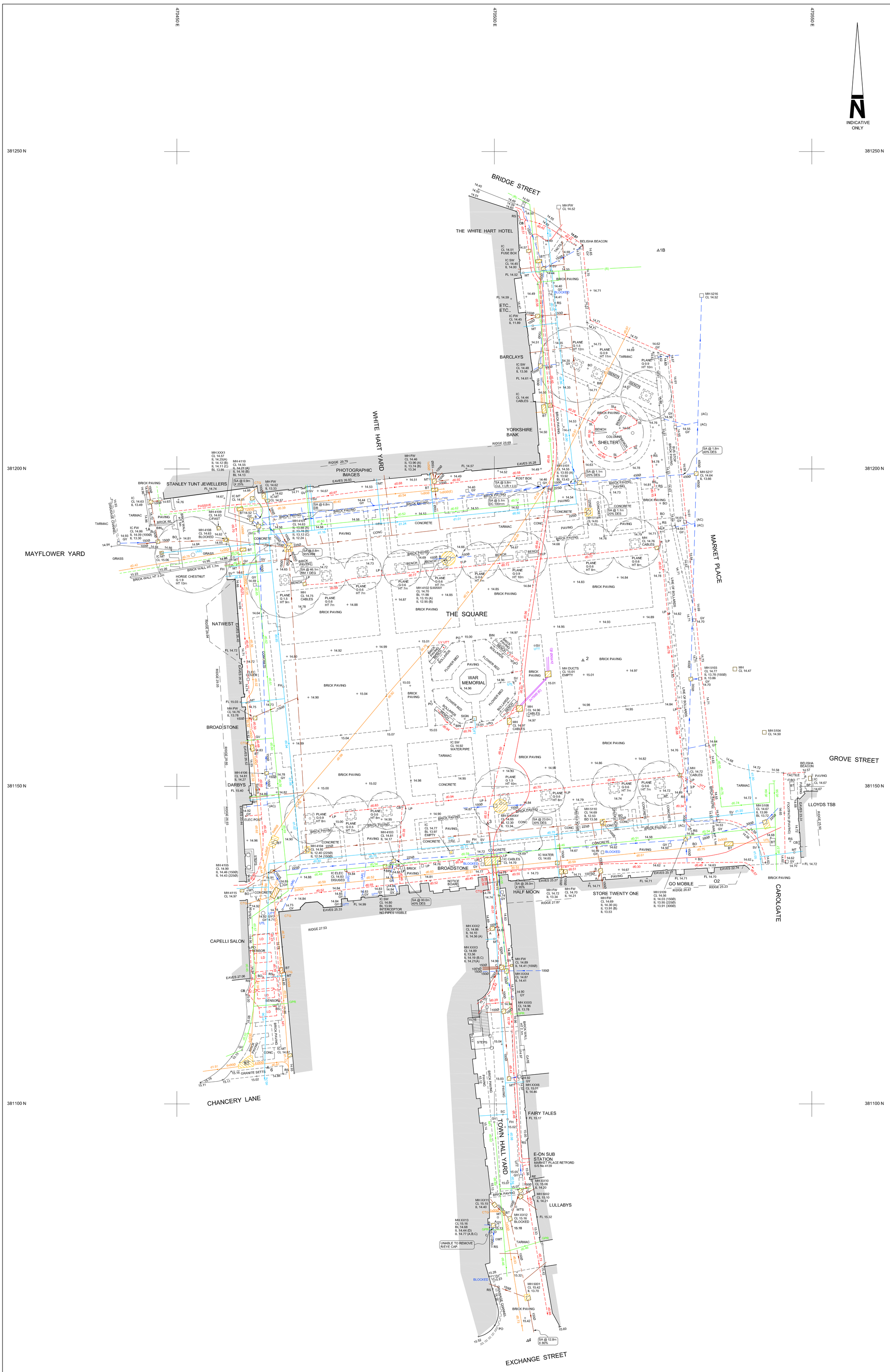
470450 E
470500 E
470550 E
381250 N
381200 N
381150 N
381100 N
381050 N



Notes :

1. GRID AND LEVEL ARE ORDNANCE DATUM DERIVED FROM THE NATIONAL GPS NETWORK.
2. DRAINAGE INFORMATION HAS BEEN OBTAINED BY SURFACE INSPECTION ONLY AND SHOULD BE CROSS CHECKED IN CRITICAL AREAS.
3. TREE AND HEDGE SPECIES HAVE BEEN IDENTIFIED AS ACCURATELY AS POSSIBLE BUT SHOULD BE CROSS CHECKED IN CRITICAL AREAS.
4. CCTV INFORMATION HAS BEEN CROSS REFERENCED ONTO THE SURVEY FROM THE CCTV SURVEY CONDUCTED BY INSEWER. CCTV NOTES ARE IN A SEPERATE LAYER.

Coordinate Table

Station	Description	Easting	Northing	Level
1A	ROAD NAIL	470446.053	381190.149	14.956
1B	ROAD NAIL	470525.820	381234.420	14.413
1	ROAD NAIL	470462.848	381132.089	14.883
2	ROAD NAIL	470513.963	381169.864	15.018
3	ROAD NAIL	470498.958	381144.174	14.819
4	ROAD NAIL	470505.274	381062.690	15.475
5	ROAD NAIL	470467.649	381050.730	15.160
6	ROAD NAIL	470464.350	381105.741	15.038

KEY

SURVEY STATION
BANKING (TOP / BOTTOM)
HEDGE SPREADS
WOODLAND CANOPY
MARSH / WATERLOGGED
TREES (SPREAD & GIRTH SHOWN TO SCALE)
GATE
KERB CHANNEL
ROAD UNKERBED
FOOTPATH
CHANGE IN SURFACE
FENCE
WALL
OVERHEAD ELECTRIC
OVERHEAD TELECOM
SEWERS FOUL
SEWERS STORM
BUILDING
OPEN SIDED BUILDING
GLASSHOUSE
CONTOUR (25.50)
SPOT LEVEL (+ 127.13)
BORE HOLE (BH)
TRIAL HOLE (TH)

GENERAL ABBREVIATIONS

AIR VALVE	AV
BACK DROP	BD
BRICK	BK
BOLLARD	BO
BUS STOP	BS
BT INSPECTION COVER	BT
CABLE TV COVER	CATV
CONTROL BOX	CB
COVER LEVEL	CL
CATCH PIT	C/PIT
DROP KERB	DK
ELECTRICITY CONTROL BOX	EB
ELECTRICITY POLE	EP
EARTH ROD	ER
FIRE HYDRANT	FH
FLOOR LEVEL	FL
FOOTPATH	FP
FOUL WATER SEWER	FWS
GAS VALVE	GV
GATE POST	GP
GULLY	GY
INSPECTION COVER	IC
INVERT LEVEL	IL
KERB OUTLET	KO
LAMP POST	LP
LETTER BOX	LB
LITTER BIN	BIN
MANHOLE	MH
MARKER POST	MK
METER	MT
ORDNANCE SURVEY BENCH MARK	OSBM
RODDING EYE	RE
ROAD SIGN	RS
RAIN WATER PIPE	RWP
RETAINING WALL	RW
STOP COCK	SC
STREET NAME PLATE	SNP
STAY CABLES	ST
STORM WATER SEWER	SWS
STOP VALVE	SV
TELEPHONE CALL BOX	TCB
TRAFFIC LIGHT	TL
TELEGRAPH POLE	TP
UNABLE TO LIFT	UTL
VENT PIPE	VP
WATER LEVEL	WL
WATER METER	WM
WASH OUT	WO

FENCE ABBREVIATIONS

BARBED WIRE FENCE	B/W
CLOSE BOARDED FENCE	C/B
CORRUGATED IRON FENCE	C/I
CHAIN LINK FENCE	C/L
CHESTNUT PALING	CNP
IRON RAILINGS	I/R
POST AND RAIL FENCE	P/R
POST AND WIRE FENCE	P/W
WIRE MESH FENCE	W/M

SERVICE ABBREVIATIONS

(AC)	ASSUMED CONNECTION	KV	KILO VOLT
(AR)	ASSUMED ROUTE	LD	LOOP DETECTOR
AV	AIR VENT	LH	LAMP HOLE
BB	BELISHA BEACON	LP	LAMP POST
BD	BACK DROP	LV	LOW VOLTAGE
BL	BOLLARD	MK	MARKER
BOL	BOLLARD LIGHT	MH	MANHOLE
BT	BRITISH TELECOM	MT	METER
CL	COVER LEVEL	(NFI)	NO FURTHER INFORMATION
CMK	CABLE MARKER	(NPV)	NO PIPES VISIBLE
(COW)	CABLE ON WALL	O/H	OVERHEAD
CR	CABLE RISER	PE	POLYETHYLENE
CTG	CABLES TO GROUND	(POW)	PIPE ON WALL
CWS	COMBINED WATER SEWER	PTG	PIPE TO GROUND
d	DEPTH OF SERVICE	(R)	RECORD INFORMATION
DI	DUCTILE IRON	RE	RODDING EYE
DIS	DISUSED	RED	REDUNDANT SERVICE
EOT	END OF TRACE	RWP	RAIN WATER PIPE
EP	ELECTRIC POLE	SC	STOP COCK
ER	EARTH ROD	SOF	SOFFIT
(E)	EMPTY	SP	SOIL PIPE
FFP	FUEL TANK FILL POINT	SWS	STORM WATER SEWER
FH	FIRE HYDRANT	SV	STOP VALVE
FWS	FOUL WATER SEWER	TL	TRAFFIC LIGHT
GPR	GAS PIPE RISER	TLC	TRAFFIC LIGHT COVER
GV	GAS VALVE	TP	TELEGRAPH POLE
GY	GULLY	UTL	UNABLE TO LIFT
HV	HIGH VOLTAGE	UTT	UNABLE TO TRACE
IC	INSPECTION COVER	(VI)	VERBAL INFORMATION
Id	INVERT DEPTH	WL	WATER LEVEL
IL	INVERT LEVEL	WO	WASH OUT
INT	INTERCEPTOR	WPR	WATER PIPE RISER

LINESTYLE KEY

INTERNAL METER
POT ENDED SERVICE
INTERNAL VALVE
MISSING VALVE (R)
UNDERGROUND CHAMBERS
SERVICE INTAKE
SERVICE CROSSOVER
BACK DROP
SURVEY BOUNDARY

SERVICE LEGEND

OVERHEAD ELECTRIC
OVERHEAD TELECOM
SEWERS FOUL
SEWERS STORM
TELECOM
CATV
WATER
GAS
ELECTRICITY (HV)
ELECTRICITY (LV)
UNKNOWN SERVICE
FUEL

CAUTIONARY NOTES

RADIODETECTION AND GPR TECHNIQUES HAVE BEEN USED IN THE LOCATION OF UNDERGROUND SERVICES. THE RESULTS ARE NOT INFALLIBLE AND TRIAL EXCAVATIONS MUST BE CARRIED OUT TO CONFIRM SERVICE IDENTIFICATION, POSITIONS AND INPARTICULAR DEPTHS. ALTHOUGH ALL REASONABLE EFFORT HAS BEEN MADE IN SEARCHING AVAILABLE RECORD DRAWINGS, THE COMPLETENESS OF THE UNDERGROUND SERVICE INFORMATION CANNOT BE GUARANTEED.

THE RESPONSIBILITY FOR AVOIDING DAMAGE TO ASSETS AND SERVICES ON SITE SHALL BE THAT OF THE PERSONS PROPOSING TO EXCAVATE IN THE SURVEYED AREA WHO SHALL BE LIABLE TO THE ASSET OWNER AND ANY THIRD PARTY WHO MAY BE AFFECTED IN ANY WAY FOR ANY LOSS OR DAMAGE BY THEIR FAILURE TO DO SO.

SURVEY TO BE READ IN CONJUNCTION WITH MK SURVEYS METHOD STATEMENT AND SURVEY REPORT.

EXTERNAL UNDERGROUND SERVICES SURVEY
SURVEY REPORT

Date: -
Job No: -

General
Record information was obtained from Openreach (telecom), Central Networks (electric), National Grid (gas), Anglian Water (water mains), and Severn Trent Water (sewers). Additional searches were carried out using Linsearch. No services were inside our search area.

Abbreviations Key

RD – Radiodetection.	The RD4000 is an electromagnetic detector, which can transmit a signal onto a metallic service, and locate it from the surface.
GPR – Ground Penetrating Radar.	Used to scan the variations in ground signature from the surface by radar. Success is dependant on favourable ground conditions.
HV – High Voltage.	Any electricity cables 11kV and above.
LV – Low Voltage.	Any electricity cables below 11kV.

Drainage
All drainage was lifted with pipe sizes and invert levels recorded. Wherever possible the chamber sizes have been recorded and positioned on the drawing. All connections from gullies, external rainwater pipes and external soil stacks have been proven wherever possible into manholes and sewer runs. Where a saddle connection is present the position is assumed only. Connections between manholes have been assumed to be straight. All has been surveyed by CCTV and cross referenced by MK Surveys.

Water
Water pipes are plastic and have therefore been located using GPR methods with radar-derived depths recorded to the top of the pipe. Due to the small size of the pipes the location and the depth can easily be misinterpreted, and therefore trial excavations are recommended to confirm these locations.

Gas
Gas pipes are plastic and have therefore been located using GPR methods with radar-derived depths recorded to the top of the pipe. Due to the small size of the pipes the location and the depth can easily be misinterpreted, and therefore trial excavations are recommended to confirm these locations.

Electricity
All electricity cables on site have been traced with electronically derived depths recorded. There was no access to the local Central Networks sub station therefore the HV routes were located using the power sweep function on the RD receiver. This method of location does not allow for electronically derived depths to be obtained. As individual selection of cables was not always possible any one trace may be a single cable of cluster of cables(see cautionary notes).

Telephone
All telecom covers have been lifted with ducts traced between. Electronically derived depths have been recorded along the traced routes. The number of ducts along any one trace has been recorded, and indicated adjacent to the draw pit chambers. Please note that empty ducts cannot always be traced and are therefore assumed or added to the drawing from the record information wherever necessary.

CATV
There was no evidence of any CATV ducts within the area surveyed.

Cautionary Notes.
1. Radio-detection techniques have been used in the location of underground services wherever possible. The results are not infallible and trial excavations must be carried out to confirm service identification, position and in particular depths. Although all reasonable effort has been made in searching available record drawings, the completeness of the underground service information cannot be guaranteed.
2. Ground Penetrating Radar techniques have been used in the location of non-metallic services wherever record information or surface features indicates the existence of a particular service. The interpretation of these results is not infallible and trial excavations must be carried out to confirm service identification, position and depths. This is particularly relevant in busy areas and around buildings.
3. Some cables could not be individually selected for tracing therefore; any one trace may be a single cable or a cluster of cables.
4. Electronically derived depths are usually taken to the centreline of the conductor, and Radar derived depths are usually taken to the top of the service.
5. Some services may now be redundant, or ducts empty.
6. The location of redundant services have not been identified.
7. Record data varies in both age and quality therefore where information has been taken from records it is indicative only.
8. The responsibility for avoiding damage to assets and services on site shall be that of the persons proposing to excavate in the surveyed area who shall be liable to the asset owner and any third party who may be affected in any way for any loss or damage by their failure to do so.

Survey report to be read in conjunction with MK Surveys survey (Job No -) and MK Surveys method statement.

CCTV ABBREVIATIONS

B	BROKEN PIPE	LL	SEWER DEVIATES LEFT
CU	CAMERA UNDER WATER	LR	SEWER DEVIATES RIGHT
D	DEFORMED SEWER	LU	SEWER DEVIATES UP
DB	DISPLACED BRICKS	OB	OBSTRUCTION
DC	DIMENSION CHANGE	OJL	OPEN JOINT LARGE
DE	DEBRIS (NON-SILT/GREASE)	OJM	OPEN JOINT MEDIUM
DES	DEBRIS SILT	RM	ROOTS MASS
DEG	DEBRIS GREASE	SA	SURVEY ABANDONED
ESH	SCALE HEAVEY	SC	SHAPE CHANGE
H	HOLE IN SEWER	V	VERMIN (RATS AND MICE)
JD	JOINT DISPLACEMENT	WL	WATER LEVEL
LD	SEWER DEVIATES DOWN	X	SEWER COLLAPSE

Revision	Description	Date

0 2 4 6 8 10 12 14 16 18 20 22

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SAMPLE

Topographical and Utility Survey

Scale	Sheet Size:	Sheet Number:	Date:
1:200	A0	-	-
Project Number: SAMPLE		Surveyed By: -	Approved By: -