Alan Motion Tree Consulting Ltd
Chartered Forester, Arboricultural Consultant



Tree Survey and Arboricultural Constraints

MINERVA STREET, GLASGOW

For

AMBASSADOR HOMES

18 May 2021

Institute of Chartered Foresters
Registered Consultant

Fairlie House, Main Street, Buchlyvie, Stirling FK8 3LX
[redacted]
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1. GENERAL INTRODUCTION

1.1. Alan Motion Tree Consulting Ltd has been instructed to carry out a tree survey for Ambassador Homes, in relation to proposed development on land at Minerva Street, Glasgow (the 'site'). This report relates to 30 trees within the survey boundary shown on the plans appended to this document. The report describes the extent and condition of tree cover within and immediately adjacent to the site and highlights the above and below ground constraints presented by existing tree cover.

1.2. The survey has been carried out in accordance with BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations." Small trees of less than 10cm stem diameter, and areas of undergrowth are described in general terms but are not recorded in detail, except where their condition or presence merits particular attention. Within larger groups and woodlands, trees are described collectively except where dominant specimens merit individual recording.

2. STANDARD CONDITIONS RELATING TO TREE SURVEYS

2.1. Tree surveys are undertaken from ground level using established visual assessment methodology. This is primarily a survey to assess the general health, condition, value and life expectancy of existing trees as part of the planning and design process. The report should not be read as a detailed tree safety or risk assessment.

2.2. Where obvious defects are noted and further investigation is required, either by climbing or the use of specialised decay detection equipment, this will be identified in the report.

2.3. The findings and recommendations contained within this report are valid for a period of twelve months. Trees are living organisms subject to change. It is strongly recommended that they are inspected at regular intervals for reasons of safety.

2.4. Whilst every effort has been made to detect defects within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. Extreme climatic conditions can cause damage to apparently healthy trees.

2.5. The findings and recommendations contained within this report are based on the current site conditions. The construction of roads, buildings, service wayleaves, removal of shelter, and alterations to established soil moisture conditions can all have a detrimental effect on the health and stability of retained trees. Accordingly, a re-inspection of retained trees is recommended on completion of any development operations.

2.6. This report has been prepared for the sole use of Ambassador Homes and their appointed agents. Any third party referring to this report or relying on information contained within it does so entirely at their own risk.

3. GENERAL DESCRIPTION

3.1. The survey boundaries and site layout as it currently exists are shown on the Tree Survey plan attached towards the end of this report.

3.2. The site comprises an existing car park associated with an existing retail store, located to the west of Finnieston Street, and south of Minerva Street.

3.3. A single row of early-mature trees grows within the verge to Finnieston St/Minerva St, comprised of lime and sycamore, with occasional ash. The landscaped verge is approximately 3.5m wide, and contained between hard surfacing of the car park and pavement. A metal railing runs along the car park edge of the landscape strip.

3.4. There are areas of ornamental shrub undergrowth growing beneath the trees, mainly confined to the Finnieston Street strip. One group of Cotoneaster grows within the tree line on Minerva Street.

3.5. No other vegetation is present within or adjacent to the site.

4. STATUTORY PROTECTION

4.1. The trees along the Minerva Street verge lie within the St Vincent Crescent conservation area. Prior to carrying out any work to the trees a minimum of six weeks' written notice must be submitted to the local planning authority.

5. TREE SURVEY AND ANALYSIS

5.1. A visual assessment has been carried out from the ground level of 30 trees within and immediately adjacent to the site. The location of the trees is plotted on the attached Tree Survey plan, and their condition and any recommended remedial works are recorded in detail in Table 2 - Tree Survey Schedule. This records relevant details in accordance with the recommendations contained in BS 5837:2012, and includes:

- Tree number (Tree tag number where used, or plan reference number)
- Tree species (common name)
- DBH: stem diameter at breast height (1.5m above ground level)
- Canopy spread in metres (N, S, E, W)
- Tree height (estimate in metres)
- Crown height (clearance to lowest branches in metres)
- Tree Condition Category
- General condition of structure and physiology (good, fair, poor, dead)
- Age (Young, Early-mature, middle-aged, mature, over-mature, veteran)
- Number of stems arising below 1.5m
- Estimated Remaining Contribution in years
- Comments and observations (if any) on the overall health and condition of the tree, highlighting any problems or defects
- Recommended remedial works, where necessary
- Impacts of any development proposals

5.2. Where appropriate, recommendations are made on necessary remedial action such as tree surgery or felling. This is specified where there is likely to be significant risk to safety or tree health, or to abate a nuisance. The recommendations are general in nature and do not constitute a detailed work specification. Specifications, where required, can be provided to accord with the guidance and recommendations contained in BS3998:2010, "Tree work – Recommendations." Any recommendations are made on the basis that they are undertaken by a suitably qualified arboricultural contractor.

5.3. The trees are not tagged (those on Finnieston Steet were inaccessible due to shrub undergrowth) They are numbered 1-30, running from the car park entrance off Finnieston Steet, to the end of the site on Minerva Street.

5.4. Trees have been categorised in accordance with the guidelines contained in BS 5837, set out in Table 1 of this report, as follows:

20 Category A

8 Category B,

2 Category C

0 Category U.

5.1. The purpose of the tree categorisation method is to identify the quality and value of existing trees, allowing informed decisions to be made concerning which trees could be removed or retained in the event of development occurring. The presence of trees and their quality is only one factor in the design and planning process, and the retention of good quality, healthy trees may be inappropriate in the context of wider planning and development considerations.

5.2. Young trees of <15cm stem diameter, and trees in Categories C and U with limited safe life or poor health and/or structure, are not normally considered to be a significant constraint on development.

5.3. The high number of Category A trees is reflective of the relatively young age, and long potential life of existing specimens.

6. CONSTRAINTS POSED BY EXISTING TREES

6.1. In order to minimise the risk of long-term damage to trees from construction operations, particular care is required to protect them from physical damage. Significant damage can be caused to tree root systems by ground level changes; soil compaction; contamination from oils and cement; and changes in soil moisture content. For these reasons, BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'

sets out a recommended Root Protection Area (RPA) in m^2 based on the stem diameter of the tree. The RPA represents the anticipated below-ground constraints presented by trees within the proposed development area.

6.2. Tree roots rarely follow expected patterns. Adjustments to the RPA are recommended where restrictions to normal rooting patterns suggest that root growth will be minimal (*e.g.* adjacent to walls, sealed surfaces, watercourses, or existing utility trenches). In addition, soil type, tree species, age, vigour, canopy volume and micro-climate will all impact on root growth and the ability of individual trees to tolerate changes in rooting environment. For all of the foregoing reasons, the RPA should be taken as a guide, and should not be treated as an absolute factor.

6.3. Above-ground constraints presented by trees include ultimate height and canopy spread, which will affect both physical presence and daylight availability to any proposed structures. Species characteristics, such as evergreen or dense foliage, potential for branch drop, fruit fall, *etc*, will all have an influence on the potential for development of the site. Easements for underground and above-ground apparatus; road safety and visibility; or the proposed end use of space adjacent to retained trees also needs to be fully considered.

6.4. Where it is determined that trees should be retained because of their quality and amenity importance, the impact of proposed designs must be assessed against the requirements of the tree, taking into account the RPA and all other relevant factors. Whilst the RPA should generally be protected where possible, any proposed incursion into the RPA should comply with the recommendations of BS5837, Sections 6 and 7. Site-specific method statements may be required to accompany such proposals.

7. ARBORICULTURAL IMPACT ASSESSMENT

7.1. The proposed site redevelopment involves the demolition of one existing retail unit, and construction of new mixed use development, including basement car parking and leisure suite, with ground floor retail units and duplex flats, and a further five storeys of

residential units. Additional ground level parking would be provided within the footprint of the demolished retail unit.

7.2. Development proposes the removal of all of the existing trees to create a new streetscape in keeping with surrounding residential and retail frontages.

7.3. In mitigation, a comprehensive landscape treatment will incorporate new street tree planting within natural stone sett paving along the Minerva Street frontage. This will provide the opportunity to establish trees of species and varieties well-suited to the urban environment in terms of their crown form and resilience.

7.4. Details of the proposed layout and location of replacement planting are shown on the accompanying plans.

TABLE 1 BS 5837:2012 TREE CATEGORISATION				
Category and definition	**Criteria**			**Identification on plan**
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 (e.g. 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, 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*.			**Red**
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	**Criteria – Subcategories**			**Identification on plan**
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A **Trees of high quality** with an estimated remaining life expectancy of 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural features and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	**Green**
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 storm damage), such that they are unlikely to be suitable for retention 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	**Blue**
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 150mm	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 a greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	**Grey**

TABLE 2 TREE SURVEY SCHEDULE

Tag No	Species	DBH	N	S	E	W	Ht	C.Ht	BS Cat	Condition	Age	Stems	ERC	Comments	Recommendations/Imacts
1	Large leafed lime	0.25	3	3	3	3	9	2	A2	Good	E-M	1	>40	Start of group in shrub bed.	Remove to accommodate development
2	Large leafed lime	0.25	3	3	2	3	9	2	B1	Fair	E-M	1	>40	Forked at 1m.	Remove to accommodate development
3	Large leafed lime	0.20	3	3	3	3	6	1	A2	Good	E-M	1	>40		Remove to accommodate development
4	Large leafed lime	0.25	3	3	3	3	9	1	A2	Good	E-M	1	>40	Disruption to surfacing.	Remove to accommodate development
5	Ash	0.25	3	3	4	3	9	2	B2	Good	E-M	1	>40	Disruption to surfacing. Forked, 1m.	Remove to accommodate development
6	Large leafed lime	0.20	3	2	3	3	6	3	A2	Good	E-M	1	>40		Remove to accommodate development
7	Large leafed lime	0.20	3	3	3	3	6	2	A2	Good	E-M	1	>40		Remove to accommodate development
8	Large leafed lime	0.25	3	3	3	3	10	2	A2	Good	E-M	1	>40		Remove to accommodate development
9	Sycamore	0.40	5	4	5	4	11	3	A2	Good	M-A	1	>40		Remove to accommodate development
10	Ash	0.25	5	2	2	2	10	3	B2	Fair	E-M	1	20 to 40	Canopy 1-sided.	Remove to accommodate development
11	Sycamore	0.35	5	5	3	2	11	2	A2	Good	M-A	1	>40		Remove to accommodate development
12	Ash	0.30	4	5	2	2	11	3	B2	Fair	E-M	1	20 to 40	Poor crown structure.	Remove to accommodate development
13	Sycamore	0.35	4	5	2	4	11	2	A2	Good	M-A	1	>40		Remove to accommodate development
14	Large leafed lime	0.15	2	2	1	2	8	2	B2	Good	Y	1	>40		Remove to accommodate development
15	Sycamore	0.45	4	4	4	5	13	3	A2	Good	M-A	1	>40	Branches affecting adjacent structure. Lighting cables.	Remove to accommodate development
16	Large leafed lime	0.10	1	1	1	1	4	2	C2	Fair	Y	1	>40		Remove to accommodate development

Tag No	Species	DBH	N	S	E	W	Ht	C.Ht	BS Cat	Condition	Age	Stems	ERC	Comments	Recommendations/Imacts
17	Caucasian lime	0.25	4	4	3	2	9	2	A2	Good	E-M	1	>40		Remove to accommodate development
18	Ash	0.30	2	4	2	2	12	2	B2	Fair	E-M	1	20 to 40		Remove to accommodate development
19	Large leafed lime	0.25	3	4	2	3	9	2	A2	Good	E-M	1	>40		Remove to accommodate development
20	Large leafed lime	0.25	4	4	2	2	9	2	A2	Good	E-M	1	>40		Remove to accommodate development
21	Large leafed lime	0.30	4	4	3	2	10	3	A2	Good	E-M	1	>40		Remove to accommodate development
22	Large leafed lime	0.25	4	4	2	3	10	2	A2	Good	E-M	1	>40		Remove to accommodate development
23	Ash	0.25	2	3	2	2	11	4	B2	Fair	E-M	1	20 to 40	In area of tall cotoneaster shrubs.	Remove to accommodate development
24	Large leafed lime	0.30	4	3	3	3	9	2	A2	Good	E-M	1	>40		Remove to accommodate development
25	Sycamore	0.15	3	2	1	2	6	2	C2	Fair	E-M	1	>40	Canopy suppressed.	Remove to accommodate development
26	Sycamore	0.35	3	4	4	1	12	3	A2	Good	M-A	1	>40		Remove to accommodate development
27	Sycamore	0.45	6	5	3	2	12	3	A2	Good	M-A	1	>40		Remove to accommodate development
28	Sycamore	0.40	4	4	3	5	12	2	A2	Good	M-A	1	>40		Remove to accommodate development
29	Large leafed lime	0.20	2	3	1	2	8	1	B2	Good	E-M	1	>40		Remove to accommodate development
30	Large leafed lime	0.25	4	3	2	3	10	2	A2	Good	E-M	1	>40	Excavations/level changes in root zone. Recent drainage works to W.	Remove to accommodate development

KEY TO TREE SURVEY SCHEDULE

No	Number as shown on survey plan (refers to tree tags where used)		
Species	Common name		
DBH	Stem Diameter at Breast Height, measured at 1.5m above ground level. Diameter measured in 0.05m bands and ***rounded up*** to next 0.05m.		
Canopy	Average canopy radius in metres (survey drawing shows actual canopy radius at 4 cardinal points).		
Ht	Approximate tree height in metres		
C Ht	Crown height, indicating clearance from ground level to lowest branches, estimated in metres		
BS Cat	British Standard 5837:2012 tree categorisation (See Table 1)		
Condition	General overall description of condition:	Good:	Healthy tree with no major defects Trees with significant safe life expectancy Trees of good shape and form for the species
		Fair:	Healthy trees with minor defects Trees with moderate safe life expectancy Trees of average shape and form for the species
		Poor:	Trees with significant defects Trees with a limited safe life expectancy Trees of low vigour, stressed, in decline Trees of poor shape and form, suppressed, structurally weak
		Dying/Dead:	Dead, dying, unsafe or dangerous Trees with little or no safe life expectancy

Age	Age class (Young, Early-mature, Middle-Aged, Mature, Over-Mature, Veteran)
Stems	Single (1) or multiple (M) stems from below 1.5m, used to determine the appropriate Root Protection Area.
ERC	Estimated Remaining Contribution in years, based on species, age, physiological condition and environmental factors.
Comments	Specific comments on any observed defects within the root zone or affecting visible buttress root system; on the main stem up to and including the point of the first main fork; and affecting main scaffold branch system or secondary branch structure. Will be left blank where no defects are noted and growth characteristics are normal
Recommendations/Impacts	Description of any recommended remedial tree work operations required to ensure safety or for cultural reasons. Or the impact of current designs or development proposals on the tree and required works to accommodate the proposals. General description of works, not a detailed tree work specification. Any recommended works should be carried out in accordance with BS3998:2010 *Tree work – Recommendations.*

Tree survey details recorded in accordance with BS5837:2012. Numbers relate to tree tags. For detailed tree information refer to the accompanying report and schedule.

Alan Motion Tree Consulting Ltd
Chartered Forester, Arboricultural Consultant

Fairlie House-Main Street-Buchlyvie-Stirling-FK8 3LX
[redacted]

CLIENT: Ambassador Homes

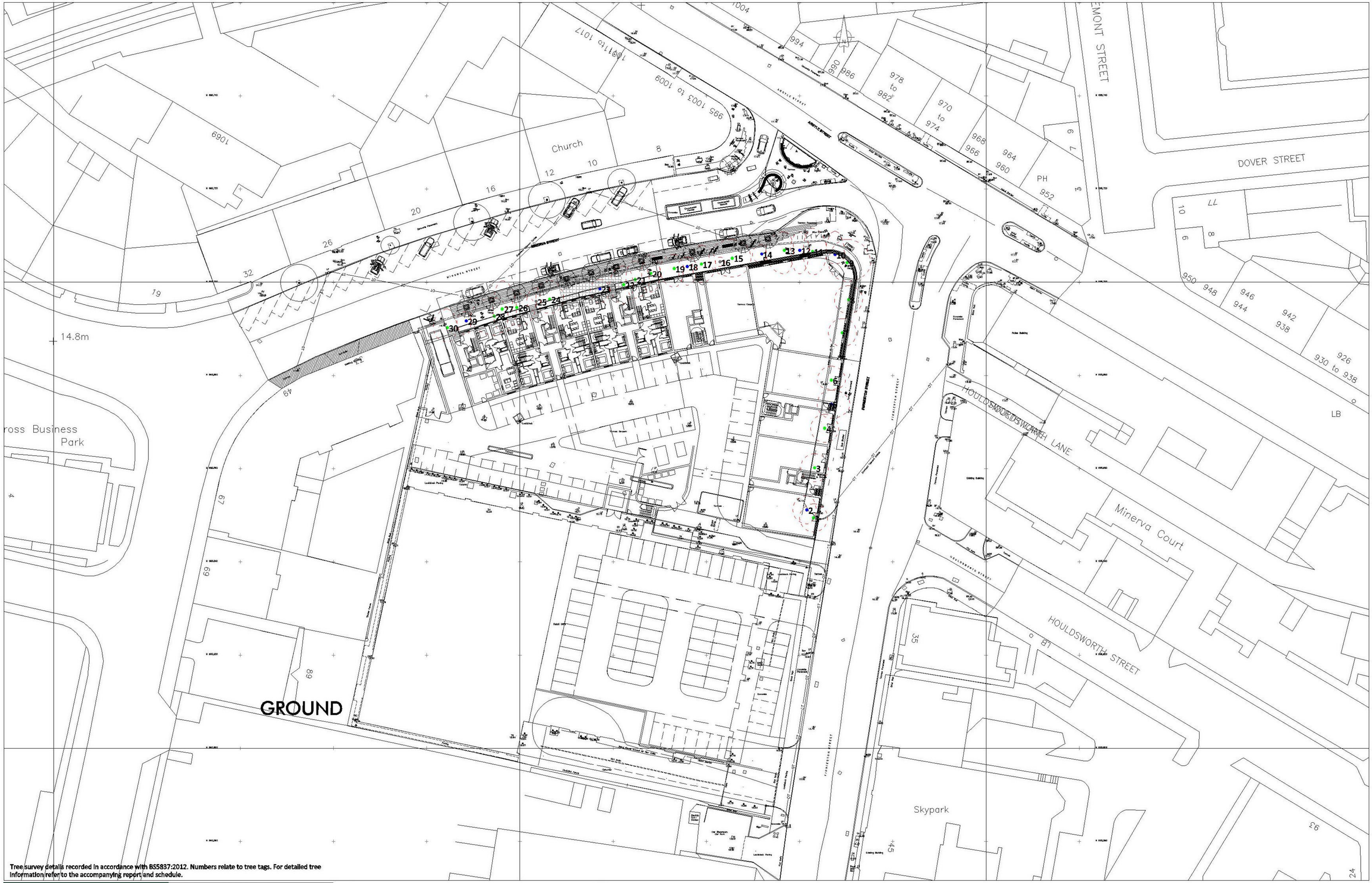
PROJECT: Minerva Street, Glasgow

DRAWING TITLE: Tree Survey as existing
DRAWING No: TS-01

DATE: 18-5-21 | SCALE: 1:500 at A2 | REV:

3895 TREES CATEGORY A
3895 TREES CATEGORY B
3895 TREES CATEGORY C
3895 TREES CATEGORY U

ROOT PROTECTION AREA
BS5837:2012 S4.6.



Tree survey details recorded in accordance with BS5837:2012. Numbers relate to tree tags. For detailed tree information refer to the accompanying report and schedule.

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CLIENT: Ambassador Homes

PROJECT: Minerva Street, Glasgow

DRAWING TITLE: Proposed Development Plan
DRAWING No: TP-01

DATE: 18-5-21 | SCALE: 1:500 at A2 | REV:

3895 TREES CATEGORY A
3895 TREES CATEGORY B
3895 TREES CATEGORY C
3895 TREES CATEGORY U

3895 TREES REMOVED
NOTE: Central colour relates to BS category standard colours

ROOT PROTECTION AREA
BS5837:2012 S4.6.

0 5 10 20
Do not scale from drawing