LANDSCAPE ARCHITECTURE

PRELIMINARY ARBORICULTURAL SURVEY (BS 5837:2012)

FOR

PROPOSED DEVELOPMENT

LAND AT

LAND ADJACENT VIRGIL STREET
CORNBROOK
MANCHESTER
M15 4ED

January 2023

Job Number 5145

DEP Landscape Architecture Ltd | 0161 241 9878| info@dep.co.uk

TABLE OF CONTENTS

	Contents	Page No.
1.0	INTRODUCTION	3
1.1	Professional Details	3
1.2	Tree Survey	3
2.0	FINDINGS	4
2.1	The Site & Proposals	4
2.2	The Soils and Foundations	4
2.3	The Trees	4
2.4	Development Considerations	4
3.0	CONCLUSIONS	6
3.1	Significance of the Trees	6
3.2	Standard of Work	6
3.3	Statutory Controls	6
3.4	Wildlife	6

APPENDIX A – Glossary of Terms and Table 1 of BS 5837:2012
APPENDIX B – Arboricultural Data
APPENDIX C - Digital Photographs
APPENDIX D – Key References
APPENDIX E – Tree Constraints Plan

Disclaimer
The tree(s) referred to in this report are living entities and are therefore subject to natural processes. They will also be subject to changes to their environment caused by human's activities and to exceptional weather conditions. The inspection undertaken by our qualified staff relies on visual attributes of tree health and structure which can be assessed from a ground based inspection. Hidden defects which are not readily visible may not be detected. We therefore cannot wholly guarantee the condition and safety of the trees inspected beyond what can be reasonably assessed from the procedure used. We would recommend that the trees are regularly inspected and our staff will advise on the suitable frequency of these inspections.

1.0 INTRODUCTION

1.1 Professional Details

1.1.1 My name is Peter Murray and I am working on behalf DEP Landscape Architecture Ltd as an Arboricultural Consultant. I have been working and studying in the Arboricultural Industry since 1989. I have many years practical and consulting experience as a Local Authority arboriculturalist and a private sector practitioner.

1.1.2 I so far hold the Higher National Diploma in Arboriculture and am a professional member of the Arboricultural Association. I keep up to date with the latest research and best practice by attending relevant courses and seminars.

1.2 Tree Survey

1.2.1 We were recently instructed by Generation Limited to carry out a site visit at Land adjacent Virgil Street, Cornbrook, Manchester and survey all significant trees that may be affected by development proposals in accordance with *BS 5837:2012 trees in relation to design, demolition and construction – Recommendations.*

1.2.2 The survey on which the findings of this report are based was undertaken on Friday 6th January 2023 and the weather was overcast.

1.2.3 This report should be read in conjunction with the attached Arboricultural Data and Tree Constraints Plan (TCP) of Appendix B and E.

1.2.4 The trees were inspected from ground level only and all comments and recommendations made have taken into account their location, surroundings and likely impact on persons or property.

1.2.5 The limitations of this report are restricted to the persons, time, information made available and purpose for which this report has been prepared. This report does not deal with any existing tree root/building conflicts and no information has been provided regarding soil type and no analysis undertaken by this company.

2.0 FINDINGS

2.1 The Site & Proposals

2.1.1 The site in question is an existing commercial building and car park adjacent to some overgrown scrub land and a park within an urban area.

2.1.2 No firm plans have yet been supplied for the proposed development.

2.2 The Soils and Foundations

2.2.1 The soil of the site is described at http://www.landis.org.uk/soilscapes as being 'Naturally wet very acid sandy and loamy soils'.

2.2.2 The following is taken from the NHBC Standards Chapter 4.2 Building near trees: The combination of shrinkable soils and trees, hedgerows or shrubs represents a hazard to structures that requires special consideration. Trees, hedgerows and shrubs take moisture from the ground and, in cohesive soils such as clay, this can cause significant volume changes resulting in ground movement. This has the potential to affect foundations and damage the supported structure. In order to minimise this risk, foundations should be designed to accommodate the movement or be taken to a depth where the likelihood of damaging movement is low.

2.3 The Trees

2.3.1 A total of thirty individual trees and three groups were surveyed and plotted in order to assess their health and dimensions in accordance with the British Standard and the results are clearly detailed within the Appendices of this report.

2.3.2 In general the trees/groups surveyed within the site were found to be in poor to moderate condition for their age and species. Several trees within the park area were found to have significant structural defects. Any works identified within the data tables should take place regardless of development in line with best practice. The quality rating for the trees on or affecting this site can be summarised as follows:

U – 9 trees (T4, T7, T8, T9, T10, T11, T13, T14 & T19)
A – 0 trees/groups
B – 9 trees (T5, T15, T16, T18, T21, T23, T27, T29 & T30)
C – 15 trees/groups (T1, T2, T3, T6, T12, T17, T20, T22, T24, T25, T26, G1, G2, T28 & G3)

2.4 Development Considerations

2.4.1 The data tables within Appendix B clearly detail the condition of the trees and identify their worthiness for retention. In addition, the data tables record an average Root Protection Area (RPA) in accordance with the *British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations*. This is an area that should be left undisturbed in order to provide adequate rooting area for retained trees. This can then be used within the design process for development and an Arboricultural Implications Assessment and Method Statement can then be produced to fully assess development impact on each tree, proposed tree works and tree protective measures.

2.4.2 The following considerations are broadly taken from the current British Standard, which states *'A realistic assessment of the probable impacts of any proposed development on the trees and vice versa which should take into account the characteristics and condition of the trees. To maximize the probability of successful tree retention, the following factors are taken into account.'*

Shading of buildings - This can be a problem, particularly where there are rooms, which require natural light. Proposed buildings should be designed to take account of significant trees that are to be retained with regard to their ultimate size and crown density, which effects available light.

Shading of open spaces – Open spaces, particularly garden areas should be designed to meet the normal requirements for direct sunlight for at least part of the day. However, shading can be desirable to reduce glare or excessive solar heating, or to provide for comfort during hot weather.

Privacy and screening – It could be highly desirable to retain trees in order to provide screening to a building for internal privacy or to reduce overlooking by neighbours or to mitigate undesirable views, such as busy roads, railway lines or industrial premises. The success of this will depend on species, quality and proximity to the development.

Direct damage - Below ground, damage to structures can occur because of incremental root and stem growth. Above ground damage can occur to trees and structures by the continuous whipping of branches against the fabric of a building.
The likely effect of direct damage should be considered in order to avoid the need for frequent remedial pruning or other maintenance.

Future pressure for removal - The relationship of buildings to large trees can cause apprehension to occupiers or users of nearby buildings or spaces, resulting in pressure for the removal of the trees. Buildings and other structures should be sited to allow adequate space for a tree's natural development, with due consideration given to its predicted height and canopy spread.

Seasonal nuisance - Trees are naturally growing and shedding organisms. Leaves of some species can cause problems, particularly in the autumn, by blocking gullies and gutters. Fruit can cause slippery patches or the accumulations of honeydew can be damaging to surfaces and vehicles. These issues should be considered taking into account the species and size of trees in question.

3.0 CONCLUSIONS

3.1 Significance of the Trees

3.1.1 The Tree Constraints Plan of Appendix E clearly illustrates the trees of quality and their restrictions in terms of their crown spreads and RPA's. In some cases where appropriate minor encroachment or even tree removal can be mitigated with special measures or quality replacement planting, but this should be carefully considered within the design process.

3.2 Standard of Work

3.2.1 All tree work undertaken should be done in accordance with British Standard 3998:2010 and by competent contractors insured with public liability cover of at least two million pounds.

3.3 Statutory Controls

3.3.1 If the trees on site are subject to any Tree Preservation Orders (TPO's) or are encompassed within a Conservation Area, then statutory permission from the Local Planning Authority (LPA) will be required before any tree works take place.

3.4 Wildlife

3.4.1 All operations should take account of wildlife needs and be planned to take advantage of weather conditions and time of year for minimum damage and disturbance. If any protected species or nesting birds are present or discovered while the works are taking place all work should cease until contact has been made with Natural England for further advice. Natural England can be contacted on 0300 060 3900 or by e-mail to: enquiries@naturalengland.org.uk. Specific consideration should be given to the possible presence of roosting bats, which are protected by the Wildlife and Countryside Act 1981 (schedule 5) and included in schedule 2 of the Conservation Regulations 1994. Ideally, a survey should be carried out to identify any potential roost sites and if bats are found to be present advice should be sought form a person qualified and experienced in handling such matters and fully conversant with the implications of the Act.

Signed

Peter Murray (HND. ARB, M, Arbor A)
Arboricultural Consultant for DEP Landscape Architecture Ltd

2 Commercial Street
Manchester
M15 4RQ

Tel: 0161 241 9878
17th January 2023

APPENDIX A - Glossary of Terms & Table 1 of BS 5837:2012

The following terms are concurrent with best Arboricultural practice and within the guidelines set by the International Society of Arboriculture (ISA), the Arboricultural Association (AA) and the British Standards Institute (BSI).

Dbh: Diameter at Breast Height is measured at 1.5m and recorded in millimetres. Where a tree becomes multi-stemmed below 1.5m the diameter of each stem is measured at 1.5m and added together. Where a tree has low branching or has swelling the stem is measured at the narrowest point below.

Height: Height was estimated and recorded in metres.

Age Range: Age is site specific and categorised:

Young (Y)	Out-planted trees that have not yet established.
Semi-Mature (SM)	Established trees up to 1/3 of expected height and crown.
Early Mature (EM)	Between 1/3 and 2/3 of expected height and crown.
Mature (M)	Between 2/3 and full expected height and crown.
Fully Mature (FM)	Full expected height and crown.
Over Mature (OM)	Crown beginning to break-up and decrease in size.
Senescent (S)	Crown in advanced stage of break-up.

Crown Spread: Measured in metres at four cardinal points (N, E, S & W).

Crown Clearance: Measured in metres from the ground to the first branch tip on development side only.

Condition - Assessment of current physiological condition and structural morphology incorporating vigour and vitality and categorised:

A - Tree needing little, if any attention
B - Tree with minor, but rectifiable defects, or in the early stages of physiological stress
C - Tree with significant structural and physiological flaws and/or extremely stressed
D - Tree that is dead, biologically/physically moribund or dangerous

Desirability To Retain – As Outlined in Table 1 of BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (see below).

<u>Definition of Physiological & Morphological Terms</u>

Adaptive Growth - The process whereby wood formation is influenced both in quantity and in quality by the action of gravitational force and mechanical stresses on the cambial zone.

Bifurcation – Forked or divided union.

Brown Rot - Form of decay where cellulose is degraded, while lignin is only modified.

Cankers (target or tumerous) - A localised area of dead bark and cambium on a stem or branch, caused by fungal or bacterial organisms, characterised by woundwood development on the periphery. This may be annual or perennial.

Cavity - An open wound, characterised by the presence of extensive decay and resulting in a hollow.

Chlorotic Leaf - Lacking in chlorophyll, typically yellow in colour.

Compartmentalisation - The physiological process that creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms.

Coppicing - Is an ancient form of woodland management that involves repetitive felling on the same stump, near to ground level, and allowing the shoots to re-grow from that main stump. (Also known as the coppice stool).

Crack - Longitudinal spilt in stem or branch, involving bark and/or underlying wood. These may be vertically and horizontally orientated.

Decay - Process of degradation of woody tissues by fungi and bacteria through decomposition of cellulose and lignin.

Deadwood - Deadwood is often present within the crown or on the stems of trees. In some instances is may be an indication of ill health, however, it may also indicate natural growth processes. If a target is present beneath the tree, deadwood may fall and cause injury or damage and should be removed, otherwise deadwood can remain intact for conservation purposes (insects, fungi, birds etc.).

End Weight - The concentration of foliage at the distal ends of stems and deficient in secondary branches.

Girdling Root - Root which circles and constricts the stem or roots causing death of phloem and/or cambial tissue.

Hazard Beam - An upwardly curved branch in which strong internal stresses may occur without the compensatory formation of extra wood (longitudinal splitting may occur in some cases).

Included Bark Union - Pattern of development at branch junctions where bark is turned inward rather than pushed out. Potential weakness due to a lack of a woody union.

Ivy Growth - Ivy growth may ascend into the tree's crown, increasing wind resistance, concealing potential defects and reducing the tree's photosynthetic capacity. Ivy growth is often acceptable in woodland areas as a conservation benefit.

Live Crown Ratio - The relative proportion of photosynthetic mass (leaf area) to overall tree height.

Reaction Wood - Specialised secondary xylem, which develops in response to a lean or similar mechanical stress, attempting to restore the stem to the vertical.

Root Plate Lift - The physical movement of the rooting plate causing soils to shift and crack. May occur during adverse weather conditions. Trees may become unstable.

Structural Defect - Internal or external points of weakness, which reduce the stability of the tree.

Suppressed - Trees which are dominated by surrounding vegetation and whose crown development is restricted from above.

Topping - A highly disfiguring practise, likely to cause severe xylem dysfunction and decay in major structural parts of the wood.

White Rot - Form of decay where both cellulose and lignin are degraded.

Wound - Any injury, which induces a compartmentalisation response.

Woundwood - Wood with atypical anatomical features, formed in the vicinity of a wound and a term to describe the occluding tissues around a wound as opposed to the ambiguous term "callus."

Woodland Structure - The vertical and horizontal arrangement of trees within a group or woodland i.e. Dominant - trees with a crown above the upper layer of the canopy, Co-dominant trees that define the general upper edge of the canopy, Intermediate trees that have been largely overgrown by others, Suppressed trees that have been overgrown and occupy an under storey position and grow slowly, often severely asymmetrical.

Note: The definitions described above, may not necessarily be included within the Arboricultural Survey Data.

Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see note)			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality **Note** – *Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*		
	1 Mainly arboriculture qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**
Trees to be considered for retention			
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or those that are essential components of groups or formal or semi-formal arboriculture features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and minor storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Tree with no material conservation or other cultural value

APPENDIX B – Arboricultural Data

Arboricultural Data Sheet: Land adjacent Virgil Street, Cornbrook, Manchester, M15 4ED **Date of Survey**: 06/01/23 **Weather**: Overcast **Surveyor**: PM

Crown C = Crown Clearance; Cond R = Condition Rating; ERC (Yrs) = Estimated Remaining Contribution; TQRA = Tree Quality Category Rating; RPA (m^2) = Root Protection Area (m^2)
Recommended works should be carried out to the *British Standard Recommendations for Tree Work, BS 3998:2010*

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations and Comments	Preliminary Recommendations	ERC (Yrs)	TQC R	RPA (m^2)	RPA Circle Radius (m)
					N	E	S	W								
T1	Sycamore	360	12	EM	4	5	4	4	3	B/C	A scrub tree close to the existing building. Swamped in Ivy. No clear view of stem or base. High crown.	**n/a**	10+	C2	58.63	4.32
T2	Poplar x 2	400	13	EM	7	7	7	7	4	B/C	A scrub tree, which is two stems formed from ground level. Swamped in Ivy with a high crown. No view of stem or base. Previous breakouts in the crown and evidence of Squirrel damage.	**n/a**	10+	C2	72.38	4.80
T3	Poplar	380	11	EM	7	5	2	5	2	B/C	A scrub tree, swamped in Ivy. Low branches over adjacent green area. No view of stem or base. Previous breakouts in the crown and evidence of Squirrel damage.	**n/a**	10+	C2	65.33	4.56
T4	Norway Maple	450	14	M	8	7	7	8	2.5	B/C	Locate close to the building. Significant fire damage on the stem, which will rapidly decay. Reasonable overall form and vigour. Minor deadwood present. Very low potential.	**Fell to ground level.**	5-10	U	91.61	5.40
T5	Sycamore	820	17	M	8	9	9	9	2.5	B	A large specimen within group exhibiting minor crown asymmetry. Fluted buttress with some minor damage and minor bark damage on the stem. Some deadwood present and several hanging pieces. Minor broken branch stubs. Scrub around base. Foliage close to light column.	**Remove significant deadwood and crown lift to approx. 4m.**	20+	B2	304.19	9.84
T6	Whitebeam	410	9	M	6	4	4	6	2	B/C	A reasonable tree within the group although it does have a significant wound at base, which will reduce its longevity. Minor deadwood in the crown and foliage close to adjacent light column. Slight crown suppression due to group.	**Prune to clear light column and crown lift to approx. 3m. Remove significant deadwood.**	10+	C2	76.05	4.92

Arboricultural Data Sheet: Land adjacent Virgil Street, Cornbrook, Manchester, M15 4ED **Date of Survey**: 06/01/23 **Weather**: Overcast **Surveyor**: PM

Crown C = Crown Clearance; Cond R = Condition Rating; ERC (Yrs) = Estimated Remaining Contribution; TQRA = Tree Quality Category Rating; RPA (m^2) = Root Protection Area (m^2)
Recommended works should be carried out to the *British Standard Recommendations for Tree Work, BS 3998:2010*

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations and Comments	Preliminary Recommendations	ERC (Yrs)	TQC R	RPA (m^2)	RPA Circle Radius (m)
					N	E	S	W								
T7	Whitebeam	360	8	M	6	4	0	5	2	C/D	Exhibits major stem decay, imminent risk of complete failure.	**Fell to ground level, grind out stump and replace.**	0-5	U	58.63	4.32
T8	Whitebeam	320	10	M	4	4	4	3	3	C/D	Exhibits major stem and basal decay, imminent risk of complete failure.	**Fell to ground level, grind out stump and replace.**	0-5	U	46.32	3.84
T9	Bird Cherry	510	11	FM	8	7	3	6	1.8	B/C	A large specimen with reasonable vigour but has some decay present in the lower stem and base. There is also the presence of the decay fungus *Ganoderma spp* on the eastern side at base. Crown asymmetry due to group. Low potential.	**Fell to ground level, grind out stump and replace.**	5-10	U	117.67	6.12
T10	Norway Maple	620	16	M	8	6	9	5	4	C	Has suffered major limb loss at 2m on the northern side and western side resulting in extensive stem decay, which will be rapidly hollowing out. Exhibits major crown asymmetry with very low potential.	**Fell to ground level, grind out stump and replace.**	5-10	U	173.90	7.44
T11	Norway Maple	570	16	M	9	9	5	4	3	C	A poor specimen with an acute northern lean. Exhibits major stem decay on the eastern side, most likely due to fire damage. Hollowing out near base. Very low potential.	**Fell to ground level, grind out stump and replace.**	5-10	U	146.98	6.84
T12	Whitebeam	600	11	FM	6	5	6	4	2.5	B	A large specimen with reasonable form and vigour. Minor stem wounds with no apparent defects. Minor deadwood in the crown. Bird nest present.	**n/a**	10+	C1	162.86	7.20
T13	Elm	800	10	M	4	5	7	6	3	D	A dead tree multi-stemmed at base.	**Fell to ground level and replace.**	n/a	U	289.53	9.60
T14	Bird Cherry	600	10	FM	5	7	8	6	1.8	C	A large specimen with reasonable vigour but has stem decay present. Broken lower branch. There is also the presence of the decay fungus *Ganoderma spp* on the northern side at base. Crown asymmetry due to group. Low potential.	**Fell to ground level, grind out stump and replace.**	5-10	U	162.86	7.20

Arboricultural Data Sheet: Land adjacent Virgil Street, Cornbrook, Manchester, M15 4ED **Date of Survey**: 06/01/23 **Weather**: Overcast **Surveyor**: PM

Crown C = Crown Clearance; Cond R = Condition Rating; ERC (Yrs) = Estimated Remaining Contribution; TQRA = Tree Quality Category Rating; RPA (m^2) = Root Protection Area (m^2)
Recommended works should be carried out to the *British Standard Recommendations for Tree Work, BS 3998:2010*

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations and Comments	Preliminary Recommendations	ERC (Yrs)	TQC R	RPA (m^2)	RPA Circle Radius (m)
					N	E	S	W								
T15	2 x Sycamore	380	13	EM	7	7	6	6	1.5	B	Two self-sown trees on boundary with fence, slightly pushing it out. Reasonable overall forma and vigour. Minor deadwood. Basal shoots and debris present.	**Crown lift to approx. 3m and remove basal shoots and debris.**	20+	B2	65.33	4.56
T16	Sycamore	400	13	EM	6	6	7	6	1.5	B	A self-sown tree on boundary with fence, slightly pushing it out. Multi-stemmed at base with poor structural form but good vigour. Insignificant deadwood. Large basal shoots present.	**Crown lift to approx. 3m and remove basal shoots.**	20+	B2	72.38	4.80
T17	Norway Maple	360	10	EM	5	5	7	8	1.8	B/C	A minor specimen with poor structural form and several weak forks including the main union near base. Several rubbing fused branches. Deadwood present. Decay at base. This tree is right next to an informal footpath. Low potential.	**Fell to ground level, grind out stump and replace.**	10+	C2	58.63	4.32
T18	Sycamore	630	17	M	8	8	6	8	2.5	B	A co-dominant specimen within group. Exhibits minor crown asymmetry and good vigour. Some deadwood present. Regular activity beneath crown.	**Remove significant deadwood and crown lift to approx. 4m.**	20+	B2	179.55	7.56
T19	Norway Maple	700	16	M	7	8	1	8	1.8	C/D	This tree has suffered major limb loss due to included union. The remainder of the stem is fragile and there is significant decay present.	**Fell to ground level, grind out stump and replace.**	0-5	U	221.67	8.40
T20	Norway Maple	680	17	M	6	6	9	9	2	B	A co-dominant specimen within group. Exhibits major crown asymmetry and good vigour. Some deadwood present. Regular activity beneath crown. Several fused limbs present. Poor structural form.	**Remove significant deadwood.**	10+	C2	209.18	8.16
T21	Norway Maple	620	16	M	7	8	8	3	2	B	A co-dominant specimen within group exhibiting major crown asymmetry due to group. Good vigour. Wound at 1m, not thought significant. Fluted buttress. Insignificant deadwood.	**n/a**	20+	B2	173.90	7.44

Arboricultural Data Sheet: Land adjacent Virgil Street, Cornbrook, Manchester, M15 4ED **Date of Survey**: 06/01/23 **Weather**: Overcast **Surveyor**: PM

Crown C = Crown Clearance; Cond R = Condition Rating; ERC (Yrs) = Estimated Remaining Contribution; TQRA = Tree Quality Category Rating; RPA (m^2) = Root Protection Area (m^2)
Recommended works should be carried out to the *British Standard Recommendations for Tree Work, BS 3998:2010*

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations and Comments	Preliminary Recommendations	ERC (Yrs)	TQC R	RPA (m^2)	RPA Circle Radius (m)
					N	E	S	W								
T22	Norway Maple	400	12	EM	6	6	7	3	2	B/C	A minor specimen within the group exhibiting minor crown asymmetry. Wounds at base not though significant. Minor deadwood present.	**n/a**	10+	C2	72.38	4.80
T23	Sycamore	620	16	M	7	7	8	8	2.5	A/B	A co-dominant specimen within group exhibiting reasonable crown symmetry. Reasonable vigour with some deadwood present. Fluted buttress. Previous removal of lower branches. Basal shoots present.	**Remove significant deadwood and basal shoots.**	20+	B2	173.90	7.44
T24	Poplar	360	10	EM	5	5	6	5	3	B/C	A scrub milt-stemmed specimen with low vigour and signs of decline. Possibly due to Poplar Canker. Low potential. Bird nest present.	**n/a**	10+	C3	58.63	4.32
T25	Sycamore	390	12	EM	5	6	6	6	2	A/B	A vigorous young scrub specie man forked at 3m. Reasonable form.	**n/a**	10+	C2	68.81	4.68
T26	Poplar	270	11	EM	6	4	2	4	3	C	A poor scrub tree with signs of low vigour and decline. Possibly due to Poplar Canker.	**n/a**	10+	C3	32.98	3.24
T27	Norway Maple	730	16	M	9	9	9	9	2	B	A large spreading specimen within scrub area. Good overall forma and vigour. Typical deadwood present. Fluted buttress.	**n/a**	20+	B2	241.08	8.76
G1	Group - Goat Willow	<500	<15	SM-EM	7	7	7	7	1	B	A scrub group of Willow of varying sizes, several multi-stemmed. The group seems to surround a natural depression in the ground that can fill up with water.	**n/a**	10+	C2	<113.10	<6.00
G2	Group - 2 Poplars	<300	<12	EM	6	6	6	6	1	B/C	Two scrub trees with low vigour and swamped in Ivy.	**n/a**	10+	C3	<40.72	<3.60
T28	Poplar	280	10	EM	4	6	5	4	2	B/C	A poor scrub tree with signs of low vigour and decline. Possibly due to Poplar Canker.	**n/a**	10+	C3	35.47	3.36

Arboricultural Data Sheet: Land adjacent Virgil Street, Cornbrook, Manchester, M15 4ED **Date of Survey**: 06/01/23 **Weather**: Overcast **Surveyor**: PM

Crown C = Crown Clearance; Cond R = Condition Rating; ERC (Yrs) = Estimated Remaining Contribution; TQRA = Tree Quality Category Rating; RPA (m^2) = Root Protection Area (m^2)
Recommended works should be carried out to the *British Standard Recommendations for Tree Work, BS 3998:2010*

Tree No.	Species	Dbh (mm)	Height (m)	Age	Crown Spread				Crown C	Cond R	Observations and Comments	Preliminary Recommendations	ERC (Yrs)	TQC R	RPA (m^2)	RPA Circle Radius (m)
					N	E	S	W								
T29	Silver Maple	790	22	M	8	7	6	8	2.5	A/B	A very large tree on the boundary exhibiting reasonable form and vigour, Several included unions and deadwood present. Evidence of previous minor failures. Basal shoots present.	**Remove basal shoots.**	20+	B2	282.34	9.48
T30	Silver Maple	800	22	M	6	8	9	8	3	A/B	A very large tree on the boundary exhibiting reasonable form and vigour, Forked at 4m. Deadwood present. Evidence of previous minor failures. Basal shoots present.	**Remove basal shoots.**	20+	B2	289.53	9.60
G3	Group - Whitebeam, Cherry & Ash	<400	<12	Y-EM	5	5	5	5	1.5	B	A mixed group with profuse Cherry suckers present. Several trees swamped in Ivy. Whitebeam and Cherry near boundary. Ash in corner with Ivy on stem and signs of decline due to Ash Dieback.	**Consider removal of Ash.**	10+	C2	<72.38	<4.80

APPENDIX C – Digital Photographs

T30

T4

T6

T7

T8

T9

T10

T10

T11

T11

T13

T14

T14

T14

T14

T17

T17

T17

T17

T19

T19

T20

T21

T22

T24 T25

T24 T25 T26

T27

G2

T28

T29

T3 T2 T1

G1

G1

APPENDIX D – Key References

1. *British Standard BS 5837: (2012) Trees in relation to design, demolition and construction - Recommendations. ISBN 978-0-580-69917-7*

2. *Lonsdale, D. (199) Principles of tree hazard assessment and management, Research for amenity trees N0. 2. HMSO, London. ISBN 0-11-753355-6*

3. *Mattheck, C. and Belier, H. (1994) The body language of trees. Research for amenity trees No. 4. HMSO, London. ISBN 0-11-753067-0*

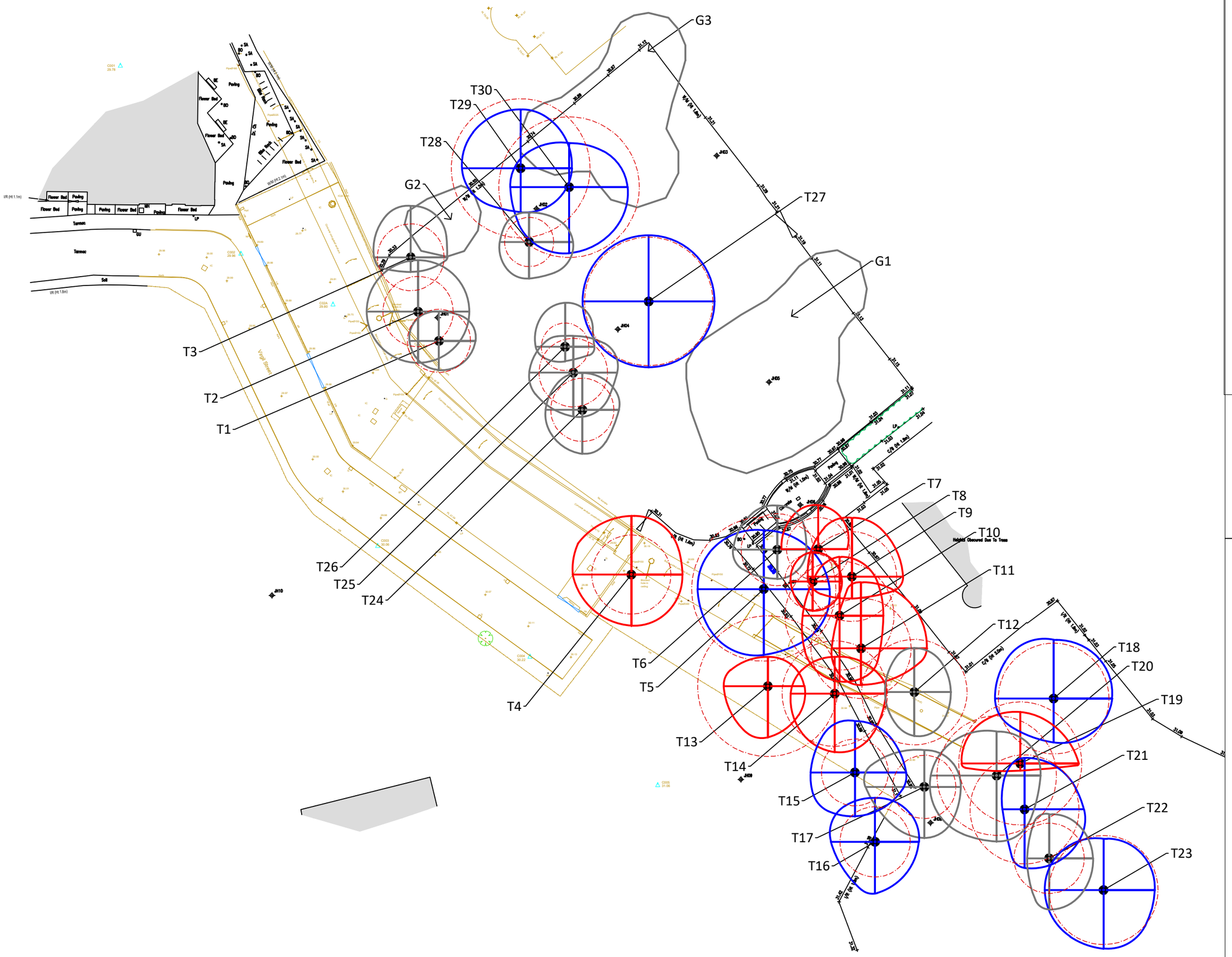
4. *Shigo, A. L. (1989a) A new tree biology. Shigo and Trees Associates, Durham, New Hampshire ISBN 0-943563-04-6*

5. *Stouts R. G. and Winter T. G. (1994) Diagnosis of ill-health in trees, Research for amenity trees No. 2. HMSO, London. ISBN 0-11-752919-2*

6. *British Standard BS 3998: (2010) Tree Work-Recommendations. ISBN 978-0-580-53777-6*

APPENDIX E

Tree Constraints Plan



KEY

TREE SURVEY

- T1 — Retention Category A trees and groups of high quality
- T1 — Retention Category B trees and groups of moderate quality
- T1 — Retention Category C trees and groups of low quality
- T1 — Category U trees and groups of poor quality
- Root Protection Areas: Calculated inline with BS5837:2012 to show a circular RPA which does not take into consideration site conditions

N

DEP LANDSCAPE ARCHITECTURE LTD

2 COMMERCIAL STREET, MANCHESTER, M15 2JA
T: 0161 241 9878
E: info@dep.co.uk
W: www.dep.co.uk

Client
Generation Ltd.

Project
Virgil Street, Cornbrook, Manchester

Description
Tree Constraints Plan

Status
PLANNING

Scale	Drawn		
1/500@A3	PM		
Job number	**Drawing number**	**Date**	**Revision**
5145	01	14.01.23	x

Copyright DEP Landscape Architecture Ltd

All levels and dimensions to be checked on site by contractor prior to commencement; Any variations to be reported to the client. This drawing is to be read in conjunction with all others relating to the project and all information derived accordingly; any anomalies to be reported to the client. Do not scale from this drawing. Use figured dimensions only. Work shown on this drawings to be carried out in accordance with current British Standards and Codes of Practice.

© Copyright to DEP Landscape Architecture Limited. The information shown on this drawing shall not be reproduced or copied in any form without prior written consent from DEP Landscape Architecture Limited.