



Specialist Ecological Consultants - info@blackhillecology.co.uk

Tree Report: Rothienorman 500MW BESS Site, Inverurie



CLIENT

Blackford Renewables Ltd

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Control Sheet

General Report Information	
Report title	Tree Report
Client	Blackford Renewables Ltd
Location	Rothienorman 500MW BESS Site, Inverurie
Surveyors	I. Mackie PhD LANTRA Certified Professional Tree Surveyor
Report author	Dr I. Mackie
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*Black Hill Ecology Ltd - SC549684
252 Union Street, Aberdeen, UK*

A Introduction

A.1 Background to activity/development

Black Hill Ecology Ltd was commissioned by Blackford Renewables Ltd to carry out a tree survey at the Rothienorman 500MW Battery Energy Storage System (BESS) Site, Inverurie. This new proposed BESS development is located adjacent to a recently consented BESS (planning permission Granted APP/2023/0718, see Figure 6). An Arboricultural Report (Crown Tree Consultancy, 2023) and Arboricultural Impact Assessment should be read in conjunction with this report and accompanied the consented planning submission. This survey report includes tree locations and data from the consented site tree report and additional tree survey data indicated where required.

A.2 Objectives

The objectives of the work were to survey the existing mature trees at the boundaries and within the site Red Line Boundary (RLB), specifically detailing the root protection areas, canopy and conditions of trees in relation to the proposed development, to inform merit of removal or retention of trees and mitigation.

A.3 Site description

The area surveyed is part of an arable field network and access located to the east of the Rothienorman Electricity Substation, roughly 3km west of Rothienorman, centred around NJ 693356 and adjacent natural environment where habitats are contiguous. The site is composed of mostly arable farmland with adjacent broadleaved treeline and woodland interest. Mature treelines follow field boundaries providing notable landscape elements, screening, woodland habitat cover and green network connection across the wider area (Figure 1-6). The treelines/woodland edge are composed of broadleaved individual planted trees, mostly beech. Plans potentially include removal of trees to facilitate new build BESS development.



Figure 1. View along western edge to SW corner.



Figure 2. View of trees adjacent to access route.



Figure 3. Minor trees to be removed at cable route.



Figure 4. Individual mature trees within site RLB.

B Survey and site assessment methodology

B.1 Survey Methodology

B.1.1 Tree survey

A tree survey was undertaken to assess condition and characteristics of trees in the southern boundary of Area C that are in close proximity to the proposed development and may potential be retained with assessment based on BS5837 (2012) see appendix A and B.

B.1.2 Weather conditions

All surveys were undertaken in suitable weather conditions.

B.1.3 Timing

On the 10th of December 2024 and 11th March 2025 the trees at the Rothienorman 500MW BESS Site, Aberdeenshire were surveyed.

B.1.4 Personnel

All tree survey works were carried out by an experienced ecological surveyor and LANTRA certified Professional Tree Surveyor (IM) with two decades of experience surveying trees.

B.2 Results

B.2.1 Tree Survey

Tree vegetation present on site consists of planted and occasional self seeded trees along field boundary edges (see Tree Constraints Plan TCP Figure 5 and Appendix C). Hedgerows, scrub and shrubs were not considered trees for survey as per British Standard. The Tree Assessment Plan (TAP) for the survey which provides the spatial location, canopy, root protection area (RPA), BS5837 Category and individual tree tag number for each of the trees surveyed in relation to the proposed construction zone is presented in Figure 6 (Appendix D). A close up view of the proposed cable route is presented in Figure 7 indicating trees required to be removed as indicated in Figure 3.

The tree survey schedule including assessment based on BS5837 (2012) Trees in relation to construction and indicating the trees that are required to be removed for the development, compensation planting area and tree protection measures are presented as Appendices. Full site Tree Assessment Plan is provided as Appendix D.

B.3 Interpretation and evaluation of survey results

B.3.1 Site status assessment (combining quantitative, qualitative, functional and contextual factors in an international, national and local context)

The site contains a number of planted mature native trees. The site layout has been designed to retain all large mature beech which have considerable landscape and conservation value. Two trees are recommended for removal where the cable connection route passes through the treeline to the substation at the western boundary. These are minor trees and the loss will not affect the integrity of the tree line canopy and should be viewed as a small percentage loss to a closely packed tree treeline. Trees in lower condition classification (C) can feasibly be retained for the present time, where they continue to provide screening, green network connection and wildlife habitat. However, these trees may need to be reviewed depending on the future use of the site. Trees may have protected species interest and these are considered in detail in the ecological reports - lack of nesting birds/bats must be confirmed prior to removal. The remaining trees can be retained and root protection areas protected by installing protective barrier around RPA as indicated prior to any works taking place (See TAP Figure 6 and Appendix D).

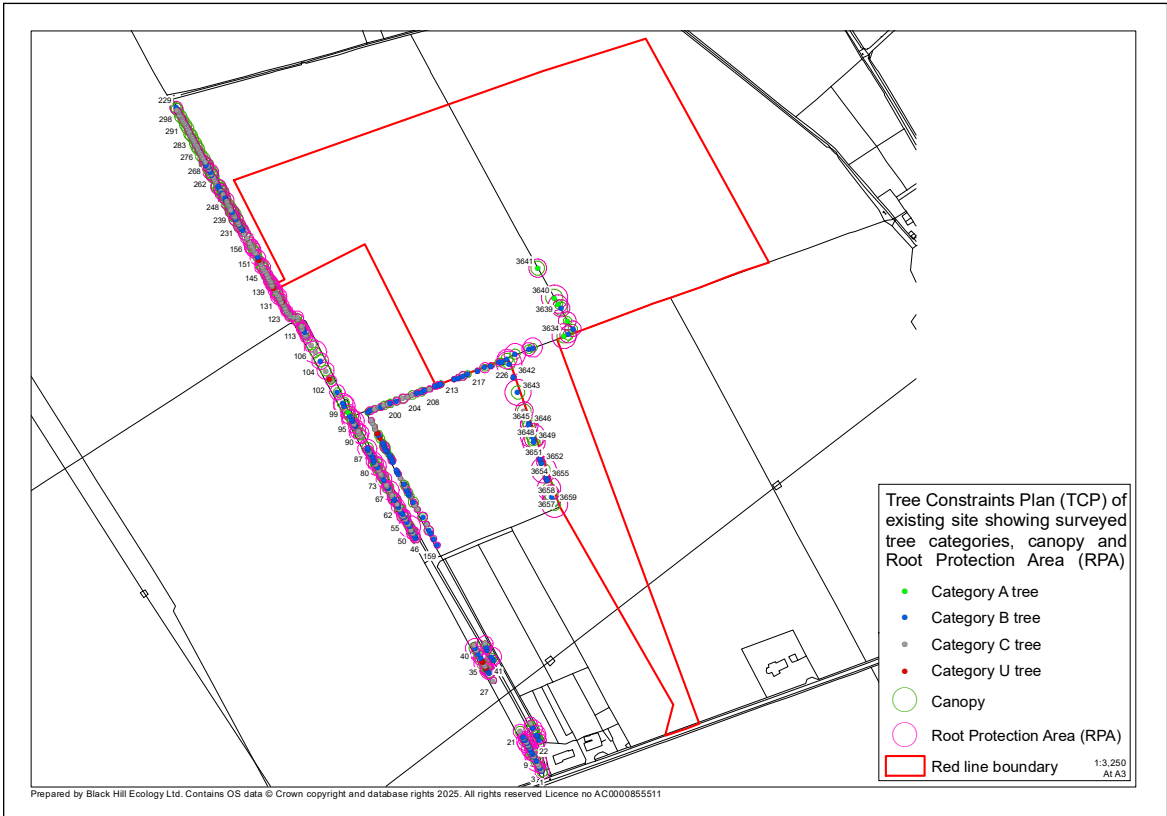


Figure 5. Tree Constraints Plan (TCP) indicating individual trees and detailing Root Protection Areas (RPAs).

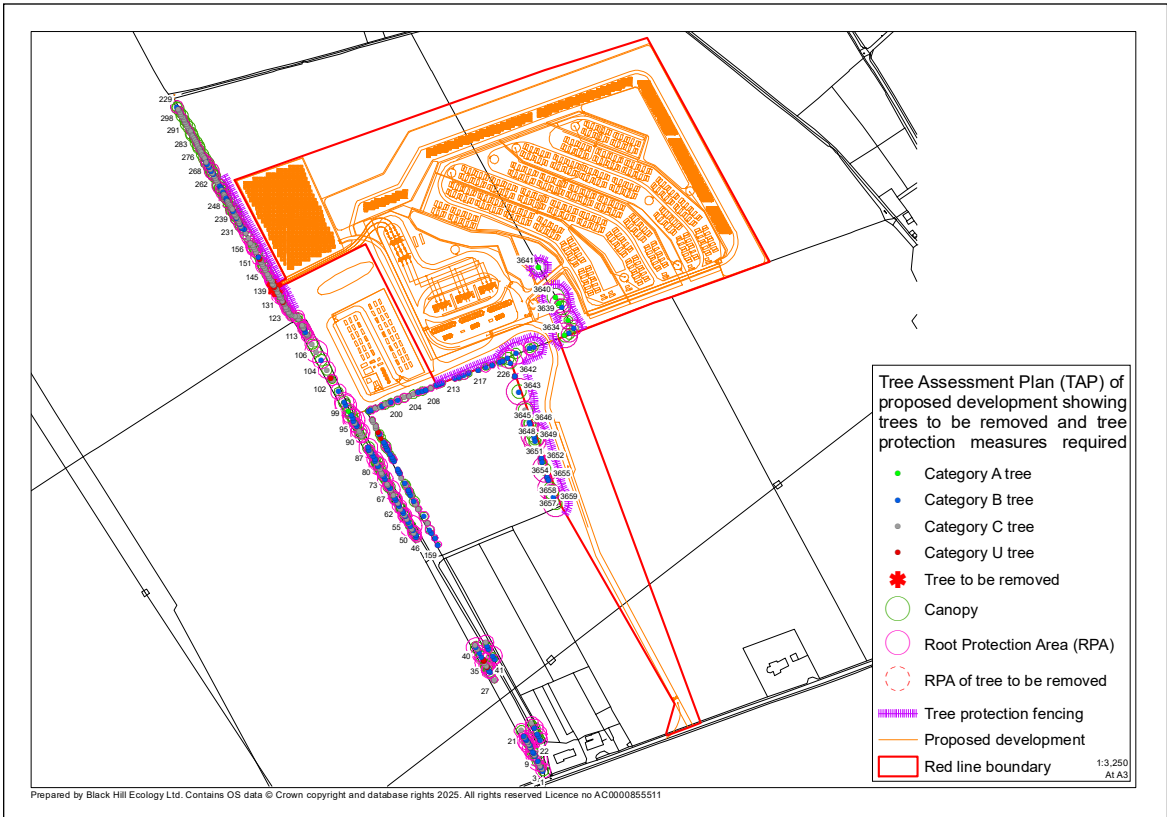


Figure 6. Tree Assessment Plan (TAP) indicating individual tree root protection areas (RPAs), trees required to be removed and construction exclusion zone with protection measures.

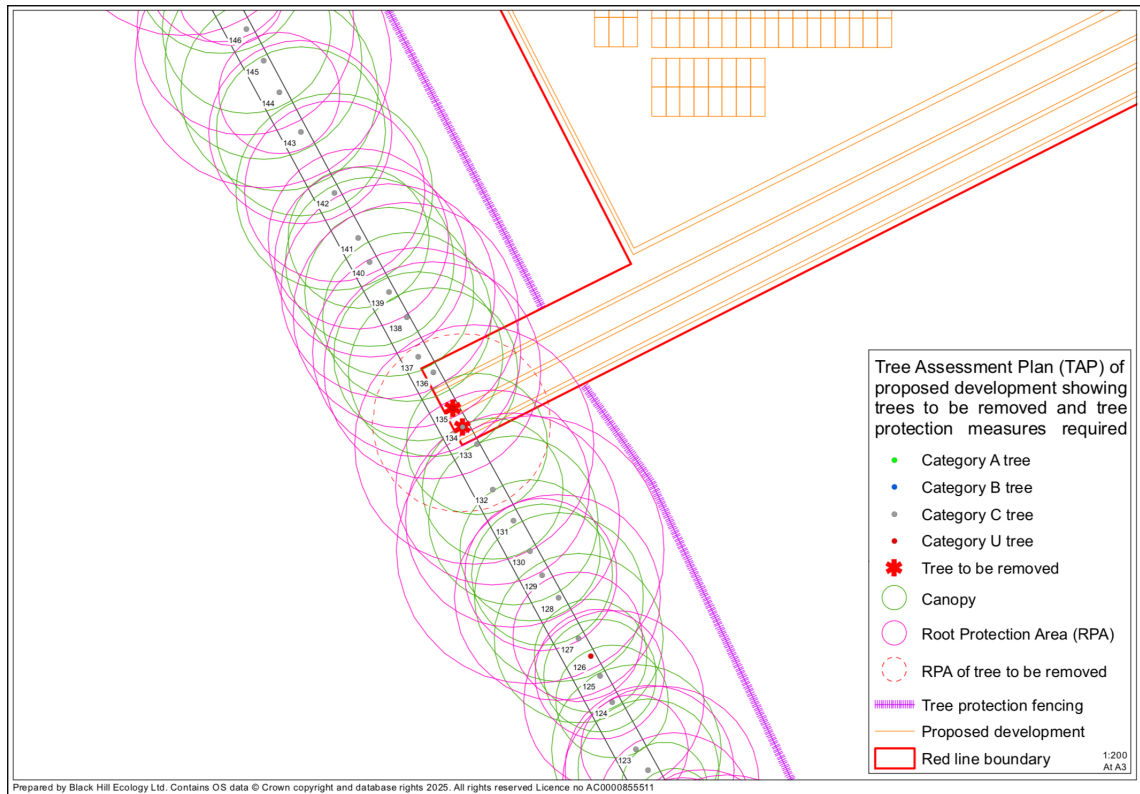


Figure 7. Close-up Tree Assessment Plan (TAP) of cable route indicating individual tree root protection areas (RPAs), trees required to be removed and construction exclusion zone with protection measures.

Specific Site Recommendations

- A barrier system, such as heras panels, must be placed to protect the remaining trees as detailed in Figure 6,7 at a minimum distance (RPR) provided in the tree schedule and plot.
- Development works and other excavating, should be carried out manually within 2 metres of RPAs of trees to be retained and any exposed roots cut back by hand, covered to prevent desiccation and back filled with topsoil in the presence of and signed off by a suitably qualified arboriculturalist (SQA). Where necessary access and parking space construction should be floated over the root system, with no dig methods, consisting of roots over 25mm with advice of a suitably qualified arboriculturalist (SQA).
- No underground pipe or cable work should breach RPAs without SQA authorisation.
- Tree works should be carried out between November and March (ensuring nesting birds/roosting bats are not present).
- Two minor trees (Trees 134 and 135) are required to be removed from the treeline to facilitate the cable connection route to the substation with cables laid in the resulting space to National Joint Utilities Group guidelines.
- Compensation for tree removal should be included in planning submission landscape proposals.

Compensation Planting Recommendations

- A replanting scheme as per planning submission landscape proposals.

C Recommendations and Conclusions

C.1 Recommendations in relation to planning

The trees where RPAs are heavily impacted have been indicated for removal or management to minimise possible future hazard and tree protection measures where required have been detailed where indicated. A compensatory planting scheme sympathetic to the landscape character of the site, should compensate for the replacement of the number of specific trees removed rather than planting of supplementary trees of the same species. Ash and elm should not be replanted due to tree health risks.

General recommendations for site

- Restrictions should be placed on flood lighting close to tree features particularly during the bird breeding season.
- An itemised post planning planting scheme should be drawn up that remains sympathetic to the landscape character as indicated in the ecological reports specific recommendations.
- Trees remaining on site and compensatory planting should be assessed post ground works and included in an ongoing Woodland Management Plan.

Appendix A - BS 5837:2012 Category Grading

Categories for tree quality assessment, based on guidance given in British Standard BS 5837: 2012 ‘Trees in Relation to Design, Demolition and Construction – Recommendations’.			
Category and definition		Criteria – Subcategories	
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 category U 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.	
Trees to be considered for retention			
Category and definition		Criteria – Subcategories	
Category A	High quality and value with an life expectancy estimate of at least 40 years.	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features. Trees present in numbers, usually growing 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 present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low landscape benefit.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value. Trees with material conservation or other cultural value. Trees with no material conservation or other cultural value.
Category B			
Moderate quality and value with an estimated life expectancy of at least 20 years.			
Category C			
Low quality and value with an estimated life expectancy of at least 10 years, or young trees with a diameter <150mm.			

BRP - Bat Roost Potential Assessment

The trees assessed for the tree survey were initially inspected from the ground using binoculars where necessary to identify Potential Bat Roost Features (PRFs) such as cracks and crevices, loose bark, holes (including rot holes, woodpecker holes etc) and splits. Bats may use any crack or hole, splits, peeling bark and ivy and change roost sites in trees regularly and therefore it may be difficult to locate bat roosts in trees in single surveys and signs of bats that are present are not always apparent. The criteria in Table 1 were used to classify individual trees marked into confirmed, high, moderate, low and negligible representing a continuum of roosting potential. All trees assessed to have a classification higher than low must be further checked by a Suitably Qualified Ecologist (SQE) and summer activity survey prior to any arboricultural works.

Table 1. Description of bat roosting potential categories for individual trees.

Bat Roosting Potential	Description
Confirmed	Confirmed bat roost tree with field evidence of the presence of bats, e.g. droppings, scratch marks, grease marks or urine staining.
High - 1*	Trees that have a high potential to support bat roosts. For example, no obstructions below the cavity entrance, the cavity is upward leading and the tree has a high degree of connectivity to the surrounding landscape.
Moderate - 1	Some potential for roosting bats but is less than ideal. For example, there may be a suitable cavity but it could be slightly obstructed below the entrance.
Low - 2	Usage by bats is considered to be slight. For example, there may be a cavity that has is not yet deep enough or damp in nature or the possibility of peeling bark and concealed holes at height.
Negligible - 3	No features present suitable for roosting by bats.

Appendix B - Tree Schedule including RPR Root Protection Radius, RPA Root Protection Area for additional trees included in this report (Refer to tree report for previously consented site for additional data - Crown Tree Consultancy, 2023)

Tag no.	Species	DBH	Combined DBH	Stems	BS Cat	BRP	Height (m)	Canopy (m)	RPR (m)	RPA (m ²)
227	Beech	40, 36	54	2	B	2	15	3	6.48	131.9
228	Beech	29	29	1	C	3	17	7	3.48	38.0
229	Beech	41, 40, 19, 16	62	4	B	2	16	6	7.44	173.9
230	Beech	29	29	1	C	3	16	4	7.44	173.9
231	Beech	27	27	1	C	3	14	5	3.48	38.0
232	Beech	34	34	1	C	3	16	3	3.24	33.0
233	Beech	52, 34, 26	67	3	B	2	16	8	4.08	52.3
234	Beech	42	42	1	C	3	16	6	8.04	203.1
235	Beech	29	29	1	C	3	17	7	5.04	79.8
236	Beech	48	48	1	C	3	17	8	3.48	38.0
237	Beech	29	29	1	C	3	17	7	5.76	104.2
238	Beech	46, 42, 26	67	3	B	2	16	8	3.48	38.0
239	Beech	39, 18	43	2	C	2	16	3	8.04	203.1
240	Beech	26	26	1	C	3	14	7	5.16	83.6
241	Beech	28	28	1	C	3	14	7	3.12	30.6
242	Beech	29	29	1	C	3	16	5	3.36	35.5
243	Beech	27	27	1	C	3	14	7	3.48	38.0
244	Beech	29	29	1	C	3	17	5	3.24	33.0
245	Beech	35	35	1	C	2	15	2	3.48	38.0
246	Beech	50, 45, 26, 26	77	4	B	2	16	6	4.2	55.4
247	Beech	52	52	1	B	3	15	6	9.24	268.2
248	Beech	29	29	1	C	3	17	7	6.24	122.3
249	Beech	34	34	1	C	3	16	3	3.48	38.0
250	Beech	29	29	1	C	3	17	7	4.08	52.3
251	Beech	71	71	1	B	3	16	7	3.48	38.0
252	Beech	29	29	1	C	3	17	4	8.52	228.0
253	Beech	42, 38	57	2	B	3	17	8	3.48	38.0
254	Beech	29	29	1	C	3	17	7	6.84	147.0
255	Beech	51, 43, 33	74	3	B	3	16	8	3.48	38.0
256	Beech	29	29	1	C	3	17	7	8.88	247.7
257	Beech	26	26	1	C	3	14	3	3.48	38.0
258	Beech	28	28	1	C	3	14	4	3.12	30.6
259	Beech	29	29	1	C	3	16	5	3.36	35.5
260	Beech	27	27	1	C	3	14	7	3.48	38.0
261	Beech	35, 33, 39	62	3	B	3	17	7	3.24	33.0
262	Beech	29	29	1	C	3	17	7	7.44	173.9
263	Beech	54, 52	75	2	B	3	17	7	3.48	38.0
264	Beech	29	29	1	C	3	17	7	9	254.5
265	Beech	48	48	1	B	3	17	6	3.48	38.0
266	Beech	29	29	1	C	3	17	7	5.76	104.2
267	Beech	60	60	1	B	2	17	8	3.48	38.0
268	Beech	29	29	1	C	3	17	7	7.2	162.9
269	Beech	36, 36	51	2	B	2	15	4	3.48	38.0
270	Beech	26	26	1	C	3	14	7	6.12	117.7
271	Beech	34	34	1	C	3	16	3	3.12	30.6
272	Beech	28	28	1	C	3	14	7	4.08	52.3
273	Beech	29	29	1	C	3	16	5	3.36	35.5
274	Beech	27	27	1	C	3	14	4	3.48	38.0
275	Beech	36	36	1	C	3	16	5	3.24	33.0
276	Beech	26	26	1	C	3	14	7	4.32	58.6
277	Beech	28	28	1	C	3	14	7	3.12	30.6
278	Beech	34	34	1	C	3	16	3	3.36	35.5

279	Beech	29	29	1	C	3	16	7	4.08	52.3
280	Beech	27	27	1	C	3	14	5	3.48	38.0
281	Beech	29	29	1	C	3	17	6	3.24	33.0
282	Beech	26	26	1	C	3	14	4	3.48	38.0
283	Beech	28	28	1	C	3	14	7	3.12	30.6
284	Beech	29	29	1	C	3	16	7	3.36	35.5
285	Beech	27	27	1	C	3	14	5	3.48	38.0
286	Beech	34	34	1	C	3	16	3	3.24	33.0
287	Beech	29	29	1	C	3	16	7	4.08	52.3
288	Beech	27	27	1	C	3	14	4	3.48	38.0
289	Beech	26	26	1	C	3	14	7	3.24	33.0
290	Beech	28	28	1	C	3	14	5	3.12	30.6
291	Beech	29	29	1	C	3	16	6	3.36	35.5
292	Beech	27	27	1	C	3	14	5	3.48	38.0
293	Beech	34	34	1	C	3	16	3	3.24	33.0
294	Beech	26	26	1	C	3	14	7	4.08	52.3
295	Beech	28	28	1	C	3	14	5	3.12	30.6
296	Beech	29	29	1	C	3	16	6	3.36	35.5
297	Beech	34	34	1	C	3	16	3	3.48	38.0
298	Beech	27	27	1	C	3	14	7	4.08	52.3
299	Beech	45, 32	55	2	B	3	15	9	3.24	33.0
3634	Beech	120	120	1	A	2	19	8	14.4	651.4
3635	Beech	60, 55	81	2	B	3	18	6	9.72	296.8
3636	Beech	76	76	1	B	3	16	5	9.12	261.3
3637	Beech	84, 21	87	2	A	2	18	5	10.44	342.4
3638	Beech	84	84	1	B	1	17	8	10.08	319.2
3639	Beech	91	91	1	A	2	19	5	10.92	374.6
3640	Beech	126	126	1	A	2	17	10	15	706.9
3641	Beech	87	87	1	A	2	17	8	10.44	342.4
3642	Sycamore	27	27	1	B	1	10	3	3.24	33.0
3643	Beech	126	126	1	B	3	20	8	15	706.9
3644	Beech	87	87	1	C	1	18	8	10.44	342.4
3645	Beech	80	80	1	B	1	20	7	9.6	289.5
3646	Beech	86	86	1	B	2	20	7	10.32	334.6
3647	Beech	121	121	1	B	3	19	8	14.52	662.3
3648	Beech	74, 47	88	2	B	2	20	7	10.56	350.3
3649	Beech	108	108	1	B	2	19	7	12.96	527.7
3650	Ash	21	21	1	B	1	10	3	2.52	20.0
3651	Sycamore	32	32	1	B	1	10	3	3.84	46.3
3652	Sycamore	44	44	1	B	1	10	3	5.28	87.6
3653	Beech	152, 102	183	2	B	3	19	7	15	706.9
3654	Ash	31	31	1	B	1	11	3	3.72	43.5
3655	Ash	28	28	1	B	1	11	3	3.36	35.5
3656	Beech	115	115	1	B	3	19	7	13.8	598.3
3657	Beech	81	81	1	B	2	20	8	9.72	296.8
3658	Beech	87	87	1	B	3	20	8	10.44	342.4
3659	Beech	162	162	1	A	3	19	7	15	706.9

