flood zones relevant to the proposed development, and to apply this information to the application of the justification tests.

Update drafts for TAN-15 were released in October 2021 and January 2023 and the final update was due to be implemented in June 2023. However, Welsh Government subsequently suspended the implementation of the new TAN-15 and it is uncertain as to when this shall now come into force, although the best estimate at this time is 2024.

Although the new TAN-15 is not a material consideration, Welsh Government and NRW advise that some consideration is given to the draft Flood Map for Planning (FMfP) as best available information.

3.2 Vulnerability Classification

TAN-15 assigns one of three flood risk vulnerability classifications to a development, as shown in Table 3-1. The proposed development is for an energy storage location and is consequently classified as 'Less Vulnerable' Development.

Table 3-1 Development Categories Defined by TAN-15

Development category	Types
Emergency services	Hospitals, ambulance stations, fire stations, police stations, coastguard stations, command centres, emergency depots and buildings used to provide emergency shelter in time of flood.
Highly vulnerable development	All residential premises (including hotels and caravan parks), public buildings, (e.g., schools, libraries, leisure centres), especially vulnerable industrial development and waste disposal sites.
Less vulnerable development	General industrial, employment, commercial and retail development, transport and **utilities infrastructure**, car parks, mineral extraction sites and associated processing facilities, excluding waste disposal sites.

3.3 Development Advice Map Classification

The Development Advice Map (DAM) is used to trigger different planning actions based on a precautionary assessment of fluvial and tidal flood risk.

Figure 3-1 shows that the main site is located within DAM Zone A, which are areas considered to be at little or no risk of fluvial or tidal/coastal flooding..

A small section of the cable routing area to both the northern and southern spur is located within DAM Zone C2. Zone C2 is defined as areas of the floodplain without significant flood defence infrastructure.

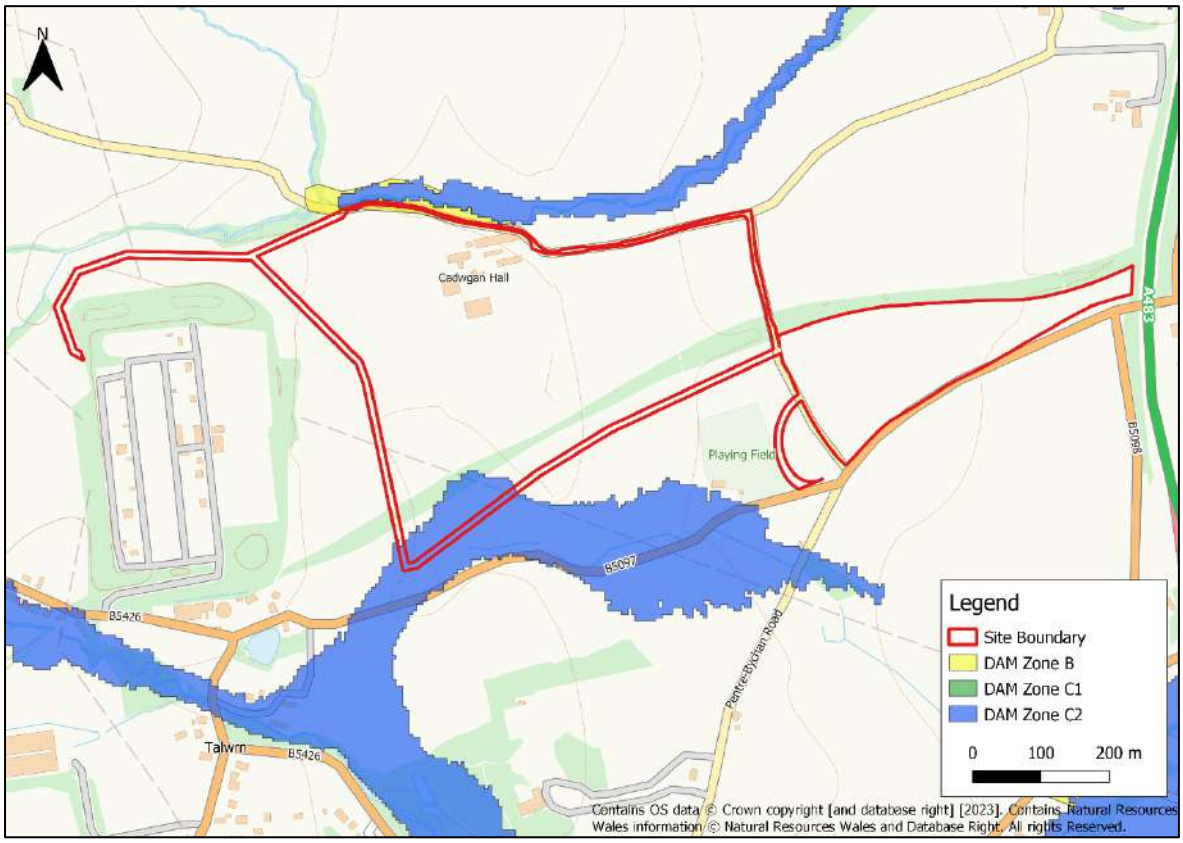

Figure 3-1 Development Advice Map

3.4 Flood Map for Planning Classifications

3.4.1 Flood Map for Planning - Rivers

As shown in Figure 3-2, the entirety of the proposed development site is located within Flood Zone 1 for the Flood Map for Planning for Rivers, representing areas which have less than 1 in 1000 (0.1%) chance of flooding in a given year, including climate change.

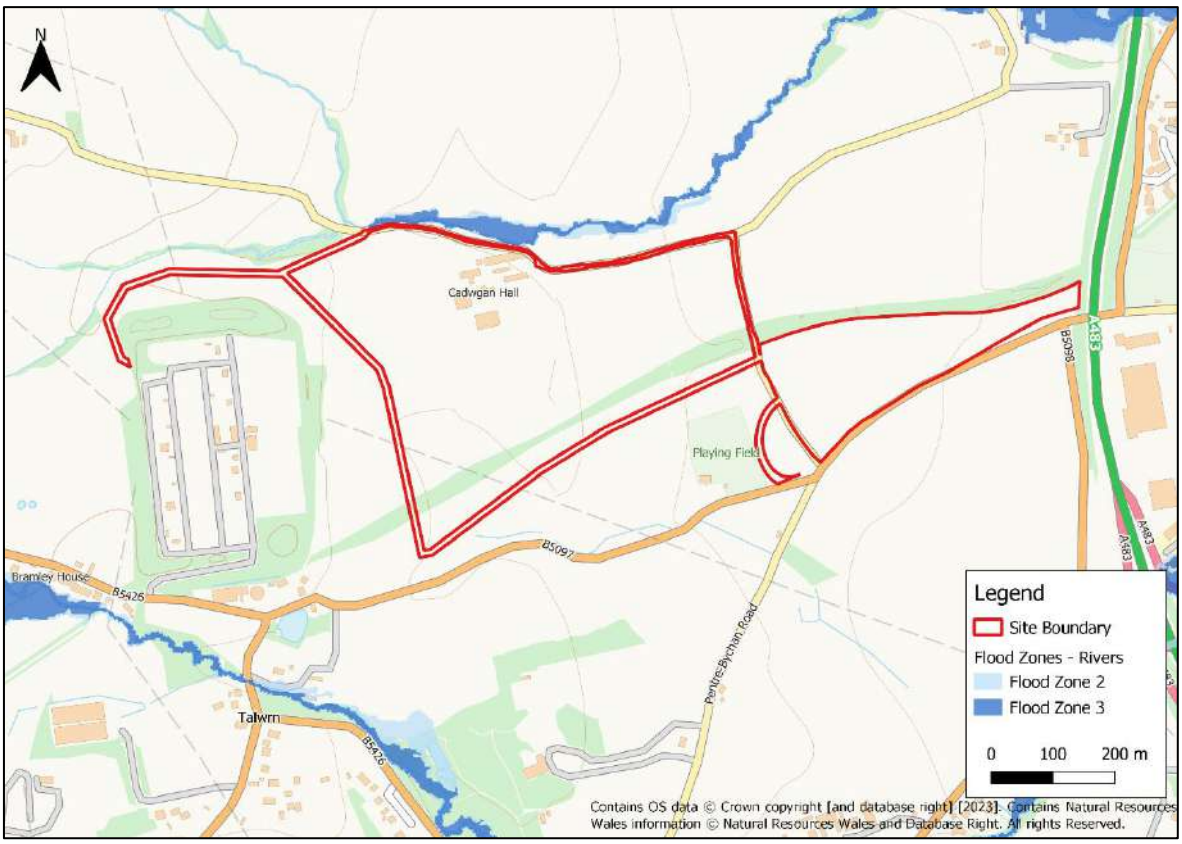

Figure 3-2 Flood Map for Planning – Rivers

3.5 Summary of Planning Policy Position

Under the extant TAN-15 the DAM is used to trigger different planning actions. Any site located within Zone C2 triggers the requirement for an FCA. The zone is used to indicate that only less vulnerable development should be considered subject to application of the justification test, including acceptability of the consequences.

However, in response to the release of the Flood Map for Planning in September 2021, NRW issued a letter to Local Planning Authorities in January 2022 outlining their approach to development management consultations where flood risk is a material consideration. Key to their consideration is that the DAM map is out of date, having not been updated for over 2 years, with no future updates expected. The Flood Map for Planning therefore constitutes the best available spatial information on flood risk, and is updated every 6 months. Consequently, NRW consider both the DAM and Flood Map for Planning as part of the consultation process.

If a site is shown to be at risk of flooding on the DAM but not at risk on the Flood Map for Planning, NRW will raise 'no objection' to a planning consultation. For these sites, it is likely to be unnecessary to prepare an FCA.

As the proposed development site is located fully in Flood Zone 1 of the Flood Map for Planning for rivers and seas, a full FCA is therefore not required. However, a Flood Risk Statement has been prepared to comprehensively assess flood risk associated with the

proposed development site, with the site assessed against the Acceptability Criteria of TAN15. The Justification Test is not required.

4 Flood Risk Assessment

This section assesses the risk to the proposed development site from all sources of flooding, based solely on a desk-based analysis of existing flood risk data.

4.1 Review of Existing Flood Risk Data

The latest available information on flood risk at the site, published by Natural Resources Wales (NRW) is summarised in Table 4-1 below.

Table 4-1 Summary of Flood Risk

Source of Flooding	Onsite Presence	Description
Flood Risk from Rivers	×	The site is at very low risk of river flooding.
Flood Risk from the Sea	×	The site is at very low risk of tidal flooding.
Flood Risk from Surface Water and Small Watercourses	✓	The site is at low risk of surface water flooding.
Flood Risk from Groundwater	×	The site is at very low risk of flooding from groundwater.
Flood Risk from Reservoirs	✓	The site is at low risk of flooding from reservoirs.
Flood Risk from Sewers	×	There are no sewerage infrastructures crossing or in the vicinity of the site at the site, therefore the risk of sewer flooding at the site is very low.

4.2 Historical Flooding

NRW's map of recorded flood extents does not show any evidence of historic flooding on the site. Wrexham's Local Flood Risk Management Plan[3] states that 'Historically, flooding incidents have resulted as a result of intense rainfall events overloading the existing drainage infrastructure, the vast majority of which is below ground via highway or sewer drainage system or culverted watercourses.' There is however no specific mention of historic flooding to the proposed development site itself.

4.3 Flood Risk from Rivers

NRW's Flood Risk Assessment Wales (FRAW) flood mapping indicates that the site is located outside of the Flood Risk from Rivers mapping, as shown in Figure 4-1. The site is therefore at **very low** risk of fluvial flooding (<0.1% AEP).

3 https://wrexham-consult.objective.co.uk/portal/ldp/dldp/ldp_deposit?pointId=4207408#document-4207408

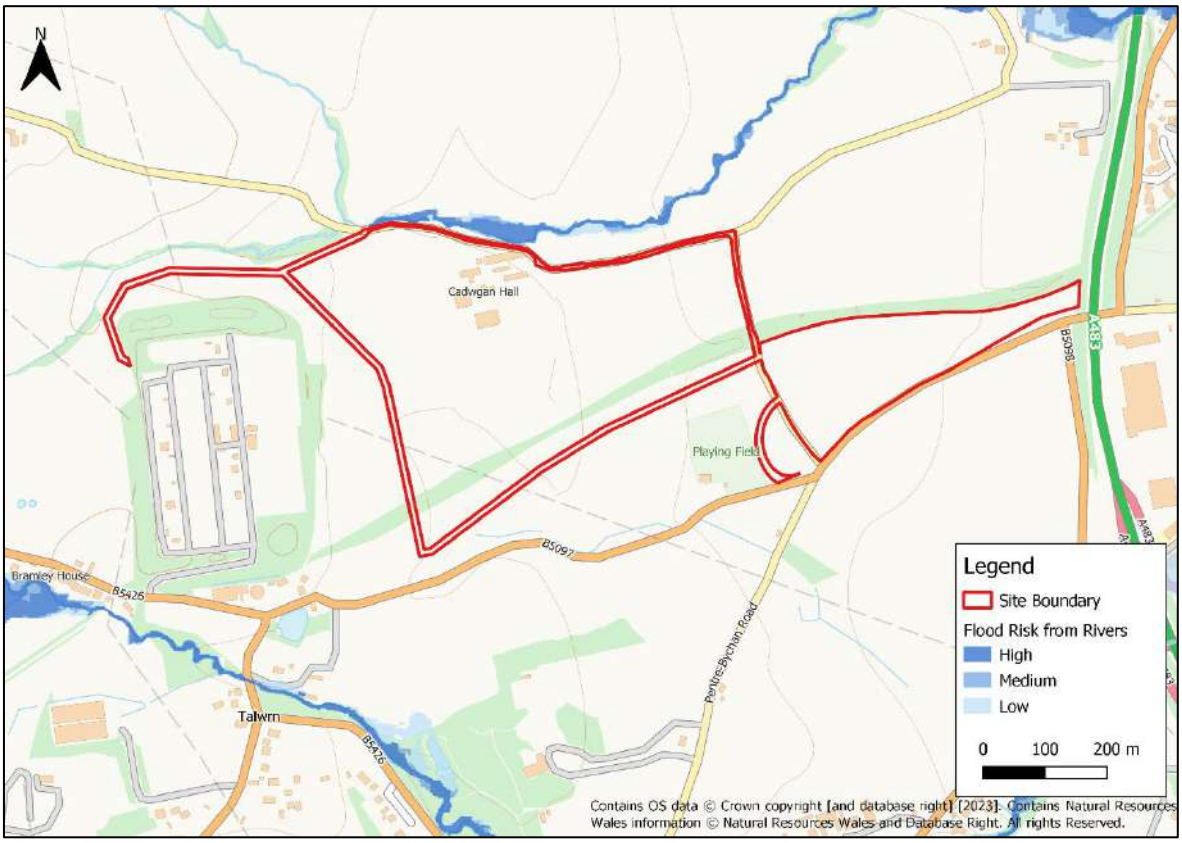

Figure 4-1 FRAW map – Risk of flooding from rivers

4.4 Flood Risk from the Sea

Due to the site's location inland, the site is at **very low risk** of tidal flooding. This is shown by a transparent layer on NRW mapping, and therefore no figure has been provided.

4.5 Flood Risk from Surface Water and Small Watercourses

Surface water flooding occurs when rain falling on saturated ground flows overland, following the local topography. Surface water flooding and subsequent overland flow can therefore pose a risk to both the development site and the surrounding land. The overland flow may originate from the site itself or adjoining land at a higher elevation from which flow migrates onto the development.

The Natural Resources Wales (NRW) flood map for surface water and small watercourses, as shown in Figure 4-2, identifies the site as being predominantly at very low risk of surface water flooding (i.e. less than 1 in 1000 (<0.1% AEP) chance of flooding from rainfall in any given year).

A small area in the east of the site is shown to be at high risk of surface water flooding. (i.e. greater than 1 in 30 (>3.3% AEP) chance of flooding in any given year). This surface water flood risk is likely a result of a localised depression in the site topography. Development proposals do not result in a change in ground levels in this area of the site, and no built

development is proposed for this area. Consequently, there shall be no change in risk as a result of the proposals.

Surface water and small watercourse mapping also indicates the presence of surface water flow paths and ponding along the north-western boundary of the main development site. Ground levels at this location fall away from the proposed development site, and it is therefore considered that there is very low risk of these flows entering the development.

An area outside of the red line boundary, located between the proposed access road and main development site, is at high risk of surface water flooding, meaning there is a greater than 1 in 10 (>3.3% AEP) chance of flooding in any given year. This surface water risk is a result of a localised depression, retaining surface water at this location. Bronwylfa Road, the development site, and the access road are raised above this area of high surface water flood risk.

Along the proposed access road, a small area of the road at its' southernmost extent is shown to be at high risk of surface water flooding, as shown in Figure 4-3. NRW's Flood Hazard Mapping indicates that flood depths of up to 90mm are predicted during High Risk events. Minor alterations in ground levels are proposed across the access road, however it is not anticipated that the surface water flow path shall be interrupted as a result of the proposed access road, with flows retained across the road towards the localised depression to the east. Site constraints, primarily the requirement for abnormal load vehicle tracking along the access road, require the road to be positioned at this location, at the proposed width as shown. However, the width of the road (approximately 17m) is solely as a requirement for abnormal load routing. Consequently, during everyday use of the access road, vehicles (including emergency services) shall be able to utilise the remainer of the road located outside of the area of flood risk for access and egress to the development site. It is recommended, that abnormal load deliveries are scheduled around local weather warnings to avoid surface water flood risk constraints or impacts to the development.

Once operational, the new access road will be used, at most, once per month as maintenance vehicles will access the site either from the B5097 access or the new access on the western boundary directly from Cadwgan lane.

There is a very low risk of surface water and small watercourse flooding across the cable routing areas of the development site.

Consequently, the risk of surface water flooding across the development site is **low**.

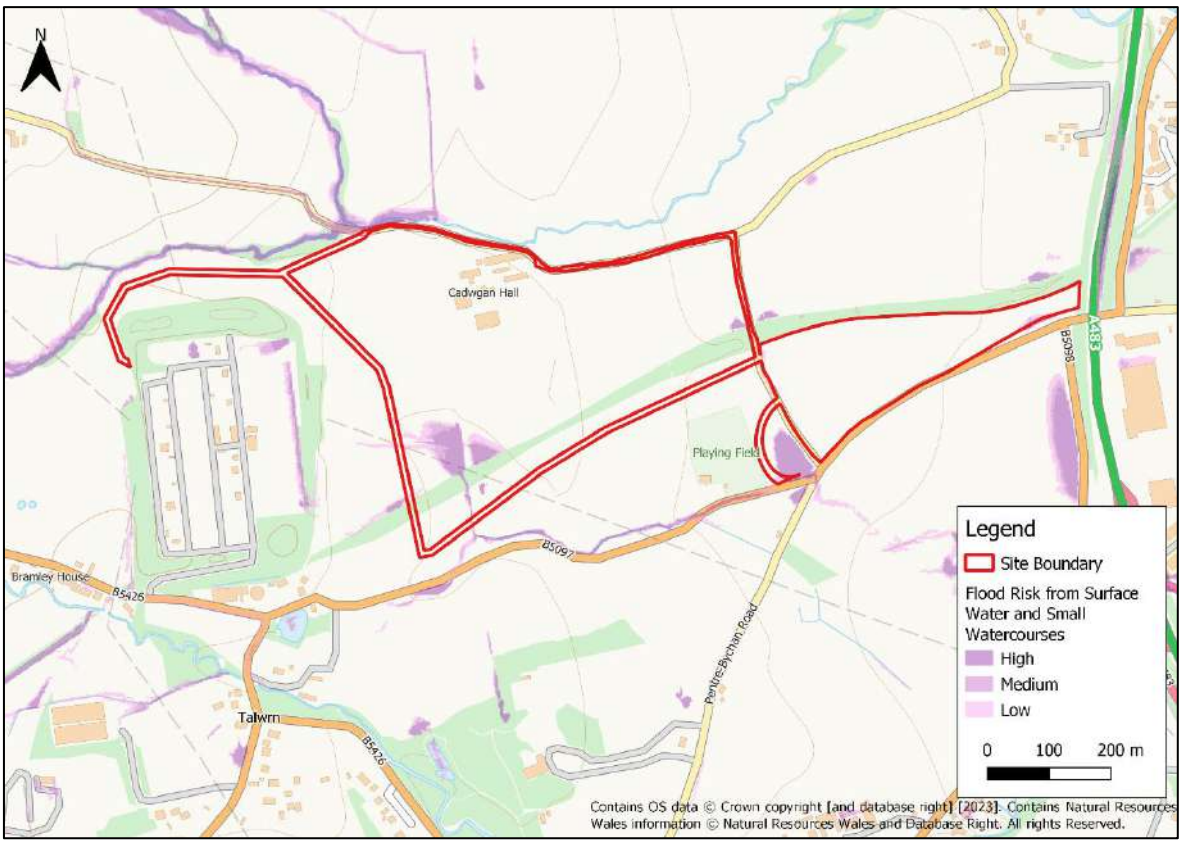

Figure 4-2 FRAW map - Risk of flooding from surface water and small watercourses

Figure 4-3 FRAW - Risk of flooding from surface water to the access road

4.6 Flood Risk from Groundwater

Groundwater flooding is caused by unusually high groundwater levels. It occurs as excess water emerges at the ground surface or within manmade structures such as basements. Groundwater flooding tends to be more persistent than surface water flooding, in some cases lasting for weeks or months, and can result in damage to property. This risk of groundwater flooding depends on the nature of the geological strata underlying the site and the local topography.

Wrexham's Local Flood Risk Management Plan[4] states that 'The PFRA identified no records of past groundwater flooding within the County Borough'. It can therefore be concluded that the risk of groundwater flooding at the site is **very low**.

4.7 Flood Risk from Reservoirs

NRW flood maps indicate that the proposed development site is partially located within an area at risk of reservoir flooding, as shown in Figure 4-4. The site is at risk of flooding from two reservoirs: the Ty-Mawr and Cae-Llwyd; located approximately 1.7 km and 2.3 km to the west of the site. As a result of regular inspections covered by the 1975 Reservoir Act, it is extremely unlikely that a reservoir would fail, and therefore the risk of reservoir flooding is considered to be **low**.

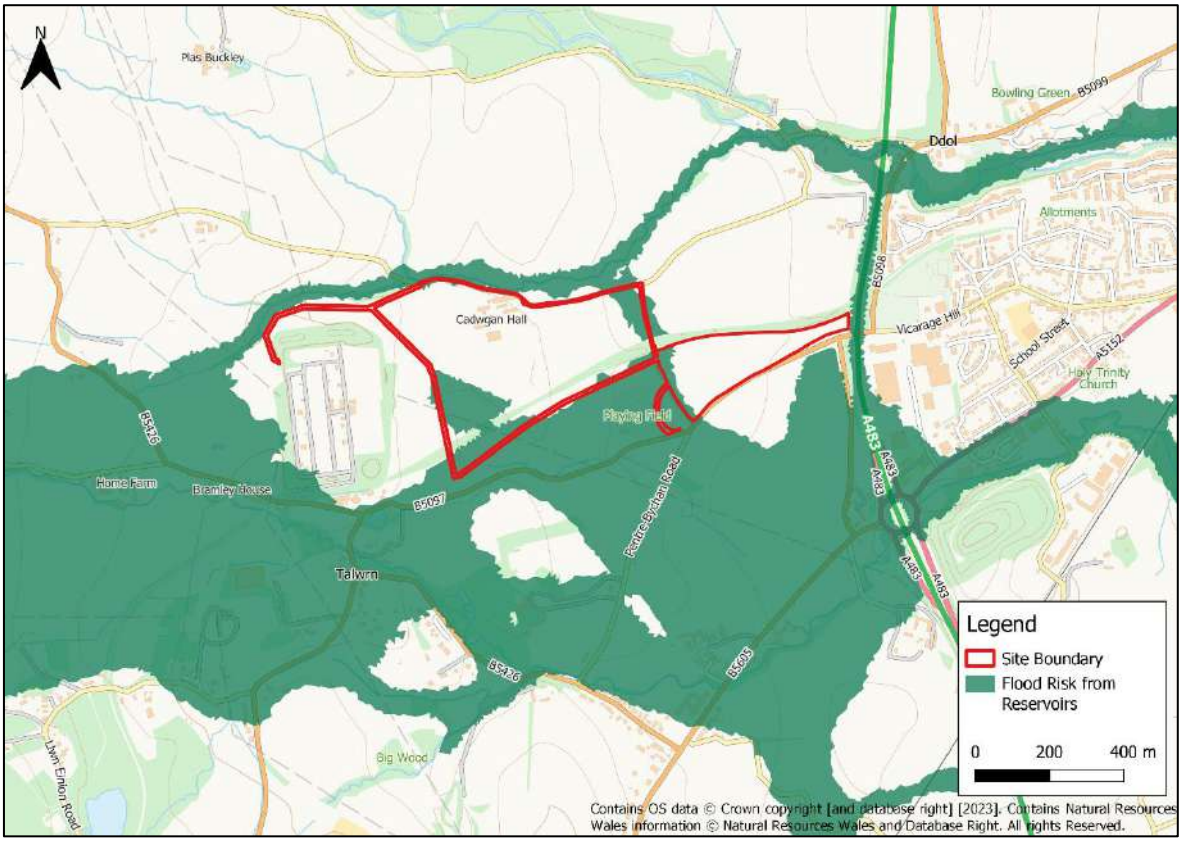

Figure 4-4 Risk of reservoir flooding

4 https://wrexham-consult.objective.co.uk/portal/ldp/dldp/ldp_deposit?pointId=4207408#document-4207408

4.8 Flood Risk from Sewers

A Utilities Search Report provided by Cronerstone Projects Ltd dated 25th August 2022 is shown in Appendix C. This highlights that there are no sewerage infrastructures crossing or in the vicinity of the site. It can therefore be concluded that the risk of sewer flooding at the site is **very low**.

5 Assessment of Acceptability Criteria

To adopt a precautionary approach, this FRS will still demonstrate how all aspects of the Acceptability Criteria will be satisfied in full. This has been detailed in Table 5-1 below.

Table 5-1 Assessment of accessibility criteria

TAN 15 Justification Criteria	Comments	Achieved
Developer is required to demonstrate that the site is designed to be flood free for the lifetime [Ref: TAN-15 A1.5] of development for a 1 in 100 (1%) chance (fluvial) and 1 in 200 (0.5%) chance (tidal) flood event including an allowance for climate change in accordance with TAN-15 table A1.14.	The proposed development site is located outside of both the fluvial and tidal flooding extents and is therefore flood free in all design events.	Yes
The development should be designed so that in an extreme (1 in 1000 chance) event there would be less than 600mm of water on access roads and within the property.	The proposed development site is located outside of both the fluvial and tidal flooding extents and is therefore flood free in all design events.	Yes
No flooding elsewhere.	The proposed development is located outside of both the fluvial and tidal flooding extents and development will therefore not result in an increase in flood risk to third parties.	Yes
Flood defences must be shown by the developer to be structurally adequate particularly under extreme overtopping conditions (i.e. that flood with a 1 in 1000 chance of occurring in any given year).	N/A. The site is not served by any formal flood defences.	N/A
The developer must ensure that future occupiers of development are aware of the flooding risks and consequences.	N/A - the site is not predicted to flood in all design events.	N/A
Effective flood warnings are provided at the site.	N/A - the site is not predicted to flood in all design events.	N/A
Escape/evacuation routes are shown by the developer to be operational under all conditions.	N/A - the site is not predicted to flood in all design events.	N/A

TAN 15 Justification Criteria	Comments	Achieved
The development is designed by the developer to allow the occupier of the facility for rapid movement of goods/possessions to areas away from flood waters.	N/A - the site is not predicted to flood in all design events.	N/A
Development is designed to minimise structural damage during a flooding event and is flood proofed to enable it to be returned to its prime use quickly in the aftermath of the flood.	N/A - the site is not predicted to flood in all design events.	N/A

6 Conclusions and Recommendations

JBA Consulting (JBA) were commissioned by Innova Renewables Developments to undertake a Flood Risk Statement (FRS) to support a planning application for the development for a proposed energy storage location at land north of Bronwylfa Road, Rhostyllen, Wrexham.

The proposed development site is located to the west of Rhostyllen, Wrexham. The main site area (excluding the route for cables) is approximately 5.5 ha in size and is greenfield in nature, previously used for pastural farming purposes. The site is bound to the east by the A483 and to the south by B5097, which provides existing access. An unnamed minor road bounds the western boundary of the main site, and adjacent to the northern boundary is a disused railway line. The area allocated within the boundary for cable routing is located to the west across the adjacent field.

Development proposals for the site are for the installation and operation of an Energy Storage System (ESS) including energy storage units, substation, site access, cable connection, landscaping and ancillary infrastructure. It should be noted that the two cable routes shown are options, where only one will be delivered.

The main development site is located within DAM Zone A, which are areas considered to be at little or no risk of fluvial or tidal/coastal flooding. Zone A is used to indicate that the Justification Test is not applicable and there is no need to consider flood risk further.

A small section of the cable routing area is located within DAM Zone C2, but as stated in a letter by NRW in January 2022 'If a site is shown to be at risk of flooding on the DAM (i.e. within Zone C, but not at risk on the new FMfP, we would raise 'no objection'.' The site is located with Flood Zone 1 of the FMfP. Consequently, a full FCA is not required and the site has not been assessed against the Justification Test. An assessment against the acceptability criteria has been undertaken for completeness.

The main development site is at low risk of reservoir flooding and is at very low risk of fluvial, tidal, groundwater and sewer flooding.

The site is shown to be at risk of surface water flooding however this risk will be mitigated through the application of SuDS, in accordance with the statutory standards for SuDS in Wales. Consequently, the residual risk of surface water flooding will be low.

All aspects of the Acceptability Criteria set out in TAN-15 have been assessed and shown to be satisfied. Consequently, we conclude that on the grounds of flood risk, the proposed development meets the requirements set out in TAN-15 and the aims of Planning Policy Wales.

A Topographic Survey

Notes:

The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Building Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Any trees shown are indicative only and the location, species and condition of trees should be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing trees and proposed trees. Any earthwork constructions shown indicate typical slopes for guidance only and should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Where trees are to be removed, the stumps should be ground out and roots grubbed up to prevent regrowth from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Information contained within this drawing is for Planning purposes only and details shown on proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. All information need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Utility services have been plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 85%** success can be achieved, **on Open sites 95%** success can be achieved. **Depth can be determined** but this figure will **depend** on the depth of the service below ground level. **Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they contain a continuous metallic element.** Plans are of **limited** accuracy. It should be regarded only as an indication and cannot be guaranteed"

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RP	FLAT ROOF LEVEL	RG	RODD IRON
Air	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
AP	ACCESS POINT	FL	FLOOR LEVEL	RT	RECTANGULAR TYPE
BB	BIRDBOX	G	GULLY	RWP	RAIN WATER PIPE
BH	BOREHOLE	GF	GAS FLUE OUTLET	SB	SOIL BOX
Bol	BOLLARD	GPR	GROUND PROBING RADAR	SB	SIGN BOARD
BP	BOUNDARY POST	GV	GAS VALVE	SW	SHED TOP
C Pay	BLOCK PAVING	GV	GAS VALVE COVER	TL	TRAFFIC LIGHT
BS	BUS SHELTER	HC	HEDGE CUTTER	TL	SUPPLY LEVEL
BT	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BW	BRICK RETAINING WALL	IL	INVERT LEVEL	SP	SIGN POST
BW	BRICK WALL	IW	IRON RAILING FENCE	Spr Hyd	SPRED HUMP
BWF	BARBED WIRE FENCE	KO	KERB OUTLET	SPR	SHARD AND POINT
CAB	CABLE TELEVISION BOX	LA	LIGHTNING ARRESTOR	SS	SOIL STACK PIPE
CAT	CATENARY CABLE	LG	LOCK GATE	ST	STAKE
CB	CATCH PIT CHAMBER	LP	LAMP POST	ST	STAND PIPE - SUPPLY TAP
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pav	STONE PAVING SLABS
CBF	CHAIN LINK AND BARBED WIRE FENCE	M	MANHOLE (with cover)	STP	SEPTIC TANK
CC	CHAMBER (WATER)	LP	LAMP POST	SVP	STAK POST
CH	CAST HOOD	MP	MARKER POST	SW	SOIL VENT PIPE
CP	CAST IRON	MW	MANHOLE	SW	STATHPIPE
CP	CONCRETE POST	NBP	NEWSPAPER POST	TA	TRAFFIC ARM
CL	COVER LEVEL	NP	NARROW POST	TB	STABLE BALL
CL	CHAIN LINK FENCE	NP	MILE POST	Tac	TACTILE PAVING
CL	CLEAR	OB	OBSERVATION BOX	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	OC	EXISTING MOTOR	Tdup	TELEGRAPH DUCT Transport
CP	CONCRETE POST	OP	OBSERVATION POST	TDup	TELEGRAPH DUCT Private
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
CP	CONTROL PLANT EQUIPMENT	OPA	OPEN PUBLIC SURVEY AREA	TD	TELEGRAPH DUCT
CR	BUILDING CANOPY	OSB	OS BENCH MARK	TF	THREADED FENCE
Cpet	CARPETAN	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CS	CONCRETE SLAB	OSC	OVERGROUND CONDUIT	TP	TELEGRAPH POLE
CSB	CASE BOARD	OSE	OVERGROUND ELECTRIC	TP	TELEPHONE PILLAR
CW	CONCRETE WALL - ROUGH	OSG	OVERGROUND GAS	TP	TELEPHONE POLE
CW	CONCRETE WALL	OSMan	OVERHEAD STRUCTURE	Tpit	TRIAL PIT
D	DRAIN	OSP	OVERGROUND PIPE	TR	TRENCH
DAT	DATA CABLE	OSU	OVERGROUND UNKNOWN	UAB	UNABLE TO ACCESS
DB	DISTRIBUTION BOX	P	PIPE	UAT	UNABLE TO ACCESS
DP(Mar)	DILAPIDATED	PB	POST BOX	UTB	UNABLE TO RAISE
DP	DRAIN POINT	PC	PEDESTRIAN CAMERA	UTC	UNABLE TO TRACE
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTC	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PIT	PIT DEPTH	VC	VITREOUS CLAY
DW	DRAIN WATER	PM	PARKING METER	VP	VENTILATION PIPE
Ear	EARTH LEVEL	PR	PETROL PUMP	WF	VENT WELL
EB	ELECTRICITY BOXES	PS	PEDESTRIAN SERVICE	WF	WATER FLOW
EOT	END OF TRACE (utility)	Pvt	PENSTOCK	WB	WEIR BRIDGE
ET	ELECTRIC TRACE	PV	PETROL VENT PIPE	WL	WATER LEVEL
EW	EARTH ROD	PV	PYLON	WL	WATER LEVEL
EWP	ELECTRICITY SUPPLY POINT	R	RODDING EYE	WM	WATER METER
ESP	ELECTRICITY SERVICE POINT	Rdg	RIDGE LEVEL	WW	WIRE WORK FENCE
F	FOOTBRIDGE	RL	RAIN GAUGE	WW	WIRE WORK FENCE
FL	FLOOR LEVEL	RL	RAIN GAUGE	WS	WING SIGN POST
Flag	FLOOR LEVEL (MONITORING)	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
Flgt	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts

Grid:
Local Grid
by GPS Observations
to the OS Active
Network (OSTN15)

Datum:
Ordnance Datum
by GPS Observations
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Network (OSGM15)

Revision:	Amendments:	Date:	Name:
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A	ORIGINAL ISSUE	Apr'23	DS

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CLIENT:
Novus

PROJECT:
Legacy

TITLE:
Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Drg No: UAT3172_A	Sheet: 1 of 18

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Notes:

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This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Any indication of foundations shown is purely diagrammatic. Ground conditions have not been investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing ground conditions, trees and services. Ground conditions and foundation design should be investigated and designed by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees to be retained should be protected during the course of the development by the erection of barriers to prevent damage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Information contained within this drawing is for Planning purposes only. Information for sketch proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Information is required to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to RMS specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION

Utility Services Location Note:

Utility services have been plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

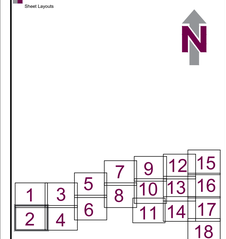
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 85% success is normally achievable, but on Open, rural sites success rates may be as low as 50%.** *Success will but this figure will depend on the depth of the service below ground level.* **Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless a separate continuous conductor is present.** *Position and of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed"*

Standard Abbreviations

ACO	ACO CHANNEL/ CHANNEL	Flat RF	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FP	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
Ant	ANTENNA/MAST	Fr	FOUL MANHOLE	RWP	RAIN WATER PIPE
BB	BELLBOX	G	GULLY	RWP	RECTANGULAR PIPE
Bch	BENCHMARK	GF	GAS VALVE FLOAT	Sa	SAMPLING POINT
Bol	BOLLARD	GPR	GROUND PROBING RADAR	SB	SIGN BOARD
Bol	BOLLARD POST	GV	GAS VALVE	Sht	SHED TOP
B Pag	BUDDA PAVING	GV	GAS VALVE COVER	SL	SLOPE LEVEL
BS	BUS SHELTER	H	HYDRANT	SL	SLOPE LEVEL
BS	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BT	BRITISH TELECOM COVER	IL	INVERT LEVEL	Sp	SPOT HEIGHT
Brk	BRICK WALL	IW	IRON RAILING FENCE	Spd Hump	SPEED HUMP
BWF	BARBED WIRE FENCE	KO	KERB OUTLET	SPR	SHARE AND POINT
CA	CARRIAGEWAY LEVEL	LA	LOCAL AUTH.	SS	SOIL VENT PIPE
CAT	CATENARY LEVEL	LG	LOCK GATE	ST	STAND PIPE / SUPPLY TAP
CB	CATCH PIT/ CATCH BASIN	LP	LAMP POST	St	STONE
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (ph)	Stone Pav	STONE PAVING SLABS
CBF	CHAIN LINK/ BOARD FENCE	LS	LIGHTING SWITCH (ph)	Str	STREET LIGHT
CC	CHAMBER DEPTH	LT	LAMP POST	SVP	STAY POST
CC	CONCRETE CUBE	M	MANHOLE	SW	SOIL VENT PIPE
CP	CAST IRON	MH	MANHOLE	SW	STATHPIPE
CP	CONCRETE POST	MP	MARKER POST	Sy	SURVEY MARK
CL	COVER LEVEL	MP	MARKER POST	SW	STONE WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Con	CONIFER	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MU	EXISTING MAYOR	TBM	BOLLARD (Rail Transport)
CP	CONCRETE POST	NP	NOTICE BOARD	TCP	TELEPHONE CALL POST
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpe	CHILDREN'S PLAY EQUIPMENT	OBA	OBSERVATION BUTTERY AREA	TL	TRAFFIC LIGHTS
Cpt	BUILDING CANOPY	OBM	OB BENCH MARK	TL	THRESHOLD LEVEL
Cpte	CARPARK	OHC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
Cr	CONIFER TREE	OHL	OVERGROUND LINE	TP	TELEGRAPH POLE
Cr	CAR PARK	OHP	OVERGROUND ELECTRIC	TP	TELEPHONE POLE
CR	CONCRETE RAILY / ROUGH	OHW	OVERGROUND WIRE	TP	TELEPHONE POLE
CW	CONCRETE WALL	OHWall	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
D	DRAIN	Pav	PAVING LEVEL	TR	TREE
DC	DUCT COVER	PHC	OVERHEAD HARDPAN	U Ins	UNABLE TO ACCESS
Dec	DECIDUOUS TREE	PI	PIT	UTA	UNABLE TO ACCESS
(dmp)	DILAPIDATED	PB	POST BOX	UTA	UNABLE TO RAISE
DP	DRAIN PIPE	PC	PEDESTRIAN CAMERA	UTC	UNABLE TO TRACE
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PF	PIT DEPTH	UC	UTMOST CLOT
Dsh	DISH ANTENNA	PH	PETROL HOSE	UP	UNDERGROUND DETECTION PAD
Dw	DAVES LEVEL	PH	PETROL PUMP	VP	VENT PIPE
E	ELECTRICITY COVER	PM	PEDESTRIAN GUARDRAIL	WB	WATER BOARD
EOT	END OF TRACE (utility)	Pnt	PENSTOCK	WB	WEIGH BRIDGE
ER	ELECTRIC RISER	Pol	POLICE BOX (ph)	WC	WATER COURSE
Ew	EARTHLOAD	PV	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	R	RODDING EYE	WM	WATER METER
ESW	ELECTRICITY SUPPLY WOOD	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
Fb	FLOWERBED/ SHRUB OVERGRWD	RL	RAIL LEVEL	WP	WOOD POST FENCE
Fb	FLOWERBED	RL	RAIN GAUGE	WS	WIND SOCK POLE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FL	FLOOR LEVEL (GROUND LEVEL)	RM	RADIO MONITORING Pnt		
Flig	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



Grid:	Datum:
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Revision:	Amendments:	Date:	Name:
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A	ORIGINAL ISSUE	APR'23	DS

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CLIENT:

Novus

PROJECT:

Legacy

TITLE:

Topographical Survey

Drawn:	SB	Checked:	CA
Date:	March 2023	Scale:	1:200 @ A0
Dig No:	UAT3172_A	Sheet:	2 of 18

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This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Where trees are to be planted, the soil conditions, including contamination and compaction, should be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing and proposed trees. Where trees are to be retained, the soil conditions should be investigated and foundations developed by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Where trees are to be retained, adequate protection should be provided to the trees and their root systems from damage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Underground services are shown for guidance only. Detailed proposals and location of new proposals may be based upon arrangements of GA sheets & visual estimations of existing site conditions. Underground services need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Utility services have been plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 85% accuracy is normally achievable, but on Rural sites 50% accuracy is more likely to be achieved but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they are associated with tracer wire or marker tape.** Depth is another area of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed"

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RF	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FH	FIRE HYDRANT	RGP	RAILWAY SIGNAL POST
AP	ACCESS POINT	Fo	FOUL MANHOLE	RM	RECTANGULAR MANHOLE
BB	BED LEVEL	G	GULLY	RMP	RAILWAY MARKER POST
BH	BOREHOLE	GF	GAS RELIEF FLOAT	RP	RODDING EYE
Bol	BOLLARD	GP	GUIDE POST	SB	SIGN BOARD
Bp	BOREHOLE POST	GPR	GROUND PROBING RADAR	SW	SHED TOP
BTop	BLOCK PAVING	GV	GAS VALVE	Sc	SCREW LEVEL
BV	BOUNDARY POST	GVC	GAS VALVE COVER	SL	SLOPE LEVEL
BS	BUS STOP	IC	INSPECTION COVER	SM	SERVICE MARKER
BSC	BRITISH STEEL FLOW COVER	IL	INVERT LEVEL	SMP	SETTLEMENT MONITORING Pnt
BW	BRICK WALL	IW	IRON RAILING FENCE	SP	SIGNAL POST
BWP	BARRIED WIRE FENCE	KO	KERB OUTLET	Spd Hump	SPEED HUMP
CA	CARRIAGEWAY CENTRE	LA	LOCAL AUTH	SPR	SHARE AN POINT
CAP	CATHWAY LEVEL	LG	LOCK GATE	ST	STOP SIGN
CB	CONTROL BOX	LH	LAMP HOLE	STAP	STAND PIPE - SUPPLY TAP
CC	CONTROL CENTRE	LOR	LOSS OF REFLECTION (gpr)	SV	SV
CD	CHAMBER DEPTH	LP	LAMP POST	Stone Pav	STONE PAVING SLABS
CE	CAT EYE	LT	LIGHTING UNITS (ant)	STP	STOP POST
CF	CAST IRON	M	MANHOLE	SWH	STOP HYDRANT
CH	CHAMBER FLOAT	MBP	MARKER POST	SW	STOPWAY
CL	COVER LEVEL	MP	MARKER POST	SY	SYPHON
CL	CHAIN LINK FENCE	MP	MILE POST	SYM	STONE WALL
Con	CONCRETE	MP	MILE POST	Tac	TACTILE PAVING
Conc	CONCRETE	MV	ELECTRICITY METER	TBM	TEMPORARY BENCH MARK
CP	CONCRETE POST	NG	EXISTING NATO	TBol	BOLLARD (Dept Transport)
CP	CATCHPIT	NP	NAME PLATE	TCP	TRAFFIC CONTROL POST
CPE	CHILDREN'S PLAY EQUIPMENT	OBH	OBSERVATION BOREHOLE	TCP	TELEPHONE CALL POST
Cpt	BUILDING CANOPY	OSBM	OS BENCH MARK	TF	TRAFFIC LIGHTS
Cpte	CARPETAN	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
Cr	CONCRETE RING	OSG	OVERGROUND GAS	TP	TELEGRAPH POLE
Cr	CAR PARK	OSL	OVERHEAD ELECTRIC	TVP	TELEVISION POLE (CCTV)
CW	CONCRETE WALL	OSP	OVERHEAD POWER	Tpl	TRIAL PIT
D	DATA	OSStruct	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
DC	DUCT COVER	OSTel	OVERHEAD TELECOM	TR	TRENCH
Dec	DECIDUOUS	Pmn	OVERHEAD MARKPOIN	UTA	UNABLE TO ACCESS
(dmp)	DILAPIDATED	PB	POST BOX	UTB	UNABLE TO BREAK
DP	DRAIN POINT	PC	PEDESTRIAN CAMERA	UTG	UNABLE TO GAIN
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PF	PIT DEPTH	VC	VERIFIED CLEAR
Dwf	DRAINAGE WELL	PH	PETROL HOSE	VP	VERIFIED PROTECTION PAD
Ea	EAVES LEVEL	PP	PETROL PUMP	W	VENT WELL
EC	ELECTRICITY COVER	PR	PEDESTRIAN REFUGE	WB	WATER BOARD
EOT	END OF TRACE (utility)	Pwt	PENSTOCK	WB	WEIGH BRIDGE
ER	ELECTRIC RISER	PY	PEDESTRIAN RAMP	WC	WATER COVER
Ert	EARTHED	Py	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	R	RODDING EYE	WM	WATER METER
ESW	ELECTRICITY SWITCH BOX	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
Fa	FACE OF BUILDING	RE	RAILWAY EMBANKMENT	WW	WOOD WORM FENCE
FL	FOOTBRIDGE	RG	RAIN GAUGE	WS	WHO SIGN POST
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FMP	FLOOD MONITOR LEVEL	RM	RAILWAY MONITORING Pnt		
Fop	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts

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Drg No: UAT3172_A	Sheet: 3 of 18

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Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees to be felled should be removed by a competent tree surgeon and roots should be grubbed out from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation including ground conditions, underground services, trees, levels, ecology, archaeology, etc. Sketch proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Dimensions and levels need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to RICS specification and in accordance with RICS publications:
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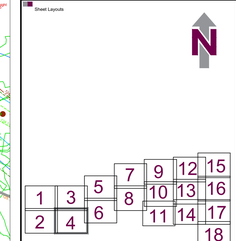
Standard Abbreviations

ACO	ACO CHANNEL CHANNEL	FW RP	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
AP	ACCESS POINT	FL	FLOOD LIGHT	RW	RAIN WATER PIPE
BB	BELLBOX/DUCT	G	GULLY	RWP	RECTANGULAR PIPE
BH	BOREHOLE	GF	GAS FLOAT FLOAT	SA	SAMPLE PIT
Bol	BOLLARD	GP	GAS/GAS VENT	SB	SIGN BOARD
BP	BOUNDARY POST	GPR	GROUND PROBING RADAR	SW	SHED SW
C Plug	BUOY PLUG	GV	GAS VALVE	Sk	SKYLIGHT
BS	BUS STOP	GV	GAS VALVE COVER	SL	SLOPE LEVEL
BS	BUS STOP	IC	INSPECTION COVER	SP	SERVICE POST
BT	BRITISH TELECOM COVER	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pin
Bwl	BRICK WALL	IR	IRON RAILING FENCE	SP	SIGN POST
BWP	BARBED WIRE FENCE	KO	KERB OUTLET	Spd Hump	SPEED HUMP
CA	CATCHPIT CHANNEL	KO	KERB OUTLET	SPR	SHARED PIPE
CA	CATHWAY CABLE	LG	LOCK GATE	SS	SHARED PIPE - SUPPLY TAP
CB	CONTROL BOX	LP	LAMP POST	ST	STAIRS
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pav	STONE PAVING SLABS
CF	CHAIN LINK FENCE	LS	LIGHTING SIGNAL (sign)	STP	STOP POST
CO	CHAMBER DEPTH	LP	LAMP POST	SVP	STAY POST
CP	CAST IRON	MH	MANHOLE	SW	STREAM
CP	CAST IRON	MH	MANHOLE	SW	STOP WIRE
CP	CONCRETE POST	MP	MARKER POST	TB	TOP OF BANK
CL	COVER LEVEL	MP	MARKER POST	TW	RETAINING WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Con	CONIFER	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MP	EXISTING MAST	Tbol	BOLLARD (Road Transport)
CP	CONCRETE POST	MP	MARKER POST	TCP	TELEPHONE CALL POST
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
CP	CATHODIC PROT EQUIPMENT	OB	OBSERVATION BOREHOLE	TL	TOP OF LEVEL
Cov	BUILDING CANOPY	OBM	OB BENCH MARK	TL	THRESHOLD LEVEL
Cpav	CARPARK	OHC	OVERHANGING CONDUIT	TL	TRAFFIC SIGNAL POST
CP	CONCRETE POST	OHC	OVERHEAD CONDUIT	TP	TELEGRAPH POLE
CP	CAR PARK	OHE	OVERHEAD ELECTRIC	TP	TELEPHONE POLE
CR	CONCRETE RAILING / ROCKER	OHE	OVERHEAD ELECTRIC	TP	TELEPHONE POLE
CW	CONCRETE WALL	OHStruct	OVERHEAD STRUCTURE	TP	TRIAL PIT
D	DOOR	OHW	OVERHEAD WIRES	TR	TREE
DC	DUCT COVER	OHW	OVERHEAD WIRE/PIPE	UTA	UNABLE TO ACCESS
DP	DRAINAGE POINT	P	PIPE	UTB	UNABLE TO BREACH
(dmp)	DILAPIDATED	PB	POST BOX	UTR	UNABLE TO RAISE
DP	DRAIN POINT	PC	PHOTOGRAPHIC CAMERA	UTT	UNABLE TO TRACE
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PIT	PIT DEPTH	VC	VITREOUS CLAY
DS	DOWN SPOUT	PL	PIPE LEVEL	VP	VENT PIPE / VENTILATION PAD
EL	EAVES LEVEL	PP	PETROL PUMP	VP	VENT PIPE
ELEC	ELECTRIC COVER	PR	PEDESTRIAN BARRIER	WB	WATER BOARD
ELEP	ENG OR TRACE (utility)	Pwk	PENSTOCK	WB	WEAK BRIDGE
EP	ELECTRIC POST	PY	PYLON	WC	WATER COURSE
ER	EARTH ROD	PY	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	RE	RODDING EYE	WM	WATER METER
ESW	ELECTRICITY SUPPLY WORK	Reg	REGISTER (ELEC)	WW	WIRE MESH FENCE
FC	FOOTBRIDGE CHANNEL	RL	RAIN GAUGE	WP	WOOD POST
FL	FOOTBRIDGE	RL	RAIN GAUGE	WS	WING SCR FENCE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FP	FLOOD PROTECTION	RP	REFLECTOR POST MONITORING Pin		
Fup	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



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Revision:	Amendments:	Date:	Name:
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CLIENT:
Novus

PROJECT:
Legacy

TITLE:
Topographical Survey

Drawn:	Checked:
SB	CA
Date:	Scale:
March 2023	1:200 @ A0
Dig No:	Sheet:
UAT3172_A	4 of 18

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Notes:

The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Statutory Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Where trees are to be retained, the adequacy of foundations to withstand root action should be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing and proposed trees. Where trees are to be removed, the effect of clay shrinkage on foundations should be investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Where trees are to be planted adjacent to buildings, a suitable method of foundation is to be provided to protect from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Proposals are preliminary and may be subject to change. Sketch proposals are indicative only & proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Proposals need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Underground services are plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

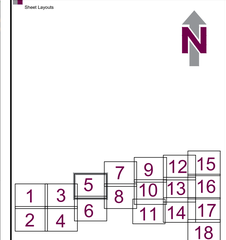
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition :

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%** success is normally achievable, but this figure will be reduced on lighter, less built up sites. **Depth is measured but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they incorporate a continuous metallic element, such as line end of ductile accuracy - it should be regarded only as an indication and cannot be guaranteed"**

Standard Abbreviations

ACO	ACO CHANNEL	CHANNEL	Flat RP	FLAT ROOF LEVEL	RG	ROAD SIGN
AV	AIR VALVE		FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
BH	BOREHOLE		FL	FLOOR LEVEL	RWP	RAIN WATER PIPE
BB	BELISHA BEACON		G	GULLY	RWP	WALL MOUNTED PIPE
BC	BOLLARD		GF	GAS FLOAT FLOAT	SB	SIGN BOARD
Bol	BOLLARD		GP	GUIDE POST	SB	SIGN BOARD
BP	BOLLARD POST		GPR	GROUND PROBING RADAR	SW	SHELTER
B Plug	BLOCK PLUG		GV	GAS VALVE	SL	SLOPE
BS	BUS STOP		GV	GAS VALVE COVER	SL	SLOPE LEVEL
BS	BUS STOP		IC	INSPECTION COVER	SM	SETTLEMENT MONITORING
BSW	BRICK SCREEN / SCREEN COVER		IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pin
BW	BRICK WALL		IS	IRON RAILING FENCE	SP	SPEED HUMP
BWP	BARBED WIRE FENCE		KO	KERB OUTLET	Spd Hump	SPEED HUMP
CA	CARRIAGEWAY CENTRE		LA	LOCAL AUTH	SPB	SHARED PATH
CA	CARRIAGEWAY LEVEL		LG	LOCK GATE	SP	SHARED PATH
CB	CATCH BASIN		LP	LAMP POST	ST	STOP SIGN
CB	CONTROL BOX		LOR	LOSS OF REFLECTION (gpr)	Stone Pvg	STONE PAVING SLABS
CF	CHAIN LINK FENCE		LP	LAMP POST (Traffic Light)	STP	STOP POST
CO	CHAMBER DEPTH		LP	LAMP POST	SPP	STAY POST
CP	CAST IRON		MH	MANHOLE	STW	STOPTAP
CP	CAST IRON		MH	MANHOLE	SW	STOPTAP
CP	CONCRETE POST		MP	MARKER POST	SW	STREAM
CL	COVER LEVEL		MP	MARKER POST	SW	STONE WALL
CL	CHAIN LINK FENCE		MP	MILE POST	Tac	TACTILE PAVING
CL	CABLE		MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE		MU	EXISTING MATCH	Tdup	BOLLARD (Dual Transport)
CP	CONCRETE POST		NP	NAME PLATE	TDP	TELEPHONE DUCT POST
CP	CATCHPIT		NP	NAME PLATE	TCP	TELEPHONE CALL POST
CP	CHILDREN'S PLAY EQUIPMENT		OBH	OBSERVATION BOREHOLE	TH	THRESHOLD
Cpy	BUILDING CANOPY		OBM	GB BENCH MARK	TH	THRESHOLD LEVEL
Cplan	CAPSTAN		OC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CP	CONCRETE POST		OC	OVERGROUND CONDUIT	TP	TELEGRAPH POLE
Cul	CULVERT		OE	OVERGROUND ELECTRIC	TP	TELEGRAPH POLE
CW	CONCRETE WALL		OE	OVERGROUND ELECTRIC	TP	TRIAL PIT
CW	CONCRETE WALL		OHBridge	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
DC	DUCT COVER		OHL	OVERHEAD LINE	TS	TRAFFIC SIGNAL
DC	DUCT COVER		OHL	OVERHEAD MARKERS	UTA	UNABLE TO ACCESS
Dilap	DILAPIDATED		PB	POST BOX	UTA	UNABLE TO ACCESS
Dilap	DILAPIDATED		PB	POST BOX	UTA	UNABLE TO ACCESS
DPC	DAMP PROOF COURSE		Pcg	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE
DS	DIRECTION SIGN		PD	PIT DEPTH	UC	UTRREFD (LEC)
DS	DIRECTION SIGN		PD	PIT DEPTH	UC	UTRREFD (TELECOM)
Ea	EARTH LEVEL		PF	PETROL FILLER	UP	VENT PIPE
EOT	END OF TRACE (elec)		PH	PEDESTRIAN REFUGE	VP	VENT PIPE
EOT	END OF TRACE (UtRn)		Pnk	PENSTOCK	WB	WATER BRIDGE
EP	ELECTRIC POST		PO	PIPE OUTLET (UN)	WB	WATER BRIDGE
Ea	EARTH LEVEL		PU	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST		Rdg	RIDGE LEVEL	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST		Rdg	RIDGE LEVEL	WMF	WATER MAIN FENCE
Ex	EXISTING VEHICLE CHARGING		RL	RAIN GAUGE	WP	WOOD POST
FC	FOOTBRIDGE		RL	RAIN GAUGE	WS	WIND SOCK POLE
FL	FLOOR LEVEL		RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FLM	FLOOD LEVEL MONITOR LEVEL		RM	REFERENCE MONITORING Pin		
Flgt	FLOOR LIGHT		RP	REFLECTOR POST		

Sheet Layouts



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THE SURVEY ASSOCIATION

CLIENT:
Novus

PROJECT:
Legacy

TITLE:
Topographical Survey

Drawn:	BB	Checked:	CA
Date:	March 2023	Scale:	1:200 @ A0
Dwg No:	UAT3172_A	Sheet:	5 of 18

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Notes:

1. This drawing and the building works depicted are the copyright of RPS and may not be reproduced or amended except by written permission. No liability will be accepted for amendments made by other persons.

The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at the connection to the existing foul sewer BEFORE any work is put in hand. All work is to be carried out to Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Where trees are to be retained, the soil conditions and foundation requirements should be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing trees, hedges and shrubs. Where trees are to be removed, the soil conditions should be investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees should be protected during construction works and adequate space should be allowed for growth from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Underground services are shown for guidance only. Site boundaries shown on sketch proposals may be based upon arrangements of OS sheets & visual estimations of existing site features. Boundaries will need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to Client specification and in accordance with RICS publication "GUIDANCE NOTES FOR SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Underground services have been plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

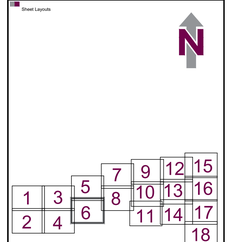
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%-80% success is normally achievable**, although this can be reduced to 50% or less in extreme cases but this figure will depend on the depth of the service below ground level. **Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they contain a continuous metallic element.** Depth is a source of doubtful accuracy - it should be regarded only as an indication and cannot be guaranteed"

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RF	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
AR	RECHARGE INLETS	FL	FLOOR LEVEL	RW	RAIN WATER PIPE
BB	BOREHOLE	G	GULLY	RWP	RAIN WATER PIPE
BH	BOREHOLE	GF	GAS RELIEF POINT	SA	SOIL AND VENT
Bol	BOLLARD	GP	GUIDE POST	SB	SOIL BOX
BP	BOUNDARY POST	GPR	GROUND PROBING RADAR	SW	SHELTER
BPump	BLOCK PAVING	GV	GAS VALVE	Sc	SCRUB
BS	BUS SHELTER	GV	GATE VALVE COVER	SL	SLOPE LEVEL
BT	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BTC	BRITISH TELECOM COVER	IL	INVERT LEVEL	SP	SOIL PIPE
BW	BRICK WALL	IR	IRON RAILING FENCE	Spr Head	SPRED HUMP
BWP	BARRED WIRE FENCE	KO	KERB OUTLET	SPR	SHARE AND POINT
CA	CATTLE GRID AND FENCE	LA	LOCAL AUTH.	SS	STAINLESS STEEL
CAT	CATHWAY LEVEL	LG	LOCK GATE	ST	STAIR
CB	CATCH BASIN	LP	LAMP POST	STAP	STAND PIPE - SUPPLY TAP
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pav	STONE PAVING SLABS
CF	CHAIN LINK FENCE	LS	LANDSCAPED AREA (soft)	STP	SEWAGE PUMP
CI	CHAMBER DEPTH	LP	LAMP POST	SVP	STAY POST
CL	CABLE	M	MANHOLE	SW	SOIL WASTE
CP	CAST IRON	MH	MANHOLE	SW	STATARE
CP	CONCRETE POST	MP	MARKER POST	SY	STONE YARD
CL	COVER LEVEL	MP	MARKER POST	SW	STONE WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Con	CONIFER	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MV	ELECTRIC MOTOR	TBM	BOLLARD (Post Tramp'd)
CP	CONCRETE PAVING	NP	NOTICE BOARD	TCP	TELEPHONE CALL POST
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpl	CONTROL PLAT EQUIPMENT	OBW	OVERHEAD BOUNDARY WIREA	TH	THRESHOLD
Cpy	BUILDING CANOPY	OSBM	OS BENCH MARK	TL	THRESHOLD LEVEL
Cptw	CARPTWA	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
Cr	CARRIAGEWAY	OSC	OVERGROUND CONDUIT	TP	TELEGRAPH POLE
Cr	CAR PARK	OSE	OVERHEAD ELECTRIC	TP	TELEPHONE POLE
CR	CONCRETE ROUGH	OSL	OVERHEAD LINE	TP	TRIAL PIT
CW	CONCRETE WALL	OSShad	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
D	DITCH	OSTel	OVERHEAD TELEPHONE	TR	TREE
DC	DUCT COVER	Pan	OVERHEAD WARNING PANEL	UTA	UNABLE TO ACCESS
Dec	DECIDUOUS	PB	POST BOX	UTB	UNABLE TO BURY
(dmp)	DILAPIDATED	PB	POST BOX	UTR	UNABLE TO RAISE
DP	DRAIN POINT	PC	PEDESTRIAN CAMERA	UTS	UNABLE TO SURVEY
DPC	DAMP PROOF COURSE	Pcg	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PD	PIT DEPTH	VC	VITREOUS CLAY
Dr	DRAINAGE	PF	PETROL FILLER	VP	VENTILATION PIPE
Ea	EAVES LEVEL	PF	PETROL PUMP	VP	VENT PIPE
EC	ELECTRICITY COVER	PG	PEDESTRIAN GATE	WB	WATER BOARD
EOT	END OF TRACE (utility)	Pnt	PENSTOCK	WB	WEIR BRIDGE
ER	EARTH ROD	PO	PIPE OUTLET (drg)	WC	WATER COURSE
ER	EARTHED	PV	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	Rag	RAGGLE LEVEL	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
Ex	EXCAVATION LEVEL	RE	RAILWAY ELECTRIC	WP	WOOD POST
F	FOOTBRIDGE	RG	RAIN GAUGE	WS	WIND SOCK POLE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FMP	FLOOD MONITORING LEVEL	RM	RAILWAY MONITORING Pnt		
Fog	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



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CLIENT:

Novus

PROJECT:

Legacy

TITLE:

Topographical Survey

Drawn:	SB	Checked:	CA
Date:	March 2023	Scale:	1:200 @ A0
Dig No:	UAT3172_A	Sheet:	6 of 18

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This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Any trees shown are indicative only. Ground conditions and foundation requirements should be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing trees, hedges and shrubs to be retained. Foundation depths and construction should be designed by a suitably qualified engineer. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees should be protected during construction works in accordance with BS5837 and be adequately clear from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Information regarding existing site features, levels & services is approximate only & sketch proposals may be based upon arrangements of GIS sheets & visual estimations of existing site features. Information should need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication "GUIDANCE NOTES FOR SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

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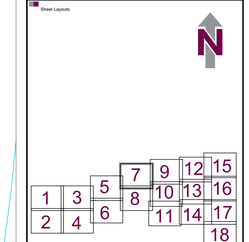
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%** success is normally achieved, although this can be significantly lower on some sites. **Depth is measured but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be dependent on the presence of a continuous metallic tracer wire, pipe marker tape and of ductile accuracy. It should be regarded only as an indication and cannot be guaranteed"**

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RF	FLAT ROOF LEVEL
AV	AIR VALVE	FH	FIRE HYDRANT
BH	BEGINNING HOUSE	FL	FLOOR LEVEL
BB	BOREHOLE	G	GULLY
BH	BOREHOLE	GF	GAS RELIEF FLOAT
Bol	BOLLARD	GP	GUIDE POST
BP	BOUNDARY POST	GPR	GROUND PROBING RADAR
C Pay	BUCKLE PAVING	GV	GAS VALVE
BS	BUS STOP	GV	GATE VALVE COVER
BS	BUS STOP	IC	INSPECTION COVER
BT	BRITISH TELECOM COVER	IC	INSPECTION COVER
BW	BRICK WALL	IR	IRON RAILING FENCE
BWF	BARBED WIRE FENCE	KO	KERB OUTLET
CA	CARRIAGEWAY CENTRE	LA	LOCAL AUTH
CA	CATWAY LEVEL	LG	LOCK GATE
CB	CONTROL BOX	LP	LAMP POST
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)
CF	CHAIN LINK FENCE	LP	LAMP POST (Electric Unit)
CI	CHAMBER DEPTH	LP	LAMP POST
CL	CABLE LOOP	MH	MANHOLE
CP	CAST IRON	MH	MANHOLE
CP	CONCRETE POST	MP	MARKER POST
CL	COVER LEVEL	MP	MARKER POST
CL	CHAIN LINK FENCE	MP	MILE POST
Con	CONIFER	MP	MILE POST
Conc	CONCRETE	MV	ELECTRIC METER
CP	CONCRETE PAVING	NP	NOTICE POST
CP	CATCHPIT	NP	NAME PLATE
Cpe	CONCRETE PLUP EQUIPMENT	OBH	OVERHEAD BOUNDARY WIEA
Cpe	BUILDING CANOPY	OBM	OB BENCH MARK
Cpw	CARPTOW	OGC	OVERGROUND CONDUIT
CP	CONCRETE POST	OGC	OVERGROUND CONDUIT
CP	CAST IRON	OHL	OVERHEAD ELECTRIC
CR	CONCRETE ROUGH	OHL	OVERHEAD LINE
CW	CONCRETE WALL	OHStruct	OVERHEAD STRUCTURE
D	DITCH	OP	OVERHEAD POWER
DI	DATT COVER	OWL	OVERHEAD WARNING
DP	DRAINAGE POINT	PB	POST BOX
(dmp)	DILAPIDATED	PB	POST BOX
DP	DRAIN POINT	PC	PEDESTRIAN CAMERA
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING
DS	DIRECTION SIGN	PF	PIT DEPTH
DS	DIRECTION SIGN	PF	PIT DEPTH
Dw	BARES LEVEL	PP	PETROL PUMP
EB	ELECTRICITY BOX/ER	PP	POWER POLE/STAYE
EOT	END OF TRACE (utility)	Pwt	PENSTOCH
ER	ELECTRIC RISER	PW	PUMPING WELL
ER	EARTHLED	PV	PYLON
ESP	ELECTRICITY SUPPLY POST	RE	RODDING EYE
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL
F	FLOOR LEVEL/FENCE CHANGE	RL	RAIL LEVEL
FL	FOOTBRIDGE	RL	RAIN GAUGE
FL	FLOOR LEVEL	RL	RIDGE LEVEL
FL	FLOOR LEVEL/FENCE LEVEL	RM	RADIO MONITORING Pro
Flig	FLOOR LIGHT	RP	REFLECTOR POST
RS	ROAD SIGN		
RSP	RAILWAY SIGNAL POST		
RWP	RAIN WATER PIPE		
RWP	RAIN WATER PIPE		
SB	SHED BOX		
SB	SHED BOX		
SL	SLOPE LEVEL		
SL	SLOPE LEVEL		
SMP	SETTLEMENT MONITORING Pro		
SP	SIGN POST		
Spl Hyd	SPEED HUMP		
SPR	SHARERLING POINT		
SPR	SHARERLING POINT		
SV	STOP VALVE		
SW	STOP PIPE / SUPPLY TAP		
SY	SYPHON		
Stone Pav	STONE PAVING SLABS		
SWP	SOIL WASTE PIPE		
SWP	STAY POST		
SWP	SOIL WASTE PIPE		
SW	STAYWIRE		
SW	STAYWIRE		
SW	STONE WALL		
Tac	TACTILE PAVING		
TBM	TEMPORARY BENCH MARK		
Tbol	BOLLARD (Road Transport)		
TCP	TRAFFIC CONTROL POST		
TCP	TELEPHONE CALL POST		
TH	THRESHOLD LEVEL		
TH	THRESHOLD LEVEL		
TL	TRAFFIC SIGNAL POST		
TP	TELEGRAPH POLE		
TP	TELEGRAPH POLE		
Tpl	TRIAL PIT		
TP	TRIAL PIT		
TR	TRENCH		
UTA	UNABLE TO ACCESS		
UTA	UNABLE TO ACCESS		
UTA	UNABLE TO RAISE		
UTA	UNABLE TO RAISE		
UTT	UNABLE TO TRACE (utilities)		
UC	UTRERCO (LLC)		
UC	UNDERGROUND DETECTION PAD		
VP	VENT PIPE		
WP	WATER POINT		
WB	WEIGH BRIDGE		
WB	WEIGH BRIDGE		
WL	WATER LEVEL		
WL	WATER LEVEL		
WMF	WIRE MESH FENCE		
WMF	WIRE MESH FENCE		
WS	WIND SOCK POLE		
WSR	WATER LEVEL SENSOR		

Sheet Layouts



Grid: Local Grid by GPS Observations to the OS Active Network (OSTN15)	Datum: Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision:	Amendments:	Date:	Name:
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THE SURVEY ASSOCIATION

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CLIENT: Novus

PROJECT: Legacy

TITLE: Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Dig No: UAT3172_A	Sheet: 7 of 18

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Notes:

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The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before any work is put in hand. The Contractor is to give all notices and comply with all Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Any indication of foundations is diagrammatic only. Ground conditions have not been investigated by the Surveyor. A suitable method of foundation should be provided, allowing for existing ground conditions, trees and their effect on shrinkable soils. Ground conditions should be investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees to be retained should be protected during the course of the development by barriers to prevent damage from damage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Sketch proposals should not be relied upon for the purposes of construction. Sketch proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Proposals will need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to RMS specification and in accordance with RICS publication, SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Underground services have been plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

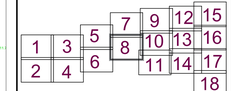
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 85%** success is normally achievable, but on more typical sites 60% success is the norm. **Success is assumed but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they contain a continuous metallic element, such as a pipeline end of ductile) accuracy - it should be regarded only as an indication and cannot be guaranteed"**

Standard Abbreviations

ACO	ACCESS CHANGE CHANNEL	Flat RP	FLAT ROOF LEVEL
Air	AIR VALVE	FH	FIRE HYDRANT
BH	BOREHOLE/PIT	FL	FLOOR LEVEL
BB	BUILDING	G	GULLY
BC	BOLLARD CAP	GF	GAS FLUE FLOAT
BH	BOREHOLE	GP	GUIDE POST
Bol	BOLLARD	GPR	GROUND PROBING RADAR
BP	BOLLARD POST	GV	GAS VALVE
B Plug	BLOCK PLUG	GC	GAS VALVE COVER
BS	BUS SHELTER	HL	HEDGE LINE
BS	BUS STOP	IC	INSPECTION COVER
BT	BRITISH TELECOM COVER	IL	INVERT LEVEL
BW	BRICK WALL	IR	IRON RAILING FENCE
BWF	BARBED WIRE FENCE	KO	KERB OUTLET
CA	CARRIAGEWAY CHANNEL	LA	LOCAL AUTH
CAT	CATHWAY LEVEL	LG	LOCK GATE
CB	CONTROL BOX	LP	LAMP POST
CF	CHAIN LINK FENCE	LOR	LOSS OF REFLECTION (gpr)
CH	CHIMNEY	LT	LIGHT TRAFFIC (with)
CO	CHAMBER DEPTH	LP	LAMP POST
CP	CONCRETE POST	MH	MANHOLE
CP	CAST IRON	MH	MANHOLE
CS	CONCRETE POINT	MP	MARKER POST
CL	COVER LEVEL	MP	MARKER POST
CL	CHAIN LINK FENCE	MP	MILE POST
Con	CONIFER	MP	MILE POST
Conc	CONCRETE	MU	EXISTING MOTOR
CP	CONCRETE POST	NP	EXISTING NOTE
CP	CATCHPIT	NP	NAME PLATE
CP	CHILDREN'S PLAY EQUIPMENT	OBH	OVERHEAD BOUNDARY WIDTH
Cpy	BUILDING CANOPY	OBM	OS BENCH MARK
Cpw	CARPORT	OGC	OVERGROUND CONDUIT
CT	CONCRETE TANK	OGC	OVERGROUND CONDUIT
CV	CAR PARK	OHE	OVERHEAD ELECTRIC
CW	CONCRETE WALL / RCUGH	OHE	OVERHEAD ELECTRIC
CW	CONCRETE WALL	OHStruct	OVERHEAD STRUCTURE
D	DRAIN	OHT	OVERHEAD TELECOM
DC	DUCT COVER	OHV	OVERHEAD VANPOPE
DC	DRAIN COVER	P	POST
(dmo)	DILAPIDATED	PB	POST BOX
DP	DOWN PIPE	PC	PHOTOGRAPHIC CAMERA
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING
DS	DIRECTION SIGN	PF	PIT DEPTH
Dwg	DRAWING NO.	PF	PIT FLOOR
Ele	EAVES LEVEL	PR	PETROL PUMP
EC	ELECTRICITY COVER	PS	PROTECTIVE POINTANCE
EOT	END OF TRACE (utility)	Pwk	PENSTOCK
EP	ELECTRIC POLE	PW	PIT WALL (IN)
ER	EARTH ROD	PV	PYLON
ESP	ELECTRICITY SUPPLY POST	R	RODDING POINT
ESW	ELECTRICITY SUPPLY BOX	Rdg	RIDGE LEVEL
Fe	FENCE/RAILING/KERB CHANGING	RL	RAIL LEVEL
Fo	FOOTBRIDGE	RS	RAIN GAUGE
FL	FLOOR LEVEL	RL	RIDGE LEVEL
FL	FLOOR LEVEL/FOR LEVEL	RM	RADIO MONITORING Pre
Flg	FLOOR LIGHT	RP	REFLECTOR POST
RSJ	RSAG SIGN		
RSP	RAILWAY SIGNAL POST		
RW	RETAINING WALL		
RWP	RAIN WATER PIPE		
S	SOIL		
SB	SOIL BOX		
SH	SHED		
SL	SLOPE		
SL	SLOPE LEVEL		
SMP	SETTLEMENT MONITORING Pre		
SP	SIGN POST		
Spt Hole	SPEED HUMP		
SPR	SHARE AND POINT		
SS	SOIL STACK PIPE		
ST	STAND PIPE / SUPPLY TAP		
Stat	STATION		
Stone Pvg	STONE PAVING SLABS		
SV	STOP VALVE		
SVP	STAY POINT		
SW	SOIL VENT		
SW	STATWIRE		
SW	SOIL WASTE		
SW	STONE WALL		
Tac	TACTILE PAVING		
TBM	TEMPORARY BENCH MARK		
TBol	BOLLARD (Dept Transport)		
TCP	TRAFFIC CONTROL POST		
TCP	TELEPHONE CALL POST		
TH	THRESHOLD LEVEL		
TH	THRESHOLD LEVEL		
TL	TRAFFIC SIGNAL POST		
TP	TELEPHONE POST		
TP	TELEPHONE PLATE		
TP	TRIAL PIT		
TP	TRIAL PIT		
UTA	UNABLE TO ACCESS		
UTA	UNABLE TO ACCESS		
UTA	UNABLE TO RAISE		
UTA	UNABLE TO RAISE		
UTT	UNABLE TO TRACE (utilities)		
UC	UTRIP/DUCT		
VP	VENTILATION PAD		
VP	VENT PIPE		
WB	WATER BOARD		
WB	WEIGH BRIDGE		
WC	WATER COURSE		
WL	WATER LEVEL		
WM	WATER METER		
WW	WIRE MESH FENCE		
WP	WOOD POST FENCE		
WS	WHO SIGN POLE		
WSR	WATER LEVEL SENSOR		

Sheet Layouts



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CLIENT:

Novus

PROJECT:

Legacy

TITLE:

Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Drg No: UAT3172_A	Sheet: 8 of 18

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The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Building Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Where trees are to be retained, the potential effect of the proposed development on their roots should be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing and proposed trees. Any foundation solution adjacent to trees should be designed by a structural engineer, in consultation with a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees to be felled should be carefully removed, including stumps and roots, to avoid damage to adjacent trees from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation including ground conditions, underground services, trees, ecology, archaeology and topography. Sketch proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Proposals will need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to RMS specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Utility services have been plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

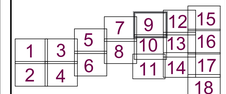
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. On Heavy, built up sites 65% accuracy is considered reasonable. Where services are simple and at shallow depth, 95% is achieved but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be dependent upon the presence of conductive tracer wire, materials used, and level of trouble. accuracy - it should be regarded only as an indication and cannot be guaranteed"

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RF	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
AP	ARCHAEOLOGICAL PIT	FL	FLOOR LEVEL	RT	RAIN WATER PIPE
BB	BOREHOLE	G	GULLY	RWP	RECTANGULAR PIPE
BH	BOREHOLE	GF	GAS BLAST FLOAT	SA	SAMPLE PIT
Bol	BOLLARD	GP	GUIDE POST	SB	SIGN BOARD
BP	BOUNDARY POST	GPR	GROUND PROBING RADAR	SW	SHED TOP
BPost	BLOCK PAVING	GV	GAS VALVE	Sk	SKYLIGHT
BR	BUS SHELTER	GV	GAS VALVE COVER	SL	SLOPE LEVEL
BS	BUS STOP	IC	INSPECTION COVER	SP	SOIL PIPE
BT	BRITISH TELECOM COVER	IL	INVERT LEVEL	SMP	SETTLEMENT MONITORING Pnt
BW	BRICK WALL	IW	IRON RAILING FENCE	SP	SPRINKLER
BWF	BARBED WIRE FENCE	KO	KERB OUTLET	Spd Hump	SPEED HUMP
CA	CONCRETE APRON	LA	LIGHTING COLUMN	SPR	SHARE AND POINT
CAP	CATHWAY CAP	LG	LOCK GATE	SPR	SHARE AND POINT
CB	CATCH BASIN	LH	LOCK HOUSE	ST	STAKE
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (grt)	Stone Pvg	STONE PAVING SLABS
CF	CHAIN LINK FENCE	LP	LAMP POST (with 1arm)	STP	STOP POST
CI	CHAMBER DEPTH	LP	LAMP POST	SVP	STAY POST
CL	CABLE TV	M	MANHOLE	SW	SOFT WORKS
CP	CAST IRON	MH	MANHOLE	SW	STATIONING
CP	CONCRETE POST	MP	MARKER POST	TA	TOP OF BANK
CL	COVER LEVEL	MP	MARKER POST	TH	RTAMI WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Conc	CONCRETE	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MU	ELECTRICITY METER	TBol	BOLLARD (Type Unspcfd)
CP	CATCHPIT	NP	NAME PLATE	TBR	BUS SHELTER (Type Unspcfd)
CP	CATCHPIT PLAY EQUIPMENT	NP	NATIONAL PARK BOUNDARY AREA	TCP	TELEPHONE CALL POST
Cpo	BUILDING CANOPY	OSBM	OS BENCH MARK	TD	TRENCH DRAIN
Cpw	CARPORT	OSC	OVERGROUND CONDUIT	TL	THRESHOLD LEVEL
Cpy	CARPARK	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CV	CAST IRON VALVE	OSE	OVERGROUND ELECTRIC	TP	TELEGRAPH POLE
CW	CONCRETE WALL	OSE	OVERGROUND ELECTRIC	TVP	TELEVISION POLE
CW	CONCRETE WALL	OSMast	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
D	DITCH	OSP	OVERGROUND PIPE	TR	TRENCH
DC	DUCT COVER	OWC	OVERHEAD WARNING	UTA	UNABLE TO ACCESS
DCP	DUCT COVER	P	POST	UTB	UNABLE TO ACCESS
(dmo)	DILAPIDATED	PB	POST BOX	UTB	UNABLE TO RAISE
DP	DRAIN POST	PC	PEDESTRIAN CAMERA	UTC	UNABLE TO TRACE
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PF	PIT DEPTH	VC	VERTICAL CLOCT
DW	DRAIN WELL	PF	PIT DEPTH	VP	VENT PIPE / SECTION PAD
Ea	EAVES LEVEL	PR	PETROL PUMP	VP	VENT PIPE
ECP	ELECTRICITY COVER	PS	PHOTOGRAPHIC SEQUENCE	WB	WATER BOARD
EOT	END OF TRACE (utility)	Pwk	PENSTOCK	WB	WELSH BRIDGE
ER	EARTH ROD	PY	PYLON	WC	WATER COVER
Ert	EARTHED	PY	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
Fb	FLOWER BED OR STAKE BED	RL	RAIN GAUGE	WP	WOODEN POST
Fc	FOOTBRIDGE	RL	RAIN GAUGE	WS	WELSH SLATE POLE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FM	FLOOR MONITORING LEVEL	RM	RAIL MONITORING Pnt		
Fig	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



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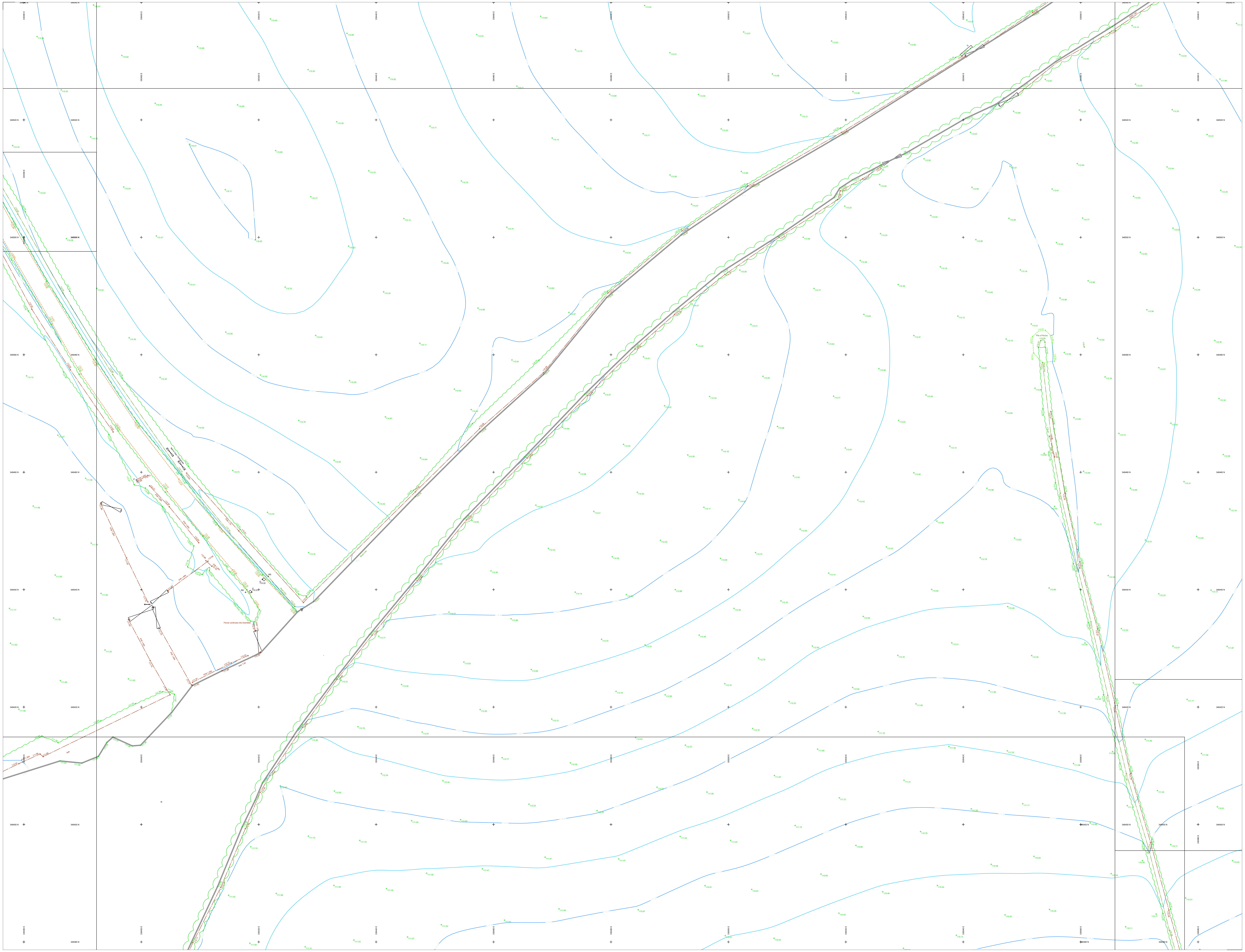

Notes:

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The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. The Contractor is to comply in all respects with current Building Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Each area of ground relied upon to support any structure depicted (including drainage) must be investigated by the Contractor. A suitable method of foundation should be provided allowing for existing ground conditions. Any suspect or fluid ground, contaminates on or within the ground, should be further investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. All trees are to be planted so as to ensure they are a minimum of 5 metres from buildings and 3 metres from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation including ground conditions/contaminants, drainage, design & planning/density negotiations. Sketch proposals may be based upon enlargements of OS sheets & visual estimations of existing site features, accuracy will therefore need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

This survey has been carried out using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

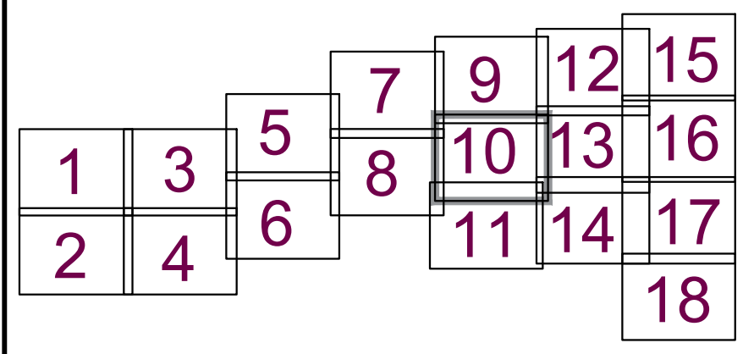
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition

"Electronic tracing is a reliable, method of locating buried services. ***On Heavy, built up sites 85% completeness is probably all that can be expected.*** *Plan accuracies of +/- 150mm may be achieved but this figure will depend on the depth of the service below ground level.* ***Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be limited.*** *Existing record information showing underground services is often incomplete and of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed"*

Standard Abbreviations

ACO	LINEAR DRAINAGE CHANNEL	Flat RF	FLAT ROOF LEVEL	RS	ROAD SIGN
AV	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
A/R	ASSUMED ROUTE	FS	FLAG STAFF	RW	RETAINING WALL
BB	BELISH BEACON	G	GULLY	RWP	RAN WATER PIPE
BdL	BED LEVEL	GIS	GAS INLET POINT	Sap	SAPLING
BH	BOREHOLE	GP	GUIDE POST	SB	SIGN BOARD
Bol	BOLLARD	GPR	GROUND PROBING RADAR	Shlt	SHELTER
BP	BOUNDARY POST	Grl	GRILLE COVER	Si	SPUN IRON
B Pvg	BLOCK PAVING	GV	GAS VALVE COVER	SL	SOFFIT LEVEL
BRck	BICYCLE RACK	Hrl	HAND RAIL	Slt	SILT LEVEL
BS	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BT	BRITISH TELECOM COVER	IL	INVERT LEVEL	SP	SIGN POST
BW	BRICK WALL	I/R	IRON RAILING FENCE	Spd Hump	SPEED HUMP
BWF	BARBED WIRE FENCE	KO	KERB OUTLET	SPt	SAMPLING POINT
CAP	CABLE WINDING MACHINE	Lby	LIFEBUOY	SS	STRUCTURE POINT
Cat	CATENARY LEVEL	Lck	LOCK GATE	ST	STAND PIPE / SUPPLY TAP
CATV	CABLE TV COVER	Ldr	LADDER	Sti	STILE
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pvg	STONE PAVING SLABS
C/B	CLOSE BOARDED FENCE	LOS	LOSS OF SIGNAL (eml)	STP	STAND PIPE
CD	CHAMBER DEPTH	LP	LAMP POST	StPO	STAY POST
Cgd	CATTLE GRID	Mcy	MACHINERY	Stu	STUMP
Ci	CAST IRON	MH	MANHOLE	StW	STAYWIRE
CIP	CABLE INLET POINT	MgP	MOORING POST	SV	STOP VALVE
CL	COVER LEVEL	Mkr	MARKER POST	SW	STONE WALL
C/L	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Col	COLUMN	MS	MILESTONE	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MU	ELECTRIC MOTOR	TBol	BOLLARD (Dept' Transport)
Conc Pvg	CONCRETE PAVING	NVP	NO VISIBLE PIPE	TCB	TELEPHONE CALL BOX
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpe	CHILDRENS PLAY EQUIPMENT	OSA	OUTSIDE SURVEY AREA	TEL	TELECOM COVER
Cpy	BUILDING CANOPY	OSBM	OS BENCH MARK	ThL	THRESHOLD LEVEL
Cpsn	CAPSTAN	OGC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CR	CRANE / HOIST	OHC	OVERHEAD CONDUIT	TM	TICKET MACHINE
Cul	CULVERT	OHE	OVERHEAD ELECTRIC	ToV	TOP OF VALVE LEVEL
Ct	CABLE TRAY/ TROUGH	OHG	OVERHEAD GANTRY	TP	TELEGRAPH POLE
CW	CONCRETE WALL	OHStruct	OVERHEAD STRUCTURE	Tpt	TRIAL PIT
Dav	Davit	OHT	OVERHEAD TELECOMS	Tr	TROUGH
DC	DUCT COVER	OHU	OVERHEAD UNKNOWN	UTA	UNABLE TO ACCESS
Di	DUCTILE IRON	P	POST	UTL	UNABLE TO LOCATE
(dilap)	DILAPIDATED	PB	POST BOX	UTR	UNABLE TO RAISE
(dis)	DISUSED	PC	SECURITY CAMERA	UTS	UNABLE TO SURVEY
DPC	DAMP PROOF COURSE	Pcg	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PD	PIT DEPTH	VC	VITRIFIED CLAY
DSW	DRYSTONE WALL	P/F	PANEL FENCE	VDP	VEHICLE DETECTION PAD
Eav	EAVES LEVEL	PP	PETROL PUMP	VP	VENT PIPE
EIC	ELECTRICITY COVER	P/R	POST & RAIL FENCE	VW	VALVE WHEEL
EOT	END OF TRACE (utility)	Psk	PENSTOCK	WB	WEIGH BRIDGE
EP	ELECTRICITY POLE	PV	VERTICAL PIPE	WG	WATER GAUGE
ER	EARTH ROD	Pyl	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POINT	PZ	PIEZOMETER	WM	WATER METER
ESW	ELECTRICITY SWITCH BOX	Rdg	RIDGE LEVEL	W/M	WIRE MESH FENCE
EVC	ELECTRIC VEHICLE CHARGING	RE	RODDING EYE	WO	WASHOUT COVER
FB	FOOTBRIDGE	RG	RAIN GAUGE	WS	WIND SOCK POLE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FFL	FINISHED FLOOR LEVEL	RMP	RESRVOIR MONITORING Pnt		
Flgt	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



Grid:
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by GPS Observations
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Revision:	Amendments:	Date:	Name:
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THE SURVEY ASSOCIATION
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CLIENT:
Novus

PROJECT:
Legacy

TITLE:
Topographical Survey

Drawn: SB
Checked: CA
Date: March 2023
Scale: 1:200 @ A0
Drg No: UAT3172_A
Sheet: 10 of 18

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Notes:

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The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Building Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Any indication of foundations is approximate only. Foundation details and ground conditions must be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing trees on site and proposed trees to be planted. Foundation design and construction should be carried out by a developer/ by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees should be protected during construction works in accordance with BS5837 and adequately protected from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Information regarding existing site levels, site features & site boundaries shown on sketch proposals may be based upon arrangements of OS sheets & visual estimations (if survey data unavailable). All boundaries need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Utility services have been plotted using a combination of observation and detection using electromicrasonic and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

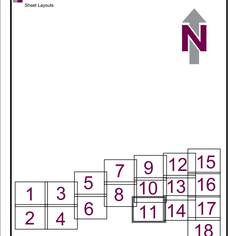
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%** accuracy is normally achievable, **but 95% is possible**. Accuracy is normally quoted as a percentage but this figure will depend on the depth of the service below ground level. **Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they incorporate a continuous metallic tracer wire.** Beware any end of bluville accuracy. It should be regarded only as an indication and cannot be guaranteed"

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RP	FLAT ROOF LEVEL	RG	RAIN WATER
AV	AIR VALVE	FP	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
BB	BOUNDARY BOX	FV	FLOOR VENT	RWP	RAIN WATER PIPE
BE	BEGINS/ENDS	G	GULLY	RWP	RECTANGULAR PIPE
BH	BOREHOLE	GF	GAS FLUE OUTLET POINT	SB	SOIL BOARD
Bol	BOLLARD	GPR	GROUND PROBING RADAR	SB	SOIL PIPE
BP	BOUNDARY POST	GV	GAS VALVE COVER	SL	SLOPE
BPlug	BLOCK PLUG	GV	GAS VALVE LEVEL	SL	SLOPE LEVEL
BS	BUS STOP	I	INSPECTION COVER	SM	SETTLEMENT MARKER
BS	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BT	BRITISH TELECOM COVER	K	KERB	SP	SOIL PIPE
BW	BRICK WALL	LB	IRON RAILING FENCE	Spd Hump	SPEED HUMP
BWP	BARBED WIRE FENCE	LC	KERB OUTLET	SPR	SHARD AND POINT
C	CATCHPIT/GULLY/SUMP	LG	LOCKABLE GATE	SS	STAINLESS STEEL
CAT	CATENARY CABLE	LG	LOCK GATE	ST	STAKE PIPE / SUPPLY TAP
CB	CATCH BASIN	LP	LAMP POST	ST	STUMP
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pav	STONE PAVING SLABS
CBF	CLOSE BOARDED FENCE	LP	LIGHTING COLUMN, (with	SV	STOP VALVE
CC	CHAMBER/PIT/?	LP	LAMP POST	SVP	STAY POST
CC	CONCRETE KERB	M	MANHOLE	SW	SOIL WASTE
CP	CAST IRON	MH	MANHOLE	SW	STATIONRE
CP	CONCRETE POST	MP	MARKER POST	SW	SOIL WASTE
CL	COVER LEVEL	MP	MARKER POST	SW	STONE WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Cnr	CORNER	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	NG	EXISTING MOTOR	TBM	BOLLARD (Post Tension)
COP	CONCRETE COPING	NP	NAME PLATE	TCP	TELEPHONE CALL POST
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
CPE	CHILDRENS PLAY EQUIPMENT	OB	OBSERVATION BOREHOLE	TL	TIMESWITCH LEVEL
Cpy	BUILDING CANOPY	OSBM	OS BENCH MARK	TL	TIMESWITCH LEVEL
Cplar	CARPORT	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CS	CONCRETE SETT	OSC	OVERGROUND CONDUIT	TP	TELEPHONE POST
CV	CAR PARK	OSE	OVERHEAD ELECTRIC	TP	TELEPHONE PILLAR
CW	CONCRETE WALL / ROUGH	OSE	OVERHEAD ELECTRIC	TP	TRIAL PIT
CW	CONCRETE WALL	OSStruct	OVERHEAD STRUCTURE	TP	TRIAL PIT
D	DRAIN	OT	OVERHEAD TELECOM	TV	TV POST
DC	DUCT COVER	OWL	OVERHEAD WARNING	UTA	UNABLE TO ACCESS
DCP	DRAINAGE CHAMBER	P	POST	UTA	UNABLE TO ACCESS
(dmo)	DILAPIDATED	PB	POST BOX	UTA	UNABLE TO RAISE
DP	DRAIN PIPE	PC	PEDESTRIAN CAMERA	UTA	UNABLE TO TRACE
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PIT	PIT DEPTH	UC	UTMOST/CLUCT
DS	DOWN SPOUT	PL	PIPE LEVEL	UCP	UNDERGROUND JUNCTION PAD
Dw	BARES LEVEL	PP	PETROL PUMP	V	VENT PIPE
E	EXISTING TO LOWER	PS	PEDESTRIAN REFUGE	VP	VENT PIPE
EOT	END OF TRACE (utility)	Pwk	PENSTOCK	WB	WATER BRIDGE
EP	ELECTRIC POLE	PY	PYLON	WC	WATER COURSE
ER	EARTHLED	PY	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	R	RODDING EYE	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
EW	EXISTING TO RAISE OR LOWER	RL	RAIL ROAD LEVEL	WP	WOOD POST FENCE
Ex	EXSTINGUISH	RL	RAIN GAUGE	WS	WIND SOCK POLE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FL	FLOOR LEVEL OR LEVEL	RM	RADAR MONITORING Pnt		
FLight	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



Grid:	Datum:
Local Grid by GPS Observations to the OS Active Network (OSTN15)	Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision:	Amendments:	Date:	Name:
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CLIENT:

Novus

PROJECT:

Legacy

TITLE:

Topographical Survey

Drawn:	Checked:
SB	CA
Date:	Scale:
March 2023	1:200 @ A0
Dtg No:	Sheet:
UAT3172_A	11 of 18

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Notes:

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   The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Statutory Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

   This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Where trees are to be retained, adequate foundations to avoid damage from root action must be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing and proposed trees. Where trees are to be removed, the soil conditions and foundations should be investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

   Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Adequate space should be provided for the trees to develop unrestricted by any proposed new works, apart from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

   Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Proposals are indicative only and may be subject to change. Sketch proposals are based on the proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Proposals will need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

   Survey carried out to client specification and in accordance with RICS publication:
   SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Underground services were plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

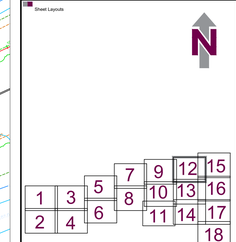
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65% success is considered reasonable, but on light, open sites 90% success may be achieved** but this figure will depend on the depth of the service below ground level. **Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be dependent upon the presence of existing marker tapes, tracer wires, access points and of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed"**

Standard Abbreviations

ACO	ACCESS CHANGE CHANNEL	Flat RF	FLAT ROOF LEVEL
AV	AIR VALVE	FO	FIRE HYDRANT
BB	BECOMES/BECOME	FP	FLOOD POINT
BH	BOREHOLE	G	GULLY
BOL	BOLLARD	GAP	GRAVELLED FLOAT
BP	BUSINESS POST	GPR	GROUND PROBING RADAR
Bpg	BLOCK PAVING	GV	GAS VALVE COVER
BS	BUS STOP	GV	GAS VALVE COVER
BS	BUS STOP	IC	INSPECTION COVER
BT	BRITISH TELECOM COVER	IL	INVERT LEVEL
BW	BRICK WALL	IW	IRON RAILING FENCE
BWF	BARBED WIRE FENCE	KO	KERB OUTLET
CA	CARRIAGEWAY CENTRE	LA	LOCAL AUTH
CAT	CATENARY CABLE	LG	LOGS GATE
CB	CATCH BASIN	LP	LAMP POST
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)
CBF	CLOSE BOARDED FENCE	LW	LOW RAILING (with)
CC	CHAMBER CENTRE	LP	LAMP POST
CH	CHIMNEY	MH	MANHOLE
CI	CAST IRON	MH	MANHOLE
CL	CHAIN LINK POINT	MMP	MARKER POST
CL	COVER LEVEL	MP	MARKER POST
CL	CHAIN LINK FENCE	MP	MILE POST
CO	CLEAN OUT	MP	MILE POST
Conc	CONCRETE	MU	EXISTING MATCH
COP	CATCHPIT	NP	NAME PLATE
CP	CATCHPIT	NP	NAME PLATE
Cpe	CHILDRENS PLAY EQUIPMENT	OBW	OVERHEAD BOUNDARY WIREA
Cpe	BUILDING CANOPY	OBW	OB BENCH MARK
Cptw	CAPSTAN	OGC	OVERGROUND CONDUIT
CR	CONCRETE	OGC	OVERGROUND CONDUIT
CS	CULVERT	OHE	OVERHEAD ELECTRIC
CSB	CONCRETE BLOCK / PICKUP	OHE	OVERHEAD ELECTRIC
CW	CONCRETE WALL	OHStruct	OVERHEAD STRUCTURE
D	DOOR	OL	OVERHEAD LINE
DC	DUCT COVER	OHW	OVERHEAD WARNING
DE	DRAINAGE EXIT	P	POST
(dmp)	DILAPIDATED	PB	POST BOX
DP	DOWN PIPE	PC	PHOTOGRAPH CAMERA
DPC	DAMP PROOF COURSE	Ped Cr	PEDESTRIAN CROSSING
DS	DIRECTION SIGN	PF	PIT DEPTH
DW	DRAINAGE WELL	PF	PIT DEPTH
Ea	EAVES LEVEL	PR	RETAIL POINT
EB	ELECTRICITY BOARD	Pva	PEDESTRIAN GUARDRAIL
EOT	END OF TRACE (utility)	Pve	PENSTOCK
ER	EARTHED ROD	PW	PUMPING STN
ER	EARTHED	PY	PYLON
ESP	ELECTRICITY SUPPLY POST	R	RODDING EYE
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL
EW	EARTHED WIRE(S) OVERHEAD	RL	RAIL LEVEL
Fe	FOOTBRIDGE	RL	RAIN GAUGE
FL	FLOOR LEVEL	RL	RIDGE LEVEL
FL	FLOOR LEVEL (GROUND LEVEL)	RM	RADIO MONITORING Pre
Flgt	FLOOR LIGHT	RP	REFLECTOR POST
RS	ROAD SIGN		
RSP	RAILWAY SIGNAL POST		
RW	RETAINING WALL		
RWP	RAIN WATER PIPE		
SB	SAND BOX		
SB	SHRUB		
SB	SOIL PIPE		
SC	SERVICE COVER		
SE	SOIL & VENT PIPE		
SMP	SETTLEMENT MONITORING Pro		
SP	SIGN POST		
Spd Hump	SPEED HUMP		
SPR	SHARED POST		
SPR	SHARED POST		
ST	STOP		
ST	STOPCOCK		
Stone Pvg	STONE PAVING SLABS		
SV	STOP VALVE		
SWC	STAY POST		
SW	STAY WIRE		
SW	STOPPING		
TB	TRAFFIC BOX		
TW	RETAINING WALL		
Tac	TACTILE PAVING		
TBM	TEMPORARY BENCH MARK		
TBM	BOLLARD (Dept Transport)		
TBM	TEMPORARY BENCH MARK		
TCP	TELEPHONE CALL POST		
TH	THRESHOLD LEVEL		
TH	THRESHOLD LEVEL		
Tpe	TRAFFIC SIGNAL POST		
TR	TRAFFIC LIGHTS		
TS	TELEPHONE PILLAR		
TW	TOP OF WALL LEVEL		
TW	TRIAL PIT		
TW	TRIAL PIT		
UTA	UNABLE TO ACCESS		
UTA	UNABLE TO ACCESS		
UTA	UNABLE TO RAISE		
UTA	UNABLE TO RAISE		
UTT	UNABLE TO TRACE (utilities)		
VC	VERGED CLEY		
VP	VENT PIPE		
WP	WATER POINT		
WB	WEIGH BRIDGE		
WL	WATER LEVEL		
WL	WATER LEVEL		
WM	WATER METER		
WWF	WIRE MESH FENCE		
WWF	WIRE MESH FENCE		
WS	WHEELWASH POST		
WSR	WATER LEVEL SENSOR		

Sheet Layouts



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CLIENT:

Novus

PROJECT:

Legacy

TITLE:

Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Org No: UAT3172_A	Sheet: 12 of 18

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Offset 10.00m

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Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Where new trees are to be planted, a suitable method of foundation is to be provided to accommodate the from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Information contained within this drawing is for the purpose of obtaining planning consent. Sketch proposals may be based upon arrangements of GIS sheets & visual estimations of existing site conditions. Information contained need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publications:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION

Utility Services Location Note:

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Excavations in the area should be carried out with care and in accordance with HSG 47 . No absolute guarantee of accuracy should be inferred from these plans.

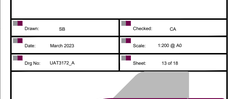
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition :

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%** success is normally achievable, **on Light, open sites 90%** success is normally achievable. **Depth is required but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless a separate continuous conductor is present.** Depth is the most **error and of doubtful** accuracy - *it should be regarded only as an indication and cannot be guaranteed*"

Standard Abbreviations

ACO	ACCESS CHANGE CHANNEL	Flat RP	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
BB	BEDDING BLOCK	FL	FLOOR LEVEL	RWP	RAIN WATER PIPE
BE	BOLLARD	G	GULLY	RWP	RECTANGULAR PIPE
Bol	BOLLARD LIGHT	GF	GAS FLOAT FLOAT	SB	SOIL BOARD
BS	BORHOLE	GP	GUIDE POST	SB	SIGN BOARD
Bur	BOLLARD	GPR	GROUND PROBING RADAR	Sil	SHELTER
BUS	BUS STOP POST	GV	GAS VALVE COVER	SL	SLOPE
BT Pay	BUCKA PAVING	GV	GATE VALVE COVER	SL	SLOPE LEVEL
BT	BUS STOP	IC	INSPECTION COVER	SM	SETTLEMENT MONITORING
BT	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pro
BW	BRICK WALL YELLOW COVER	IL	INVERT LEVEL	SP	SIGN POST
BW	BRICK WALL	IR	IRON RAILING FENCE	Spd Hump	SPEED HUMP
BWP	BARRIED WIRE FENCE	KO	KERB OUTLET	SPR	SHARE AND POINT
CA	CATCHPIT CHANNEL	LA	LOCAL AUTH	SS	SOIL STACK PIPE
CAT	CATENARY LEVEL	LG	LOCK GATE	ST	TRIGG PIPE - SUPPLY TAP
CB	CONTROL BOX	LP	LAMP POST	ST	STUMP
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pvg	STONE PAVING SLABS
CC	CHAMBER CENTRE	LP	LAMP POST (with 3ph)	SW	SOIL WASTE
CI	CHAMBER DEPTH	LP	LAMP POST	SWP	STAY POST
CL	CABLE LEVEL	M	MANHOLE	SWP	SOIL WASTE
CP	CAST IRON	MH	MANHOLE	SW	STATWIRE
CP	CONCRETE POST	MP	MARKER POST	SW	STAY WIRE
CL	COVER LEVEL	MP	MARKER POST	SW	STRAM WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Cnc	CONCRETE	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MU	EXISTING MARKER	TBM	BOLLARD (Dual Transport)
CP	CATCHPIT	NP	NAME PLATE	TBM	TEMPORARY BENCH MARK
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpe	CONCRETE PLAT EQUIPMENT	OBA	OBSERVATION ARCHERY AREA	TL	TRAFFIC LIGHTS
Cpt	BUILDING CANOPY	OSBM	OS BENCH MARK	TL	THRESHOLD LEVEL
Cpw	CARPORT	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CS	CONCRETE SLAB	OSC	OVERGROUND CABLE	TP	TELEGRAPH POLE
CV	CAST IRON	OVE	OVERHEAD ELECTRIC	TP	TELEPHONE PILLAR
CW	CONCRETE WALL PICKUP	OVE	OVERHEAD ELECTRIC	TP	TRIAL PIT
CW	CONCRETE WALL	OVBridge	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
D	DRAIN	OVC	OVERHEAD CABLE	TS	TRAFFIC
DC	DUCT COVER	PAV	OVERHEAD AWNPOWL	UTA	UNABLE TO ACCESS
DCP	DAMP PROOF COURSE	PB	POST BOX	UTB	UNABLE TO ACCESS
(dmp)	DILAPIDATED	PB	POST BOX	UTB	UNABLE TO RAISE
DP	DRAIN PIPE	PC	PEDESTRIAN CAMERA	UTC	UNABLE TO ACCESS
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PIT	PIT DEPTH	VC	VITREOUS CLAY
Dsh	DISH ANTENNA	PM	PEDESTAL MARK	VP	VENTILATION SHAFT PAD
Dw	BARES LEVEL	PR	RETAIL POMP	WF	VENT WIRE
E	EARTH WIRE POWER	PR	PROTECTIVE FENCE	WG	WATER GAUGE
EOT	END OF TRACE (utility)	Pve	PENSTOCK	WB	WEIR BRIDGE
EP	ELECTRIC POST	PV	PITCH PIPE (ph)	WL	WATER LEVEL
Ea	EARTHLED	PV	PITCOE	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	PW	PEDESTRIAN WAY	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
FC	FOOTPATH CHANNEL	RL	RAIL LEVEL	WP	WOOD POST
FL	FOOTBRIDGE	RL	RAIN GAUGE	WS	WIND SOCK POLE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FLM	FLOOR LEVEL MONITORING	RMP	RAMP MONITORING Pro		
Flig	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



Grid:	Datum:
Local Grid by GPS Observations to the OS Active Network (OSTN15)	Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision:	Amendments:	Date:	Name:
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A	ORIGINAL ISSUE	APR'23	DS

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Red Deer House, Dunston Business Village, Stafford Road, Dunston, Staffordshire, ST18 9AB

CLIENT:

Novus

PROJECT:

Legacy

TITLE:

Topographical Survey

Drawn:	SB	Checked:	CA
Date:	March 2023	Scale:	1:200 @ A0
Drg No:	UAT3172_A	Sheet:	13 of 18

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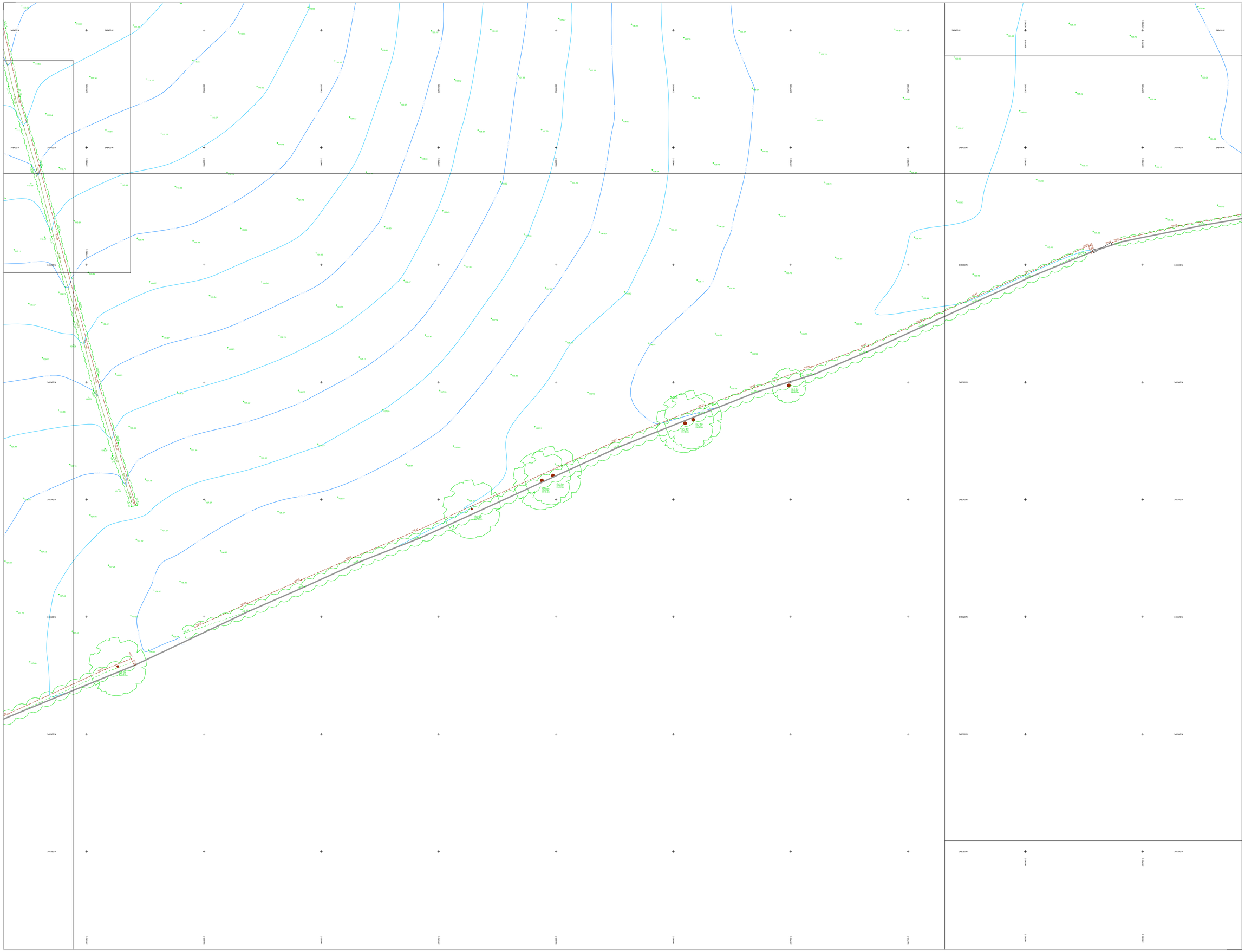
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Notes:

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The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Statutory Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Where trees are to be retained, the foundations for adjacent buildings and hard surfaces must be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing trees and their roots. Where trees are to be removed, the foundations for adjacent buildings must be investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees should be protected during construction works in accordance with BS5837 and adequately fenced from damage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Underground services are shown for guidance only. Sketch proposals are indicative only & such proposals may be based upon arrangements of GIS sheets & visual estimations of existing site conditions. Dimensions and levels need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Utility services have been plotted using a combination of observation and detection using electromication and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

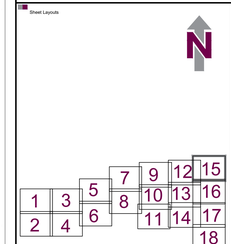
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition :

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%** success is considered reasonable. **On Open sites 90%** success is usually achieved. **Success is assumed but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless a separate continuous metallic tracer is available.** Maximum depth of detection and of doubtful accuracy : *It should be regarded only as an indication and cannot be guaranteed*"

Standard Abbreviations

ACO	ACCESS CHANNEL	FW RP	FLAT ROOF LEVEL	RG	RODD IRON
AV	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
BH	BOREHOLE/PITS	FL	FLOOR LEVEL	RWP	RAIN WATER PIPE
BB	BELISHA BEACON	G	GULLY	RWP	RECTANGULAR PIPE
BH	BOREHOLE	GF	GAS FLOAT FLOAT	RP	REFLECTOR POST
Bol	BOLLARD	GH	GUIDE HOST	SB	SIGN BOARD
Bol	BOLLARD	GPR	GROUND PROBING RADAR	SW	SHED TOP
BP Plug	BOUNDARY POST	GV	GAS VALVE	SL	SLOPE LEVEL
BP Plug	BUCKA PIVING	GV	GATE VALVE COVER	SL	SUPPLY LEVEL
BS	BUS STOP	HP	HANDRAIL POST	SL	SUPPLY LEVEL
BS	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BT	BRITISH TELECOM COVER	IL	INVERT LEVEL	SP	SIGN POST
BW	BRICK WALL	IW	IRON RAILING FENCE	Spd Hump	SPEED HUMP
BWF	BARBED WIRE FENCE	KO	KERB OUTLET	SPR	SHARE AN POINT
CA	CONCRETE APRON	LA	LOCAL AUTH	SS	SOIL VENT PIPE
CAT	CATENARY CABLE	LG	LOCK GATE	ST	STAKE
CB	CABLE BOX	LP	LAMP POST	ST	STUMP
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pav	STONE PAVING SLABS
CC	CONCRETE CHANNEL kerb	LS	LIGHTING COLUMN (with	SV	STOP VALVE
CC	CHAMBER DEPTH	LP	LAMP POST	SVP	STAK POST
CL	CABLE LINK	MH	MANHOLE	SW	SOIL VENT PIPE
CP	CAST IRON	MH	MANHOLE	SW	STATWIRE
CP	CONCRETE POST	MP	MARKER POST	SW	STOP VALVE
CL	COVER LEVEL	MP	MARKER POST	SW	STRAW WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Con	CONIFER	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MV	EXISTING MOTOR	TBM	BOLLARD (Rail Transport)
CP	CONCRETE POST	NP	NOTICE BOARD POST	TCP	TELEPHONE CALL POST
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpt	CONTROL PLANT EQUIPMENT	OBHW	OVERHEAD BOUNDARY WIRES	TH	THRESHOLD
Cpy	BUILDING CANOPY	OBM	OS BENCH MARK	TL	THRESHOLD LEVEL
Cpy	CARPORT	OHC	OVERHEAD CONDUIT	TL	TRAFFIC SIGNAL POST
CT	CONCRETE TANK	OHL	OVERHEAD LINES	TP	TELEGRAPH POLE
CT	CABLE TANK	OHL	OVERHEAD ELECTRIC	TP	TELEGRAPH POLE
CW	CONCRETE WALL / PICKUP	OHL	OVERHEAD LINES	TP	TELEPHONE POLE
CW	CONCRETE WALL	OHStruct	OVERHEAD STRUCTURE	Tpt	TRIAL PIT
D	DOOR	Pav	PAVING SLABS	TR	TRENCH
DC	DUCT COVER	PAV	OVERHEAD HARDPAN	UTA	UNABLE TO ACCESS
DP	DRAINAGE POINT	PB	PUSH BOX	UTB	UNABLE TO BASE
(dried)	DILAPIDATED	PB	POST BOX	UTR	UNABLE TO RAISE
DP	DRAIN PIPE	PC	PEDESTRIAN CAMERA	UTT	UNABLE TO TRACE
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PF	PIT DEPTH	VC	VITRIFIED CLAY
DW	DRAINAGE WELL	PF	PIT FLOOR	VC	VEHICLE DETECTION PAD
Ea	EAVES LEVEL	PR	PETROL PUMP	VP	VENT PIPE
EC	ELECTRICITY COVER	PS	PHOTOGRAPHIC STANCE	WB	WATER BOARD
EOT	END OF TRACE (utility)	Pwt	PENSTOCK	WB	WEIGH BRIDGE
ER	EARTH ROD	PY	PYLON (HV)	WC	WATER COURSE
ER	EARTHED	PY	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	R	RODDING EYE	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
EV	ELECTRICITY VEHICLE CHARGING	RE	RAILWAY ELECTRIC	WW	WOVEN WIRE FENCE
FL	FOOTBRIDGE	RL	RAIN GAUGE	WS	WHD SIGN POST
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FMP	FLOOD MONITORING LEVEL	RM	RAILWAY MONITORING Pnt		
Fig	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



Grid:
Local Grid by GPS Observations to the OS Active Network (OSTN15)

Datum:
Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision:	Amendments:	Date:	Name:
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Red Deer House, Dunston Business Village, Stafford Road, Dunston, Staffordshire, ST18 9AB

CLIENT:
Novus

PROJECT:
Legacy

TITLE:
Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Dig No: UAT3172_A	Sheet: 15 of 18

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Notes:

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The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Statutory Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Any indication of foundations shown is diagrammatic only. Ground conditions should be thoroughly investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing ground conditions, slopes, proximity of trees and any ground contaminants which should be thoroughly investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Particular attention should be given to the location of underground services and the effect of excavations on trees from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation before any detailed proposals are prepared. Any trees shown on the sketch proposals are indicative only & proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Proposals will need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION

Utility Services Location Note:

Underground services are located using a combination of observation and detection using electromicrostatic and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

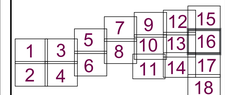
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition :

"Electronic tracing is a relative method of locating buried services. On Heavy, built up sites 85% accuracy is normally achievable, but on simple sites with few services 95% may be claimed but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they contain a continuous metallic element. Assumptions about size and of doubtful accuracy. It should be regarded only as an indication and cannot be guaranteed"

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RF	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
AP	ACCESS POINT	Fl	FLOOR LEVEL	RWP	RAIN WATER PIPE
BB	BED BENCHMARK	G	GULLY	RWP	RECTANGULAR PIPE
BH	BOREHOLE	GF	GAS RELIEF FLOAT	SB	SOIL BENCH
Bol	BOLLARD	GP	GUIDE POST	SB	SIGN BOARD
BP	BOUNDARY POST	GPR	GROUND PROBING RADAR	Shr	SHRUB
BPad	BLOCK PAVING	GV	GAS VALVE	Sk	SKYLIGHT
BS	BUS SHELTER	GV	GATE VALVE COVER	SL	SUPPLY LEVEL
BT	BUS STOP	IC	INSPECTION COVER	SP	SERVICE POINT
BW	BRICK WALL/ BELOW COVER	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BW	BRICK WALL	IG	IRON RAILING FENCE	SP	SIGN POST
BWF	BARBED WIRE FENCE	KO	KERB OUTLET	SPB	SHARED PATH
CA	CATCHPIT CHANNEL	LA	LOCAL AUTH.	SS	SOIL STACK PIPE
CA	CATHWAY LEVEL	LG	LOCK GATE	SS	STAND PIPE / SUPPLY TAP
CB	CATCHPIT	LP	LAMP POST	ST	STUMP
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pvg	STONE PAVING SLABS
CF	CHAIN LINK FENCE	LP	LIGHTING PILLAR, (with)	SW	STOP VALVE
CO	CHAMBER DEPTH	LP	LAMP POST	SWP	STAY POST
CP	CONCRETE POST	M	MANHOLE	SWP	SOIL WASTE PIPE
CP	CAST IRON	MH	MANHOLE	SYP	STAYPIPE
CP	CONCRETE POST	MP	MARKER POST	TB	TELEGRAPH BOX
CL	COVER LEVEL	MP	MARKER POST	TH	STONE WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Cnr	CORNER	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MV	EXISTING MOTOR	TBM	BOLLARD (Post Tramport)
COP	CONCRETE COPING	NP	NAME PLATE	TBM	TELEGRAPH POLE
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpt	CATCHPIT PLAT EQUIPMENT	OBS	OBSERVATION ENTRY AREA	TH	THRESHOLD
Cpy	BUILDING CANOPY	OSBM	OS BENCH MARK	TL	THRESHOLD LEVEL
Cpav	CARPORT	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CS	CONCRETE SETT	OSC	OVERGROUND CABLE	TP	TELEGRAPH POLE
CT	CABLE TV	OVE	OVERHEAD ELECTRIC	TP	TELEPHONE PILLAR
CW	CONCRETE WALL	OVP	OVERHEAD PIPELINE	TP	TRIAL PIT
CW	CONCRETE WALL	OWBridge	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
D	DUCT	Pav	PAVING SLABS	TV	TV POLE
DC	DUCT COVER	(Pav)	OVERHEAD HARDPAN	U/Ht	UNABLE TO ACCESS
(Dem)	DEMOLISHED	PB	POST BOX	U/Ht	UNABLE TO ACCESS
(Dis)	DISUSED	PB	PUSH BUTTON CAMERA	U/Ht	UNABLE TO ACCESS
DPC	DAMP PROOF COURSE	Pcg	PEDESTRIAN CROSSING	UTP	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PF	PIT DEPTH	UC	UTRIP/DUCT
Dwy	DRIVEWAY	PH	PETROL HOSE	UC	UTILITY JUNCTION PAD
Ea	EAVES LEVEL	PP	PETROL PUMP	VP	VENT PIPE
EC	ELECTRICITY COVER	PP	PEDESTRIAN REFUGE	WB	WATER BOARD
EOT	END OF TRACE (utility)	Pnt	PENSTOCK	WB	WEIR BRIDGE
ER	ELECTRIC RISER	PO	PULL OUT (BT)	WC	WATER COURSE
Ert	EARTHED	PU	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST	R	RODDING EYE	WM	WATER METER
ESP	ELECTRICITY SUPPLY BOX	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
EV	ELECTRIC VEHICLE CHARGING	RL	RAIL LEVEL	WP	WOOD POST
Fa	FASCIA/BOARD	RL	RAIN GAUGE	WS	WING SIDE POST
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FMP	FLOOD MONITORING PNT	RMP	RAIL MONITORING Pnt		
Flgt	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts



Grid:	Datum:
Local Grid by GPS Observations to the OS Active Network (OSTN15)	Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision:	Amendments:	Date:	Name:
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CLIENT:

Novus

PROJECT:

Legacy

TITLE:

Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Drg No: UAT3172_A	Sheet: 16 of 18

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Notes:

The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Statutory Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

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Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees should be protected during construction works by fencing or other suitable barriers to prevent harm from damage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Information regarding existing services, ducts, cables, pipes and other apparatus on which proposals may be based upon arrangements of OS sheets & visual estimations of existing site conditions. Such information need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

Survey carried out to client specification and in accordance with RICS publication:
SURVEYS OF LAND , BUILDING & UTILITY SERVICES AT SCALES 1:500 & LARGER, 3rd EDITION.

Utility Services Location Note:

Utility services have been plotted using a combination of observation and detection using electrolocation and ground probing radar equipment. Connections between reference points such as manholes are assumed to be straight unless bends are indicated. The accuracy is limited to the tolerances normally expected from the equipment used.

The following indications of completeness and accuracy are for guidance only:

In areas where there is a large concentration of services, the completeness will be between 80% and 90%. This will be reduced where there are obstructions at ground level.

Positional accuracy will vary with depth and pipe / duct material; an accuracy of +/- 150 mm is achievable in normal circumstances but this will be reduced for plastic pipes.

Existing information from historical plans is likely to be unreliable and is shown for guidance only.

Excavations in the area should be carried out with care and in accordance with HSG 47. No absolute guarantee of accuracy should be inferred from these plans.

The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition:

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%** success is considered reasonable. **On Open sites 90%** success should be achievable. **This is assessed but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless a separate continuous conductor is present.** Services shown 'end of bushes' accuracy - *it should be regarded only as an indication and cannot be guaranteed*"

Standard Abbreviations

ACO	ACCESS CHANNEL	Flat RP	FLAT ROOF LEVEL	RG	ROAD SIGN
Air	AIR VALVE	FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
AP	ACCESS POINT	Fl	FLOOR LEVEL	RWP	RAIN WATER PIPE
BB	BELISHA BEACON	G	GULLY	RWP	RECTANGULAR PIPE
BH	BOREHOLE	GF	GAS GUARD POST	SA	SIGN ARM
Bol	BOLLARD	GP	GAS VALVE	SB	SIGN BOARD
BP	BOUNDARY POST	GPR	GROUND PROBING RADAR	Shf	SHAFT
B Pag	BLOCK PAVING	GV	GAS VALVE COVER	Sk	SKYLIGHT
BS	BUS SHELTER	HC	HEDGE CUTTING	SL	SLOPE LEVEL
BT	BUS STOP	IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BTC	BRITISH TELECOM COVER	IL	INVERT LEVEL	Soil	SOIL VENT
BW	BRICK WALL	IW	IRON RAILING FENCE	Spd Hump	SPEED HUMP
BWF	BARBED WIRE FENCE	KO	KERB OUTLET	SPR	SHARED POST
CA	CONCRETE APRON/PAD	LA	LOCAL AUTHORITY	SS	SOIL STACK PIPE
CAT	CATENARY CABLE	LG	LOCK GATE	ST	STUMP
CB	CATCH BASIN	LP	LAMP POST	Stat	STATION
CB	CONTROL BOX	LOR	LOSS OF REFLECTION (gpr)	Stone Pav	STONE PAVING SLABS
CBF	CHAIN LINK/BOARD FENCE	LS	LANDSCAPED AREA (edit)	STP	STOP POST
CC	CHAMBER DEPTH	LP	LAMP POST	SVP	STAY POST
CF	CHAIN FENCE	MH	MANHOLE	SW	SOIL WASTE
CP	CAST IRON	MP	MANHOLE	SW	STATIONRE
CP	CONCRETE POST	MP	MARKER POST	TA	TOP OF ARM
CL	COVER LEVEL	MP	MARKER POST	TH	STONE WALL
CL	CHAIN LINK FENCE	MP	MILE POST	Tac	TACTILE PAVING
Con	CONIFER	MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE	MV	ELECTRIC MOTOR	TBW	BOLLARD (Rail Transport)
CP	CONCRETE PAVING	NP	NOTICE BOARD POST	TCP	TRAFFIC CONTROL POST
CP	CATCHPIT	NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpe	CONCRETE PLAY EQUIPMENT	OBW	OPEN BOARDED WEB	TD	TRAFFIC DETECTOR
Cpt	BUILDING CANOPY	OSBM	OS BENCH MARK	TH	THRESHOLD LEVEL
Cpte	CARPARK	OSC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
Cpt	CARPORT	OSC	OVERGROUND CABLE	TP	TELEGRAPH POLE
Cr	CAR PARK	OSE	OVERHEAD ELECTRIC	TP	TELEPHONE PILLAR
CW	CONCRETE WALL	OSL	OVERHEAD LINE	TP	TRIAL PIT
CW	CONCRETE WALL	OSStruct	OVERHEAD STRUCTURE	Tpl	TRIAL PIT
D	DITCH	OT	OVERHEAD TELEPHONE	TR	TREE
DC	DUCT COVER	Ove	OVERHEAD VARIATION	UTA	UNABLE TO ACCESS
DE	DRAINAGE EXIT	P	POST	UTB	UNABLE TO LOCATE
(dmp)	DILAPIDATED	PB	POST BOX	UTR	UNABLE TO RAISE
DP	DRAIN POINT	PC	PEDESTRIAN CAMERA	UTT	UNABLE TO TRACE
DPC	DAMP PROOF COURSE	Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN	PF	PIT DEPTH	VC	VERIFIED CLEAR
Dsh	DISH ANTENNA	PH	PETROL HOSE	VP	VENTILATION PIPE
Dw	BARES LEVEL	PH	PETROL PUMP	WF	VENT WELL
E	ELECTRICITY COVER	PM	PEDESTRIAN REFUGE	WB	WATER BOARD
EOT	END OF TRACE (utility)	Pnt	PENSTOCK	WB	WEIGH BRIDGE
ER	ELECTRIC RISER	PO	POLE MOUNTED	WC	WATER COURSE
Ew	EARTHED	PV	PITCH	WL	WATER LEVEL
EWP	ELECTRICITY SUPPLY POST	PW	PEDESTRIAN WAY	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST	Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
Fb	FLOWERBED / PLANTER	RL	RAIL CROSSING	WP	WOOD POST FENCE
Fb	FOOTBRIDGE	RL	RAIN GAUGE	WS	WIND SOCK POLE
FL	FLOOR LEVEL	RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FMP	FLOOD MONITORING LEVEL	RM	RADAR MONITORING Pnt		
Fog	FLOOR LIGHT	RP	REFLECTOR POST		

Sheet Layouts

GRID:
Local Grid by GPS Observations to the OS Active Network (OSTN15)

Datum:
Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision:	Amendments:	Date:	Name:
-	-	-	-
-	-	-	-
-	-	-	-
A	ORIGINAL ISSUE	APR'23	DS

MAKING COMPLEX EASY
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CLIENT:
Novus

PROJECT:
Legacy

TITLE:
Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Org No: UAT3172_A	Sheet: 17 of 18

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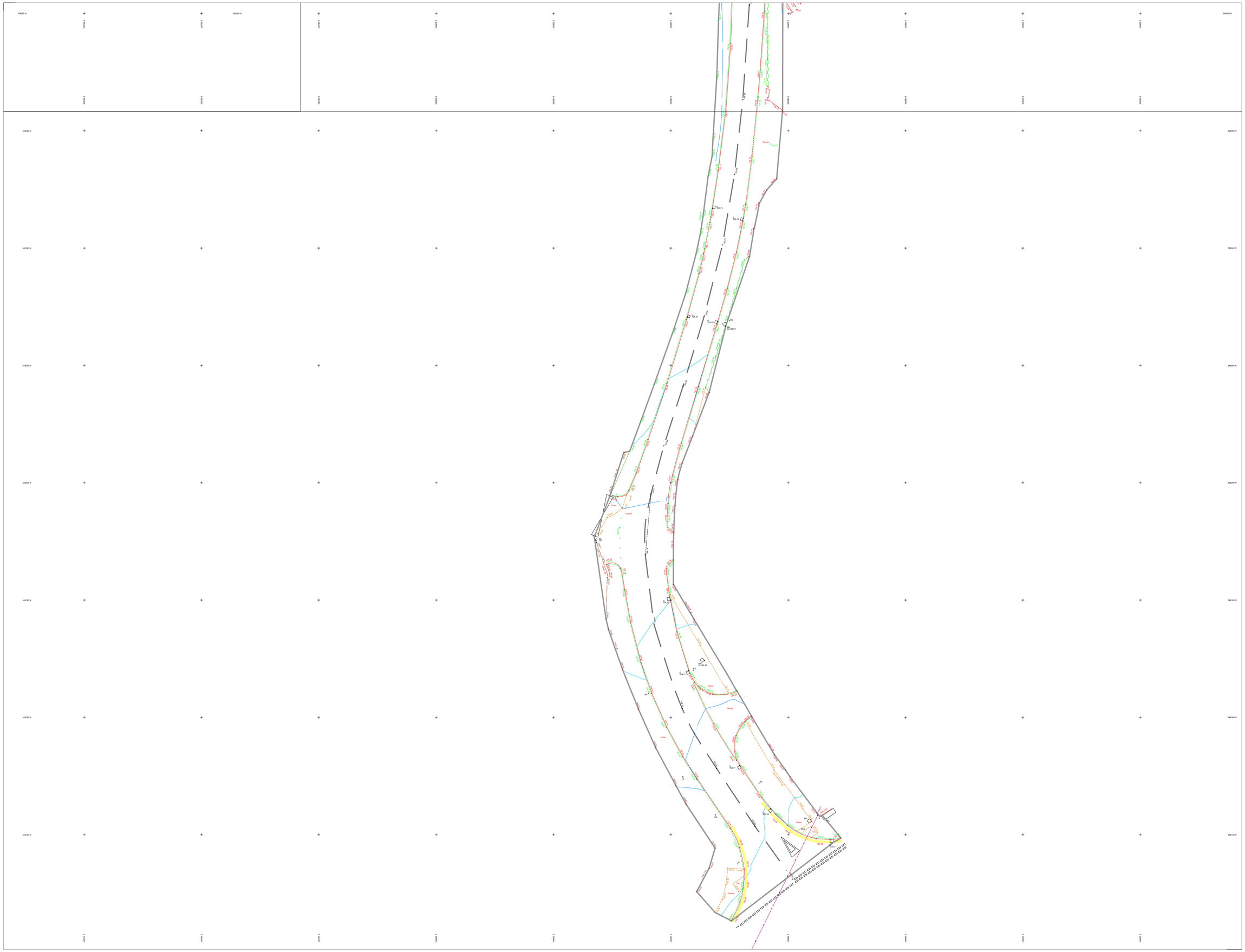

Notes:

This drawing and the building works depicted are the copyright of RPS and may not be reproduced or amended except by written permission. No liability will be accepted for amendments made by other persons.

The Contractor is to check and verify all building and site dimensions, levels and sewer invert levels at connection points before work starts. This drawing is to be read in conjunction with all relevant Building Legislation, British Standard Specifications, Building Regulations, Construction (Design & Management) Regulations, Party Wall Act, etc. whether or not specifically stated on this drawing. This drawing must be read with and checked against any structural, geotechnical or other specialist documentation provided.

This drawing is not intended to show details of foundations, ground conditions or ground contaminants. Any comments made regarding the nature of the ground conditions are indicative only and should be investigated by the Contractor. A suitable method of foundation should be provided, allowing for existing trees, hedges and ground conditions. Ground conditions and foundation depths should be investigated by a suitable expert. Any earthwork constructions shown indicate typical slopes for guidance only & should be further investigated by a suitable expert.

Where existing trees are to be retained they should be subject to a full Arboricultural inspection for safety. Trees to be felled should be carefully felled to avoid damage to retained trees and to avoid damage to or from drainage and services. A suitable method of foundation is to be provided to accommodate the proposed tree planting. All tree types are provided as a guide only and a full Arboricultural survey to be conducted to determine the exact tree types should be completed.

Sketch proposals are for illustrative purposes only & as such are subject to detailed site investigation and design. Information contained within this drawing is for Planning purposes only. Detailed design proposals may be based upon arrangements of Cpt. sheets & visual estimations of existing site conditions. Information should need to be verified by survey. Sketch proposals have not been considered in respect of CDM Regulations.

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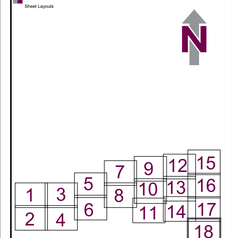
The following text is an extract from Surveys of Land, Buildings and Utility Surveys at scales of 1:500 and Larger, 3rd Edition :

"Electronic tracing is a relative method of locating buried services. **On Heavy, built up sites 65%** success is normally achievable, but this figure will be reduced on lighter, less built up sites. **Success will be good but this figure will depend on the depth of the service below ground level. Where similar services run in close proximity, separation may be impossible. Successful tracing of non-metallic pipes may be impossible unless they have been installed with a tracer wire.** Depth is normally within one of double accuracy - it should be regarded only as an indication and cannot be guaranteed"

Standard Abbreviations

ACO	ACO CHANNEL		Flat RP	FLAT ROOF LEVEL	RG	RODD SIGN
Air	AIR VALVE		FH	FIRE HYDRANT	RSP	RAILWAY SIGNAL POST
BH	RESISTANCE BOX		FL	FLOOR LEVEL	RWP	RAIN WATER PIPE
BB	BUILDING		G	GULLY	RWP	RECTANGULAR TYPE
BH	BOREHOLE		GF	GAS FLUE FLOAT	SB	SOIL BOARD
Bol	BOLLARD		GP	GUIDE POST	SB	SIGN BOARD
BP	BOUNDARY POST		GPR	GROUND PROBING RADAR	SW	SHED TOP
B Pag	BLOCK PAVING		GV	GAS VALVE	Sk	SKYLIGHT
BS	BUS STOP		GV	GATE VALVE COVER	SL	SLOPE LEVEL
BS	BUS STOP		IC	INSPECTION COVER	SP	SERVICE POST
BW	BRICK WALL/ WINDOW COVER		IC	INSPECTION COVER	SMP	SETTLEMENT MONITORING Pnt
BW	BRICK WALL		IG	IRON GRATING	SP	SERVICE POST
BWF	BARBED WIRE FENCE		IG	IRON RAILING FENCE	Spd Hump	SPEED HUMP
CA	CATCHPIT / GULLY/ GRATING		KO	KERB OUTLET	SPR	SHARPS POINT
CA	CATWAIST LEVEL		LA	LOCAL AUTH.	SS	SOIL STACK PIPE
CAB	CABLE BOX		LG	LOCK GATE	ST	STAIRS
CB	CONTROL BOX		LOR	LOSS OF REFLECTION (gpr)	Stone Pav	STONE PAVING SLABS
CF	CHAIN LINK FENCE		LP	LAMP POST (MAIN)	SV	STOP VALVE
CO	CHAMBER DEPTH		LP	LAMP POST	SVP	STAK PIPE
CP	CONCRETE POST		M	MANHOLE	SW	SOFFIT WIDTH
CP	CAST IRON		MH	MANHOLE	SW	STAYWIRE
CP	CONCRETE POST		MP	MARKER POST	SY	SIGN POST
CL	COVER LEVEL		MP	MARKER POST	SW	STONE WALL
CL	CHAIN LINK FENCE		MP	MILE POST	Tac	TACTILE PAVING
Conc	CONCRETE		MP	MILE POST	TBM	TEMPORARY BENCH MARK
Conc	CONCRETE		MU	EXISTING MARKER	TBW	BOLLARD (Rail Transport)
CP	CONCRETE POST		NP	NOTICE BOARD POST	TCP	TRAFFIC CONTROL POST
CP	CATCHPIT		NP	NAME PLATE	TCP	TELEPHONE CALL POST
Cpt	CONTROL PLANT EQUIPMENT		OBH	OVERHEAD BOOM ARCH	TL	TRAFFIC LIGHT
Cpt	BUILDING CANOPY		OBM	OB BENCH MARK	TL	THRESHOLD LEVEL
Cpw	CARPORT		OC	OVERGROUND CONDUIT	TL	TRAFFIC SIGNAL POST
CS	CONCRETE SETT		OG	OVERHEAD GANTRY	TP	TELEGRAPH POST
CT	CABLE TV		OHL	OVERHEAD ELECTRIC	TP	TELEPHONE PILLAR
CW	CONCRETE RAILING / ROCKERY		OHL	OVERHEAD LINE	TP	TRIAL PIT
CW	CONCRETE WALL		OHStruct	OVERHEAD STRUCTURE	TP	TRIAL PIT
D	DOOR		OP	OVERHEAD POWER	TR	TREE
DC	DUCT COVER		OPen	OVERHEAD OPENPOWL	UTA	UNABLE TO ACCESS
DC	DUCT COVER		P	POST	UTB	UNABLE TO BURROW
(dmo)	DILAPIDATED		PB	POST BOX	UTR	UNABLE TO RAISE
DP	DOOR PIPE		PC	PEDESTRIAN CAMERA	UTT	UNABLE TO TRACE
DPC	DAMP PROOF COURSE		Ped	PEDESTRIAN CROSSING	UTT	UNABLE TO TRACE (utilities)
DS	DIRECTION SIGN		PIT	PIT DEPTH	VC	VITREOUS CLAY
Dw	DRAINAGE WELL		PM	PEDESTRIAN	VC	VENTILATION SHAFT
Ea	EAVES LEVEL		PP	PETROL PUMP	VP	VENT PIPE
EB	ELECTRICITY BOX		PP	PHOTOGRAPHIC CONTROL	WB	WATER BOARD
EOT	END OF TRACE (utility)		Pwr	PENSTOCK	WB	WILLIAM BRIDGE
ER	EARTH ROD		PY	PYLON (TEL)	WC	WATER COCK
ER	EARTHED		PY	PYLON	WL	WATER LEVEL
ESP	ELECTRICITY SUPPLY POST		R	RODDING EYE	WM	WATER METER
ESP	ELECTRICITY SUPPLY POST		Rdg	RIDGE LEVEL	WW	WIRE MESH FENCE
EV	ELECTRICITY VEHICLE CHARGING		RL	RAIL LEVEL	WW	WROUGHT IRON
Fb	FOOTBRIDGE		RL	RAIN GAUGE	WS	WHEELWASH POST
FL	FLOOR LEVEL		RL	RIDGE LEVEL	WSR	WATER LEVEL SENSOR
FLM	FLOOR LEVEL MONITORING Pnt		RM	RESISTANCE MONITORING Pnt		
Flig	FLOOR LIGHT		RP	REFLECTOR POST		

Sheet Layouts



Grid: Local Grid by GPS Observations to the OS Active Network (OSTN15)

Datum: Ordnance Datum by GPS Observations to the OS Active Network (OSGM15)

Revision:	Amendments:	Date:	Name:
-	-	-	-
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A	ORIGINAL ISSUE	APR'23	DS

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Red Deer House, Dunston Business Village, Stafford Road, Dunston, Staffordshire, ST18 9AB

CLIENT: Novus

PROJECT: Legacy

TITLE: Topographical Survey

Drawn: SB	Checked: CA
Date: March 2023	Scale: 1:200 @ A0
Org No: UAT3172_A	Sheet: 18 of 18

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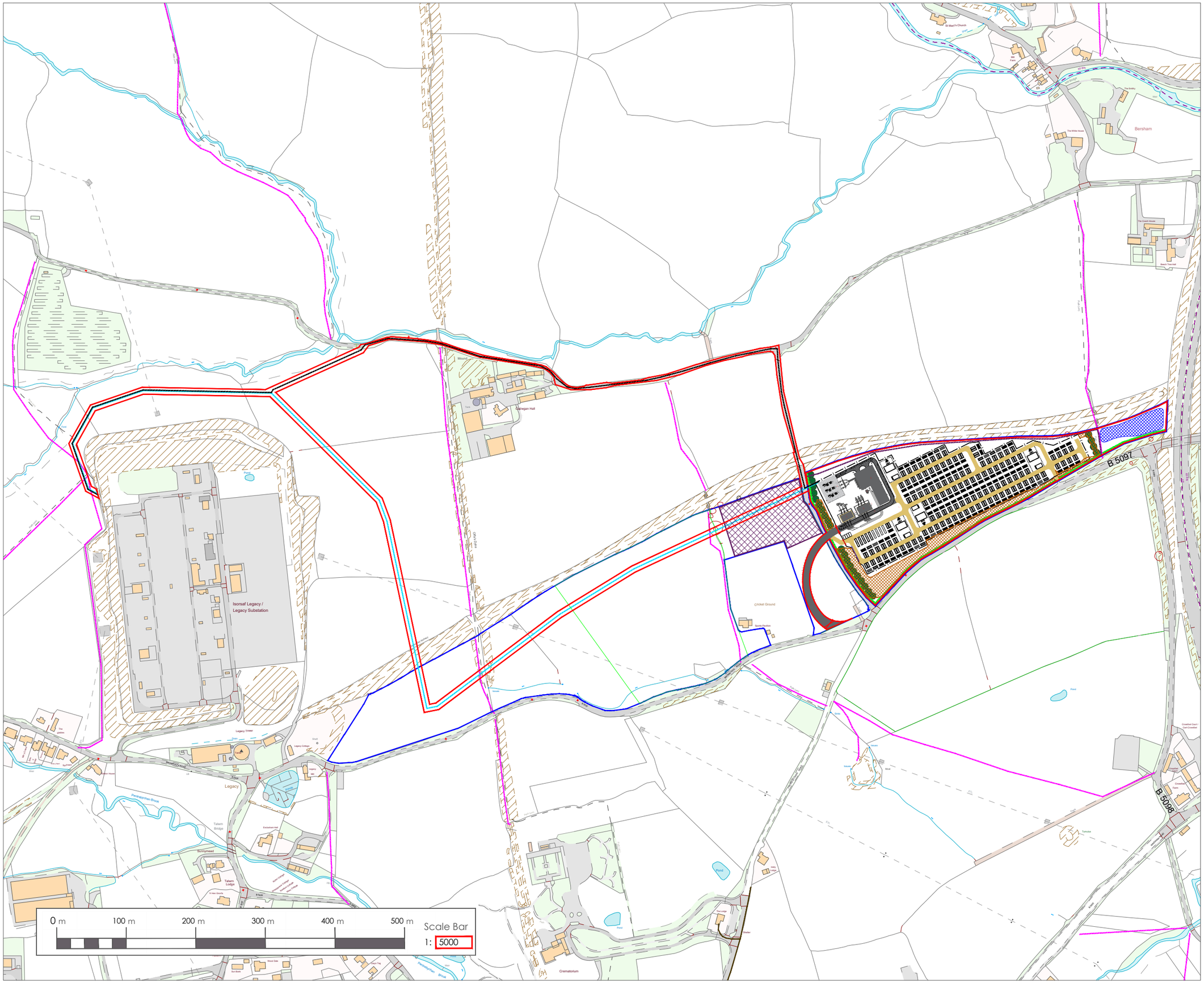
B Development Plans



KEY:

- Development Boundary
- Landlord's Property
- Cable Route A
- Cable Route B
- MV Skid
- Energy Storage Container
- 400kV Substation
- 33kV Bay
- Access Track
- Access Road
- PRoW
- Permissive Footpath
- Bund
- Attenuation Basin
- Construction Compound
- Biodiversity Net Gain
- 10m Wide Woodland Structure
- Hedgerow Enhancement
- Fenceline
- Access Gate
- WATER — Water Container
- STORAGE — Storage Container
- OFFICE — Office Container
- Parking Spaces

innova

DATE:	31/10/2023
PROJECT TITLE:	Legacy
DRAWING TITLE:	Layout Plan
DRAWING VERSION NUMBER:	L11
SCALE:	1:5000
PAGE SIZE:	A3
DRAWN BY:	DD
APPROVED BY:	WG

C Extract of Utilities Search Report

CORNERSTONE PROJECTS LTD

Utilities Search Report

Thursday, 25 Aug 2022

Penny Brierley Ltd T/A X-Press

489507 IAP

LAND AT BRONWYLFA ROAD

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www.cornerstoneprojects.co.uk
VAT Reg. No. 851 4941 19
Company No. 5132353

CONTENTS

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Company No. 5132353

Plas Buckley
Tank
GP
Pandy Cottage
Path (um)
Path (um)
Beechwood Farm
Avon Lea
Windy Ridge
Narrwood
Path (um)
Track
Path (um)
Track
Path (um)
Path
Isorsaf Legacy /
Legacy Substation
GP
Home Farm
The Stables
Bramley House
Three Chimneys
The Stables
Min y Coed
Syn Nant
Rhiwwood
Dnis y Nant
Sychnant
Legacy Tower
Tanks
Legacy Cottage
Legacy
Path (um)
0m
100m
200m
300m

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Data updated: 14/07/22

Scale: 1:1250
Map Centre: 329366,348885
Date: 22/07/22
Our Ref: 907971 - 13
Clean Water Plan A0
Powered by digdat

Hydrant
Washout
Meter
Valve
Water Main
Abandoned Pipe
Aqueduct
Duct
Service Pipe/ Private Pipe

duncan@cornerstoneprojects.co.uk

489507

HAFREN DYFRDWY severn dee

GENERAL CONDITIONS AND PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK ADJACENT TO SEVERN TRENT WATER'S APPARATUS

Please ensure that a copy of these conditions is passed to your representative and/or your contractor on site. If any damage is caused to Hafren Dyfrdwy (HD) apparatus (defined below), the person, contractor or subcontractor responsible must inform HD immediately on: **0800 085 8033 (24 hours)**

a) These general conditions and precautions apply to the public sewerage, water distribution and cables in ducts including (but not limited to) sewers which are the subject of an Agreement under Section 104 of the Water Industry Act 1991(a legal agreement between a developer and HD, where a developer agrees to build sewers to an agreed standard, which HD will then adopt); mains installed in accordance with an agreement for the self-construction of water mains entered into with HD and the assets described at condition b) of these general conditions and precautions. Such apparatus is referred to as "HD Apparatus" in these general conditions and precautions.

b) Please be aware that due to The Private Sewers Transfer Regulations June 2011, the number of public sewers has increased, but many of these are not shown on the public sewer record. However, some idea of their positions may be obtained from the position of inspection covers and their existence must be anticipated.

c) On request, STW will issue a copy of the plan showing the approximate locations of HD Apparatus although in certain instances a charge will be made. The position of private drains, private sewers and water service pipes to properties are not normally shown but their presence must be anticipated. This plan and the information supplied with it is furnished as a general guide only and HD does not guarantee its accuracy.

d) STW does not update these plans on a regular basis. Therefore the position and depth of HD Apparatus may change and this plan is issued subject to any such change. Before any works are carried out, you should confirm whether any changes to the plan have been made since it was issued.

e) The plan must not be relied upon in the event of excavations or other works in the vicinity of HD Apparatus. It is your responsibility to ascertain the precise location of any HD Apparatus prior to undertaking any development or other works (including but not limited to excavations).

f) No person or company shall be relieved from liability for loss and/or damage caused to HD Apparatus by reason of the actual position and/or depths of HD Apparatus being different from those shown on the plan.

In order to achieve safe working conditions adjacent to any HD Apparatus the following should be observed:

1. All HD Apparatus should be located by hand digging prior to the use of mechanical excavators.

2. All information set out in any plans received from us, or given by our staff at the site of the works, about the position and depth of the mains, is approximate. Every possible precaution should be taken to avoid damage to HD Apparatus. You or your contractor must ensure the safety of HD Apparatus and will be responsible for the cost of repairing any loss and/or damage caused (including without limitation replacement parts).

3. Water mains are normally laid at a depth of 900mm. No records are kept of customer service pipes which are normally laid at a depth of 750mm; but some idea of their positions may be obtained from the position of stop tap covers and their existence must be anticipated.

4. During construction work, where heavy plant will cross the line of HD Apparatus, specific crossing points must be agreed with HD and suitably reinforced where required. These crossing points should be clearly marked and crossing of the line of HD Apparatus at other locations must be prevented.

5. Where it is proposed to carry out piling or boring within 20 metres of any HD Apparatus, HD should be consulted to enable any affected HD Apparatus to be surveyed prior to the works commencing.

6. Where excavation of trenches adjacent to any HD Apparatus affects its support, the HD Apparatus must be supported to the satisfaction of HD. Water mains and some sewers are pressurised and can fail if excavation removes support to thrust blocks to bends and other fittings.

7. Where a trench is excavated crossing or parallel to the line of any HD Apparatus, the backfill should be adequately compacted to prevent any settlement which could subsequently cause damage to the HD Apparatus. In special cases, it may be necessary to provide permanent support to HD Apparatus which has been exposed over a length of the excavation before backfilling and reinstatement is carried out. There should be no concrete backfill in contact with the HD Apparatus.

8. No other apparatus should be laid along the line of HD Apparatus irrespective of clearance. Above ground apparatus must not be located within a minimum of 3 metres either side of the centre line of HD Apparatus for smaller sized pipes and 6 metres either side for larger sized pipes without prior approval. No manhole or chamber shall be built over or around any HD Apparatus.

9. A minimum radial clearance of 300 millimetres should be allowed between any plant or equipment being installed and existing HD Apparatus. We reserve the right to increase this distance where strategic assets are affected.

10. Where any HD Apparatus coated with a special wrapping is damaged, even to a minor extent, HD must be notified and the trench left open until the damage has been inspected and the necessary repairs have been carried out. In the case of any material damage to any HD Apparatus causing leakage, weakening of the mechanical strength of the pipe or corrosion-protection damage, the necessary remedial work will be recharged to you.

11. It may be necessary to adjust the finished level of any surface boxes which may fall within your proposed construction. Please ensure that these are not damaged, buried or otherwise rendered inaccessible as a result of the works and that all stop taps, valves, hydrants, etc. remain accessible and operable. Minor reduction in existing levels may result in conflict with HD Apparatus such as valve spindles or tops of hydrants housed under the surface boxes. Checks should be made during site investigations to ascertain the level of such HD Apparatus in order to determine any necessary alterations in advance of the works.

12. With regard to any proposed resurfacing works, you are required to contact HD on the number given above to arrange a site inspection to establish the condition of any HD Apparatus in the nature of surface boxes or manhole covers and frames affected by the works. HD will then advise on any measures to be taken, in the event of this a proportionate charge will be made.

13. You are advised that HD will not agree to either the erection of posts, directly over or within 1.0 metre of valves and hydrants,

14. No explosives are to be used in the vicinity of any HD Apparatus without prior consultation with HD.

TREE PLANTING RESTRICTIONS

There are many problems with the location of trees adjacent to sewers, water mains and other HD Apparatus and these can lead to the loss of trees and hence amenity to the area which many people may have become used to. It is best if the problem is not created in the first place. Set out below are the recommendations for tree planting in close proximity to public sewers, water mains and other HD Apparatus.

15. Please ensure that, in relation to HD Apparatus, the mature root systems and canopies of any tree planted do not and will not encroach within the recommended distances specified in the notes below.

16. Both Poplar and Willow trees have extensive root systems and should not be planted within 12 metres of a sewer, water main or other HD Apparatus.

17. The following trees and those of similar size, be they deciduous or evergreen, should not be planted within 6 metres of a sewer, water main or other HD Apparatus. E.g. Ash, Beech, Birch, most Conifers, Elm, Horse Chestnut, Lime, Oak, Sycamore, Apple and Pear. Asset Protection Statements Updated May 2014

18. HD personnel require a clear path to conduct surveys etc. No shrubs or bushes should be planted within 2 metre of the centre line of a sewer, water main or other HD Apparatus.

19. In certain circumstances, both HD and landowners may wish to plant shrubs/bushes in close proximity to a sewer, water main of other HD Apparatus for screening purposes. The following are shallow rooting and are suitable for this purpose: Blackthorn, Broom, Cotoneaster, Elder, Hazel, Laurel, Privet, Quickthorn, Snowberry, and most ornamental flowering shrubs.

Path (um)
Bersham Lodge
Track
Path (um)
Track
Bersham Bank
St Mary's Church
Mill Farm
Mill Terrace
The Smithy
The White House
The
Path (um)
Track
Cadwgan Hall
Path (um)
B 5097
Path (um)
Sports Pavilion
GP
BRONWYLFA ROAD
Path (um)
Track
B 5097
MW ROAD
0m
100m
200m
300m

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Data updated: 14/07/22

Scale: 1:1250
Map Centre: 330300,348882
Date: 22/07/22
Our Ref: 907971 - 4
Clean Water Plan A0
Powered by digdat

Hydrant
Washout
Meter
Valve
Water Main
Abandoned Pipe
Aqueduct
Duct
Service Pipe/ Private Pipe

duncan@cornerstoneprojects.co.uk

489507 2

HAFREN DYFRDWY severn dee

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Date: 09/08/22 | Scale: 1:1250 | Map Centre: 330301,347974 | Data updated: 14/07/22 | Our Ref: 922181 - 2 | Clean Water Plan A0

Hydrant | Valve | Aqueduct
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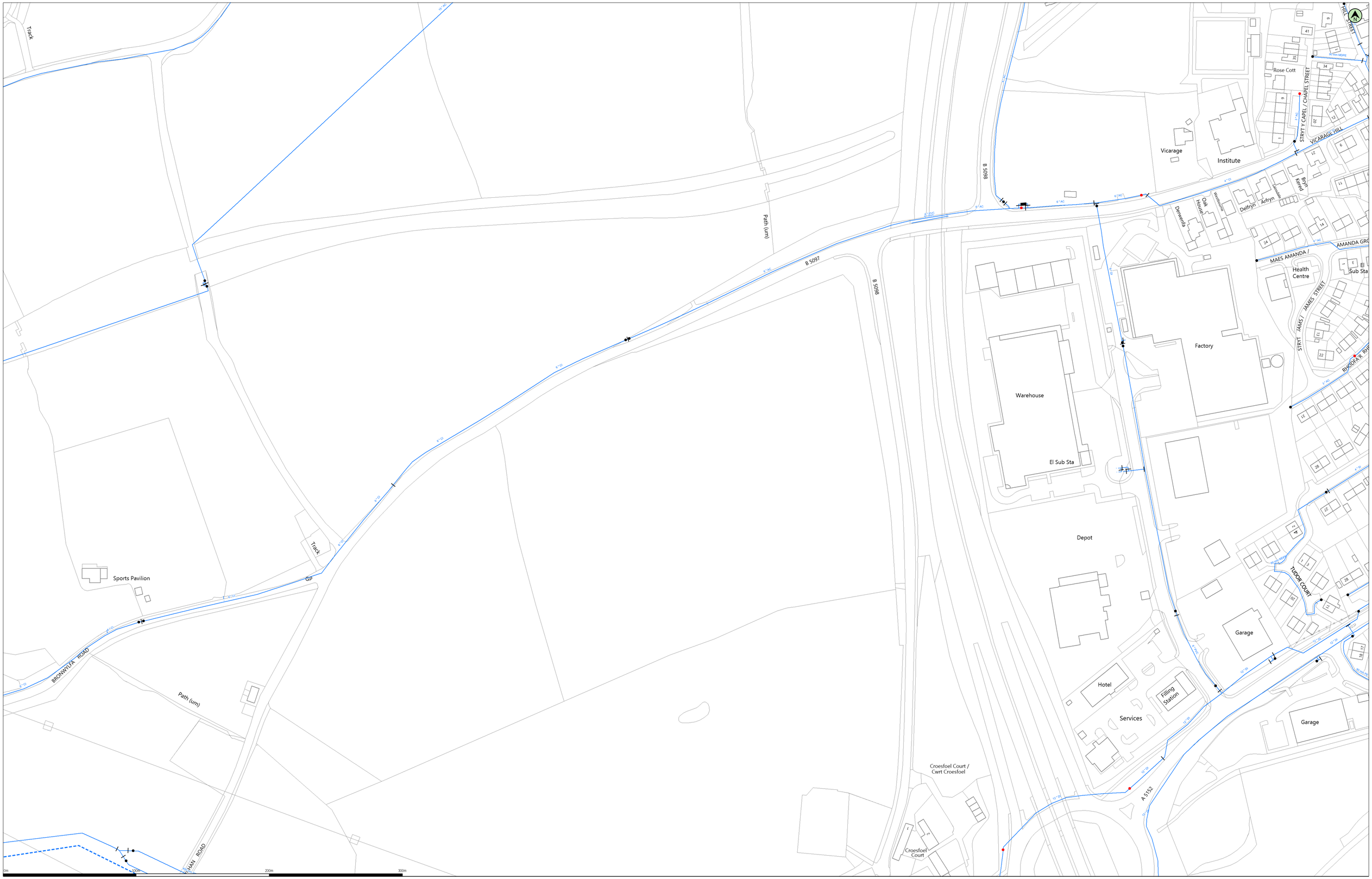

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Hydrant | Valve | Aqueduct
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CORNERSTONE PROJECTS LTD

SEWER

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enquiries@cornerstoneprojects.co.uk
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VAT Reg. No. 851 4941 19
Company No. 5132353

Dŵr Cymru
Welsh Water

LAND AT BRONWYLFA ROAD, RHOSTYLLEN

N
W E
S

LEGEND(Representative of most common features)

Waste network:

	Foul chamber		Outfall
	Surface water chamber	LH	Lamphole
	Combined chamber		Storm Overflow
CO	Combined sewer overflow		Rising main
SPC	Special purpose chamber		Gravity sewer
	Treatment works	P	Private sewer
	Pumping station	S 104 P	Private sewer subject to Sect. 104 adoption agreement

NB: Sewer symbol colour indicates the type.

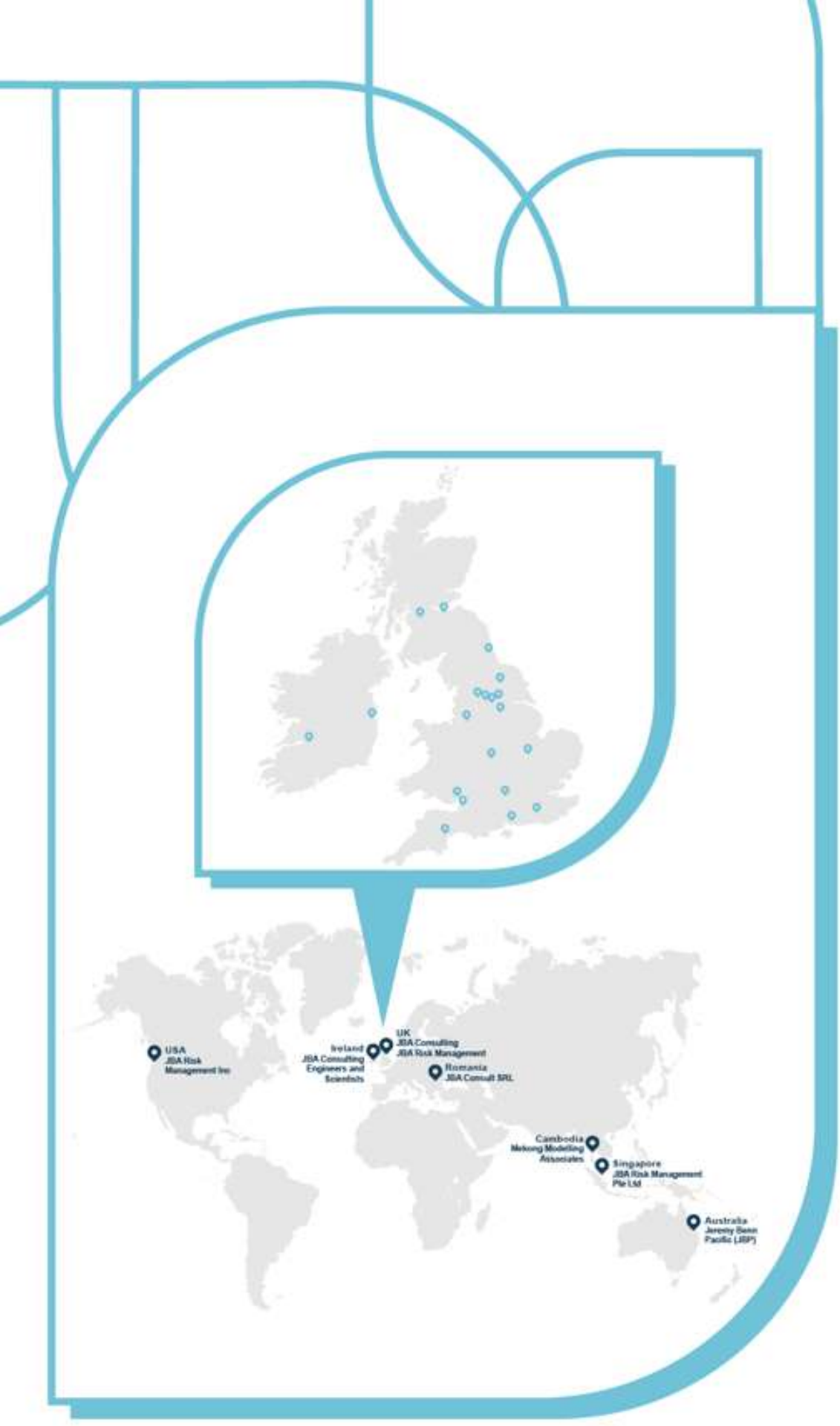
RED - Combined
GREEN - Surface Water
BROWN - Foul
Purple - Former S24 sewers (for indicative purposes only)

	Private Sewer Transfer
L	Lateral Drain
	Inspection Chamber

Notes:

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

Map Ref:	330327,348308
Map scale:	1:3500
Printed by:	Stephen Burton
Printed on:	10 Aug 2022



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