



Alan Motion Tree Consulting Ltd
Chartered Forester, Arboricultural Consultant



Tree Survey and Arboricultural Constraints

WESTWAY, RENFREW

For

WB WESTWAY LP

23 August 2016



Fairlie House, Main Street, Buchlyvie, Stirling FK8 3LX
T/F: 01360 850534 • Mob: 07866 389284 • E: alan@alanmotion.co.uk
Director: Alan R Motion BScFor, FICFor, CEnv, MArborA. Reg No SC396461

Contents

1. General Introduction	3
2. Standard Conditions Relating to Tree Surveys	3
3. Proposal.....	4
4. General Description	5
5. Statutory Protection	6
6. Tree Survey and Analysis	6
7. Arboricultural Impact Assessment	9
8. Tree Protection Plan	9
Table 1 BS 5837:2012 Tree Categorisation	11
Table 2 Tree Survey Schedule.....	12

1. GENERAL INTRODUCTION

- 1.1. Alan Motion Tree Consulting Ltd has been instructed to carry out a tree survey for WB Westway LP, in relation to proposed development on land at Westway, Renfrew. This report relates to 30 trees and areas of woodland 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 WB Westway LP 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. PROPOSAL

- 3.1. WB Westway LP acquired Westway in 2004. Since that time the owners have worked with Renfrewshire Council to agree a business and distribution led mixed use masterplan to set out the framework for future investment in, and improvement of, Westway.
- 3.2. The uses that could be permitted by the SPZ are fundamentally the same as those within the approved masterplan that benefits from Planning Permission in Principle (PPP). Whilst the scope of the SPZ will be determined during the SPZ preparation phase, it is anticipated that the SPZ Scheme would permit the erection / extension of industrial and distribution floorspace, new office space and the refurbishment of existing buildings within the business park in line with the approved masterplan.
- 3.3. In addition, there will also be an opportunity to deliver additional 'complementary uses' including cafes/restaurants, leisure uses and day nurseries. Any floorspace permitted by the SPZ is not in addition to the existing PPP consent.

- 3.4. The scale of the industrial and business uses and the range of complementary uses will be identified during the preparation of the SPZ Scheme through consultation with the local community, owner/occupiers in the SPZ area and key agencies.
- 3.5. Whilst the PPP masterplan included residential, hotel, multi-storey car park and bridge land uses, these are excluded from the SPZ Scheme itself. They will be promoted at Westway, although through a separate planning process.

4. GENERAL DESCRIPTION

- 4.1. The site is located on the western edge of Renfrew adjacent to the White Cart Water, and to the east of Glasgow Airport. It is an expansive industrial estate containing large-scale industrial units. The survey area is restricted to the western and southern boundaries of the site.
- 4.2. The southern boundary adjoins Wright Street. Established, semi-mature woodland extends along the boundary providing a screen to adjacent housing in the south-east corner. The woodland is predominantly hawthorn, goat willow and silver birch. This changes to more mature goat willow woodland towards the western end of the boundary. Occasional more dominant trees are present within the woodland.
- 4.3. The western boundary with the White Cart Water contains riparian willow woodland, dominated by goat willow with ash, silver birch, sycamore and white willow also present. The majority of this is inaccessible beyond site security fencing, although some encroachment of scrub is occurring into the site.
- 4.4. Towards the northern end of the western boundary, a few ornamental silver birch are present within the site.
- 4.5. Generally, the tree cover is of moderate quality, providing a good screen to the site, but individual trees are not particularly significant.
- 4.6. No further tree cover is present within the main part of the survey area, which is open ground and a mixture of hard standing, roadways, and grass verges.

5. STATUTORY PROTECTION

5.1. The trees within the site are not subject to any statutory protection.

6. TREE SURVEY AND ANALYSIS

6.1. A visual assessment has been carried out from the ground level of 30 trees within and immediately adjacent to the site, together with areas of woodland. The location of the individual trees is plotted on the attached Tree Survey Plan, and their condition and any recommended remedial works are recorded in detail in Table 2 attached at the end of this document. 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)
- Stem diameter at breast height (1.5m above ground level)
- Canopy spread in metres (average)
- Tree height (estimate in metres)
- Crown height (clearance to lowest branches in metres)
- Tree Condition Category
- General condition (good, fair, poor, dead)
- Age (Young, Early-mature, middle-aged, mature, over-mature, veteran)
- Whether single or multi-stemmed
- Estimated Remaining Contribution in years
- Comments and observations on the overall health and condition of the tree, highlighting any problems or defects
- Recommended remedial works, where necessary
- Impacts of any development proposals

- 6.2. Where appropriate, recommendations have been 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.
- 6.3. The trees have been tagged with round 4-digit tags ranging from 266-295, and have been categorised in accordance with the guidelines contained in BS 5837 as follows:
- 5 Category A
 - 15 Category B,
 - 9 Category C
 - 1 Category U.
- 5.1. For details of the tree categorisation, refer to Table 1.
- 5.2. The purpose of the tree categorisation method is to identify the quality and value of the existing tree stock, allowing informed decisions to be made concerning which trees should 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.
- 5.3. Young trees of <15cm stem diameter, and trees in Category C with limited safe life or poor health and/or structure, are not normally considered to be a significant constraint on development.

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 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 m² 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, and the RPA should be taken as a guide. It may be adjusted 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.
- 6.3. Above-ground constraints include ultimate tree 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. There are proposals for the construction of 5 new units along the southern part of the site parallel to Wright Street, together with new roads and parking provision, with a new access entering the site from Wright Street.
- 7.2. The majority of the existing woodland along this boundary can be retained to maintain screening. Some reduction in woodland area will occur to the west of the old railway tunnel, but the main section of more mature goat willow woodland on the roadside banking should be unaffected.
- 7.3. The new access is proposed within the area where an existing access point is present, and this will affect the western extremity of the woodland strip.
- 7.4. The low scrub and shrub growth within the site in the south-west corner, and extending along the western boundary to the harbour/dock, would all be removed.
- 7.5. Existing vegetation beyond the site boundary on the banking of the White Cart Water should be unaffected by development proposals.
- 7.6. There are no proposals within the current designs for any alterations to existing buildings to the north of the harbour/dock area.

8. TREE PROTECTION PLAN

- 8.1. The Tree Protection Plan indicates appropriate Construction Exclusion Zones, which are based on the recommended Root Protection Areas and other identified constraints, including daylight shading, tree species, vigour, amenity values, and specific ground conditions which are likely to influence the rooting environment.
- 8.2. Trees recommended for retention must be protected by barriers and/or ground protection prior to commencement of any development works, including demolition. Barriers should consist of a scaffold framework in accordance with Figure 2 of BS 5837:2012, comprising a vertical and horizontal framework, well braced to resist

impacts, with vertical tubes spaced at a maximum interval of 3 m. Onto this, weld mesh panels should be securely fixed with wire or scaffold clamps.

- 8.3. There should be no movement of machinery, stockpiling of materials, or changes in existing ground levels within the Construction Exclusion Zone throughout the duration of the construction works.
- 8.4. Where excavations are necessary and approved within the CEZ (*e.g.* for service runs), excavations should be dug by hand, and all tree roots encountered that are greater than 25mm diameter should be retained intact. Cables, pipes and ducts should be fed below roots, and trenches should be backfilled as soon as possible to prevent desiccation of roots.




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	<ul style="list-style-type: none">  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 : <i>Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i>			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	Canopy	Ht	C.Ht	BS Cat	Condition	Age	Stems	ERC	Comments	Recommendations/Impacts
266	Silver birch	0.20	2	10	1	B2	Good	E-M	1	>40	Edge of woodland, with hawthorn, goat willow, ash, holly.	
267	Hawthorn	0.20	2	7	1	C2	Dying	M-A	1	<10	Significant dieback, stag-headed. Impeded drainage.	
268	Sycamore	0.55	4	11	1	B1	Fair	M-A	1	>40	Included bark, compression fork at 1m. Dominant amongst hawthorn.	
269	Sycamore	0.50	5	11	1	B1	Good	M-A	M	>40		
270	Sycamore	0.30	4	10	1	B2	Fair	E-M	1	>40		
271	Goat willow	0.25	3	8	1	U	Poor	M	M	<10	Significant cavity/decay in stem. Partially collapsed, stems grow through railings. 5 stems x 25cm dia.	
272	Whitebeam	0.25	4	9	1	B2	Good	M-A	M	>40		
273	Silver birch	0.40	3	15	2	A1	Good	M-A	1	>40		Affected by new building
274	Silver birch	0.30	2	14	6	B2	Good	M-A	1	>40		Affected by new building
275	Silver birch	0.30	2	15	>6	B2	Good	M-A	1	>40		Affected by new building
276	Silver birch	0.30	3	15	3	A1	Good	M-A	1	>40		Affected by new building
277	Silver birch	0.30	2	14	3	A1	Good	M-A	1	>40		Affected by new building
278	Silver birch	0.30	2	15	4	B1	Good	M-A	1	>40		Affected by new building
279	Goat willow	0.40	3	15	5	C1	Fair	M	M	10 to 20	Included bark, compression fork at 1m. Dominant on edge of wood.	Affected by new building
280	Goat willow	0.35	3	11	3	C1	Fair	M-A	M	10 to 20	Included bark, compression fork at ground level.	
281	Silver birch	0.25	2	11	2	B1	Good	M-A	1	>40		
282	Silver birch	0.20	2	12	2	B1	Good	M-A	1	>40	3 adjacent stems	
283	Silver birch	0.20	2	11	3	B1	Good	M-A	1	>40	Small stem adjacent	
284	Silver birch	0.20	2	11	1	B1	Fair	M-A	1	>40	Canopy 1-sided.	
285	Silver birch	0.20	2	11	3	C1	Fair	M-A	1	20 to 40	Minor cavity/decay in stem at 1m.	
286	Silver birch	0.20	2	10	2	B1	Good	M-A	1	>40		
287	Goat willow	0.40	4	7	1	C1	Fair	M-A	M	10 to 20		

Tag No	Species	DBH	Canopy	Ht	C.Ht	BS Cat	Condition	Age	Stems	ERC	Comments	Recommendations/Impacts
288	Goat willow	0.25	5	8	1	C1	Fair	M-A	M	20 to 40	7 coppice stems in 3 groups.	
289	Silver birch	0.35	2	13	1	A1	Good	M-A	1	>40		
290	Silver birch	0.30	2	13	2	B1	Fair	M-A	1	>40	Canopy 1-sided.	
291	Goat willow	0.35	3	9	1	C1	Fair	M-A	1	>40		
292	Silver birch	0.35	3	14	1	B1	Good	M-A	M	>40		
293	Goat willow	0.25	3	10	3	C1	Fair	M-A	M	20 to 40		
294	Goat willow	0.25	3	10	3	C1	Fair	M-A	M	20 to 40	Minor cavity/decay in stem. 5 coppice stems	
295	Silver birch	0.25	2	15	1	A1	Good	M-A	1	>40		
296	Sycamore	0.95	6	15	2	A1	Good	M	1	>40		

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 <i>Tree work – Recommendations</i> .		