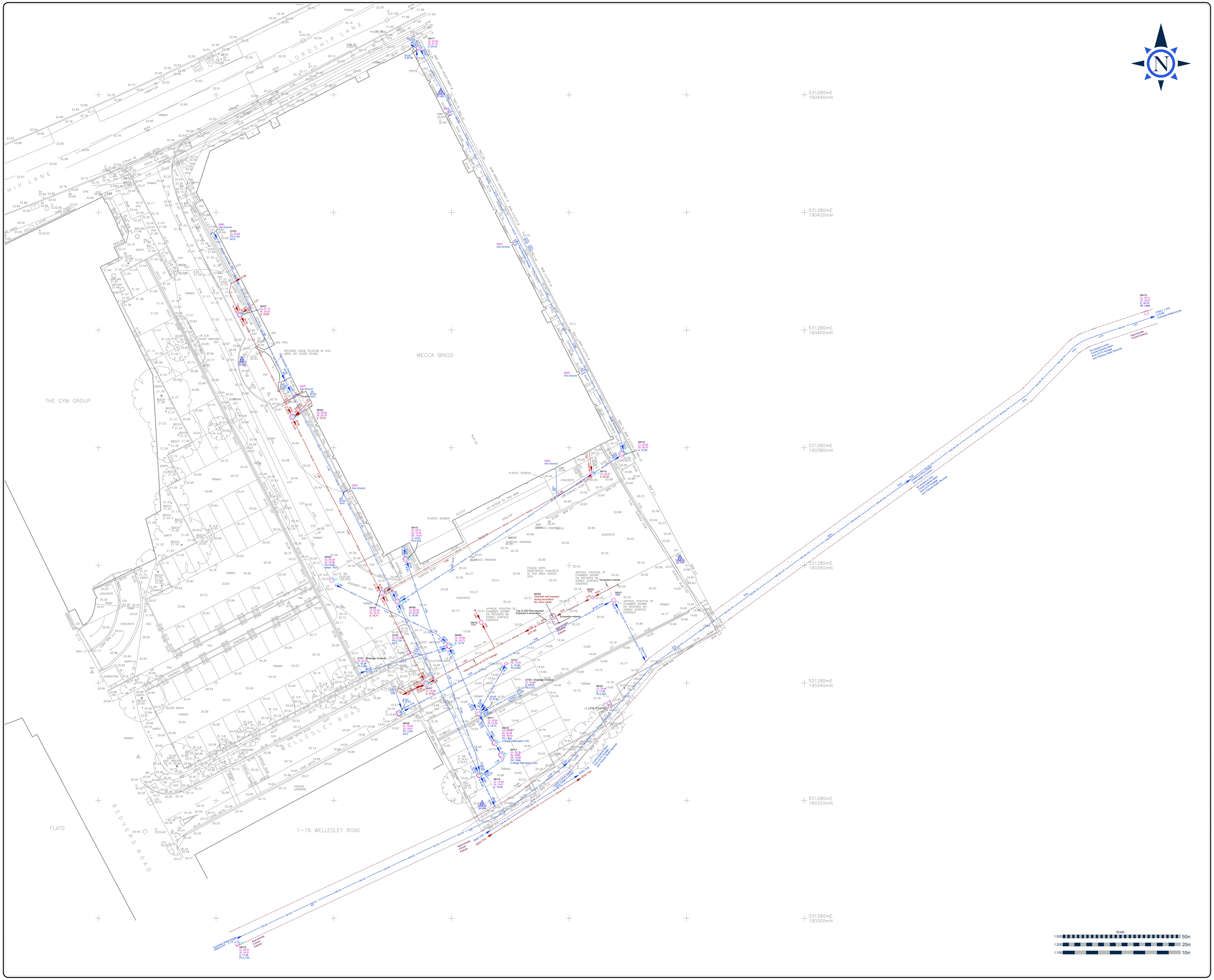
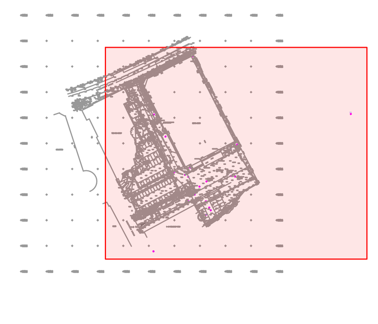
APPENDIX F – DRAINAGE SURVEY PLANS & REPORT



Sheet Layout



Legend

AR	Assumed Route	G/Run	Gully Run	RS	Road Sign
AV	Air Valve	GR	Gas Riser	RWP	Rain Water Pipe
BD	Backdrop	GV	Gas Valve	SA	Soakaway
BLK	Blocked	HOR	Head of Run	SL	Soffit Level
BP	Block Paving	HT	Height	ST	Stop Tap
Boll.	Bollard	IB	Illuminous Bollard	STN	Survey Control Station
BH	Borehole	IC	Inspection Chamber	SV	Stop Valve
BTIC	BT Inspection Chamber	IGP	Illuminated Guidepost	SVP	Soil Vent Pipe
C/Box	Control Box	IL	Invert Level	TBM	Temporary Benchmark
C/Pit	Catchpit	KO	Kerb Outlet	TFR	Taken From Records
CE	Chamber Extents	LB	Lighting Bollard	THL	Threshold Level
CL	Cover Level	LC	Lighting Column	TL	Traffic Light
Conc.	Concrete	LH	Lamphole	TOS	Top of Silt
CPS	Concrete Paving Slabs	LP	Lamppost	TP	Telegraph Pole
CR	Cable Riser	MH	Manhole	U/S	Underside
CTV	Cable TV	MKR	Marker	UL	Uplight
D/Chan.	Drainage Channel	MTR	Meter	UTF	Unable to Find
DFP	Down Facing Pipe	MW	Monitoring Well	UTL	Unable to Lift
DL	Directly Laid	NDU	Number of Ducts Unknown	UTR	Unable to Rod
DP	Down Pipe	NVI	No Visible Incoming	UTS	Unable to Survey
DR	Duct Riser	NVO	No Visible Outgoing	UTT	Unable to Trace
EJB	Electricity Junction Box	NVP	No Visible Pipe	VP	Vent Pipe
EOT	End of Trace	OH	Overhead	VR	Vapour Recovery
EP	Electricity Pole	OSA	Off Survey Area	WFC	Water Filled Chamber
ER	Earth Rod	OSBM	Ordinance Survey Benchmark	WM	Water Meter
FFL	Finished Floor Level	PR	Pipe Riser	WO	Wash Out
FH	Fire Hydrant	PT	Poor Trace	WR	Water Riser
FP	Flag Pole	RE	Rodding Eye	Ø	Diameter
FS	Fire Switch	R/Wall	Retaining Wall	3SI	3-Stage Interceptor
G	Gully				

Pipeline Material Abbreviations

AC	Asbestos Cement	PVC	Polyvinyl Chloride
CI	Cast Iron	RC	Reinforced Concrete
DI	Ductile Iron	S	Steel
HDPE	High Density Polyethylene	SS	Stainless Steel
MS	Mild Steel	VC	Vitrified Clay
PE	Polyethylene	WI	Wrought Iron

Utility Legend

EHV	Extra High Voltage Electricity	FWS	Foul Drainage
HV	High Voltage Electricity	SWS	Surface Drainage
LV	Low Voltage Electricity	CWS	Combined Drainage
SL	Street Lighting	EWS	Effluent Drainage
ES	Earthing Strip	ADB	AdBlue Line
TS	Traffic Signals	O	Offset Fill Line
CATV	Cable Television	V	Vent Line
CCTV	Closed Circuit Television	F	Fuel Line
COM	Communications	VR	Vapour Recovery
BT	British Telecoms	G	Gauge Line
FO	Fibre Optics	OIL	Oil Pipe
GAS	Gas	HPL	Heating Pipe
HPG	High Pressure Gas	A	Compressed Air
IPG	Intermediate Pressure Gas	O2	Oxygen Supply
LHPG	Localised High Pressure Gas	AL	Alarm Cable
MPG	Medium Pressure Gas	ED	Empty Duct
W	Water		Survey Boundary
P	Pipeline		Chamber Extents
UNK	Unknown Asset		Approx. CE

Utility Location Depth Explanation

The located depth of a service obtained during a survey may be received to 3 different locations;

Center (c); EML Electromagnetic locating provides a depth to the center of the magnetic field received which is also the center of the pipe or cable.

Invert (i); Depths obtained during drainage surveys or using Flexi Trace or Sonde are taken at the invert of a pipe.

Top (t); GPR Ground Penetrating Radar provides depths to the top or crown of a pipe.

LV 0.30c — SWS 0.30i — UNK 0.30t

The letter following the depth indicates to where the depth has been measured to.

ELECTRO-MAGNETIC DETECTION: APPROX. DEPTH TO CENTRE — PIPE OR CABLE (CONDUCTIVE)

SONDE & FLEXI TRACE: APPROX DEPTH TO INVERT — EMPTY DUCT OR DRAINAGE

GROUND PENETRATING RADAR: APPROX DEPTH TO EXTERNAL CROWN — PIPE OR CABLE (NON CONDUCTIVE)

Utility Block Legend

EOT — End of Trace

Capped — Capped Service

TFR — End of Service End of Record

Junc. — Junction Observed On Drainage CCTV

PAS 128 Quality Level Classifications

Quality Level labeling of located utilities with a classification code allows the user of the information to understand clearly how it was obtained and then apply appropriate confidence and reliance upon it. Project risks relating to underground utilities can then be properly managed.

QL A Information is obtained by visually confirming the utility location, type, position and size. Services can be visually proven by way of Non destructive digging (NDD) using Vacuum Excavation or hand digging techniques to expose the buried service. Once accurately surveyed tolerances for a QL-A classification are: +/- 50mm of given depth and +/- 25mm horizontally.

QL B1 Information is obtained using Electromagnetic Pipe & Cable locators EML, Sonde or Flexi trace and Ground Penetrating Radar GPR equipment. in order to achieve a B1 classification at least two methods must accurately locate and agree on a buried service location. Once accurately surveyed tolerances for a QL-B1 classification are: +/- 15% of given depth and +/- 150mm horizontally.

QL B2 Information is obtained using Electromagnetic Pipe & Cable locators EML, Sonde or Flexi trace and Ground Penetrating Radar GPR equipment. in order to achieve a B2 classification one method must accurately locate a buried service location. Once accurately surveyed tolerances for a QL-B2 classification are: +/- 40% of given depth and +/- 250mm horizontally.

QL B3 Information is obtained using Electromagnetic Pipe & Cable locators EML, Sonde or Flexi trace and Ground Penetrating Radar GPR equipment. in order to achieve a B3 classification one method may indicate a possible position for a service location however due to possible interference or poor results no depth can be achieved. Once accurately surveyed tolerances for a QL-B3 classification are: no given depth and +/- 500mm horizontally.

QL B4 Information is has been unable to be located using Electromagnetic Pipe & Cable locators EML, Sonde or Flexi trace and Ground Penetrating Radar GPR equipment but is believed to exist until proven otherwise. This type of information could also be associated with assumed routes and Taken from records. There are no design tolerances associated with a B4 quality level and information should be treated with caution.

QL C Information is collected by correlating the survey of visible surface features such as marker plates, manholes or trench scars with existing drawing or record information to enable the approximate position of a utility to be determined. There are no design tolerances associated with a QL-C quality level.

QL D Information is the most basic level of Utility information derived from existing drawing and record information . This method should always be treated as an indication of the presence of a service and should not be used for design.

Drawing Notes

Utility depths and levels shown are in meters.

Pipe sizes and materials which cannot be obtained by visual survey are taken from record drawings or marker plates where available.

Cable routes shown as a single line may actually consist on many cables please refer to annotated configuration details where provided.

Drainage pipe sizes and invert levels have been determined without man entry into chambers. Every effort has been made to correctly obtain this information however accuracy is dependant on the visibility of the service.

Coordinates and Levels are derived from Ordnance Survey datum OSGB36 through a series of GNSS RTK Observations carried out at survey control station UM02 and orientated through station UM01.

Third Party Disclaimer:
All features shown in grey have been taken from external sources and as such Utility mapping Group cannot verify the accuracy of this information. Contacting the relevant provider is recommended for the latest information.

Detection Disclaimer: Electromagnetic locating techniques as well as Ground Penetrating Radar have been utilized in the location of underground services. These results are non infallible and a NDD non destructive process should be carried out to confirm service identification positions and particularly depths where these are critical. Although all reasonable effort has been made in the locating and mapping of underground services the complete extents of this Utility survey information cannot be guaranteed.

Client Logo:

Project Address:
707-725 Lordship Ln,
London
N22 5JY

Project Title
Drainage Mapping + CCTV Survey 3D

Surveyor	Drawn	Checked	Survey Date:	Scale:
JM	KF	PL	05/10/2023	1:200 @ A0

Project Number:	Sheet No:	Revision:
UM23-1730-FWC	01 OF 01	1

Revision	Revision Notes	Date
1	Downstream manhole accessed on culvert and CCTV'd upstream	20/10/23

Utility MAPPING
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