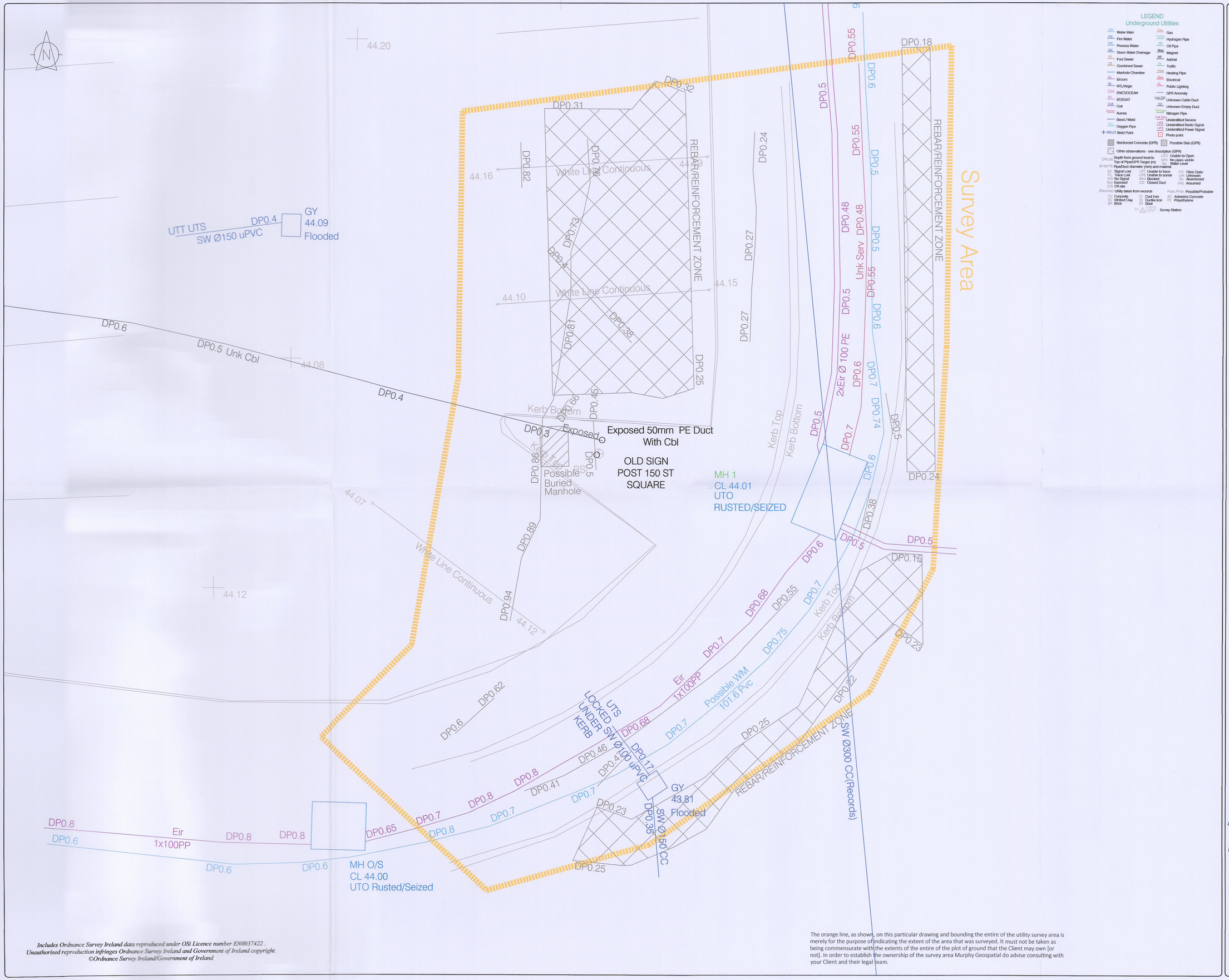

LEGEND
Underground Utilities

WM	Water Main	Gas	Gas
FW	Fire Water	Hydro	Hydrogen Pipe
PW	Process Water	Oil	Oil Pipe
SW	Storm Water Drainage	Mag	Magnet
FS	Foul Sewer	Ad	Adshel
CS	Combined Sewer	Traf	Traffic
	Manhole Chamber	Heat	Heating Pipe
Eir	Eircom	Elec	Electrical
Vir	NTL/Virgin	PL	Public Lighting
Enet	ENET/OCEAN		GPR Anomaly
BT	BT/ESAT	Unk Cbl	Unknown Cable Duct
Colt	Colt	Eir	Unknown Empty Duct
Aurora	Aurora	Nitrogen	Nitrogen Pipe
	Bend / Weld	Unk Ser	Unidentified Service
Oxy	Oxygen Pipe	UR	Unidentified Radio Signal
WELD	Weld Point	UP	Unidentified Power Signal
		P	Photo point

Reinforced Concrete (GPR) — Possible Slab (GPR)

Other observations - see description (GPR)

DP0.55 Depth from ground level to Top of Pipe/GPR Target (m)
Ø150 PE Pipe/Duct diameter (mm) and material

S/L	Signal Lost	UTT	Unable to trace
T/L	Trace Lost	UTS	Unable to sonde
N/S	No Signal	Blkd	Blocked
Exp	Exposed	CD	Closed Duct
O/S	Off-site		

UTO Unable to Open
NPV No pipes visible
WL Water Level

(Records) Utility taken from records

CC	Concrete	CI	Cast Iron
VC	Vitrified Clay	DI	Ductile Iron
BR	Brick	ST	Steel

Poss./Prob. Possible/Probable
AC Asbestos Concrete
PE Polyethylene

FO Fibre Optic
Unk Unknown
Ab Abandoned
(AS) Assumed

S1 Easting 0.000 Northing 0.000 — Survey Station

Murphy Geospatial Ltd. Disclaimer

The survey aims to map all existing utilities and sub surface structures and provide information with respect to pipe size, material type and drainage connectivity. However GPR surveying is limited by the following guidelines and it may not be possible to accurately survey, define and locate all services and sub surface features.

- *Locational* accuracy is determined by referring to the manufacturers guidelines for the detectors used.
- Existing record information showing underground services is often incomplete and unknown accuracy; therefore it should be regarded only as an indication.
- In ideal conditions these spatial accuracies for the underground utilities are +/- 5% for the RD4000 and +/- 10% of depth for the GPR to 2.5m deep. However, variations within the subsurface may alter this estimated accuracy.
- Although all reasonable steps have been taken to locate all features, there is no guarantee that all will be shown on the drawing as some above ground features may have obstructed the survey.
- GPR surveying operates best within high resistivity material. Clay overburden can impair GPR surveying.
- Due to the attenuation of the radar signal with depth, resolution is restricted, hence making identification of anomalies difficult with increasing depth.
- The depth penetration and quality of the data depends on the ground conditions on the site. Poor data may be a result of areas with high conductivity. Also, high reflective materials close to the surface i.e. rebar may hide deeper anomalies.
- It is not always possible to trace the entire length of each underground service.
- It is always our intention to use the Utility providers' details, if supplied prior to survey commencement as a guide for location purposes. However, should we not be able to locate those guided services we shall not be held responsible for the accuracy, or otherwise, of the location of that service, as issued by the utility provider and therefore shown "Taken from Records" on the drawing and we are not liable for any loss that may arise due to the lack of accuracy in the guided information.
- Unless otherwise stated, all services and sub surface structures shown on Murphy Geospatial Limited plan drawings have been surveyed using approved detectors and the connections between manholes, if not traced, are assumed to run straight.
- Plan accuracies of the order of + or - 150mm may be achieved but this figure will depend on the depth of the service below ground level. Where similar services run on close proximity, separation may be impossible. Successful tracing of non metallic pipes may be limited.
- Please note that not all buried pipes, cables and ducts can be detected and mapped in consideration of their depth, location, material type, geology and proximity to other utilities. Even an appropriate and professionally executed survey may not be able to achieve a 100% detection rate.
- Services which have been untraceable are shown from Records where possible.
- DP epresents distance from the surface level to the top of the service/ radar.

No allowance has been made within our quotation, unless otherwise stated, for the location and mapping of undeclared services. Failure to detect or fully map any declared service will be recorded within the notes accompanying our final drawings.

Where technically possible, depth indications will be given. These should be used for guidance only and wherever critical accuracy is required these should be confirmed by the Client by undertaking trial excavations or similar. Bends, lateral service connections, or the close proximity of other services and local magnetic, atmospheric or ground conditions, could in certain situations influence the accuracy of the plan and depth indication facility. Depths will not be provided unless we are reasonably confident of their validity.

Where Murphy Geospatial Limited issues a CAD drawn utility service plan, this should be read in conjunction with all available public utility records etc. As part of our exhaustive Quality Control procedures, Murphy Geospatial Limited Endeavour to add relevant Public Utility record information onto the final issue drawing. An allowance should be made for the width of services, particularly where these are laid in bands or are of significant size etc. For clarification or appropriate easement bands, we would recommend that direct contact is made with the Asset Owner or Statutory Undertaker.

We exclude the following, except where otherwise specified and possible to do so;

- All private service connections, (including water or gas fittings where no through flow of applied signal is possible.
- Pot ended or disconnected cables or terminated short lengths of pipe.
- Internal building services
- Fibre optic cables (except where laid with a standard communications cable or built in tracer wire or similar conductor system) or can be clearly located using ground penetrating radar.
- Small diameter cables less than 17mm diameter, or pipes less than 38mm diameter.
- Above ground services unless specifically requested.
- Lifting manhole covers which require longer than 10 minute effort using standard heavy duty lifting apparatus.
- Services positioned directly below other pipes or cables etc (i.e. masking signal) - intrusive verification options available on request.
- Deep non metallic pipes, ducts or culverts (unless probing or Pipe Track 3d is specified as part of the fully invasive survey option).
- Passing through defective pipework (displaced joints etc) or acute bends between access points.

Please note that our Quotation does not allow for location of individual service feeds to properties unless reasonable to do so, as access would be required into each property to apply direct connections to inlet points and this would significantly increase the scope of work, survey cost and also cause possible disruption to occupants.

All work carried out by Murphy Geospatial Limited (MGS) conforms to the guidelines set out by The Survey Association (TSA).

North

Site Location

Map Sheet Layout:

Surveyed by : MGS	Date: September 2022	Datum :	Malin Head
Drawn by : AB	Date: 27.09.2022	Grid System:	
Checked by : DS	Date: 28.09.2022	Irish National Grid ☐ ITM ☒	

Revisions

No.	Date	Description
0	28.09.22	First Drawing

SCSI Chartered property, land and construction surveyors
THE SURVEY ASSOCIATION FULL MEMBER
EUROPEAN GPR ASSOCIATION
RICS the mark of property professionalism worldwide

Murphy GEOSPATIAL

Topographic surveys, Measured Building Surveys, Setting-Out, As-Built Surveys, Hydrographic Surveys, Legal Mapping, Pipeline Surveys, Services Location, Ground Penetrating Radar, Laser Scanning, Rectified Photography

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Client : BOC Gases Ireland Limited

Project : 10 JFK Signage Foundation

Date : 28.09.2022 **Scale :** NTS@A1

Description : Utility Survey

Drawing Number : MGS49325_U

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The orange line, as shown, on this particular drawing and bounding the entire of the utility survey area is merely for the purpose of indicating the extent of the area that was surveyed. It must not be taken as being commensurate with the extents of the entire of the plot of ground that the Client may own [or not]. In order to establish the ownership of the survey area Murphy Geospatial do advise consulting with your Client and their legal team.