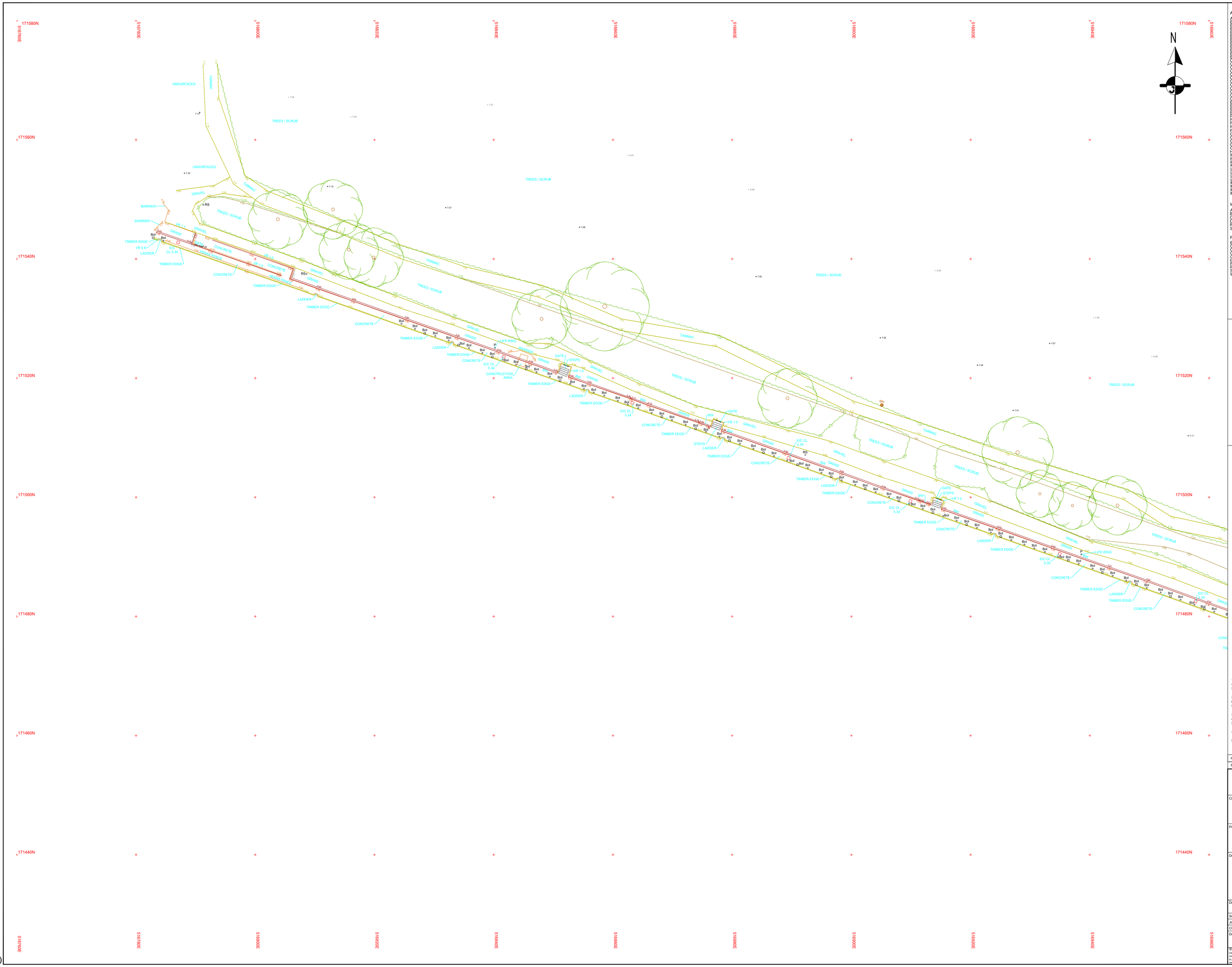
Teddington Direct River Abstraction

Preliminary Environmental Information Report
Appendix 5.2 – Flood Risk Assessment

Volume: 3

Date: June 2025

Annex A1. Topographical Surveys



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BEL	Building Eave Level	OHC	Overhead Conduit/Pipe
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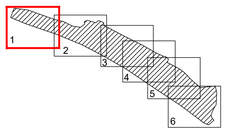

SURVEY STATIONS

Name	Eastings (m)	Northings (m)	Level (m)	Marker Type
MB01	517368.759	171377.324	8.454	Survey Nail
MB02	517241.127	171449.153	8.404	Survey Nail
MB03	517121.988	171504.885	9.810	Survey Nail

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5. Digital drawing is 3D AutoCAD .dwg file.

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Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Burnell Avenue

Drawing title
3D Topographic Survey
Sheet 1 of 6

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B228490CO	
Client no.		
Drawing number	JG23080-Burnell-Topo-3D-01	Rev P01

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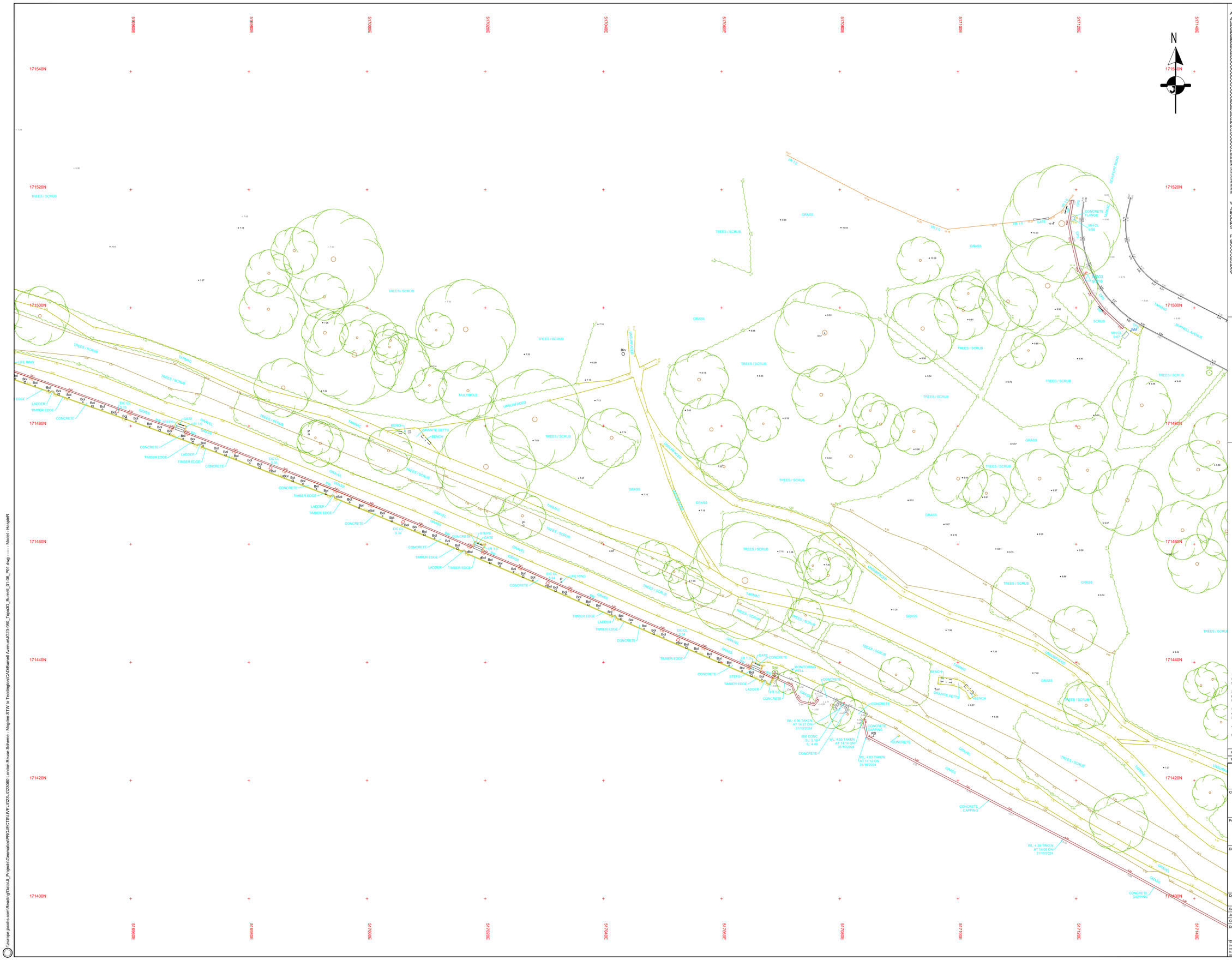

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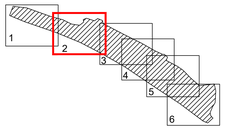

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Drawing title
3D Topographic Survey
Sheet 2 of 6

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B228490CO	
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Drawing number	JG23080-Burnell-Topo-3D-02	Rev P01

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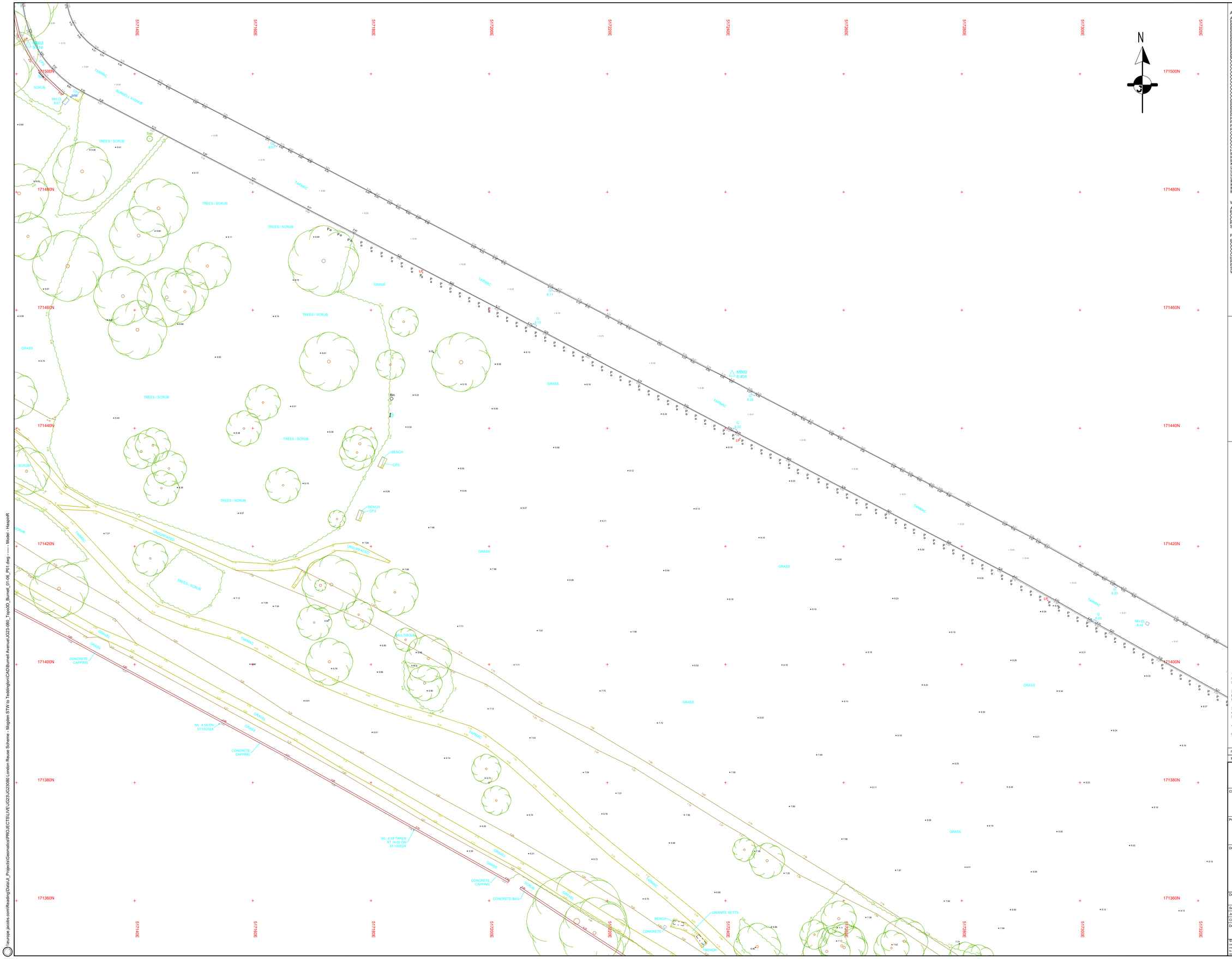

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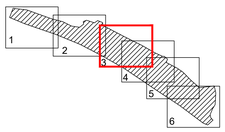

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Drawing title
3D Topographic Survey
Sheet 3 of 6

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B228490CO	
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Drawing number
JG23080-Burnell-Topo-3D-03

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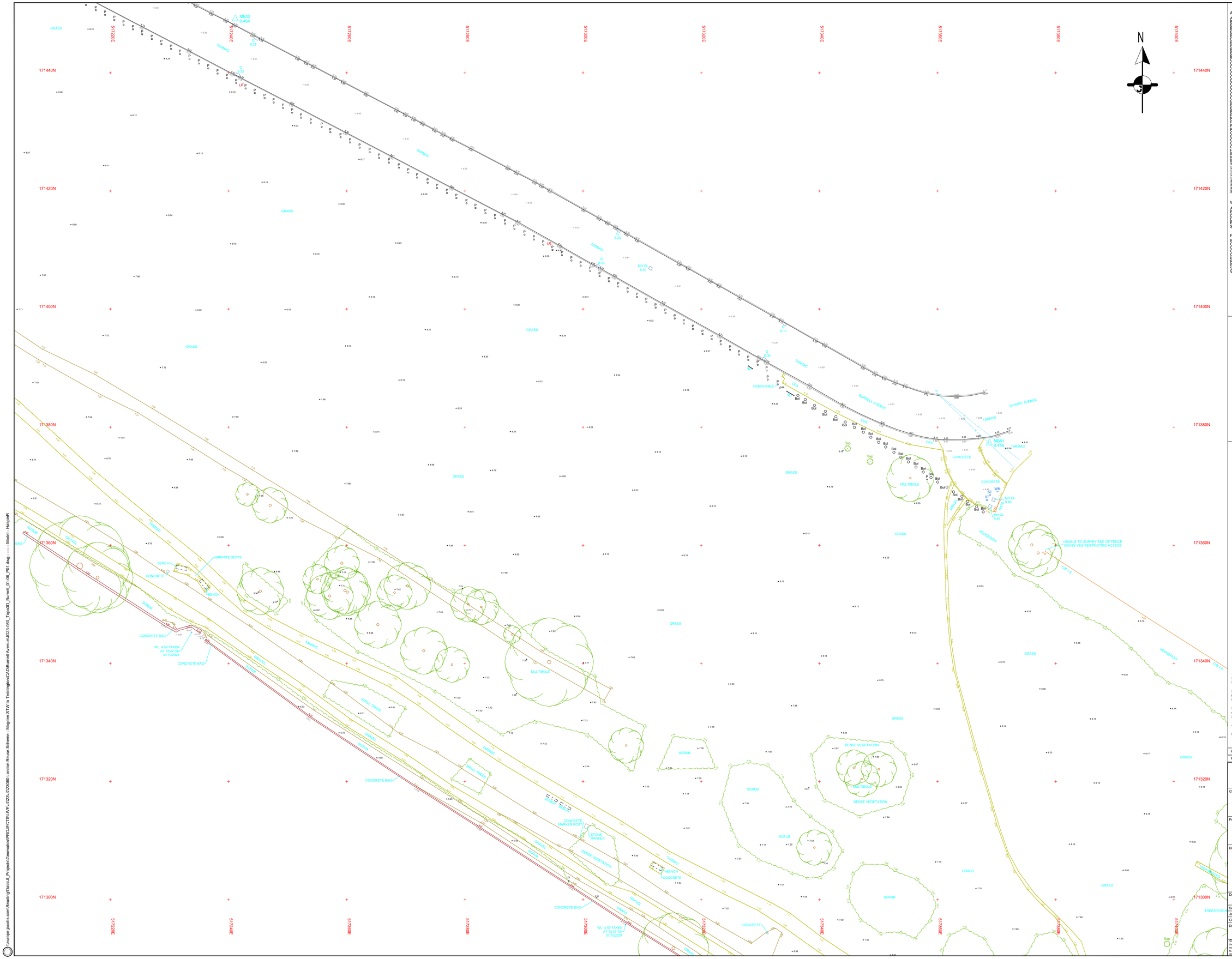

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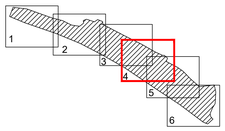

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P01

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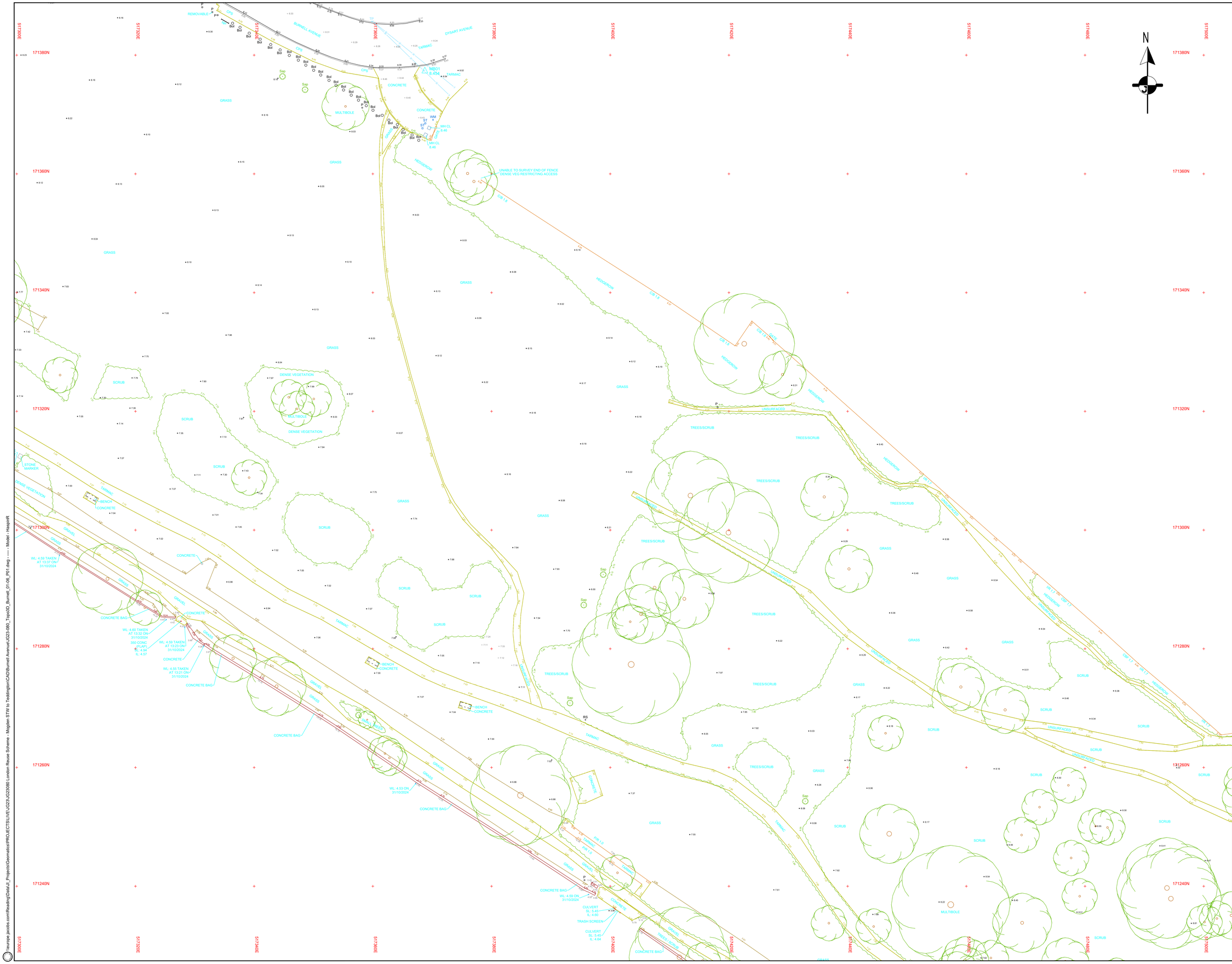
\\europe.jacobs.com\Reading\Data\U_Projects\Geomatics\PROJECTS\U1\EU\G23\JG23080 London Resale Scheme - Mogden STW to Teddington\CAD\Burnell Avenue\JG23-080_Topo3D_Burnell_01-06_P01.dwg ---- Model : HaspnR



ANNOTATIONS:

AV	Air Valve Cover	NP	Name Plate
Bol	Belisha Beacon	OSBM	Ordnance Survey Benchmark
BdL	Bed Level	OGC	Overground Conduit/Pipe
BEL	Building Eave Level	OHC	Overhead Conduit/Pipe
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Bol	Bollard	OHT	Overhead telecom Cable
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CB	Control Box	Peg	Marker / Setting out peg
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CHL	Channel Level	PSP	Electricity Supply Pylon
CL	Ground Level	RE	Rodding Eye Cover
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CpL	Coping Level	RWP	Rain Water Pipe
CTr	Cable Trench Cover	Sap	Sapling
CrL	Crown Level	SB	Sign Board
CT	Cable Tray	Shel	Bus/Tram Shelter
Cud	Culvert Pipe	SL	Soffit Level
EIC	Electricity Inspection Cover	Silt	Silt Level (top)
ER	Earth Rod	SP	Sign-post
ER	Earth Rod Point / Cover	STT	Stop Tap Cover
ESP	Electric Supply Point	Stile	Stile
Fb	Footbridge	STL	Top of Structure Level
FH	Hydrant	SGP	Stand Pipe
FL	Floor Level	SP	Stand Pipe
FLi	Flood Light	StW	Stay Wire
FP	Flag Pole	SV	Stop Valve Cover
G	Gully	T_Bol	Traffic Bollard
GIP	Gas Inlet Pipe	Tc	Traffic Camera
GP	Gate Post	TBM	Temporary Benchmark
Grl	Grill	TCB	Telephone Call Box
GV	Gas Valve	TCP	Telecom Call Post
Hrl	Handrail	Tel	Telecom Cover
IB	Informational Bollard	THL	Threshold Level
IC	Inspection Cover	TL	Top Level
IL	Invert Level	TM	Ticket Machine
KO	Kerb Outlet	TP	Telecom Pole
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Ldr	Ladder	VDP	Vehicle Detection Pad
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WALL TYPES:

AB	Abutment Wall
BW	Brick Wall
CW	Concrete Wall
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RW	Retaining Wall
SW	Stone Wall

SURFACE TYPE:

TPS	Tactile Paving Slabs
CPS	Concrete Paving Slabs
BRK	Brick

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W/M	Wire Mesh Fence

PIPE MATERIAL:

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VC	Vitrified Clay
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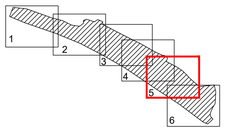
SHEET LAYOUT



SURVEY STATIONS

Name	Eastings (m)	Northings (m)	Level (m)	Marker Type
MB01	517368.759	171377.324	8.454	Survey Nail
MB02	517241.127	171449.153	8.404	Survey Nail
MB03	517121.988	171504.885	9.810	Survey Nail

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5. Digital drawing is 3D AutoCAD .dwg file.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
P01	07-11-2024	Original Issue	MB	BN	RH	**

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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Burnell Avenue

Drawing title
3D Topographic Survey
Sheet 5 of 6

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B228490CO	
Client no.		
Drawing number	JG23080-Burnell-Topo-3D-05	Rev P01

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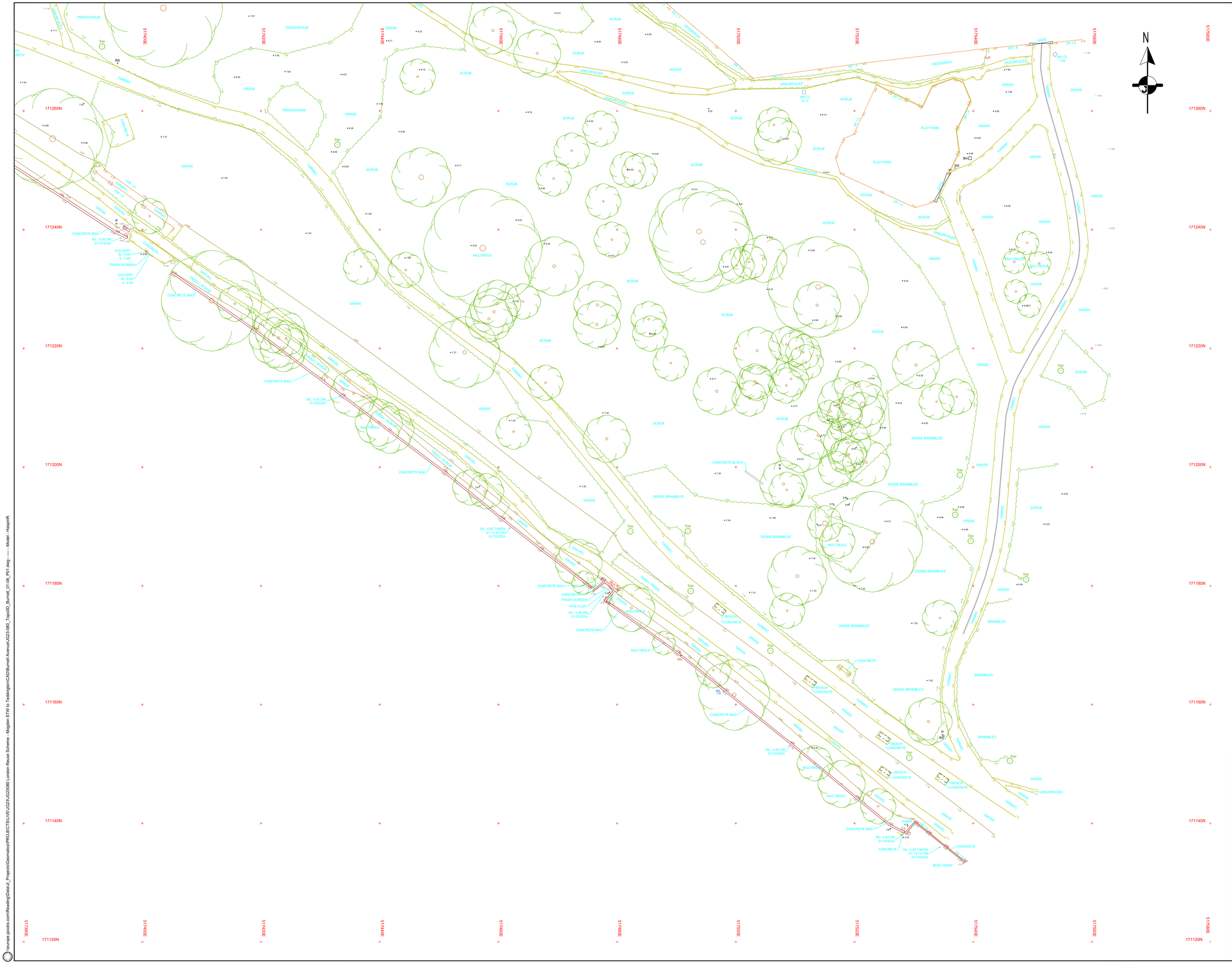
\\europe.jacobs.com\Reading\Data\JI_Projects\Geomatics\PROJECTS\LIVE\JG23\JG23080 London Reuse Scheme - Megalith STW to Teddington\CAD\Burnell Avenue\JG23-080_Topo3D_Burnell_01-06_P01.dwg ---- Model - HatchR



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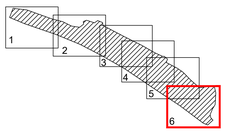

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5. Digital drawing is 3D AutoCAD .dwg file.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Revd	Apprv'd
P01	07-11-2024	Original Issue	MB	BN	RH	**

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2nd Floor Cottons Centre, Cottons Lane, London, SE1 2QG
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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
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Drawing title
3D Topographic Survey
Sheet 6 of 6

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B228490CO	
Client no.		

Drawing number
JG23080-Burnell-Topo-3D-06

Rev
P01

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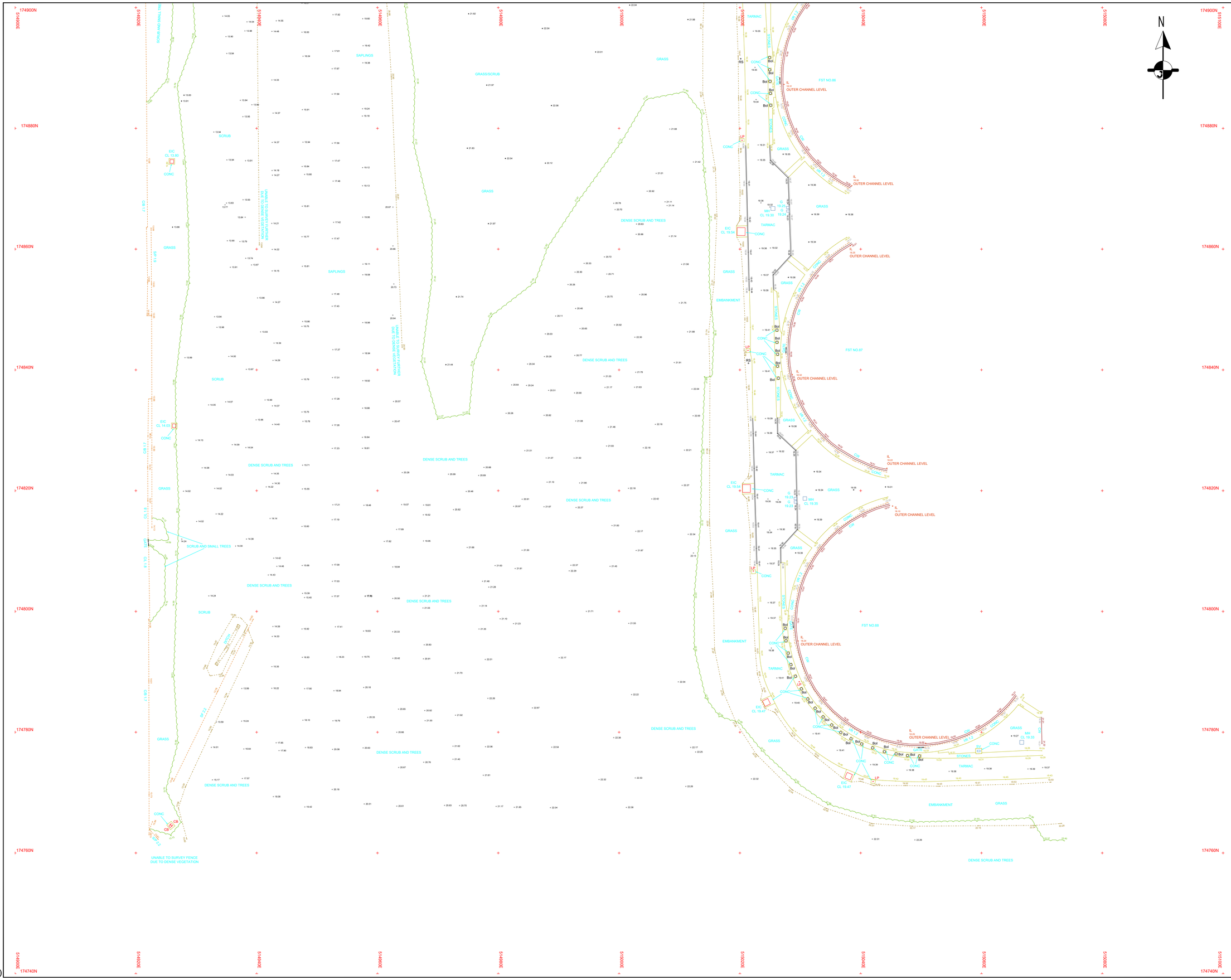
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174880N
174860N
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514940E
514960E
514980E
515000E
515020E
515040E
515060E
515080E
515100E
SCRUB AND SMALL TRE
SCRUB
GRASS
SAPLINGS
DENSE SCRUB AND TREES
SCRUB AND SMALL TREES
UNABLE TO SURVEY FURTHER DUE TO DENSE VEGETATION
UNABLE TO SURVEY FENCE DUE TO DENSE VEGETATION
GRASS/SCRUB
TARMAC
CONC
EMBANKMENT
FST NO.86
FST NO.87
FST NO.88
OUTER CHANNEL LEVEL
STONES
EIC CL 13.60
EIC CL 14.05
EIC CL 19.54
EIC CL 19.47
MH CL 19.30
MH CL 19.35
MH CL 10.33
CB 7
CB 9
CB 11
CB 13
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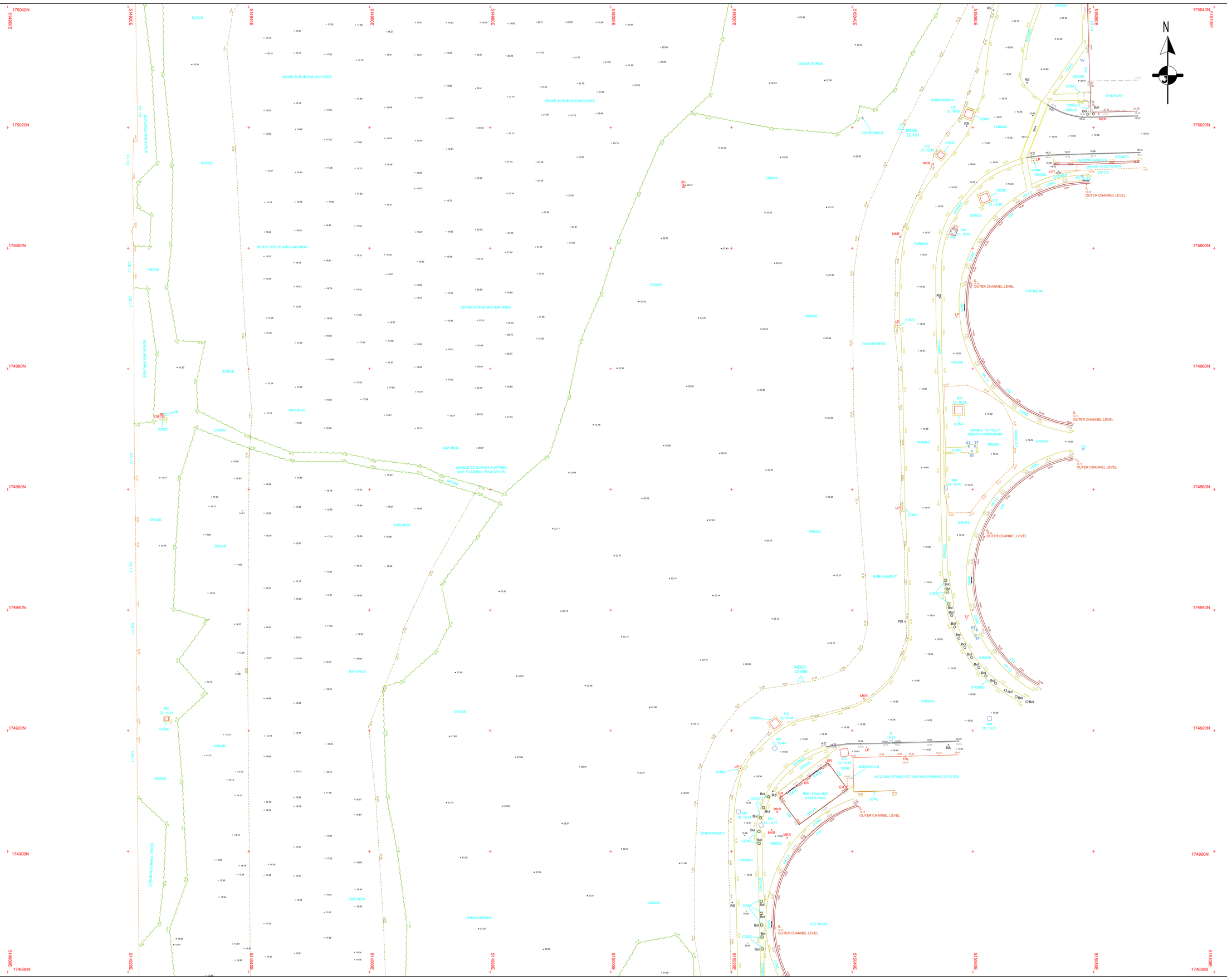

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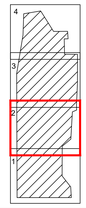

SURVEY STATIONS

Name	Eastings (m)	Northings (m)	Level (m)	Marker Type
MO25	515031.463	174928.456	22.068	Peg
MO26	515048.100	175020.031	22.193	Peg
MO27	515141.284	175168.513	10.251	Survey Nail
MO28	515138.235	175237.108	10.458	Survey Nail

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6. Due to the nature of remote LiDAR survey technologies, some features may have been omitted from the survey model. A full site validation is required to highlight any missing features. e.g. manhole covers in verges obstructed by vegetation or debris.

7. Dense vegetation has caused the point cloud to be sparsely populated in places, resulting in significant uncertainty in the exact position of bank tops and ditch lines. It is not possible to guarantee the accuracy of position and height of features which are on soft surfaces, and site verification should be considered a necessity if definite position, line and level of embankments and drainage features is required.

8. Survey data captured using LiDAR technology is shown on layer 'G_AM_LEVELS_GROUND_LEVELS'.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
P01	25-11-2024	Original Issue	DB	BN	RH	

Jacobs
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU
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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Mogden STW
West Site

Drawing title
3D Topographic Survey
Sheet 2 of 4

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number: JG23080-Mogden West-Topo-3D-02 Rev: P01

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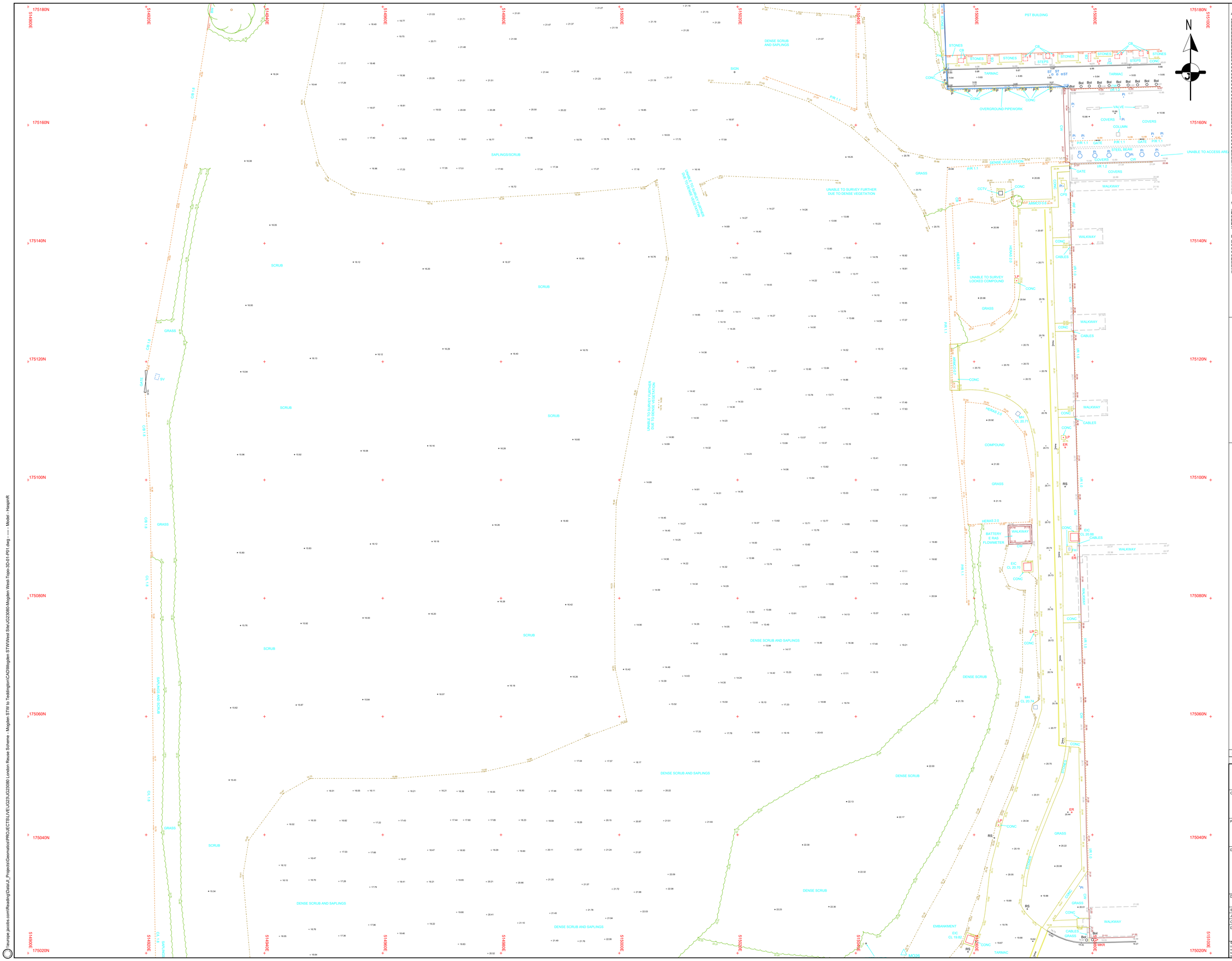

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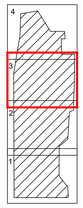
P/W	Post & Wire Fence
S/W	Steel Mesh Fence
W/M	Wire Mesh Fence

PIPE MATERIAL:

PVC	Polyvinyl Chloride
VC	Vitrified Clay
CONC	Concrete
CI	Cast Iron

SHEET LAYOUT



SURVEY STATIONS

Name	Eastings (m)	Northings (m)	Level (m)	Marker Type
MO25	515031.463	174928.456	22.068	Peg
MO26	515048.100	175020.031	22.193	Peg
MO27	515141.284	175168.513	10.251	Survey Nail
MO28	515138.235	175237.108	10.458	Survey Nail

NOTES

1. The survey has been accurately positioned on the Ordnance Survey National Grid system using GNSS observations to the OS Active Network and the latest Ordnance Survey transformation (OSTN15/OSGM15).

2. Local Scale Factor has been removed to transform the survey to a flat plane grid (scale factor 1.00000). Local Grid Origin is 515048.100mE 175020.031mN and this is the only point where OS Grid coordinates are true.

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8. Survey data captured using LiDAR technology is shown on layer 'G_AM_LEVELS_GROUND_LEVELS'.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
P01	25-11-2024	Original Issue	DB	BN	RH	

Jacobs
1180 Eskdale Road, Winnersh, Wokingham, RG41 5TU
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www.jacobs.com

Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Mogden STW
West Site

Drawing title
3D Topographic Survey
Sheet 3 of 4

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number: JG23080-Mogden West-Topo-3D-03 | Rev: P01

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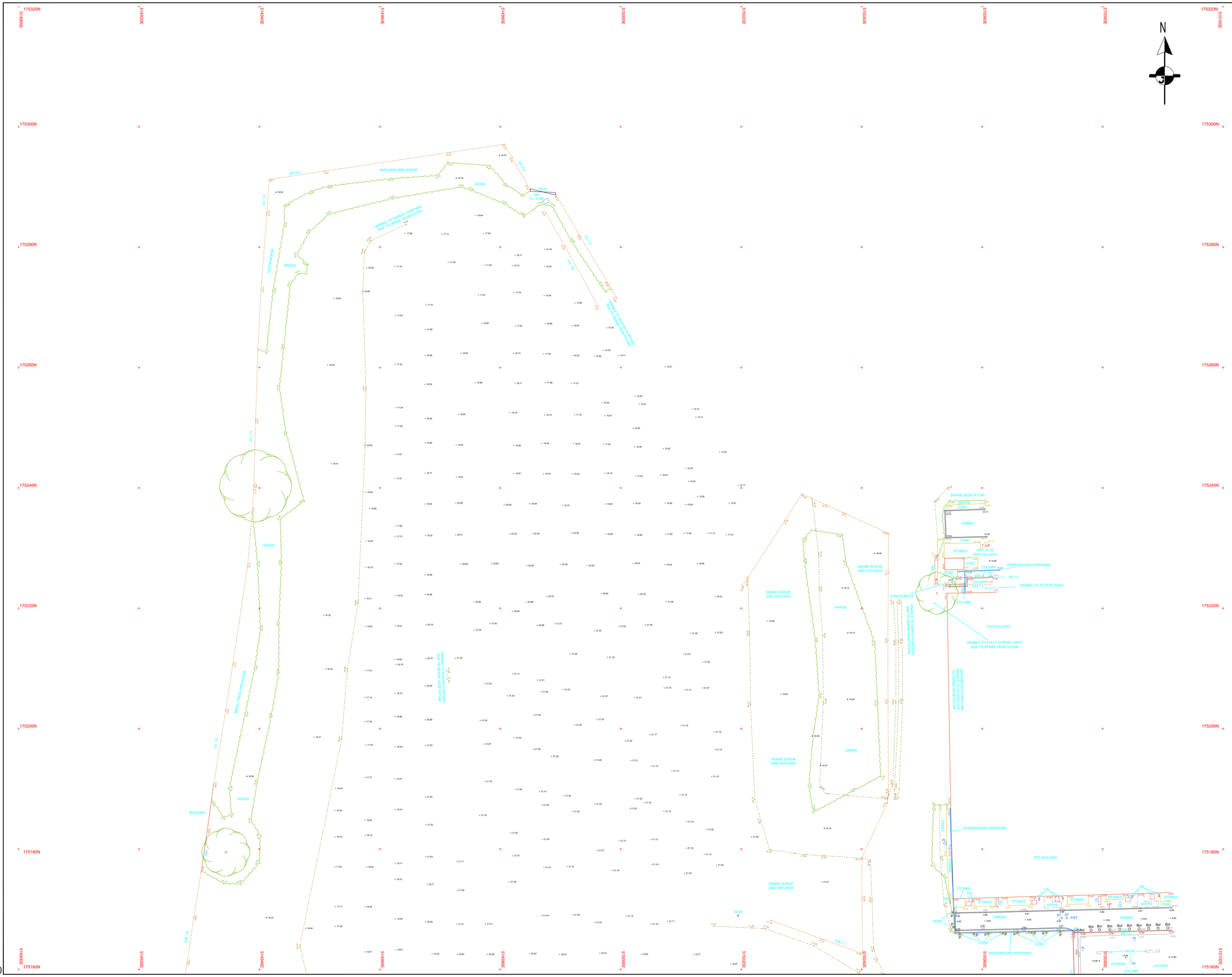

ANNOTATIONS:

AV	Air Valve Cover	NP	Name Plate
BB	Belisha Beacon	OSBM	Ordnance Survey Benchmark
BdL	Bed Level	OGC	Overground Conduit/Pipe
BEL	Building Eave Level	OHC	Overhead Conduit/Pipe
Bench	Bench/Bench	OHCa	Overhead Cable (unidentified)
Bh	Borehole	OHE	Overhead Electric Cable
Bin	Litter/Salt Bin	OHG	Overhead Gantry
Bol	Bollard	OHT	Overhead telecom Cable
BMP	Boundary Marker	OP	Outlet Pipe
BRck	Bicycle Rack or Stand	OHSS	Overhead Structural Steel
BRL	Building Ridge Level	P	Post
BS	Bus Stop	PB	Post Box
Cath	Catenary Level	PL	Pipe
CATV	Cable TV Cover / Point	PCg	Pedestrian Crossing
CB	Control Box	Peg	Marker / Setting out peg
Ccd	Cattle Grid	PYK	Flexstock
CL	Channel Level	PS	Electricity Supply Pylon
Cl	Crown Level	RE	Rodding Eye Cover
CCTV	CCTV Camera	RS	Road Sign
CpL	Coping Level	RWP	Rain Water Pipe
CT	Cable Trench Cover	Sap	Sapling
Crl	Crown Level	SB	Sign Board
CT	Cable Tray	Shel	Bus/Tram Shelter
Cud	Culvert Pipe	SL	Soffit Level
EIC	Electricity Inspection Cover	Silt	Silt Level (top)
EP	Edge of Path	SP	Sign-post
ER	Earth Rod Point / Cover	ST	Stop Tap Cover
ESP	Electric Supply Point	Stile	Stile
Fb	Footbridge	STL	Top of Structure Level
FH	Hydrant	SSL	Soffit Level
FL	Floor Level	SP	Stand Pipe
FLi	Flood Light	StW	Stay Wire
FP	Flag Pole	SV	Stop Valve Cover
G	Gully	T_Bol	Traffic Bollard
GIP	Gas Inlet Pipe	Tc	Traffic Camera
GP	Gate Post	TBM	Temporary Benchmark
Grl	Grille	TCB	Telephone Call Box
GV	Gas Valve	TCP	Telecom Call Post
Hd	Handrail	Tel	Telecom Cover
HB	Heritage Bollard	THL	Threshold Level
IC	Inspection Cover	TL	Top Level
IL	Invert Level	TM	Ticket Machine
KO	Kerb Outlet	TP	Telecom Pole
Lby	Lifebuoy	TPi	Trial Pit
Lck	Lock Gate	Tr	Trough
Ldr	Ladder	VDP	Vehicle Detection Pad
LP	Lamp Post	VP	Vent Pipe
Mcy	Machinery	WG	Water Gauge
Mk	Markers	WL	Water Level
Mkr	Marker Post	WM	Water Meter Cover
MP	Mile Post	WO	Water Outlet
		WrL	Weir Level

WALL TYPES:

AB	Abutment Wall
BW	Brick Wall
CW	Concrete Wall
DSW	Dry Stone Wall
RW	Retaining Wall
SW	Stone Wall

SURFACE TYPE:

TPS	Tactile Paving Slabs
CPS	Concrete Paving Slabs
BRK	Brick

FENCE TYPES:

B/W	Barbed Wire Fence
C/B	Close Boarded Fence
C/I	Corrugated Iron Fence
C/L	Chain Link Fence
C/P	Chestnut Paling Fence
I/R	Iron Railing Fence
P/R	Post & Rail Fence
P/W	Post & Wire Fence
S/P	Steel Palisade Fence
W/M	Wire Mesh Fence

PIPE MATERIAL:

PVC	Polyvinyl Chloride
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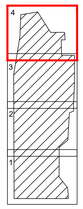
SHEET LAYOUT



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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Mogden STW
West Site

Drawing title
3D Topographic Survey
Sheet 4 of 4

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	BZ2849CO	
Client no.		

Drawing number: JG23080-Mogden West-Topo-3D-04
Rev: P01

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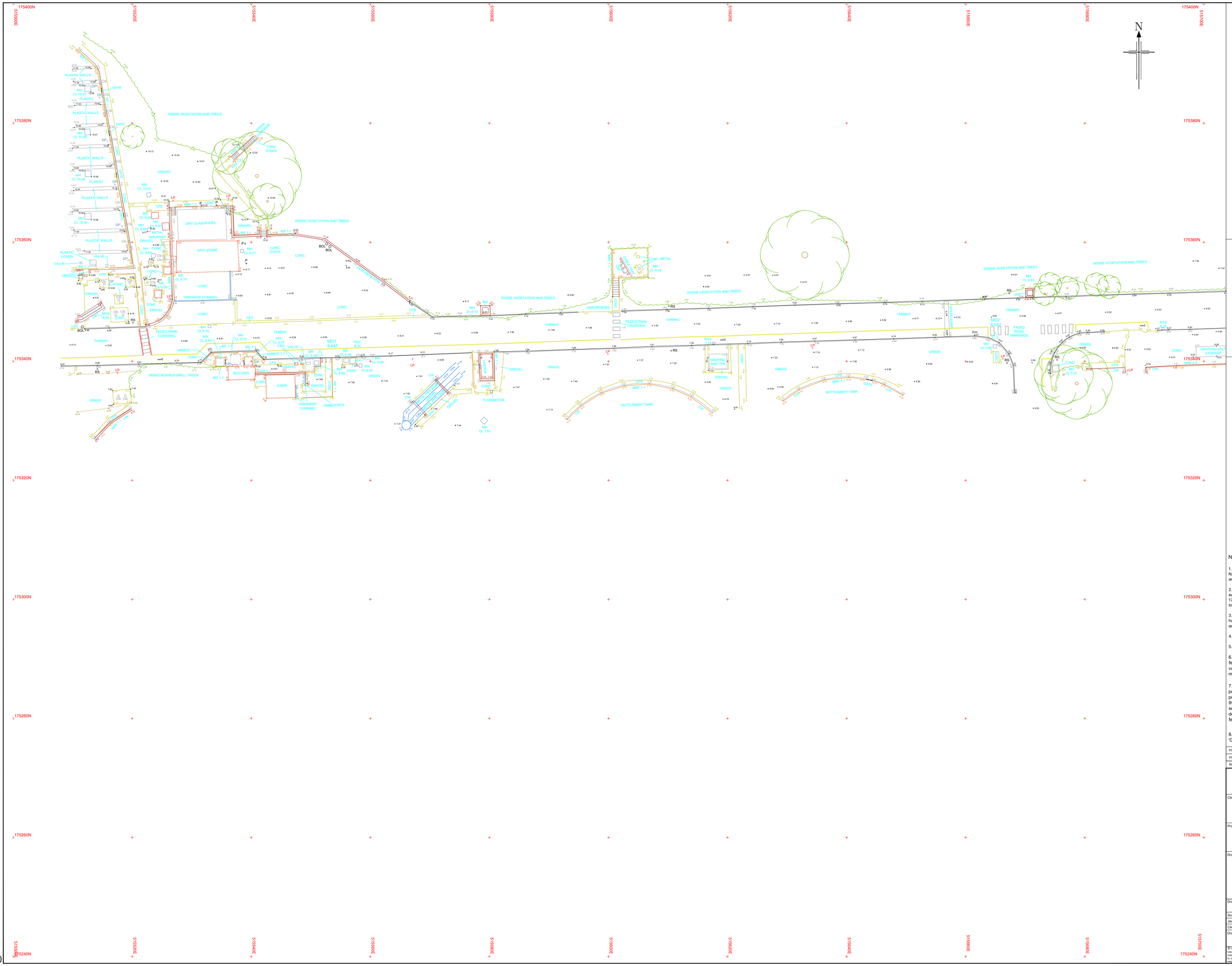

ANNOTATIONS:

A/C	Air Conditioning Unit	NB	Notice Board
Bl	Illum.Bollard	OHC	Overhead Cable
BL	Bed Level	P	Post
BM	Bench Mark	Pbox	Post Box
Bol	Bollard	Pi	Pipe
BPS	Brick Paving	PM	Parking Meter
BRC	Bracing Wire	PY	Electric Pylon
BRK	Brick	RE	Rodding Eye
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MAV	Air Valve	CBF	Close Boarded Fence
MC	Manhole Cable	CLF	Post & Chain Link Fence
ME	Manhole Electric	IRF	Iron Railings Fence
MF	Manhole Foul	MRF	Metal Railing Fence
MG	Manhole Gas	PWF	Post & Wire Fence
MH	Manhole	PRF	Post & Rail Fence
Mkr	Marker Post	SF	Security Fence
MP	Mile Post		
MS	Mile Stone	WALL TYPES:	
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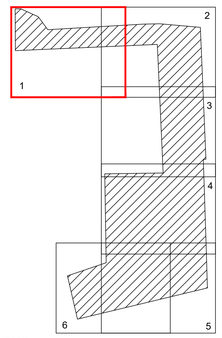
MW	Manhole Water	BW	Brick Wall
		CW	Concrete Wall
		DSW	Dry Stone Wall
		RTW	Retaining Wall
		SW	Stone wall

Survey Stations

Name	Easting (m)	Northing (m)	Level (m)
MO1	515551.520	175341.251	8.447
MO2	515664.946	175344.217	6.552
MO3	515773.293	175351.648	6.461
MO4	515775.582	175230.645	6.257
MO5	515777.639	175146.119	6.455
MO6	515784.420	175099.112	6.368
MO7	515733.334	175096.539	6.577
MO8	515675.872	175095.551	6.068
MO9	515679.940	174968.561	5.943
MO10	515701.635	174964.804	6.465
MO11	515767.667	174952.392	6.526
MO12	515763.881	175000.846	6.597
MO20	515675.748	174945.122	5.932
MO21	515771.010	174940.035	6.431
MO22	515686.787	174919.180	6.181
MO23	515616.877	174903.829	7.883
MO24	515782.023	175022.478	6.514

Sheet Layout



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8. Survey data captured using LiDAR technology is shown on layer 'G_AM_xxxxxxx'.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
P02	26-11-2024	Embankments and road to the South surveyed	DB	BN	RH	
P01	09-08-2023	Original	BB	DB	SW	

Jacobs
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Tel:+44(0)141 204 2511 Fax:+44(0)141 226 3109
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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Mogden STW
East Site

Drawing title
3D Topographical Survey

Drawing status
FINAL

Scale	1:200 @ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number: JG23-080/Topo3D/Mogden/01 Rev: P02

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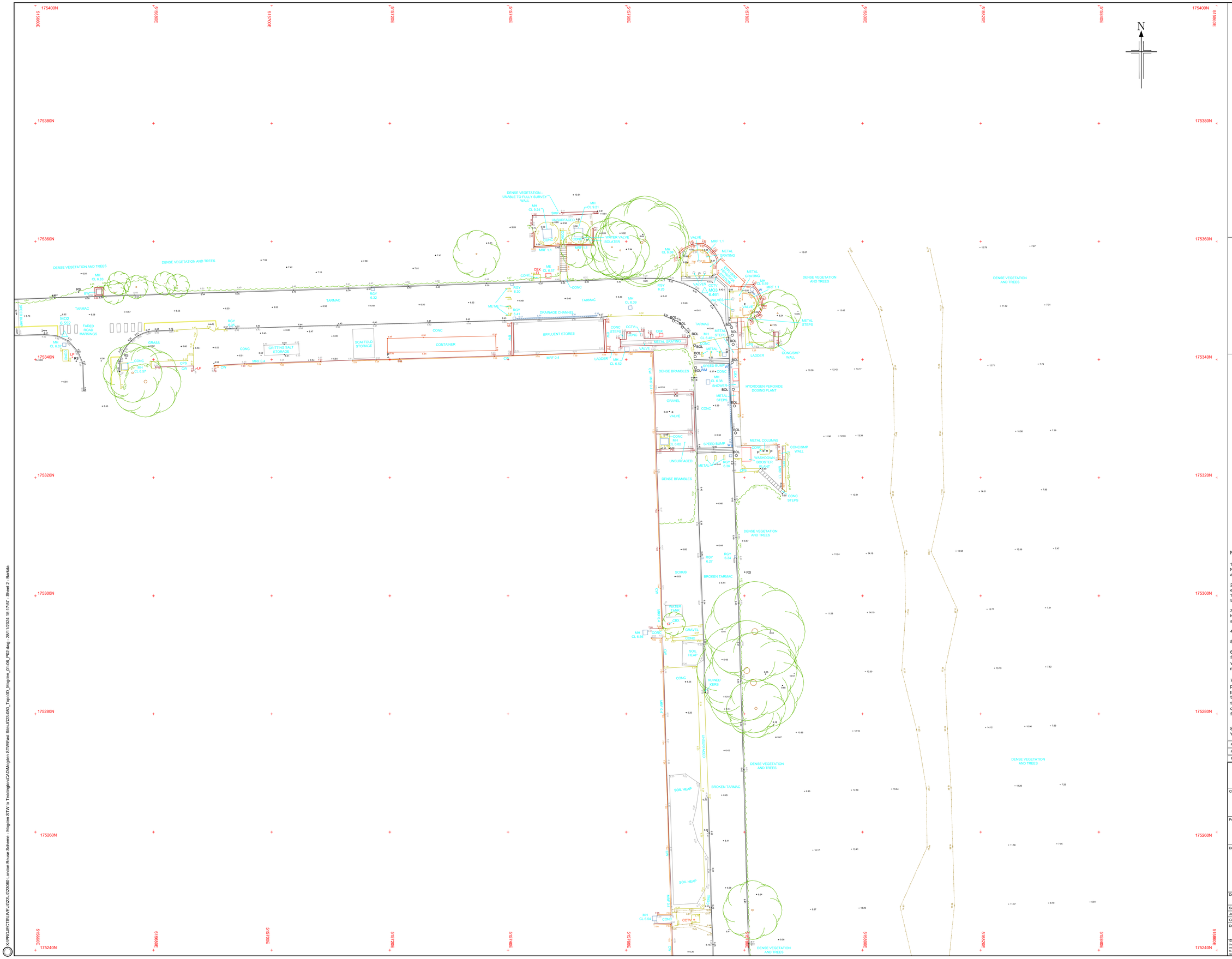

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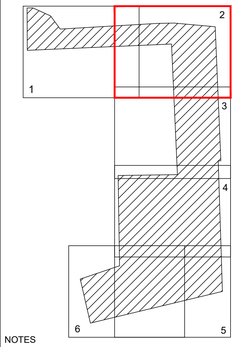
Sheet Layout



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London Recycling Engineering Gate 3
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East Site

Drawing title
3D Topographical Survey

Drawing status
FINAL

Scale	1:200 @ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number: JG23-080/Topo3D/Mogden/02 Rev: P02

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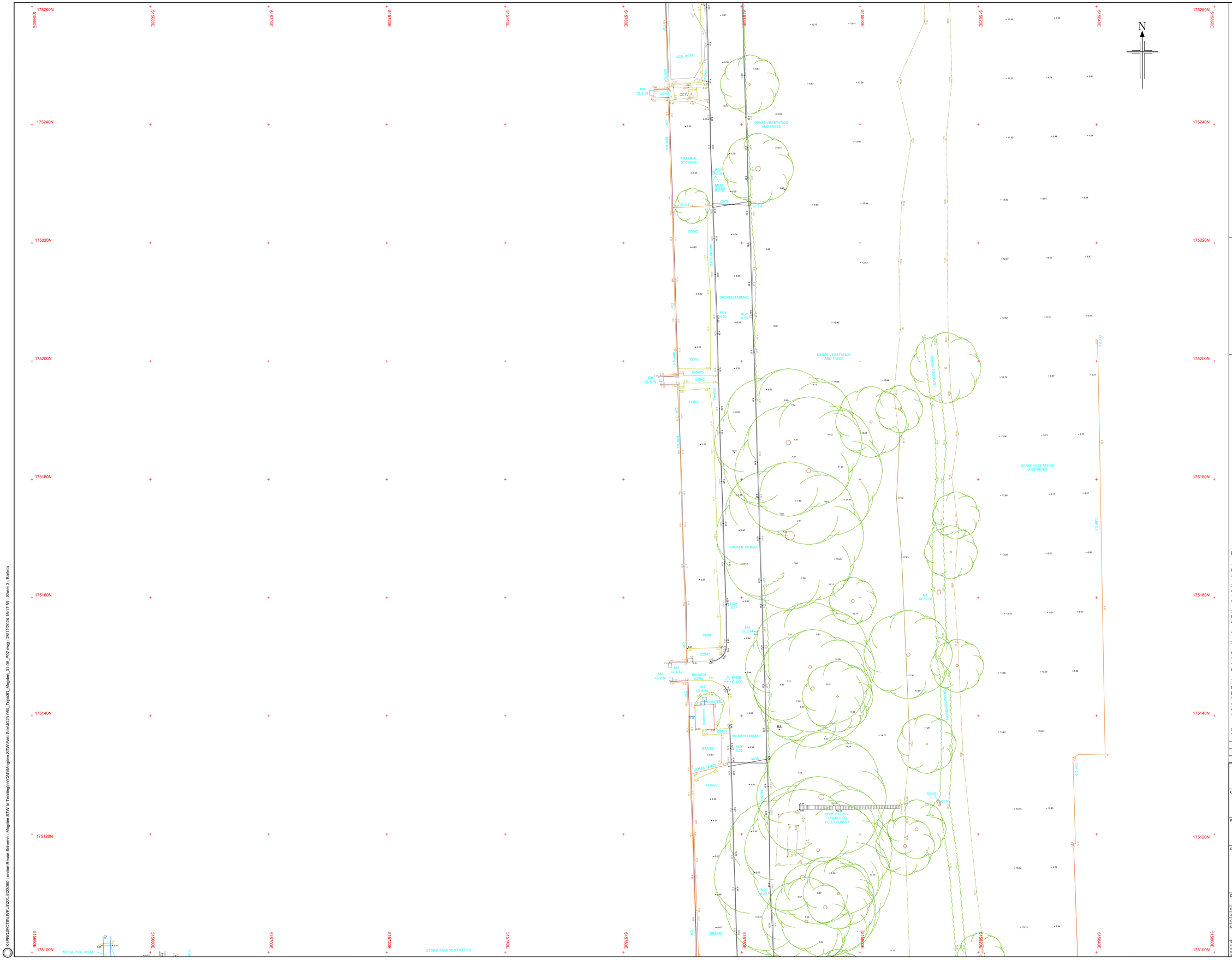

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MF	Manhole Foul	MRF	Metal Railing Fence
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Mkr	Marker Post	SF	Security Fence
MP	Mile Post		
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MW	Manhole Water	BW	Brick Wall
		CW	Concrete Wall
		DSW	Dry Stone Wall
		RTW	Retaining Wall
		SW	Stone wall

Survey Stations

Name	Easting (m)	Northing (m)	Level (m)
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MO2	515664.946	175344.217	6.552
MO3	515773.293	175351.648	6.461
MO4	515775.582	175230.645	6.257
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MO8	515675.872	175095.551	6.068
MO9	515679.949	174968.561	5.943
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MO11	515767.667	174952.392	6.526
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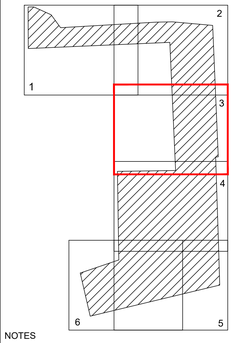
MO23	515616.877	174903.829	7.883
MO24	515782.023	175022.478	6.514

Sheet Layout



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8. Survey data captured using LiDAR technology is shown on layer 'G_AM_xxxxxxx'.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
P02	26-11-2024	Embankments and road to the South surveyed	DB	BN	RH	
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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Mogden STW
East Site

Drawing title
3D Topographical Survey

Drawing status
FINAL

Scale	1:200 @ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number
JG23-080/Topo3D/Mogden/03

Rev
P02

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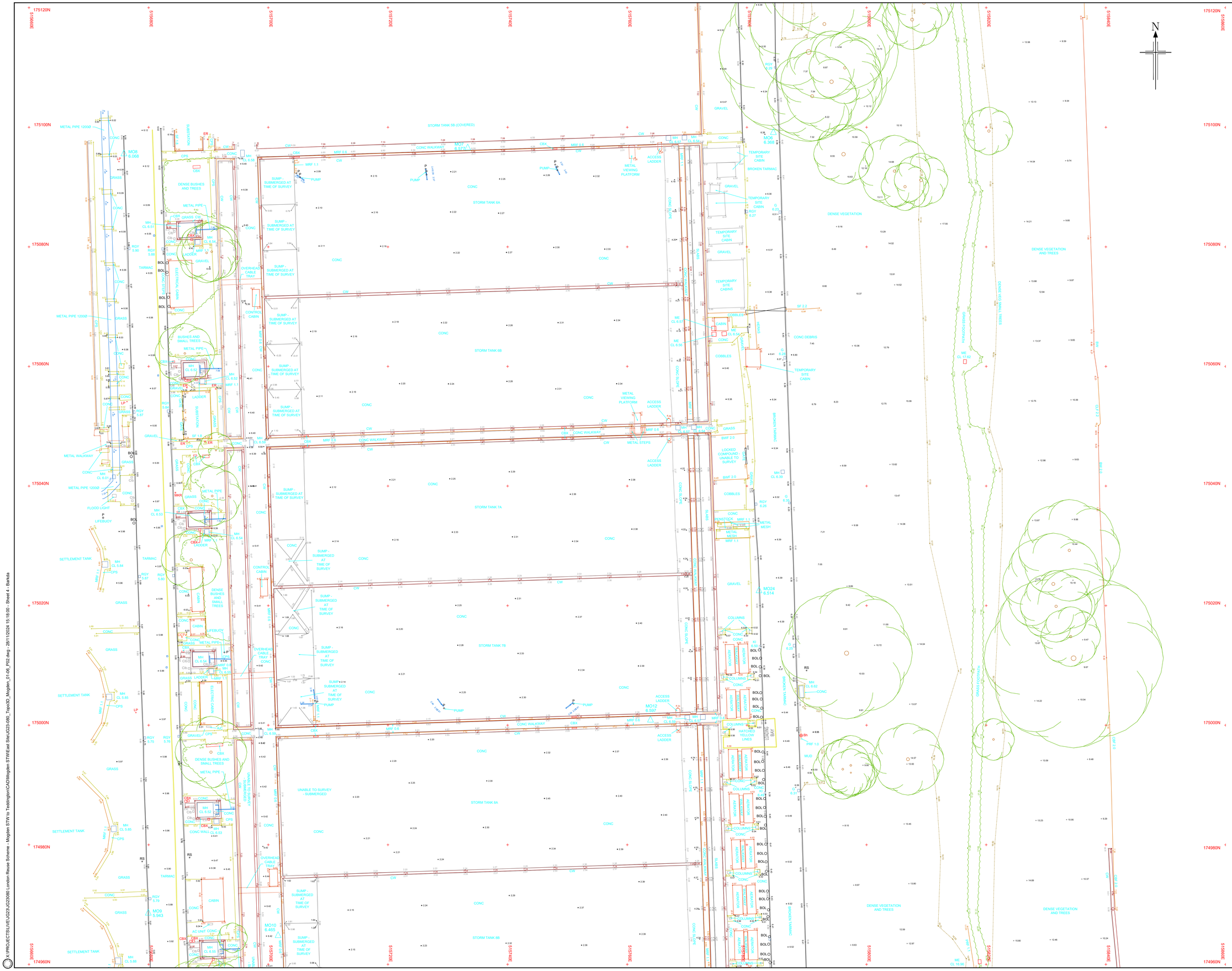

ANNOTATIONS:

A/C	Air Conditioning Unit	NB	Notice Board
Bl	Illum.Bollard	OHC	Overhead Cable
BL	Bed Level	P	Post
BM	Bench Mark	Pbox	Post Box
Bol	Bollard	Pi	Pipe
BPS	Brick Paving	PM	Parking Meter
BRC	Bracing Wire	PY	Electric Pylon
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BS	Bus Stop	RGY	Road Gully
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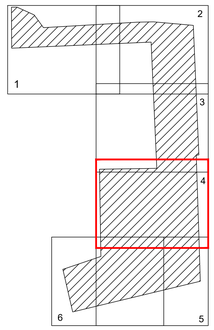
Sheet Layout



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8. Survey data captured using LiDAR technology is shown on layer 'G_AM_xxxxxxx'.

Rev	Rev. Date	Purpose of revision	Drawn	Check'd	Rev'z	Appr'd
P02	26-11-2024	Embankments and road to the South surveyed	DB	BN	RH	
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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Mogden STW
East Site

Drawing title
3D Topographical Survey

Drawing status
FINAL

Scale	1:200 @ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		
Drawing number	JG23-080/Topo3D/Mogden/04	Rev P02

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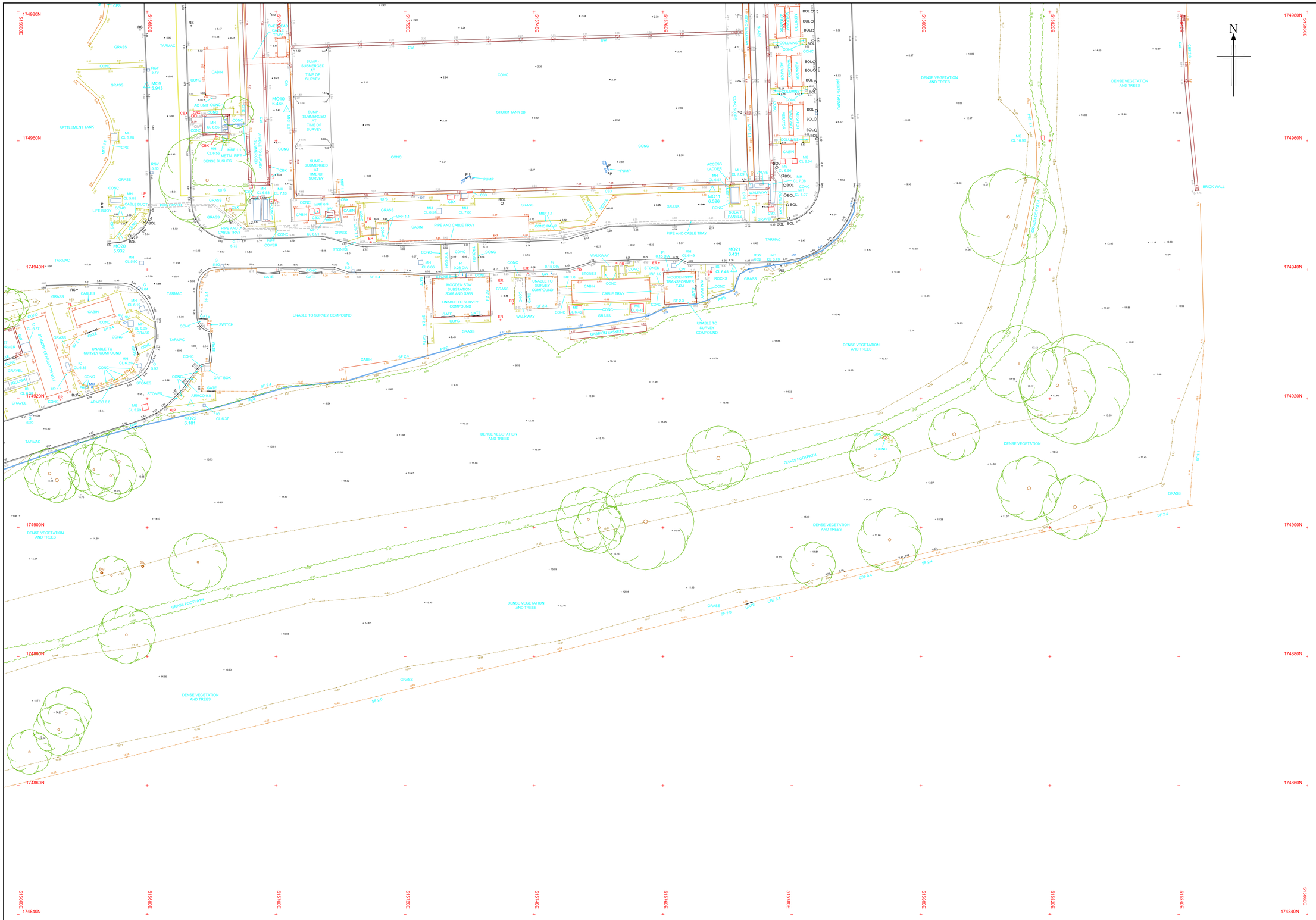

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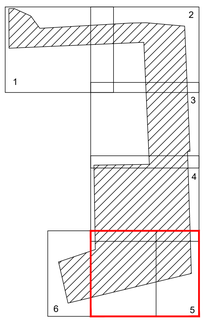
Sheet Layout



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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Mogden STW
East Site

Drawing title
3D Topographical Survey

Drawing status
FINAL

Scale	1:200 @ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number: JG23-080/Topo3D/Mogden/05 Rev: P02

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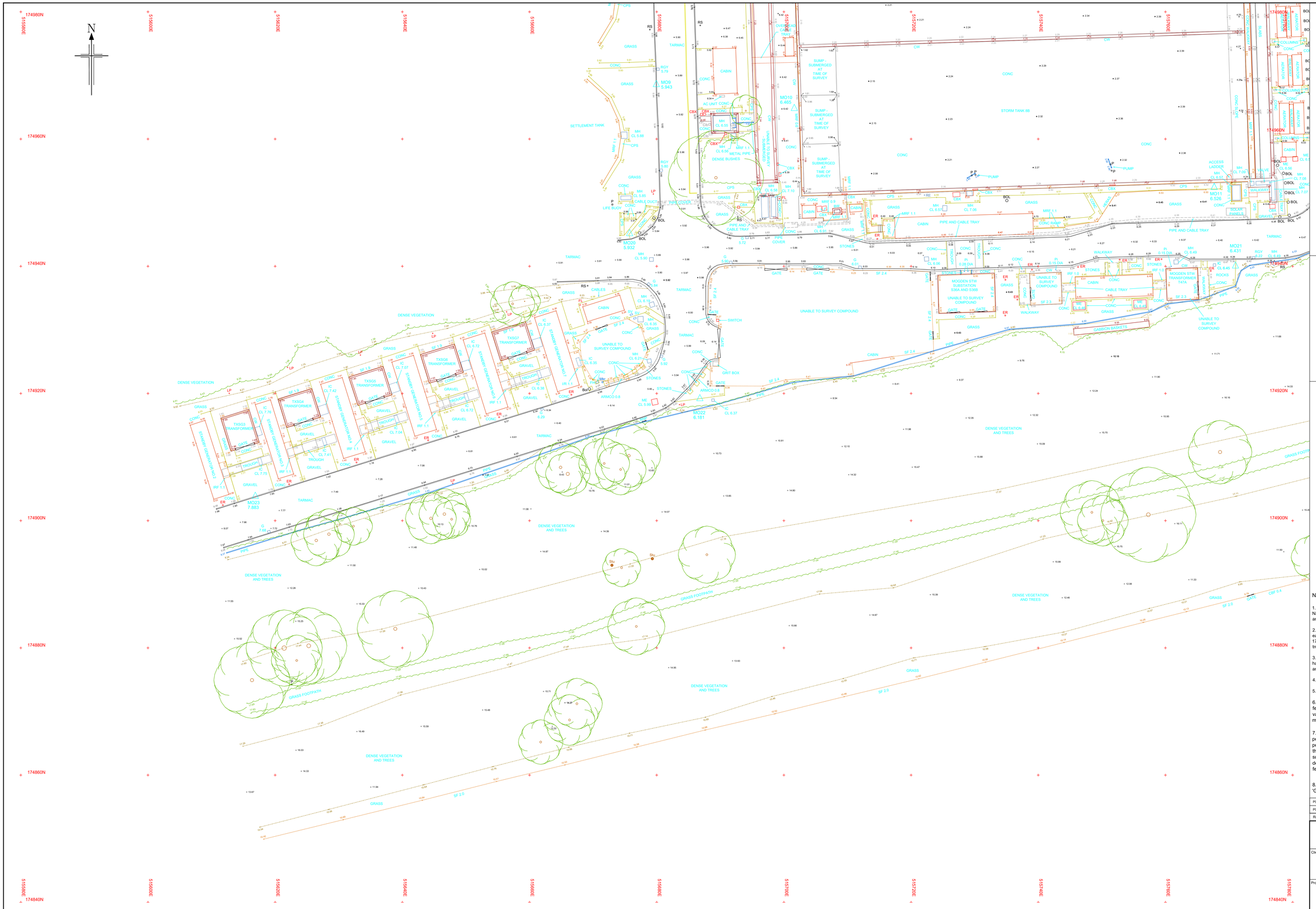

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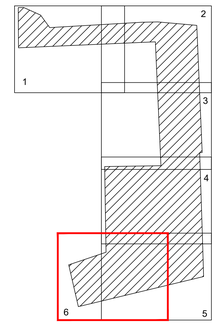

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Project
London Recycling Engineering Gate 3
Mogden STW
East Site

Drawing title
3D Topographical Survey

Drawing status
FINAL

Scale	1:200 @ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number: JG23-080/Topo3D/Mogden/06 — Rev: P02

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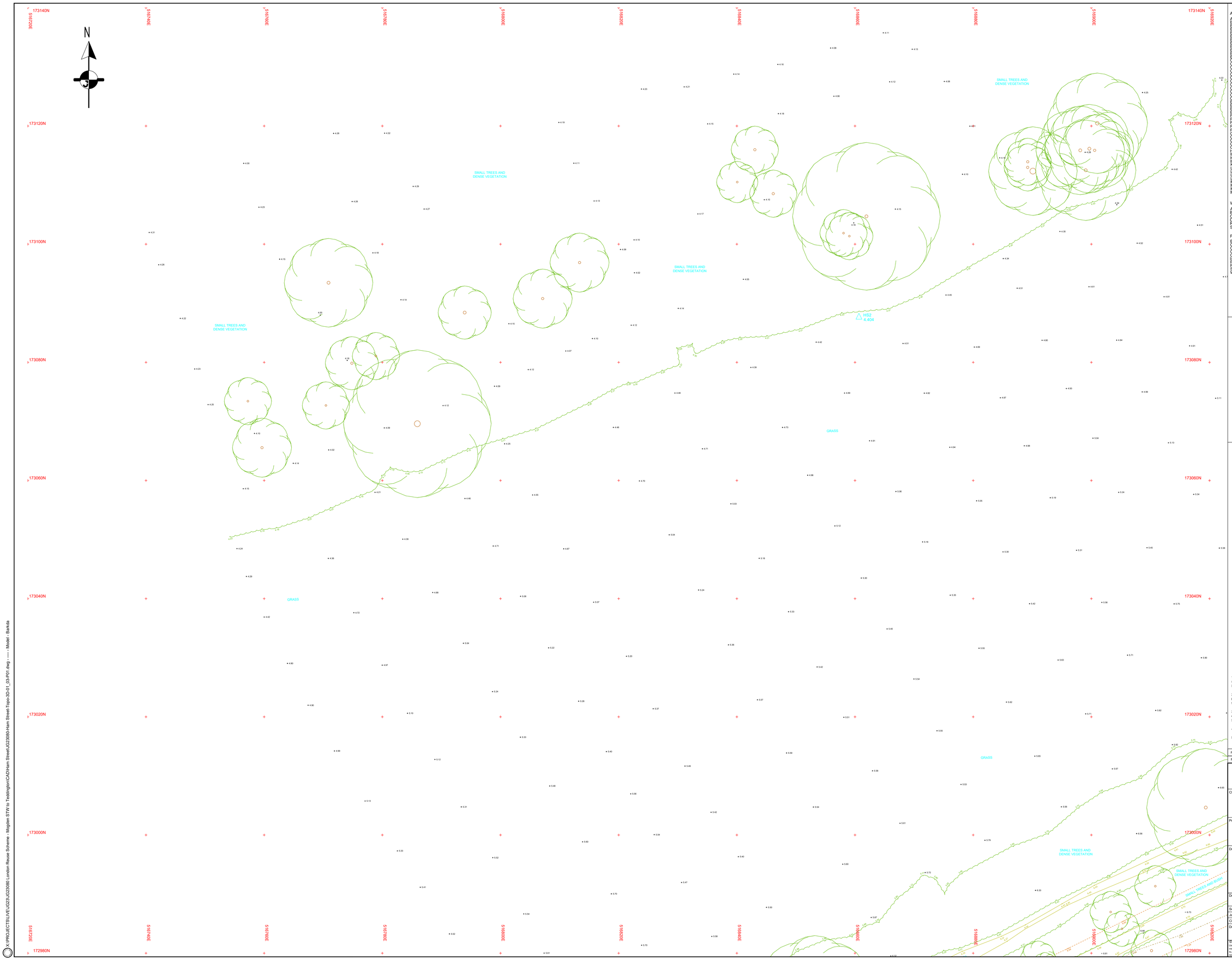

ANNOTATIONS:

AV	Air Valve Cover	NP	Name Plate
BB	Belisha Beacon	OSBM	Ordnance Survey Benchmark
BdL	Bed Level	OGC	Overground Conduit/Pipe
BEL	Building Eave Level	OHC	Overhead Conduit/Pipe
Bench	Bench/Bench	OHCa	Overhead Cable (unidentified)
Bh	Borehole	OHE	Overhead Electric Cable
Bin	Litter/Salt Bin	OHG	Overhead Gantry
Bol	Bollard	OHT	Overhead telecom Cable
BMP	Boundary Marker	OP	Outlet Pipe
BRck	Bicycle Rack or Stand	OHSS	Overhead Structural Steel
BRL	Building Ridge Level	P	Post
BS	Bus Stop	PB	Post Box
Cat	Catenary Level	PL	Pipe
CATV	Cable TV Cover / Point	PCg	Pedestrian Crossing
CB	Control Box	Peg	Marker / Setting out peg
Cctd	Cattle Grid	PYL	Pylon/Post
CL	Channel Level	PSP	Electricity Supply Pylon
CCTV	CCTV Camera	RE	Rodding Eye Cover
Cpl.	Coping Level	RS	Road Sign
CT	Cable Trench Cover	RWP	Rain Water Pipe
Crl.	Crown Level	Sap	Sapling
CT	Cable Tray	SB	Sign Board
Cud	Culvert Pipe	Shel	Bus/Tram Shelter
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ESP	Electric Supply Point	STT	Stop Tap Cover
Fb	Footbridge	Stile	Stile
FH	Hydrant	STL	Top of Structure Level
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FLi	Flood Light	SIP	Stand Pipe
FP	Flag Pole	StW	Stay Wire
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GIP	Gas Inlet Pipe	T_Bol	Traffic Bollard
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IL	Invert Level	TL	Tank Level
KO	Kerb Outlet	TM	Ticket Machine
Lby	Lifebuoy	TP	Telecom Pole
Lck	Lock Gate	TPi	Trial Pit
Ldr	Ladder	Tr	Trough
LP	Lamp Post	VDP	Vehicle Detection Pad
Mcy	Machinery	VP	Vent Pipe
Mkr	Marker	WG	Water Gauge
Mkr	Marker Post	WL	Water Level
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C/P	Chestnut Paling Fence
I/R	Iron Railing Fence
P/R	Post & Rail Fence
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S/P	Steel Palisade Fence
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PIPE MATERIAL:

PVC	Polyvinyl Chloride
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CONC	Concrete
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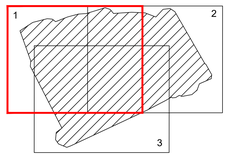
SHEET LAYOUT



SURVEY STATIONS

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5. Digital drawing is 3D AutoCAD .dwg file.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
P01	05-11-2024	Original Issue	DB	BN	RH	

Jacobs
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Client
Thames Water Utilities Limited

Project
London Recycling Engineering Gate 3
Ham Street

Drawing title
3D Topographic Survey
Sheet 1 of 3

Drawing status
Final

Scale	1:200@ A0	DO NOT SCALE
Jacobs No.	B22849CO	
Client no.		

Drawing number
JG23080-Ham Street-Topo-3D-01 | Rev P01

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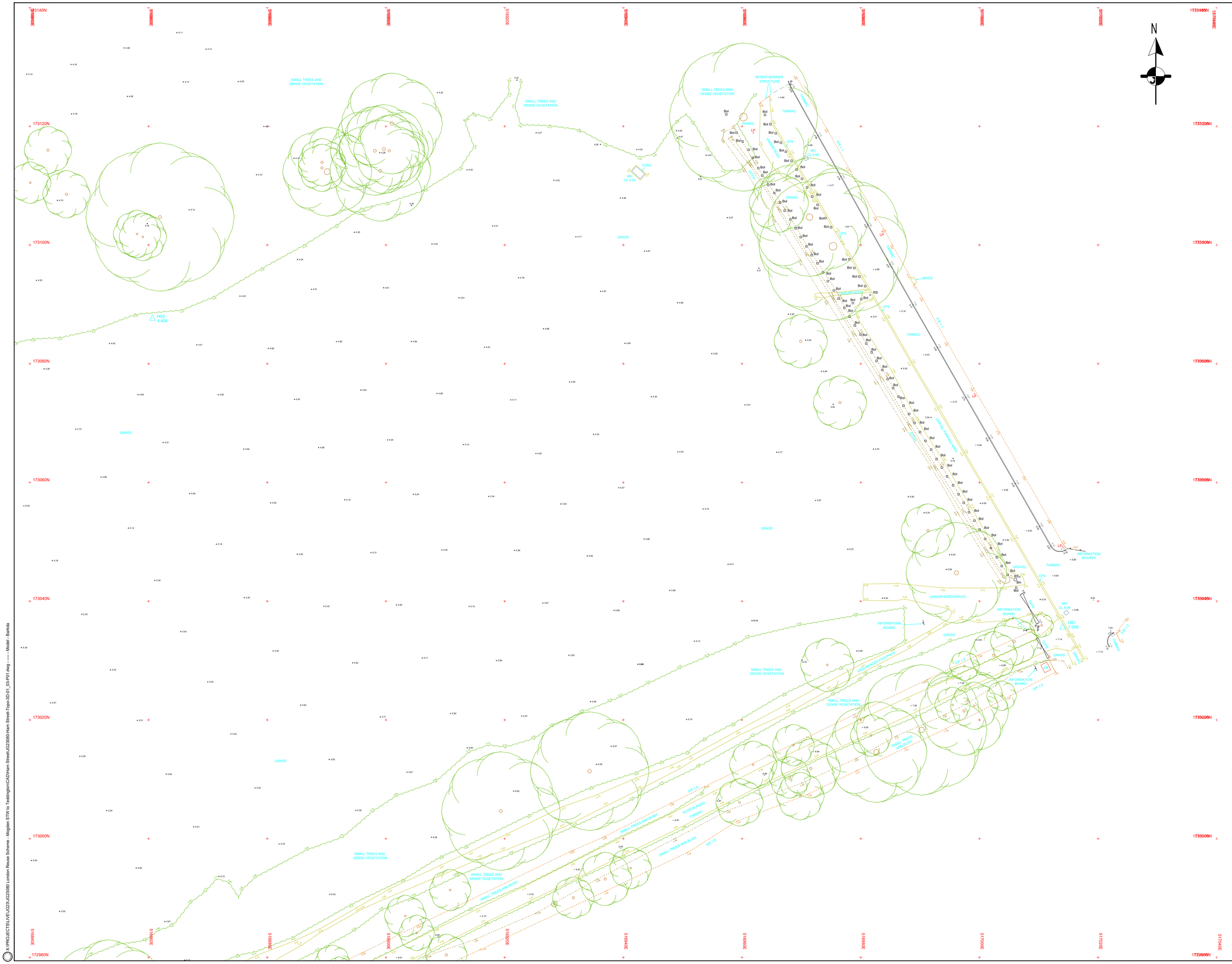

ANNOTATIONS:

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Bh	Bore Hole	OHE	Overhead Electric Cable
Bin	Litter/Salt Bin	OHG	Overhead Gantry
Bol	Bollard	OHT	Overhead telecom Cable
BMP	Boundary Marker	OP	Outlet Pipe
BRck	Bicycle Rack or Stand	OHSS	Overhead Structural Steel
BRL	Building Ridge Level	P	Post
BS	Bus Stop	PB	Post Box
Cath	Catenary Level	PL	Pipe
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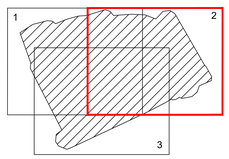

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Sheet 2 of 3

Drawing status
Final

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Jacobs No.	B2849CO	
Client no.		

Drawing number
JG23080-Ham Street-Topo-3D-02

Rev
P01

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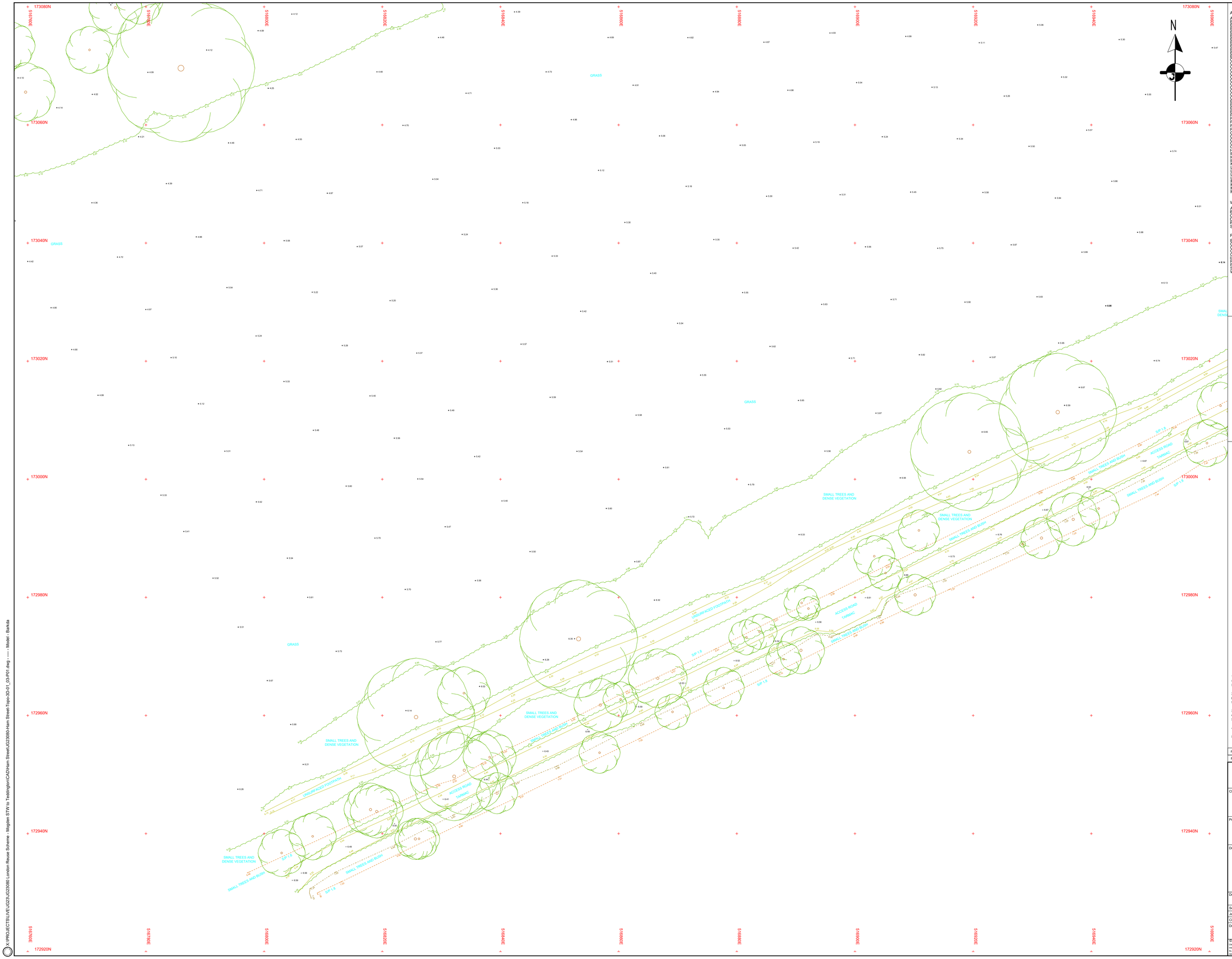

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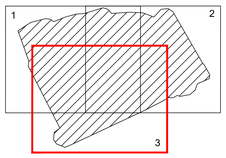

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Drawing title
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Sheet 3 of 3

Drawing status
Final

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Jacobs No.	B22849CO	
Client no.		

Drawing number
JG23080-Ham Street-Topo-3D-03

Rev
P01

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Annex B1. British Geological Survey (BGS) Borehole Records

GEOLOGICAL SURVEY OF GREAT BRITAIN

RECORD OF SHAFT OR BORE FOR MINERALS

(For Survey use only)
6-inch Map Registered No. TQ17SE/28C

Name of Shaft or Bore given by Geological Survey: Mogden Sewerage Works No. 3.

Name and Number given by owner:

For whom made G.L.C.

Town or Village ..... County .....

Exact site .....

Attach a tracing from a map, or a sketch-map, if possible.

Purpose for which made Trial

Nat. Grid Reference 1548 · 7493

1" N.S.Map No.	1" O.S.Map No.	Confidential or not
270		

Ground Level at shaft/bore relative to O.D. ..... If not ground level give O.D. of beginning of shaft/bore .....

Made by .....

Information from ..... Date of sinking 1968

Examined by ..... Date received .....

SPECIMEN NUMBERS AND ADDITIONAL NOTES

3

+ 33·6 + 10·24m

(For Survey use only) GEOLOGICAL CLASSIFICATION

Thickness Ft.	Thickness In.	Depth Ft.	Depth In.

0·61 — 2'-0"

Made ground. (Sandy clay with roots & gravel.

13'-6"

Medium dense gravel and brown sand.

4·72

Stiff to very stiff grey-brown fissured clay. (Blue London Clay.)

24'-6"

40'-0"

12·19

(5412) Wt.22837/PS.134 2m 10/64 G.W.B.Ltd. Gp.863

British Geological Survey
BGS ID: 581385 : BGS Reference: TQ17SE6/PP
British National Grid (27700) : 516940,173090

8 **WELL BORING** at Ham Estate Borings (co. County) TQ 17 SE/6 1657 7254

Geol. map 1 in. map New Series 6 in. map

Made by Date

Sunk feet. Bored feet.

Communicated by

Height above Ordnance Datum Rest level of water

Yield

Quality (with copy of analysis on separate sheet)

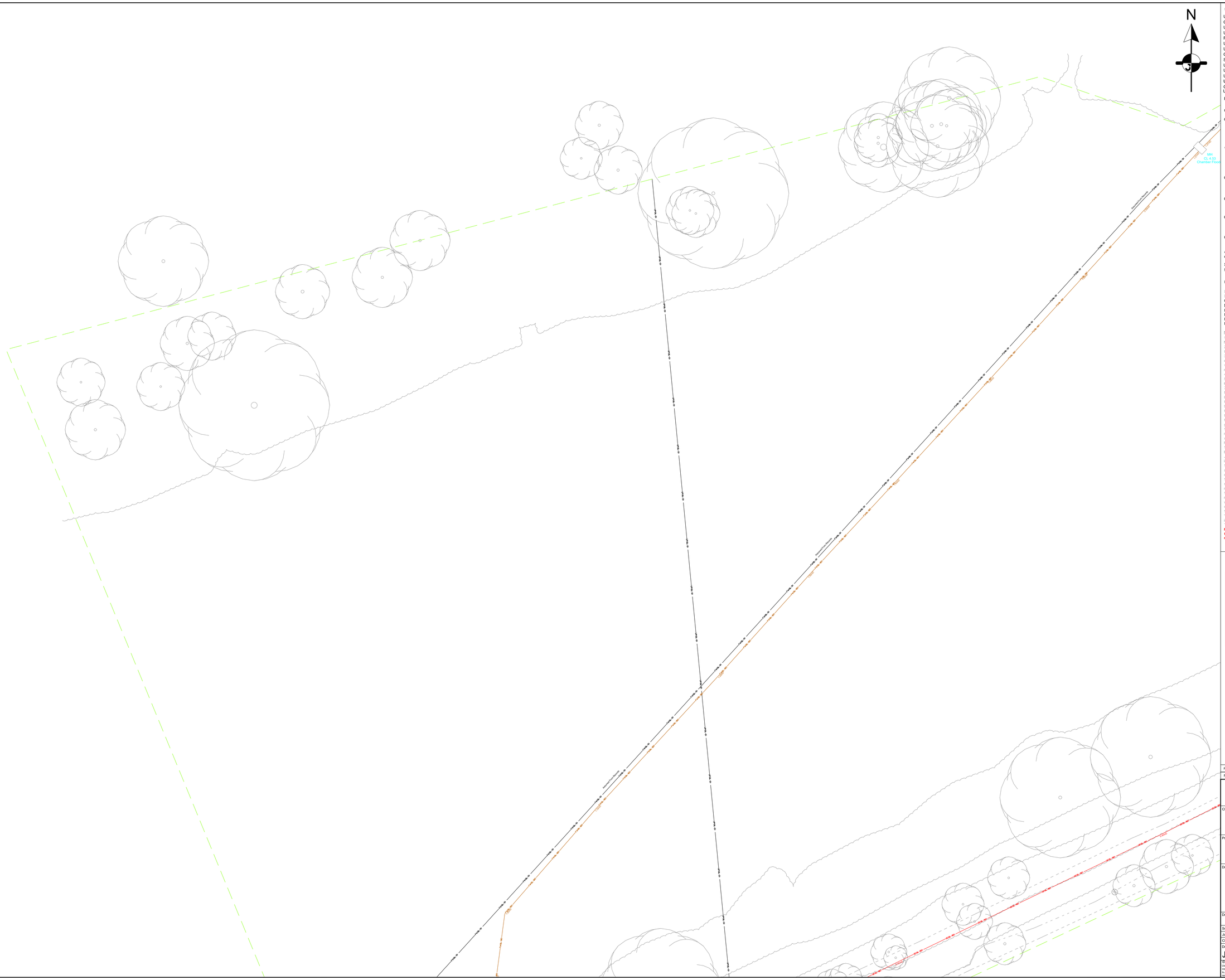
GEOLOGICAL FORMATION.	NATURE OF STRATA.	THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
TQ17SE KK 1707 7292	Bore ho. 635 Height above O.D. 22.3				+6.80
	Light surface brown soil	2	–	2	– 0.61
	Sandy loam rather clean		6	2	6 0.76
	Almost sand, small stones		9	3	3 0.99
	Loamy sand		6	3	9 1.14
	White sand; marl in seams	2	–	5	9 1.75
	Fine white sand, no marl	1	6	7	3 2.21
	Clean small ballast sharp sand	2	3	9	6 2.89
	Damp and caved at 9ft. 6in.				
TQ17SE 6LL 1684 7291	Bore ho. 636 Height above O.D. 23.60				+7.19m
	Top soil (12") and red loam	2	8	2	8 0.71
	Fine sand & stones	1	4	4	– 1.22
	Small good ballast	1	6	5	6 1.67
TQ17SE 6mm 1697 7296	Bore ho. 637 Height above O.D. 25.50				+7.77m
	Top soil (1'3") & loam	2	–	2	– 0.61
	Fine sand, no stones	1	3	3	3 0.97
	Very good ballast, coarse sand	10	9	14	– 4.27
	Water; caved in.				
TQ17SE nn 1676 7305	Bore ho. 638. Height above O.D. 14.99				+4.57m
	Brown soil, running into clay	3	6	3	6 1.07
	Coarse sand with little clay	1	–	4	6 1.37
	Small ballast, coarse sand	2	3	6	9 2.06
	Water 4'6" from surface; caved				
TQ17SE6pp 1694 7309	Bore ho. 639 Height above O.D. 16.69				+5.09
	Top soil (1'6") & loamy sand	3	6	3	6 1.07
	Fine sand with some stones	1	–	4	6 1.37
	Good rough ballast & coarse sand	1	7	6	1 1.85
	Water at 5'9". No progress				

GEOLOGICAL SURVEY AND MUSEUM,
JERMYN STREET, LONDON, S.W. 1.

(S. 1656.) Wt. 5621/69. 2000. 5-19. Ph & Ty. Ltd.

Contact BGS: ngdc@bgs.ac.uk

Annex C1. Public Sewer Plans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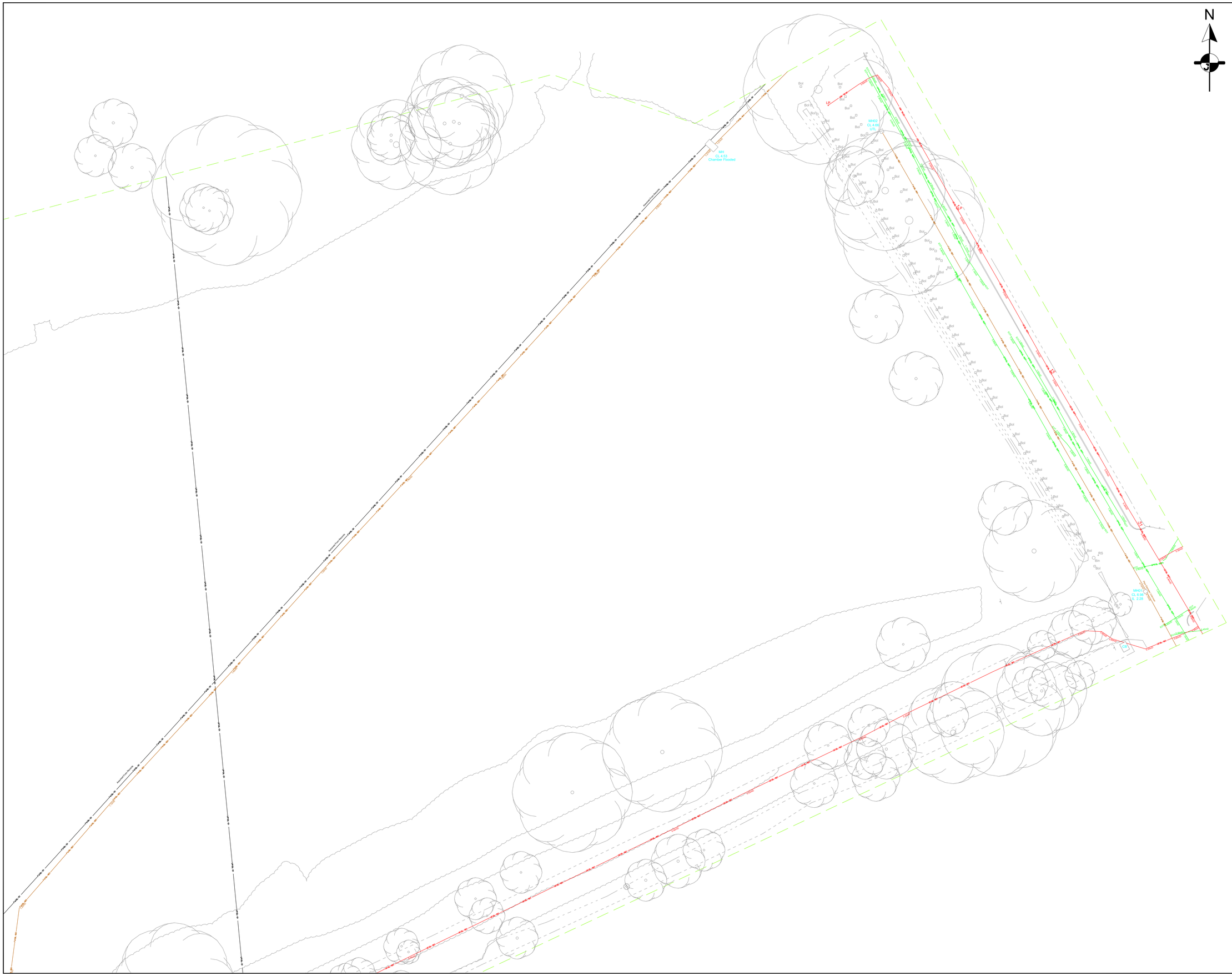
Assumed Outside
Assumed Outside
Assumed Outside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MH3
CL 4.53
Chamber Flooded
MH02
CL 4.66
UTL
MH01
CL 4.94
E 2.28
Bol
Bin
RS
Manhole Cover
Inspection Chamber
Manhole
Valve
Tank
Hydrant
Bollard
Lamp Post
Signal Post
Tree
Fence
Wall
Hedge
Building
Edge of Water
Top of Bank
Toe of Bank
Cliff
Road Name
Footway
Kerb
Edge of Road
Centre Line
Road Marking
Level Crossing
Railway
Rail
Sleeper
Ballast
Overhead Line
Overhead Line Support
Cable Tunnel
Cable Duct
Cable Duct Marker
Electricity Cable
Electricity Cable Marker
Electricity Substation
Telecom Cable
Telecom Cable Marker
Telecom Box
Telecom Cabinet
Telecom Pole
Telecom Manhole
Telecom Unknown
Telecom Footway Box
Telecom Pillar
Telecom Street Furniture
Cable TV Cable
Cable TV Cable Marker
Cable TV Box
Cable TV Pole
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Cable TV Street Furniture
Gas Pipeline
Gas Pipeline Marker
Gas Valve
Gas Governor
Gas Vent
Gas Manhole
Gas Unknown
Gas Footway Box
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Water Meter
Water Manhole
Water Unknown
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Water Pillar
Water Street Furniture
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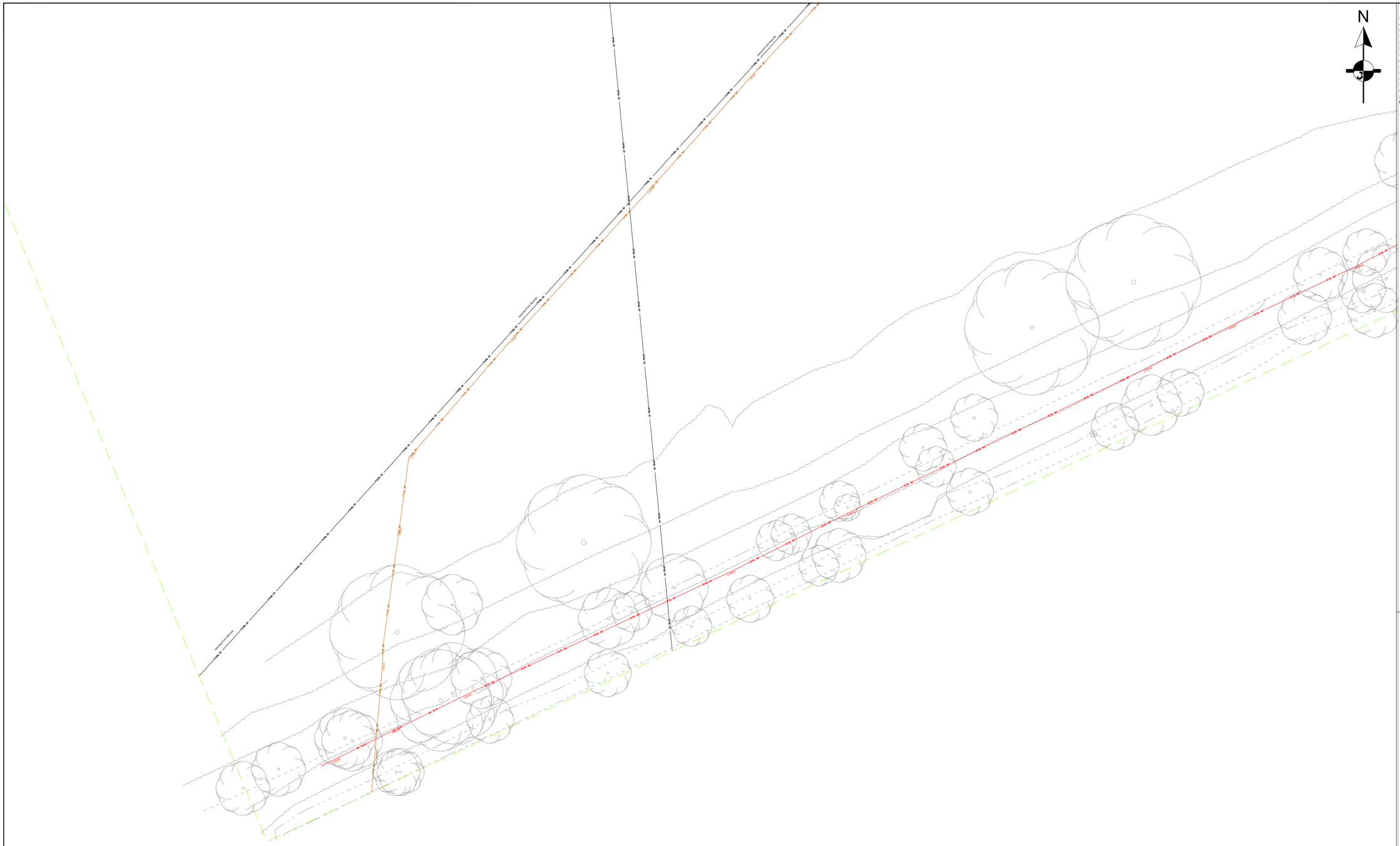
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Assumed Route
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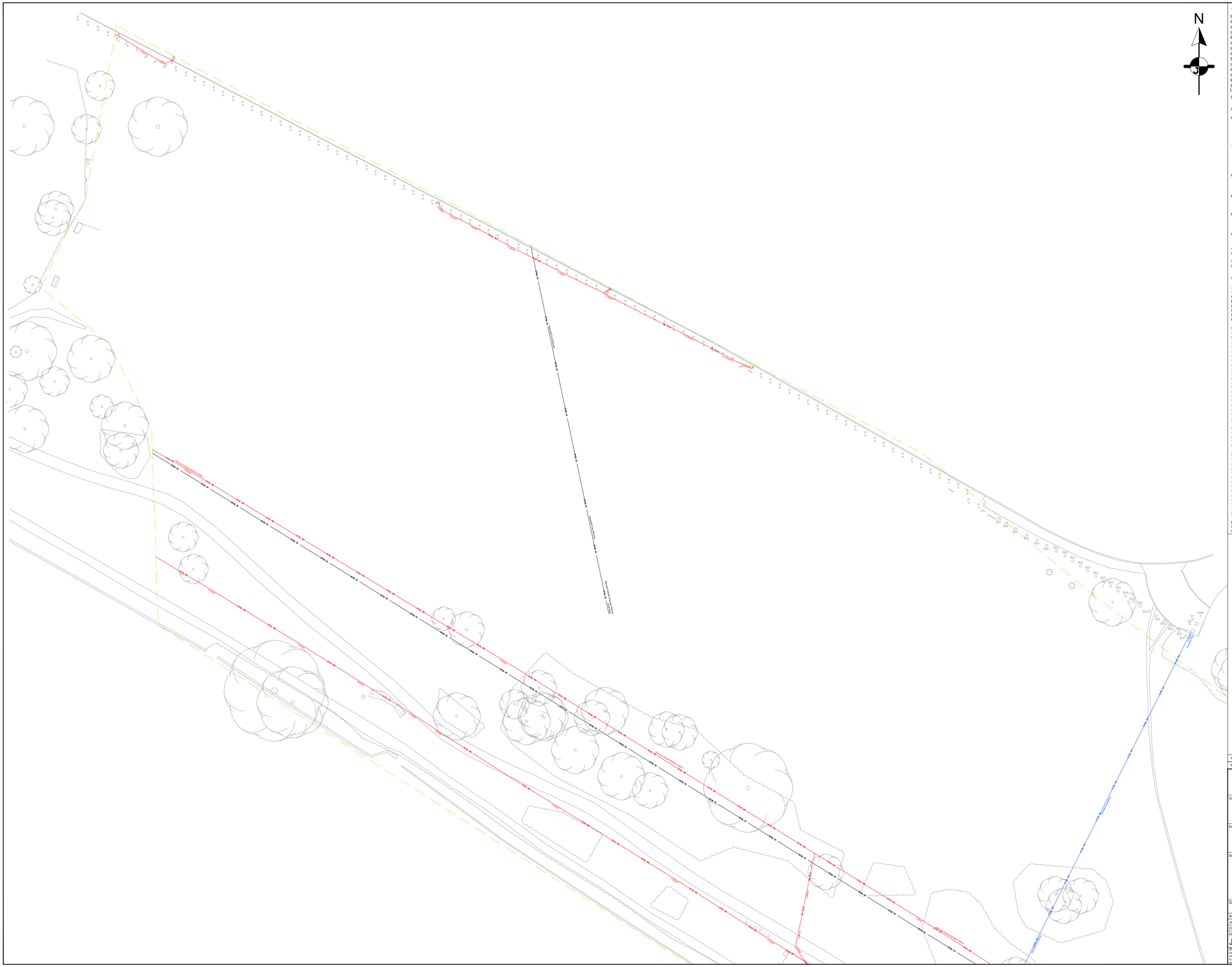
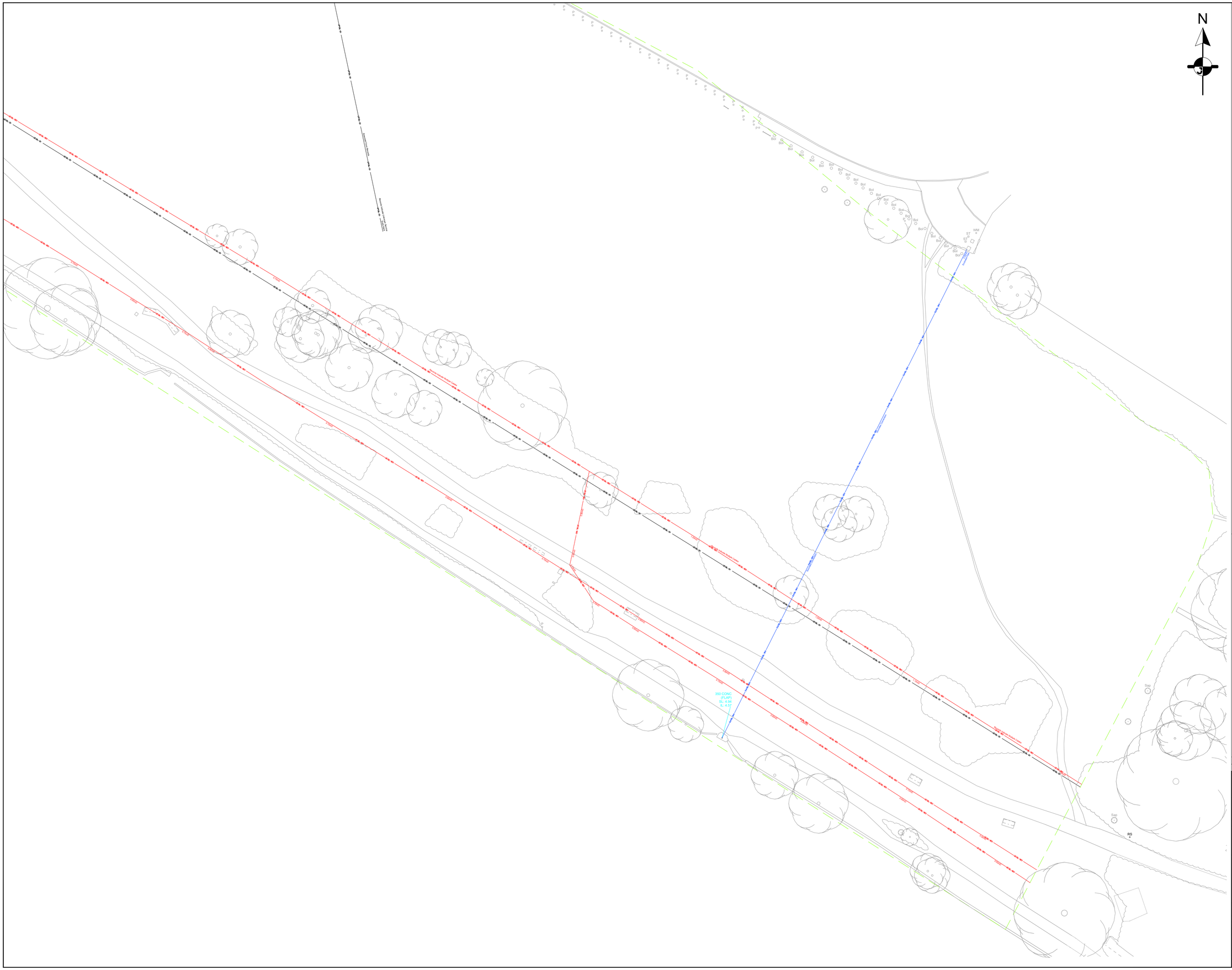
Assumed Route


N
Bol
ST
WM
Footway
Footway
Footway



UTILITY LINETYPES EXAMPLE QL-A

U/G Cable TV	UC QL-A
Combined Sewer Pipe	CS QL-A
U/G Electric Cable	UE QL-A
U/G Fibre Optic Cable	UF QL-A
Foul Water Sewer	FW QL-A
U/G Fuel Pipeline	FL QL-A
U/G Gas Pipeline	UG QL-A
GPR Anomaly	GPR QL-A
Surface Water Drainage	SW QL-A
U/G Telecom Cable	UT QL-A
U/G Traffic Signal Cable	TS QL-A
U/G Unknown Service	UP QL-A
U/G Water Pipe	UW QL-A
G-Utils-Survey-Area	UV QL-A
Unable To GPR Boundary	GBRVZ

PAS128 2022 QUALITY LEVELS AND ACCURACIES

QL-A	-	Service can be physically seen and measured
QL-B1	-	Service has been located horizontally and vertically with two Geophysical techniques Horizontal & Vertical accuracy equals +/- 15% of detected depth or 150mm, whichever is the greatest
QL-B2	-	Service has been located horizontally and vertically with one Geophysical technique Horizontal & Vertical accuracy equals +/- 25% of detected depth or 250mm, whichever is the greatest
QL-B3	-	Service has been detected horizontally ONLY with one Geophysical technique Horizontal only accuracy equals +/-500mm
QL-B4	-	Service has not been located but is suspected to exist, it is shown as an Assumed Route
QL-C	-	Service could not be located, but above ground assets combined with record drawings confirm its existence
QL-D	-	Service has not been located and is taken from record drawings

A suffix of "P",eg QL-B1P, denotes that the service was detected using off-site processing of GPR data

Services taken from records are coloured white/black to differentiate from traced services

UTILITY ABBREVIATIONS

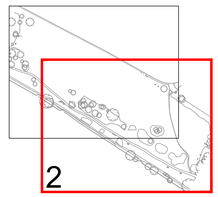
EC	Empty Chamber
EOT	End Of Trace
OSA	Off Survey Area
NVO	No Visible Outlet
UTGA	Unable To Gain Access
UTL	Unable To Lift
UTS	Unable To Survey
UTT	Unable To Trace

NOTES

1. The survey has been accurately positioned on the Ordnance Survey National Grid system using GNSS observations to the OS Active Network.
2. Heights are shown above ODN m using the latest Ordnance Survey transformation OSTN15/OSGM15 .
3. The data presented in this drawing have been collected using a combination of the following: consultation of statutory asset information, visual survey ; electromagnetic location techniques and ground penetrating radar GPR .
4. All utility depths are in metres.
5. All pipe/duct sizes are in millimetres.
6. GPR Measurements on non-metallic pipes are to the crown of the pipe.
7.Depths shown with the suffix mD have been measured using radio frequency locators and are to the centre of pipes/cables.
8. Direct drainage measurements recorded at manholes are to the invert of the pipe.
9. Radar detected features will display depth indications; the accuracy of these is dependent upon suitable calibration being available at the time of the survey. Pipe and cable depths indicated by a value in meters next to the relevant target , relate to the distance between the surface of the ground and the top of the pipe or cable, at that location.
10. A single line indicating a utility feature may indicate the presence of multiple services within close proximity. Where a single line type is shown we recommend HSG-47 safe digging practice within 0.5m to expose hidden services.
11. Electromagnetic and Ground Penetrating Radar GPR techniques have been used to locate/map underground utilities and features on this drawing. Jacobs UK Ltd has made every endeavour to make sure that the information contained within this drawing is accurate.
12. Where quoted, depth information of underground services/features is stated. Depths are approximately +/- 10% accurate due to varying ground conditions and cannot be guaranteed.
13. Unless otherwise stated, all services shown on this drawing have been surveyed using approved detectors and the connections between manholes, if unable to be traced, have been assumed to be direct.
14. Services shown as "Taken From Records" are derived from Statutory record drawings and are often incomplete and cannot be relied upon. No warranty is given as to the accuracy or completeness of the cross-sections supplied with this drawing.
15. This drawing is to be read in accordance with survey report "JG23-080_Topo3D_Burnell_01-06_P01" for full Topo survey.

No utility mapping survey can be considered a 100% accurate depiction of the sub-surface environment, and the use of these drawings does not remove the requirement for the use of safe digging techniques at all times.

Sheet Layout:



Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
P01	25/11/2024		EP	MM	RH	

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Client
Thames Water

Project
London Recycling Engineering Gate 3
Burnell Avenue

Drawing title
PAS128 Utility Survey
Sheet 2 of 2

Drawing status
Final

Scale	1:200	DO NOT SCALE
Jacobs No.	B22849CO	Rev P01
Client no.		

Drawing number
JG23080_Burnell Avenue_Utils_3D_01-02

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Thames Water