

Appendix A8.3: Forestry Survey

1.1.1 Table 1 provides baseline information for each of the affected forestry coupes, identifies the new brown edge gap resulting from the proposed scheme and assesses potential wind damage risk status and critical wind speeds for the coupes with the proposed scheme in place. Table 2 provides the tree species reference list for each of the species codes used in Table 1.

Table 1: Forestry and woodland survey data with ForestGALES assessment results

Coupe reference	Species code ¹	Height (m)	Stem Diameter (mm)	Spacing (m)	Detailed Aspect Method of Scoring (DAMS)	Existing Wind Damage Risk Status (WDRS)	Existing Critical Wind Speed (CWS) (mph)		New brown edge gap (m)	Potential scheme Wind Damage Risk Status (WDRS)	Potential Critical Wind Speed (CWS) after new brown edge gap (mph)	
							Overturning	Breakage			Overturning	Breakage
A/3W	SBI , BE, OK, ROW	23	480	4	-	-	-	-	-	-	-	-
A/4W	SS , BE, SBI , AR, HAZ, OK, AH	24	450	6	10	1 (Low)	105	121	240	1 (Low)	78.6	90.5
B/2W	EL , SBI , BCH, BE, OK	23	400	6	7	1 (Low)	58.9	76.2	180	1 (Low)	46	63.5
B/4W	DF , EL, BE, OK	18	400	3	8	1 (Low)	144	240	115	1 (Low)	108	180
D/1W	SBI , OK, BE, HAZ	17	300	4	13	1 (Low)	96.5	158	60	1 (Low)	79.9	131
D/3W	DF , BE, OK	25	500	5	13	1 (Low)	78.4	122	257	1 (Low)	62.1	96
D/6W	OK , BE	25	580	5	-	-	-	-	-	-	-	-
D/8W	SP , SS , EL, OK, AH	13	180	2	10	1 (Low)	111	124	180	1 (Low)	83.4	92.6
D/9W	NS, EL, DF	18	300	2	-	-	-	-	-	-	-	-
D/13W	DF , ROW, AH, OK	11	160	2	8	1 (Low)	118	167	160	1 (Low)	95.4	133
D/14W	NS , SS , LC, SY, LI, WWL	20	400	3	9	1 (Low)	126	165	300	1 (Low)	90.1	118
D/15W	NS , DF, EL, OK, WCH, SBI	18	250	2	-	-	-	-	-	-	-	-
D/17W	NS, EL, ROW, AH	15	230	4	-	-	-	-	-	-	-	-
D/18W	SP , OK, SY, AH, SBI , GWL, AL	15	280	3	10	1 (Low)	107	138	500+	1 (Low)	85.2	109
F/2W	SBI , SY, OK, HAZ, AH, GWH, ROW, BE	15	200	2	8	1 (Low)	106	151	320	1 (Low)	75.1	105

¹ Species used within ForestGALES modelling are shown in bold. Where applicable, coniferous trees have been used as they are more likely to be susceptible to windthrow.

Coupe reference	Species code ¹	Height (m)	Stem Diameter (mm)	Spacing (m)	Detailed Aspect Method of Scoring (DAMS)	Existing Wind Damage Risk Status (WDRS)	Existing Critical Wind Speed (CWS) (mph)		New brown edge gap (m)	Potential scheme Wind Damage Risk Status (WDRS)	Potential Critical Wind Speed (CWS) after new brown edge gap (mph)	
							Overturning	Breakage			Overturning	Breakage
F/8W	SBI, ROW, HAW, AH	17	450	6	9	1 (Low)	138	277	130	1 (Low)	116	233
F/10W	SBI, HAZ, BCH, BE, AH, AR	20	350	3	-	-	-	-	-	-	-	-
G/1W	SBI, ASP, ROW, HAZ, AH, HAW,	18	2	180	14	1 (Low)	81.3	100	130	1 (Low)	54.8	65.8
G/2W	SS, BE, SBI, OK, BCH, AH, PO	26	300	2	10	1 (Low)	139	126	500+	1 (Low)	70.6	64.6
G/3W	AH, SBI, SY, BCH, HAW	17	190	5	-	-	-	-	-	-	-	-
G/4W	SP, EL, NS	23	360	2	-	-	-	-	-	-	-	-
G/5W	SBI, AR, GWH, ROW, OK, AH	15	250	3	-	-	-	-	-	-	-	-
G/6W	SY, SBI, AR, AH	17	320	5	-	-	-	-	-	-	-	-
G/7W	EL, SBI, AR	22	200	3	-	-	-	-	-	-	-	-
G/8W	SBI, HAZ, HAW, AH, BE, GWL	24	380	3	9	1 (Low)	95	148	152	1 (Low)	64.5	101
G/9W	SBI	17	250	4	-	-	-	-	-	-	-	-
G/11W	AH, OK, SY, SBI, BE, AR	15	350	3	-	-	-	-	-	-	-	-
G/12W	AR, SBI, AH	18	430	2	-	-	-	-	-	-	-	-
G/13W	SY, AH, GWL, ROW, SBI, WHI	17	280	3	-	-	-	-	-	-	-	-
G/15W	AH, AR	18	380	4	-	-	-	-	-	-	-	-
G/17W	AH, AR	18	450	2	-	-	-	-	-	-	-	-
G/18W	AH, AR	18	400	4	-	-	-	-	-	-	-	-
G/22W	SP, ROW, SBI, OK	15	210	4	-	-	-	-	-	-	-	-
G/30W	NS, SY, SBI, WCH	20	350	4	-	-	-	-	-	-	-	-
G/31W	SP, SBI	18	300	3	8	1 (Low)	97.9	118	183	1 (Low)	73.8	87.8
G/33W	SBI	15	250	2	9	1 (Low)	134	213	190	1 (Low)	93.7	149
G/34W	SP, SBI	20	300	3	18	1 (Low)	89	101	500+	1 (Low)	65.2	72.8
G/35W	SP, SBI	11	180	2	10	1 (Low)	128	159	136	1 (Low)	102	125

Coupe reference	Species code ¹	Height (m)	Stem Diameter (mm)	Spacing (m)	Detailed Aspect Method of Scoring (DAMS)	Existing Wind Damage Risk Status (WDRS)	Existing Critical Wind Speed (CWS) (mph)		New brown edge gap (m)	Potential scheme Wind Damage Risk Status (WDRS)	Potential Critical Wind Speed (CWS) after new brown edge gap (mph)	
							Overturning	Breakage			Overturning	Breakage
G/37W	SP, SBI, JL, ROW	18	350	5	18	1 (Low)	88	114	500+	1 (Low)	73.9	96
G/38W	EL, SP	20	400	2	13	1 (Low)	205	287	80	1 (Low)	122	171
G/39W	SBI	15	450	14	-	-	-	-	-	-	-	-
G/40W	SBI	17	300	3	13	1 (Low)	105	172	257	1 (Low)	81.3	133
G/41W	SP, SBI, JL, ROW	18	350	5	17	1 (Low)	88	114	500+	1 (Low)	73.9	96
G/45W	SP, AR, SBI, GWL	17	280	4	8	1 (Low)	80.2	96.2	500+	1 (Low)	64.4	78.9
G/46W	SBI, GWL	15	250	10	-	-	-	-	-	-	-	-
G/49W	SBI	12	150	3	14	1 (Low)	107	146	500+	1 (Low)	89.5	122
G/56W	SP, EL, SS	20	410	3	13	1 (Low)	130	172	257	1 (Low)	92.9	123
G/67W	SP, SBI	14	300	3	13	1 (Low)	124	171	240	1 (Low)	100	139
G/68W	SBI	9	190	1	-	-	-	-	-	-	-	-
H/2W	SBI, ROW, HAZ, AH, HAW	18	200	5	12	1 (Low)	76.4	99.4	145	1 (Low)	64.5	83.9
H/3W	SBI, AH, HAZ, HAW, AR	17	280	4	13	1 (Low)	92.6	146	500+	1 (Low)	76.4	121
H/7W	SBI	12	180	2	11	1 (Low)	121	180	357	1 (Low)	92.3	138
H/10W	SBI	12	180	2	-	-	-	-	-	-	-	-
H/11W	NS, SBI	20	300	2	18	1 (Low)	154	173	240	1 (Low)	93.7	104
K/4W	SBI	20	270	6	-	-	-	-	-	-	-	-
K/6W	SBI, AH	16	250	4	-	-	-	-	-	-	-	-
K/10W	SBI	20	280	3	10	1 (Low)	79.9	117	140	1 (Low)	59.7	85.3
K/12W	SY, AH, GWL, ROW, SBI, WHI	17	280	3	-	-	-	-	-	-	-	-
L/3W	EL, NS, DF, SBI	18	330	1.5	-	-	-	-	-	-	-	-

Table 2: Tree Species Reference List

Species Code	Common name	Botanical name	Species group
AH	Ash	<i>Fraxinus excelsior</i>	Ash
AR	Alder	<i>Alnus spp</i>	Alder
ASP	Aspen	<i>Populus tremula</i>	Poplar
BCH	Bird cherry	<i>Prunus padus</i>	Cherry
BE	Beech	<i>Fagus sylvatica</i>	Beech
CWL	Crack willow	<i>Salix fragilis</i>	Willow
DF	Douglas fir	<i>Pseudotsuga menziesii</i>	Fir
EL	European larch	<i>Larix decidua</i>	Larch
EM	Elm	<i>Ulmus spp.</i>	Elm
GWL	Goat willow	<i>Salix caprea</i>	Willow
HAW	Hawthorn	<i>Crataegus</i>	Sorbus
HAZ	Hazel	<i>Corylus avellana</i>	Hazel
HOL	Holly	<i>Ilex spp.</i>	Holly
JL	Japanese larch	<i>Larix kaempferi</i>	Larch
LC	Lawsons cypress	<i>Chamaecyparis lawsoniana</i>	Cypress
Li	Lime	<i>Tilia spp.</i>	Lime
NOM	Norway maple	<i>Acer platanoides</i>	Maple
NS	Norway spruce	<i>Picea abies</i>	Spruce
OK	Oak	<i>Quercus spp.</i>	Oak
PO	Hybrid Poplar	<i>Populus serotina/trichocarpa</i>	Poplar
PSP	Blackthorn	<i>Prunus spinosa</i>	Cherry
ROK	Red oak	<i>Quercus borealis</i>	Oak
ROW	Rowan	<i>Sorbus aucuparia</i>	Sorbus
SBI	Silver birch	<i>Betula pendula</i>	Birch
SP	Scots pine	<i>Pinus sylvestris</i>	Pine
SS	Sitka spruce	<i>Picea sitchensis</i>	Spruce
SY	Sycamore	<i>Acer pseudoplatanus</i>	Sycamore
WCH	Wild cherry	<i>Prunus avium</i>	Cherry
WH	Western hemlock	<i>Tsuga heterophylla</i>	Fir
WHI	Whitebeam	<i>Sorbus aria</i>	Sorbus