Geo-Environmental

GROUND CONDITION ASSESSMENT,

REMEDIATION STRATEGY AND VERIFICATION PLAN

for the site at

PROPOSED MOAT ROAD EXTENSION (DC/16/1677)

NORTH HORSHAM, WEST SUSSEX,

RH12 4QR.

on behalf of

LEGAL & GENERAL STRATEGIC LAND

NORTH HORSHAM LIMITED



Report:	**GROUND CONDITION ASSESSMENT, REMEDIATION STRATEGY AND VERIFICATION PLAN**
Site:	**PROPOSED MOAT ROAD EXTENSION (DC/16/1677), NORTH HORSHAM, WEST SUSSEX, RH12 4QR**
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FIGURES

FIGURE 1 Landscape Proposals with Moat Road Extension

EXECUTIVE SUMMARY		
	Site Address	Moat Road extension, North Horsham, West Sussex, RH12 4QR
	Form of Development	The proposed development was to comprise the construction of a new access road, retention of an existing pond, residential development with private and communal gardens, soft landscaping, attenuation pond.
Encountered Conditions	Scope of works	Ground Condition Assessment, remediation strategy and a verification plan to assist in the discharge of parts c) and d) of condition 18C of outline planning permission reference DC/16/1677.
	Ground Conditions	The ground conditions comprised Topsoil overlying the Weald Clay Formation.
	Groundwater	The investigation recorded seepages within the Weald Clay Formation at depths of between 0.30m and 2.80m bgl. Groundwater within the Moat Road Extension area was encountered at depths of between 0.80m bgl and 4.50m bgl during the investigation.
Considerations	Human Health	All determinands were below their respective screening values for a residential end use. No further remediation measures required.
	Ground gas	No further remediation measures required.
	Built Environment	The results of the relevant chemical analyses indicated no elevated concentrations hence barrier pipe is unlikely to be required. In addition, pipes are designed to be wholly placed in natural soils.

Remediation and Verification

- The management of unidentified sources of contamination should be maintained during development such that any abnormal conditions are identified and their potential impact on the proposed development assessed prior to determining any potential mitigation measures.
- If unexpected contamination is discovered a verification report would be produced.

1.0 INTRODUCTION

Geo-Environmental Services Limited was instructed by Legal & General Strategic Land North Horsham Limited to undertake a Ground Condition Assessment, Remediation Strategy and a Verification Plan to assist in the discharge of parts c) and d) of Condition 18 of outline planning permission reference DC/16/1677 in relation to the reserved matters application for the area of the proposed Moat Road extension, North Horsham, West Sussex, RH12 4QR.

Additional approval of reserved matters pursuant to Condition 5 of outline planning permission DC/16/1677 for the extension of the Phase 1 primary road to Old Holbrook, temporary bus turning area, landscaping, SUDS, ecological enhancements, ancient woodland improvements, substation, footbridge and sub phase 1D strategic landscape buffer has been already obtained for the site.

The site's location is presented in Figure 1.

1.1 Planning Conditions

On 1st March 2018 an outline planning application (Reference DC/16/1677) was granted by Horsham District Council subject to conditions for the constructions of a Strategic Development Site named the Land North of Horsham, West Sussex. The development comprises the construction of a mixed-use strategic development including housing (up to 2,750 dwellings), business park, retail, community centre, leisure facilities, education facilities, public open space, landscaping and related infrastructure. Furthermore, within the Moat Road extension area, an additional planning permission reference (DC/24/0446) was permitted that referred to Landscaping, Moat Road Extension, ponds, basins and trees.

Condition 18 of this planning permission (as amended through an application pursuant to S96A; reference DC/19/0984) is related to ground conditions and contamination, which states:

Prior to the commencement of development within each Reserved Matters Area the following components of a scheme to deal with the risks associated with the contamination of the site shall be submitted to and approved, in writing, by the Local Planning Authority.

a) A preliminary risk assessment which has identified:
    i. All previous uses
    ii. Potential contaminants associated with those uses
    iii. A conceptual model of the site indicating sources, pathways and receptors
    iv. Potentially unacceptable risks arising from contamination at the site

b) A site investigation scheme based on (a) to provide information for a detailed assessment of the risk to all receptors that may be affected including those off site.

c) An options appraisal and remediation strategy based on the site investigation results and the detailed risk assessment (a and b, above) and giving full details of the remediation measures required and how they are to be undertaken.

d) A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in (c) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

The scheme shall be implemented in accordance with the approved details.

1.2 Previous Reports

Stantec has previously undertaken work at the site on behalf of Legal & General Strategic Land North Horsham Limited. The works comprised a Phase 1 Ground Investigation Report (ref: 2521/3503/R003/Rev1) issued in October 2021 covering the Phase 1 area for Land to the North of Horsham, to which reference should be made. In addition,

a review of the Endeavour Drilling factual ground investigation report (ref: END20-007) was made for obtaining site specific information.

A summary of relevant sections of these reports are presented in the following section.

For further details, please refer to the reports referenced.

1.3 Scope of works

This document presents a Ground Condition Assessment which includes an assessment of the ground conditions, together with a Tier 2 qualitative geoenvironmental assessment of the risks and hazards associated with identified ground conditions. The report also includes the remediation strategy and verification plan if required.

This document is submitted to discharge parts (c) and (d) of Planning Condition 18 (Reference DC/16/1677).

This report presents a strategy to address in-ground contamination only. The strategy is based on the interpretation of the ground investigation. There may be other issues pertaining to the land which have not been revealed by investigation, or which are beyond the scope of this report to consider. Such issues would include but may not be limited to hitherto undiscovered contamination or other development constraints.

Unless stated otherwise, information from the ground investigation and previous studies has not been included in this report and, where referenced, the reports presenting this information should be read in conjunction with this report.

2.0 SITE

The following sections provide a summary of the key findings within the Ground Investigation Report for the entirety of the Phase 1 area.

2.1 Site Description

The Strategic Development Site is situated to the north of Horsham about 3 km to the north of Horsham Town Centre. This Report relates to the land covered by the proposed Moat Road (the site) which is situated at approximate National Grid Reference TQ 189 339.

The proposed Moat Road site comprises arable fields with established hedges and trees along field boundaries. The site is situated to the west of Rusper Road and is surrounded principally by agricultural land and Moated House Farm to the south.

The natural ground levels fall gently from north to the south towards the Channells Brook approximately 0.7 km south of the site. Locally in the west of the site, the ground levels fall to west towards a pond and the Holbrook a stream that flows southwards to join the Channells Brook some 1.7 km to the southwest of the site.

2.2 Site History

Historically the site and the surrounding area was principally undeveloped agricultural land situated to the north of Horsham. The earliest available Ordnance Survey (OS) mapping, dated 1875 shows the site to be agricultural land between Rusper Road to the east and the Holbrook to the west, surrounded principally by agricultural land with few scattered farms. Moated House Farm is recorded approximately 100m to the south of the site and Poplar Cottage is shown approximately 500 m south of the Site, immediately to the west of Rusper Road.

No significant changes are shown until 1992 when the A264 carriageway including Rusper Road Roundabout were constructed to the south of the site. The former Poplar Cottage is no longer recorded.

No significant change has occurred at the site or the immediate vicinity to the present day.

2.3 Geology

The 1:50 000 scale geological map of the area (BGS, 1972) indicates that the site lies directly on the Weald Clay Formation. An approximately 100 m wide ribbon of Horsham Stone Member (sandstone) crosses through the northern part of the site on an approximate east-west alignment. The Upper Tunbridge Wells Sand is recorded at depth underlying the Weald Clay Formation.

It is possible that Alluvium may be present locally in the vicinity of the pond and the Holbrook immediately west of the site. In addition, it is also possible that Head Deposits, comprising near surface soils that were naturally reworked during paraglacial conditions, may be present.

2.4 Hydrogeology

The Weald Clay Formation is classified by the Environment Agency as an Unproductive Stratum. These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

The Horsham Stone Member is classified by the Environment Agency as a Secondary A Aquifer. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers

There are no records of groundwater abstraction wells in the near vicinity of the site. Furthermore, the site is not situated in a groundwater abstraction Source Protection Zone for the extraction of groundwater for public supply.

2.5 Hydrology

The nearest water course is the Holbrook flowing along the western boundary of the site. The Holbrook flows in a generally southern direction before joining Channells Brook about 1.7 km to the south-west of the site.

According to the Environment Agency database the site is located within the Boldings Brook catchment. Environment Agency records indicate that the Boldings Brook was assigned a Water Framework Directive 'Overall Classification' for water quality of 'Poor' in 2019. This can be further broken down into an ecological classification of 'Poor' and a chemical classification of 'Fail'.

2.6 Ecological Systems

There are no statutory designated areas of environmental sensitivity within 1 km of the site. The site lies within a nitrate vulnerable zone. This designation is allocated to minimise nitrate contamination caused by agriculture activities into surface water bodies and the aquifer and is not relevant for the proposed development.

2.7 Development Proposals

The Moat Road extension area comprised a retained pond and landscaping, a residential development area including private and communal gardens, soft landscaping, attenuation basin, and roadway including a bus turning point.

3.0 GROUND INVESTIGATION

The following sections detail the findings of the ground investigation undertaken between 25th November and 20th December 2019 and reported in the Ground Investigation Report dated October 2021. The report was produced for the entire site. Locations of exploratory positions pertinent to the proposed Access Road can be found in Figure 3.

The investigation was undertaken to determine the geo-environmental factors pertaining to the development of the site for proposed Phase 1 development area.

3.1 Investigation Scope

The scope of the investigation was as follows:

- 8No. boreholes (BH201 to BH208)
- 6No. window sampling boreholes (WS201, WS202, WS204 to WS207)
- 56No. trial pits (TP201 to TP208, TP210 to TP257)

It should be noted that, TP201-TP202, TP204, TP206 and BH203 were the only intrusive locations within the area of the proposed Moat Road extension. A groundwater sample was taken from BH203 and was referenced Sample 1.

3.2 Laboratory Testing

As part of the investigation, 55No. soil samples and 4No. samples of water from water courses were analysed for a range of commonly potential contaminants including metals, speciated total petroleum hydrocarbons, polycyclic aromatic hydrocarbons, inorganic compounds and asbestos. Of the locations within the site investigation area, all concentrations were below their respective screening criteria.

The testing was undertaken by ALS Life Sciences Limited on behalf of Endeavour Drilling Limited as part of the phase 2 ground investigation.

3.3 Monitoring

Six ground gas monitoring visits were undertaken as part of the site investigation undertaken in January 2020 over the wider site area. Within the Moat Road Extension area, BH203 had a monitoring well installed to a depth of 6.0m bgl with a response zone between 1.0m and 6.0m bgl. No elevated ground gases were recorded.

4.0 ENCOUNTERED CONDITIONS

4.1 Ground Conditions

The ground conditions on the wider site comprised Topsoil overlying the Weald Clay Formation. Made Ground was not encountered.

A generalised summary of the encountered ground conditions is presented in the following table.

Stratum	Depth to Base (m bgl)	Geology
Topsoil	0.20 to 0.40	Soft to firm slightly sand slightly gravelly CLAY with frequent roots and rootlets. Gravel is fine to coarse sub-angular to sub-rounded flint.
Weald Clay Formation	>12.00	A top bed of firm to very stiff grey to orangish brown slightly sandy CLAY underlain by extremely weak to moderately strong thinly laminated orangish brown to dark grey MUDSTONE.

Table 4.1 Summary of Ground Conditions

A summary of ground conditions within exploratory holes (located within the location of the Moat Road extension) are presented within the following table:

Stratum	Depth to Base (m bgl)	Geology	Location
Topsoil	0.20-0.50	Dark brown, brown slightly gravelly silty sandy CLAY and silty sandy CLAY and gravelly silty sandy CLAY with occasional rootlets <2mm (living). Gravel is fine to medium sub-angular to sub-rounded brick.	ALL
Weald Clay Formation (residual)	1.40-2.10	Firm to stiff light bluish grey mottled dark orangish brown slightly sandy silty CLAY, slightly gravelly sandy silty CLAY and silty sandy CLAY with occasional rootlets <2mm (dead). Gravel is fine to medium sub-angular weak to very weak mudstone.	TP201-TP202, TP204, TP206
Weald Clay (Destructured)	2.40	Very stiff dark brownish orange sandy CLAY thinly laminated with extremely weak dark brown bluish grey mudstone recovered as fine to coarse angular to sub-angular gravel.	BH203
Weald Clay Formation (Destructured)	2.40-3.30	Light blueish grey, light grey and light brown extremely weak to weak MUDSTONE with thinly laminated silty clay. Recovered as sandy clayey fine to coarse sub-angular gravel and occasional cobbles.	TP201-TP202, TP204, TP206
Weald Clay Formation (Destructured)	3.00-4.00	Dark reddish brown, light brown mottled blue grey and orange extremely weak to moderately weak MUDSTONE with thinly laminated silty clay. Recovered as sandy clayey and sandy fine to coarse angular to sub-angular gravel and occasional cobbles.	TP201-TP202, TP204, TP206
Weald Clay Formation (Distinctly Weathered)	3.00	Brown mottled orange very weak MUDSTONE with occasional thinly laminated grey clay (<6mm) recovered as fine to coarse sub-angular to angular gravel and occasional cobbles.	BH203
Weald Clay Formation (Distinctly Weathered)	3.30	Reddish brown and grey mottled black very weak MUDSTONE recovered as fine to coarse sub-angular gravel and occasional cobbles.	TP206

Weald Clay (Distinctly Weathered)	3.30	Stiff light brown mottled orangish brown and light grey slightly sandy CLAY. Thickly interbedded with extremely weak dark orangish brown and grey mudstone. Fractures are horizontal very closely to closely spaced (50-90-106) planar with rough and smooth surfaces. Apertures are open to moderately wide and clean.	BH203
Weald Clay (Partially Weathered)	4.00	Very weak thinly laminated to thinly bedded MUDSTONE. Fractures are horizontal very closely to closely spaced (4-10-31) planar with rough and smooth surfaces. Apertures are open to moderately wide and clean. Weathering is dark orange penetrating up to 20mm along fractured surfaces and with frequent bands recovered as stiff silty clay.	BH203
Weald Clay (Distinctly to Partially Weathered)	6.00	Very stiff dark grey and dark orangish brown slightly sandy CLAY thickly interbedded with extremely weak partially weathered to very weak dark grey weathered dark orangish brown thickly laminated mudstone. Fractures are horizontal extremely close to very closely spaced (2-21-60mm) planar with rough and smooth surfaces. Apertures are open to tight wide and clean. Weathering penetrating up to 15mm and distinctly to partially weathered.	BH203
Weald Clay (Unweathered)	12.00	Very weak to weak dark grey thinly to thickly laminated MUDSTONE with rare bands recovered as very stiff silty clay. Fractures are horizontal to sub-horizontal extremely closely to very closely spaced (3-180-61mm) planar with rough to smooth surfaces. Apertures are tight to open with clay infilling and clean.	BH203

Table 4. Summary of Ground Conditions (Moat Road Area)

4.2 Groundwater

The investigation recorded seepages within the Weald Clay Formation at depths of between 0.30m and 2.80m bgl. The following table details the encountered groundwater depths during the investigation.

Six return monitoring visits were conducted between 3rd January and 13th March 2020 for the well installed within BH203. The depth of groundwater was recorded between 1.55m bgl and 4.50mbgl (well was 6.0m bgl).

Location	Depth of Pit/Borehole (mbgl)	Depth of Groundwater Strike (mbgl)	Standing after Twenty Minutes (bgl)	Comments
TP201	4.00	Dry	Dry	None
TP202	3.00	0.80	N/A	Moderate Flow
TP204	3.50	2.20	N/A	Slow Inflow
TP206	3.30	Dry	Dry	None
BH203	12.00	Dry	Dry	None

Table 5. Summary of Groundwater During Investigation

5.0 ENVIRONMENTAL CONSIDERATIONS

5.1 Contamination

Geochemical analysis was undertaken on 55No. samples and were tested for a range of general industrial contaminants along with determination of carbon banding of total petroleum hydrocarbons, polynuclear aromatic hydrocarbons, pesticides and herbicides, and asbestos screening.

Samples were taken from TP202 (0.10m bgl), TP204 (0.10m bgl), and TP206 (0.50m bgl) for analysis. The concentrations for the samples taken from all locations were either below or slightly above laboratory detection limits, with no further action required.

5.2 Ground Gases

The monitoring was undertaken across the site area, the nearest borehole to the Moat Road extension was BH203, the results of the monitoring are as follows:

BH203 03/01/2020-13/03/2020 range over six visits, gases as a percentage.

- Methane: 0%
- Carbon Dioxide: 0.4%-1.9%
- Oxygen: 10.7%-19.9%
- Atmospheric Pressure: 1004-1017mb
- Hydrogen Sulphide: 0%
- Liquid Explosive Limit: 0%
- Carbon Oxide: 0%
- VOCs: 0ppm
- Flow l/h peak/stable: -0.10-2.80l/h

Site wide, ground gases were classified as being Characteristic Situation 1.

6.0 TIER 2 ENVIRONMENTAL RISK ASSESSMENT

A qualitative risk assessment was carried out by Stantec utilising a conceptual site model and source-pathway-receptor to identify any pollutant linkages. The Tier 2 Generic Risk Assessment was carried out in accordance with the Land Contamination: Risk Management (LCRM) (EA, 2020). Any source, pathway or receptor was assessed in terms of probably and magnitude as being very low, low, moderate, high or very high.

6.1 Sources

On-site: Based on the historical and current land use of the site and the findings of the ground investigations the potential for site wide significant contamination to be present at the site is considered to be Very Low.

Off-site: Based on the historical and current land uses (agricultural and residential) and the ground investigations of the land off-site the potential for site wide significant contamination to be present from an off-site source is considered to be Very Low.

Therefore, the potential risk posed by these sources was considered very low.

6.2 Pathways

The site is underlain by the Weald Clay Formation, and as such has low permeability for groundwater and gases. An area of the Horsham Stone Member (c.100m ribbon) ran through the north of the greater phase 1 area and was classified as a Secondary A Aquifer. A moderate risk rating was given due to the increase permeability within the sandstone.

Parts of the Moat Road extension area were located within the Horsham Stone Member whilst the remainder was within the Weald Clay Formation.

6.3 Receptors

Potential receptors for the site likely to be impacted by the proposed development include end users, soft landscaping and adjacent land users. Below is the of potential receptors taken from the Stantec report:

Receptor Type	Plausible Receptor (Y/N)	Sensitivity/ Value
Human Health [Current users]	Yes – agricultural land	High / 4
Human Health [Future occupiers]	Yes – Residential Development	Very High / 5
Human Health [Construction & maintenance workers].	Yes - Workers will be present during construction and will occasionally visit for maintenance.	High / 4
Human Health [Neighbouring residents] (1)	Yes - Residential properties adjacent to the south	Very High / 5
Controlled waters Groundwater	Yes – Secondary A Aquifer	Low / 2
Surface Water	Boldings Brook Catchment – Poor Quality	Low / 2
Buildings / Materials	Yes – Balancing ponds and associated infrastructure.	Very Low / 1
Ecology	No Statutory designated areas within 1 km	Very Low / 1

Animal and Crop	Limited value	Very Low / 1

Notes:

1) The consideration is of the risk to the off-site receptor from ground contaminants present only on the subject Site.
2) Internationally or nationally designated sites (as defined in the statutory guidance (Draft Circular on Contaminated Land, DETR, 2000) "in the local area" will be identified as potential ecological receptors.
3) The Sensitivity Value is based on Table 2 of the Stantec Methodology given in Appendix 5.

Summary of Potential Receptors

Risk Estimation – The investigation identified the risk of any potential contamination to be very low, the following are the estimated risks for each end use (roadways were not included):

- **Human Health** (Current use) **– Very Low**
- **Human Health** (Future use) **– Very Low**
- **Human Health Off-Site** (Neighbours) **– Very Low**
- **Human Health** (Construction Workers) **– Very Low**
- **Groundwater – Very Low**
- **Surface Water – Very Low**
- **Property (Buildings/Structures) – Very Low**
- **Ecology – Very Low**
- **Animal and Crop – Very Low**

6.4 Risk Evaluation

Using a Tier 2 Risk Assessment, it was considered that an overall risk rating of very low for ground contamination was suitable for the Phase 1 site area. Therefore, the Moat Road Extension area would be very low or negligible. No mitigation measures were required in relation to ground conditions and contamination. Any exception would be for unexpected contamination identified during future development works.

7.0 REMEDIATION STRATEGY & VERIFICATION PLAN

The Stantec report confirmed that remediation or mitigation measures in relation for of soil or groundwater are not required for the proposed development and therefore, a remediation strategy is not required other than for dealing with unexpected contamination.

7.1 Management of Unidentified Sources of Contamination

The following sections from the Stantec report form the phase 1 site areas discovery strategy:

1.1.1 *There is a possibility that other sources of contamination may be encountered during site clearance or ground works that have not been previously identified.*

1.1.2 *If previously unidentified areas of potential contamination are encountered, they should be dealt with in line with an agreed protocol. Soil should either be sampled in-situ in the ground (and left undisturbed while the samples are tested, and the results interpreted) or excavated and stockpiled in an appropriate manner while verification testing for potential contamination is carried out. The storage area should be contained to ensure that contamination does not migrate and affect other areas of the site.*

1.1.3 *Once the nature, location and extent of the contamination has been identified appropriate mitigation measures should be adopted. Although these cannot be identified at this time, the main emphasis should be on methods of isolating or treating these materials. If such measures are unlikely to be practical or effective in mitigating the risk from the identified contamination, consideration should be given to excavating and removing the contaminated soil from site for disposal at a suitably licensed landfill or treatment facility.*

1.1.4 *Where remediation of previously unidentified sources of contamination is required, an implementation and verification process (see section 7.3) should be established to identify the remediation activities required and to confirm that the remediation has been undertaken correctly. As part of this process, remediation objectives should be identified, and remediation criteria selected for measuring compliance against these objectives in consultation with the Local Authority and other statutory consultees.*

7.2 Verification

Should any contamination be encountered, the following verification information would be required (based on Stantec information):

1.1.5 Where unexpected contamination is encountered, a Verification Report will be required to demonstrate compliance with the requirements of the remediation strategy. The Verification Report will include, but not be limited to, provision of the following information:

i) Details of any unidentified sources of contamination encountered during the works, including details of (i) the location, nature and extent of the contamination; (ii) the methods of treatment and/or excavation and off-site disposal carried out; and (iii) verification and validation testing carried out. In the event that any unidentified source of contamination is not encountered, a statement to this effect by a suitably qualified and experienced individual shall be provided.

1.1.6 Records demonstrating that all soil material transported off-site for treatment and/or disposal have

been removed to an appropriately licensed facility approved by the Environment Agency in a safe and competent manner and in accordance with relevant Statutory Regulations. Such records to include but not be limited to (i) WAC (or other applicable) testing carried out to classify the material transported off-site and (ii) waste transfer notes counter-signed by the receiving party.

Caveat

The data collected from the investigations have been used to provide an interpretation of the geo-environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained.

Geo-Environmental Service Limited takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

Information contained in this report is intended for the use of the client and their agents, and Geo-Environmental Services Limited can take no responsibility for the use of this information by any third party for uses other than that described in this report.

It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. Such reservations have been indicated in the text where such conditions are considered to apply.

Geo-Environmental Services Limited does not indemnify any third parties such as the vendor against any dispute or claim arising from any finding or result of this investigation or any claim or dispute arising as a result of any decisions made thereof.

FIGURE 1

Landscape Proposals with Moat Road Extension





Planting Schedule

SPECIMENS

Species	Height	Girth	Specification	No.
Acer campestre	500-550cm	20-25cmg	Semi-Mature : :3x :CSH 200min. :RB	6
Acer campestre	500-550cm	20-25cmg	3x: Semi-Mature: CSH 200min.: RB	5
Betula pendula	500-550cm	20-25cmg	Semi-Mature : :3x :CSH 200min. :RB	6
Corylus colurna	500-550cm	20-25cmg	3x: Semi-Mature: CSH 200min.: RB	4
Quercus robur	500-550cm	20-25cmg	Semi-Mature : :3x :CSH 200min. :RB	10
Sorbus torminalis	400-450cm	16-18cmg	3x :Clear Stem min. 200 :RB	2
Tilia cordata	500-550cm	20-25cm	3x: Semi-Mature: CSH 200min.: RB	3
Tilia cordata 'Greenspire'	500-550cm	20-25cm	CSH 200min. :Semi-Mature	7

HEDGING

Species	Height	Pot Size	Density	No.
Carpinus betulus	100-125cm	5L	0.3Ctr	75
Cornus sanguinea	60-80cm		0.5Ctr Triple Staggered at 0.5m offset	50
Corylus avellana	60-80cm		0.5Ctr Triple Staggered at 0.5m offset	198
Euonymus europaeus	60-80cm		0.5Ctr Triple Staggered at 0.5m offset	495
Prunus spinosa	60-80cm		0.5Ctr Triple Staggered at 0.5m offset	198
Viburnum lantana	60-80cm		0.5Ctr Triple Staggered at 0.5m offset	50

NEWT COMPENSATION PLANTING

Species	Height	Density	No.
Corylus avellana	80-100cm	1/m²	133
Crataegus monogyna	80-100cm	1/m²	133

MARGINAL PLANTING

Species	Pot Size	Specification	Density	No.
Caltha palustris	50cc min.	Plug: Established Root min. 2-3 Months: Sept to April planting: British Native-origin: C	5/m²	44
Carex riparia	50cc min.	Plug: Established Root min. 2-3 Months: Sept to April planting: British Native-origin: C	5/m²	44
Iris pseudacorus		Clump: 3 buds: min. 1 Year: British Native-origin: B	5/m²	44
Lythrum salicaria		Clump: 3 buds: min. 1 Year: British Native-origin: B	5/m²	44
Mentha aquatica	50cc min.	Plug: Established Root min. 2-3 Months: Sept to April planting: British Native-origin: C	5/m²	44

BULBS

Species	Specification	Density	No.
Crocus chrysanthus 'Cream Beauty'	Grade 6/8	30/m²	1022
Crocus speciosus 'Conqueror'	Grade 6/8	30/m²	683
Cyclamen hederifolium	Grade 15/20+ Topsize	30/m²	1022
Galanthus nivalis	Grade 6/+ Topsize	30/m²	2041
Narcissus pseudonarcissus	Grade 6/+ Topsize	30/m²	2041

Planting Notes

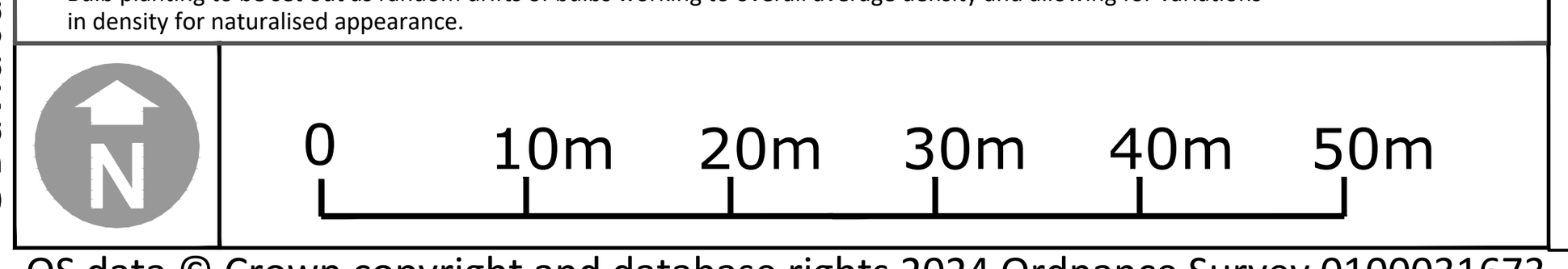
All plants;
Tree and plant stock to be procured as per the Landscape Specification.

Trees:
Tree planting principles should be followed as set out in drawing 2898-5-2-7-DR-1018 Typical Tree Planting Details. All trees to have a 1m dia. 75mm deep bark mulch ring.

Hedgerow;
Hedge planting to be supported using canes and protected using Green Tech Tree-bio Biodegradable Spiral Guard, 60cmx38mm, or similar approved. Bark mulch to be overlaid across planting area 75mm deep extending to 0.5m beyond planting.

Marginal Aquatic Planting;
To be planted in naturalistic swathes and allowed to self-set within the basin to colonise the area shown as reed bed. Assume 60% cover at planting within areas specified as Marginal Aquatic Planting

Bulbs
Bulb planting to be set out as random drifts of bulbs working to overall average density and allowing for variations in density for naturalised appearance.



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Notes

Related Drawings: DJA Drawing based on
- GLANVILLE: 'Mowbray-GLA-MRE-PH1-D-C-1101 - General Arrangement - P12'
-BROADWAY MALYAN '34854-02-700 RM4 Moat Road Extension Redline_RevE'

Issue: Drawn by David Jarvis Associates Limited (CROWN COPYRIGHT. ALL RIGHTS RESERVED 2024 LICENCE NUMBER 0100031). This drawing is for Planning purposes only - Do not use this drawing for Construction. The information contained in the drawing should be used as a guide to the final forms and finishes of the landscape scheme. Any revisions to be approved by the Client and Local Authority

Scaling: Do not scale this drawing. Use given dimensions only.

Setting out: refer to Engineers for information regarding setting out. In the event of discrepancy refer to Engineers in the first instance.

Survey: Original survey provided by the Client.

Services: Where possible these are identified on the drawings but, for the avoidance of doubt all service/utility locations should be considered indicative until identified on site. To ensure those services / utilities shown are current refer to the original survey provider or utilities designer or Client for confirmation and further information regarding easements. In the event of new services being installed refer to the appointed Engineer. It is recommended that hazard warning tape 'danger electric cable'/'danger services' to be installed over all service routes (to remain on site) to current BS guidelines (BS7671).

Lighting: Refer to lighting engineers drawings.

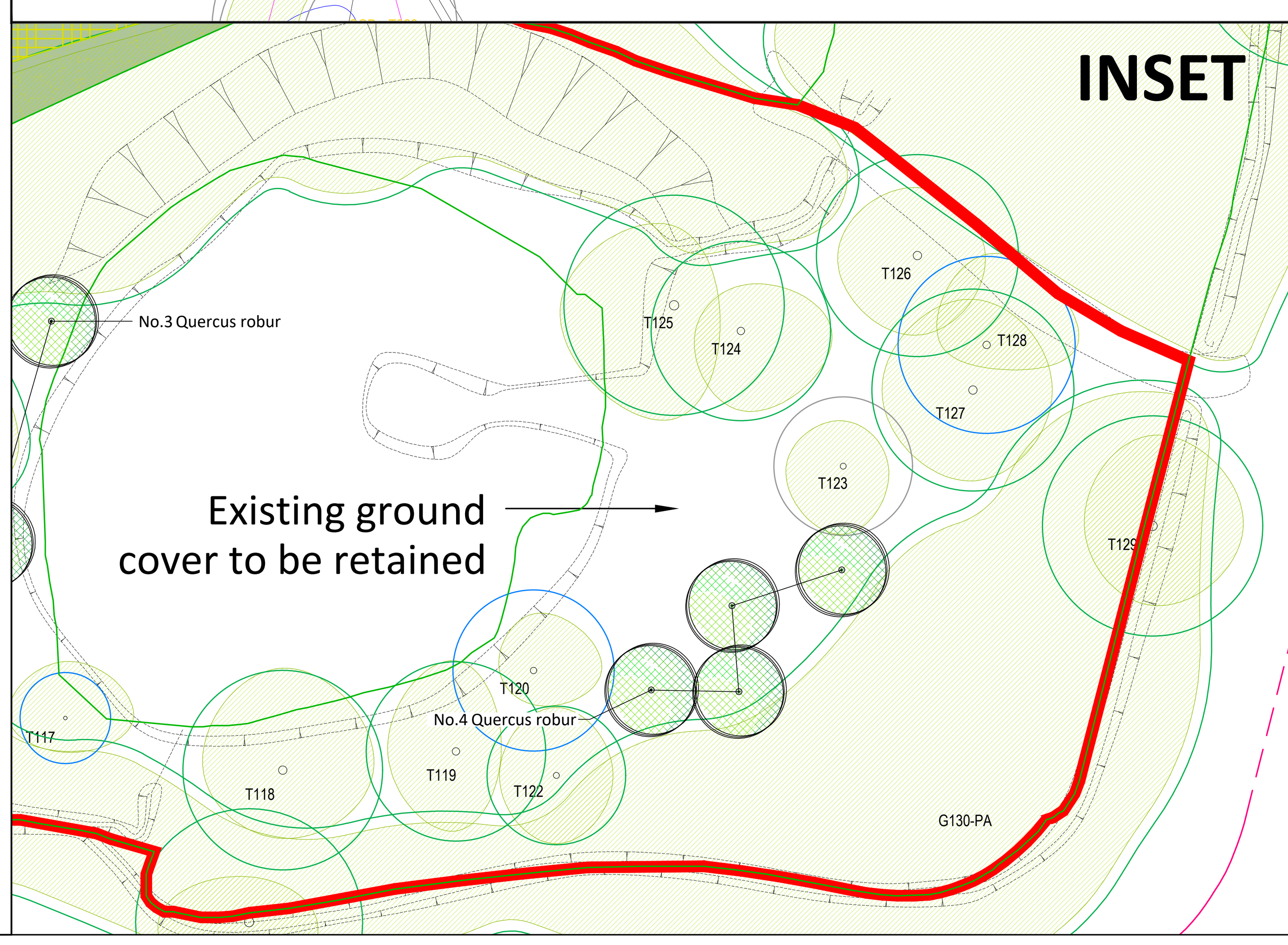
Planting: Plant species are selected and located in line with consideration of the site conditions, NHBC guidelines and discussions with the Local Authority and design team. All plants and planting procedure to conform to the David Jarvis Associates Limited Landscape Specification that will accompany the Construction issue drawings. No species or plant location is to be varied without prior consent of the Landscape Architect.

Biosecurity: All plant stock to be sourced from a supplier certified to be pest and disease free and in accordance with Plant Passport / Animal and Plant Health Agency (APHA) and current DEFRA requirements. Supplier information / certification to be retained for a period of not less than 12 years and must be made available upon request.

Foundations: Developers / Contractors to ensure that all foundations (buildings and external walling) are designed and constructed so as to take into account, at the time of maturity, any existing or proposed trees, hedgerows or other vegetation on the application site or existing vegetation on land adjoining the site at the time of construction and any trees felled or hedgerows removed on or adjacent to the site during the previous 15 years. For this purpose the developer / contractors will submit all relevant details to the authority dealing with the Building Regulations Certificate.

Design Levels: Refer to Engineers where design levels are not shown.

CDM: Drawings to be read in conjunction with Designers risk assessment. Potential risks above that of those associated with the general construction typical to the drawing are identified below;



Drawing Revision

Rev.	Date	Description	DWN	CKD
P12	05/08/2024	Updated to client's comments	VB	PG
P11	13/06/2024	Updated to response schedule DC/24/0446 & CALA comments.	JB	PG
P10	10/06/2024	Updated to new layout.	JB	PG
P9	05/06/2024	Updated to client comments.	JB	PG
P8	05/06/2024	Updated to new GLANVILLE & BROADWAY MALYAN layouts.	JB	PG
P7	05/03/2024	Tree protection removed	JG/JB	PG
P6	29/02/2024	Latest engineering layout	JB	PG
P5	28/02/2024	Application boundary amended	PG	PG
P4	27/02/2024	Amended following client's comments	JB	PG
P3	20/02/2024	Amended following client's comments	JG	PG
P2	16/02/2024	Amended to suit latest engineering layout	JG	PG
P1	22/01/2024	First draft	JG	PG

Status

PLANNING

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Client
LEGAL & GENERAL (STRATEGIC LAND NORTH HORSHAM) LIMITED.

Project
LAND NORTH OF HORSHAM - MOAT ROAD EXTENSION

Drawing Title
LANDSCAPE PROPOSALS

Scale	Sheet Size	Date Plotted
1: 500	A1	05/08/2024

Client Ref.	Drawing Ref.	Drawing No.	Version
-	2898-5-2-23	DR-0001	S4-P12