

**Woodland Management Plan
For
The Wilderness,
Whiteknights Campus,
University of Reading**

January 2021

Part 1 – Description

1.0 Name of Woods: The Wilderness

2.0 Period of Plan: January 2021-June 2023 (Review of 2011 plan)

3.0 Woodland Area: The Wilderness covers approximately 11 Hectares the approximate centre of the woodland is at SU 742, 715

4.0 Location: The Wilderness is located on the eastern boundary of the Whiteknights campus

5.0 Ownership:

Legal owners: The University of Reading

Owners Agent:

Grounds Maintenance
Estates
University of Reading,
PO Box 235,
Whiteknights,
Reading,
RG6 6BW

6.0 Designations:

There are no rights of way across the woodland (See woodland access)
Currently there are no tree preservation orders, felling licences or woodland grant schemes applying to the woods.

The Wilderness is within a non statutory designated area known as ‘The Whiteknights Local Wildlife Site’ (LWS) and is within the Wokingham Borough Council boundary.

7.0 External Entrance:

Two entry points as marked on the Wilderness site plan (Appendix 1)

Pedestrian: via bollarded path from the Wilderness Road opposite Beech Lane

Vehicular: Via locked double gates from Whiteknights Road.

8.0 Internal Entrance:

Five entry points four of which can be used by light vehicles and tractors these are marked on the Wilderness site plan (Appendix 1) The main pedestrian traffic runs north south (Philip Lyle building to Early gate with traffic joining from the east (Wilderness Road access)

Throughout the woods there are networks of informal unsurfaced paths most become extremely muddy throughout the winter months.

9.0 Woodland Access:

Access to the Wilderness and Whiteknights campus by the public is “Permissive” and may be restricted or withdrawn at any time. The woods are used by the local community particularly dog walkers and university staff and students as a recreational and academic resource.

10.0 External Boundaries:

The woodland areas are generally clearly defined by fences or ditches with external boundaries reasonably sound. Internally there are gaps in the fencing although concrete posts still mark the original boundary.

11.0 Ownership and use of surrounding land:

The site is bounded thus

North: Whiteknights road and probable remnant of the Wilderness beyond, in the ownership of Wokingham Borough Council (WBC)

East: Clear fence line, trees and hedge line under WBC ownership with the Wilderness Road and private housing beyond

South: The Harris Garden an amenity garden of mixed plantings and specimen trees

West: University academic buildings and meadow

12.0 Weyleaves and other services:

A number of services cross the site bringing utilities to the buildings to the west of the site (HV, Gas and water). Two weyleaves are present on site; a pressurised gas main and water main run north south see Combined Services Drawing No. 0349 (Appendix 2)

13.0 Climate of the area:

Annual rainfall averages 634.5mm per year with the higher rainfall between October and January. Temperatures are typical for the south east of England. Frosts occur mainly in the winter, but late spring frosts (April, May) do occur.

Current climate information is available from the University of Reading School of Meteorology www.met.reading.ac.uk/weatherdata

The climate currently is suitable for the growth of a wide range of hardy tree species

14.0 Description of the woodland area

14.1 Topography:

The Wilderness is relatively flat, approximately 66m above sea level with a 1m variance north and south of the site. The surrounding land falls west across the site towards Whiteknights lake

14.2 Aspect and exposure:

The relatively flat site gives little aspect changes across the woods. The site is moderately exposed overall.

14.3 Drainage:

The principle drainage is from north to south west through a system of open ditches and underground pipes draining into Whiteknights lake. The site is generally free draining however two significant areas tend to flood during the winter months. These areas are to the south within compartment 7150 and to the east, within a dished area, in compartment 8358 around the winter of 1994/95 drainage works attempted to drain this area with little success.

The ditch system is poorly maintained with a number of bottle necks which prevent free movement of the water.

14.4 Geology and soils:

The majority of the woods are over Boyn Hill Gravel with a section of London clay to the south. Random Ph testing over the site gave a Ph range of 6.2-6.9 (5.1-5.9 within dished area in compartment 8358) which will support a wide range of tree species.

14.5 Vegetation:

The woodland was surveyed by Grounds Maintenance and the Landmark Practice during 2011 over a hundred species of plant was recorded these

are listed in Appendix 3 A list of species found at Whiteknights including the Wilderness can be found at Whiteknights Biodiversity <http://blogs.reading.ac.uk/whiteknightsbiodiversity>

Ground flora varies from nil under dense stands of Yew and holly to varied and interesting under the lighter canopies and within the clearing in the centre of the wood. Generally the ground flora is poor suppressed by the prolific annual growth of *Impatiens parviflora* or Ivy which is prevalent in the southern end of the wood.

Rhododendron, Portuguese and Cherry laurel as well as Holly (mainly the northern half) dominate the shrub layer. Bramble and other pernicious weeds take advantage of any breaks in the canopy. Groups of Japanese Knot weed which were identified on site have been eradicated but monitoring of the sites continue.

14.6 Tree cover:

The tree species are given in compartment order in Appendix 6. It should be noted that the high prevalence of exotic specimens some of which are notable national specimens and one a champion tree is the result of the area being a former landscape garden created by the Marquis of Blandford (See History of Management)

14.7 Special Features:

Remnants of the former landscape garden, military base and Wilderness House are visible. The grotto and remnants of the fernery (Saracen stones) are important historical features thought to have been brought to Whiteknights from Marlborough.

The Whiteknights lake system originated from springs within the Wilderness and the lake penetrates approximately 100m into the wood terminating at the Grotto.

The woods contain a number of exotic and native veteran trees including county and national champions.

15.0 History of Management:

The Marquis of Blandford, who later became the Duke of Marlborough, had the parkland, including the Wilderness, extensively landscaped during his ownership between 1798 and 1819. After the Duke's departure Wilderness house was built around 1867 in 1878 the garden was still impressive and a description of the site was published in the Gardeners Chronicle. The Wilderness and Wilderness house was used as a military base during the second world war and later came to the University with the house being demolished in the early 1950's The University adopted a minimal maintenance strategy for the site and by the 1980's the Wilderness had become "totally overgrown with Sycamore, Bramble and Willow" An aerial photograph taken in 1953 indicates that a large

proportion of the southern end dates from this point as a result of natural regeneration.

In 1983 a Manpower Service Commission grant funded a group of unskilled workers to carry out clearance of the dense understory interestingly little ground flora has developed since the clearance.

The storms of 1987 and 1990 caused extensive damage to a number of the last remaining Blandford trees. Wind thrown trees were cleared and follow up replanting was carried out with mixed results.

The woods have been under a formal management plan since 2011 but works have had to be within available budget. The current management priorities are hazard remediation, clearance of weed species and creation of planting opportunities.

16.0 Injurious Agencies:

16.1 Animals:

Rabbits had been a problem to the site causing damage to young trees and natural regeneration however since their virtual disappearance they are no longer regarded as a threat.

Muntjac deer have been observed on and around the site as sightings are now becoming more common and it is likely that numbers are increasing and new trees are routinely planted in suitable shelters.

Grey squirrels are a problem species on campus and inflict extensive damage to trees above pole stage. Maple, Hornbeam, Oak and Beech are the preferred species.

16.2 Diseases:

A full range of decay and root killing fungi are present on site as many of these species are associated with veteran trees they are seen as part of the natural eco -system. Honey Fungus (*Armillaria* sp.) is prevalent on site and is responsible for the death of a number of trees each year. Evidence of Ash die back, Oak Decline, Bleeding Canker of Horse Chestnut and *Phytophthora* root rots all have the potential to impact significantly on the woods. With uncontrolled movement through the woods bio-security measures would be difficult to enforce.

16.3 Fire:

Camp fires and barbecues, although not permitted within the woods can damage the ground flora and lead to the loss of dead wood. Some historic incidents of arson have caused damage to veteran trees and undergrowth but thankfully this is not a common occurrence. Fire is not used for the disposal of green waste.

16.4 Human damage:

There have been minor historic incidents of vandalism but again this is not a common occurrence. Camp building and cycle track construction and “Art” installations contribute to the accumulation of long term rubbish across the site and causes minor damage to trees and undergrowth. Spray paint graffiti of trees and other items is evident.

Part 2 Management Prescriptions

17.0 Objectives of Management:

To perpetuate the woodland and historic trees.

Where appropriate and within budgets the main strategies will be:

- manage the risks that trees sometimes pose
- manage rides and glades to provide habitat variation
- prioritised retention of veteran or historic trees and where appropriate remnants of other historical planting
- to remove trees, shrubs and undergrowth that have low ecological value
- provide opportunities for restocking and improvement to the ground flora where appropriate
- to retain standing and stacked dead wood as appropriate

18.0 Division of the area

The area has been divided into 12 compartments as shown on the Wilderness site plan (Appendix 1)

19.0 Common works:

The operations to achieve the objectives are described by individual compartment plans in Appendix 6 however works will follow common principles across the site which will include:

Tree safety: On going safety survey and prescription of remedial works as appropriate.

Veteran Trees: Identification of veteran and historic trees. Where appropriate prescription of remedial works to retain veteran trees for perpetuity including management of the surrounding trees or vegetation.

Ride Management: To have a programme of herbage management at the edge of main paths and additional rotational cutting to provide scalloping of the undergrowth.

Management of shrub layer: The removal of all *Rhododendron ponticum* but retention of a proportion of Cherry and Portuguese Laurel where

appropriate at least in the short term of this plan. To substantially reduce thickets of Holly by first removing all trees less than 100mm diameter at 1.3m and then selection to produce a mixed distribution over the site. Cut stumps to be treated with herbicide plugs.

Disposal of arisings: Where appropriate all woody waste will be retained on site in the form of standing dead wood (monoliths) fallen trunks, timber stacks or brash stacks. Fires will not be used as a method of disposal

Control of pernicious weeds: Re-growth from stumps, Japanese knot weed and *Impatiens* sp. will be treated using an approved herbicide where budgets allow.

Removal of Long term Litter: Periodic removal of “dens” and other detritus along with litter to appropriate recycling bins.

Timing of Works: Clearance and remedial works (Unless emergency) timed between September and March to avoid disturbance of wildlife. Planting ideally between November and January

20.0 Replanting

20.1 Site preparation: All individual tree planting sites to be clear of vegetation at time of planting either using herbicide treatment (1m² station per tree) pre planting or herbage physically removed at planting

20.2 Planting material: All native species are recommended to be of local provenance (405) but this is currently under review.

Bare root: Transplants 60-90cm Conifers: Planted as containerized stock 2l pots see also the Estates Landscaping Specification

20.3 Espacements (Random):

Broadleaves 2m x 2m

Conifers 2m x 2m

Coppice stools 3m x 3m

20.4 Mixtures: Secondary species e.g. Cherry, Rowan, Hazel, Field Maple to be planted as small groups, minimum 3 trees within, the main species Common Oak, Sweet Chestnut, Lime and Beech. Birch natural regeneration would be left as a nurse crop and incorporated into the mix as appropriate.

20.5 Weed Control: An area of 1m² to be kept relatively weed free for 3 years after planting using an approved herbicide and mulch if available on site. High standing weeds such as Bracken or Willow Herb should be knocked down annually in autumn to prevent trees being crushed.

20.6 Beating Up: Should survival rates fall below 60% within 2 years then beating up should be carried out using the same sized material unless natural regeneration is evident.

20.7 Protection: All trees to be protected from animal damage using a combination of products as appropriate to species and site; including 600mm tree spirals, tree or shrub shelters on suitable stakes. See Estates landscaping specification.

20.8 Thinning: Selective thinning should occur on a minimum 5 year rotation ensuring a good distribution of high canopy trees. This could include the thinning of natural regeneration and control of less desirable species.

20.9 Brashing and Formative Pruning: Pruning operations to improve the structure of the young trees should occur as required following an annual check or during weed control operations.

Table 1. Broadleaf Treatment Schedule

Year	Operation
1	Clear site, prepare weed free positions Plant, Fit tree shelters/protection Chemical spot weeding or mulch Knock down high standing weeds in Autumn
2	Chemical spot weeding or top up mulch Knock down high standing weeds in Autumn Check survival, beat up if necessary
3	Chemical spot weeding or top up mulch Knock down high standing weeds in Autumn Check survival, beat up if necessary
4	Chemical spot weeding or top up mulch Knock down high standing weeds in Autumn
5	Knock down high standing weeds in Autumn
5-10	Check tree shelters/ protection and remove when necessary Begin selective thinning as necessary Check any regeneration and re-space when necessary
10-20	Selective thinning and cutting of maiden coppice stools as necessary Check any regeneration and re-space when necessary
20+	Selective thinning as necessary Check any regeneration and re-space when necessary

21.0 Miscellaneous works

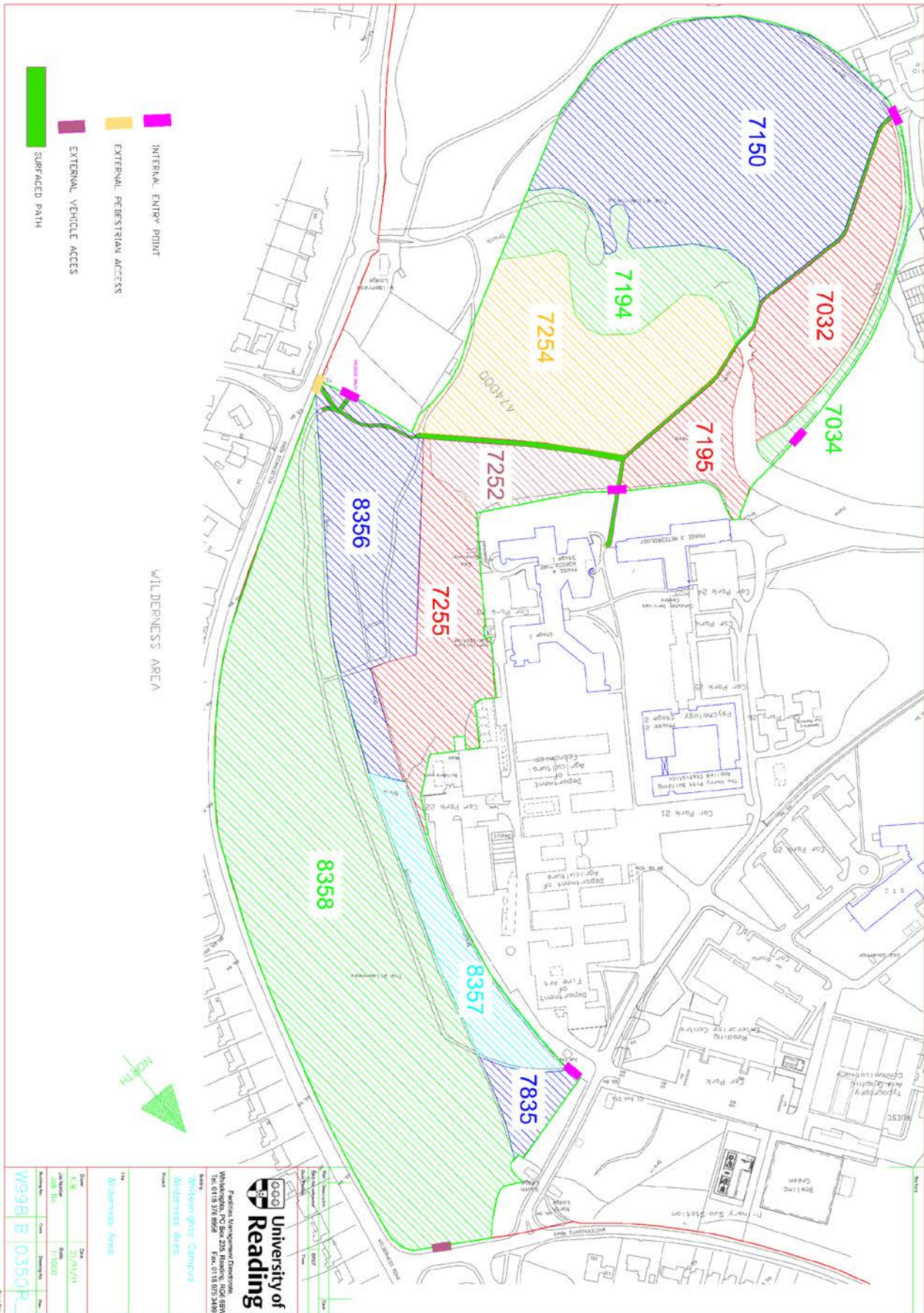
21.1 Foot Paths: The main (Surfaced) footpaths and bridges to be included in annual path survey and repairs made as budgets allow.

21.2 Culverts and Ditches: Should be surveyed annually and any accumulation of debris which obstructs the free flow of water removed.

22.0 Plan Review: Yearly review by Grounds Maintenance and stake holders if appropriate and revision in 2023

Appendix 1 Wilderness site plan showing access, foot paths and compartments

Information on this drawing will not be shared with a third party without the written authority of the University of Reading Facilities Management Directorate



Appendix 3 Species List

Woodland Area Broadleaved Trees

Species	Common Name
<i>Acer campestre</i>	Field Maple
<i>Acer platanoides</i>	Norway Maple
<i>Acer pseudoplatanus</i>	Sycamore
<i>Acer rubra</i>	Red Maple
<i>Aesculus hippocastanum</i>	Horse Chestnut
<i>Alnus glutinosa</i>	Common Alder
<i>Betula pendula</i>	Silver Birch
<i>Betula pubescens</i>	Downy Birch
<i>Betula lenta</i>	Cherry Birch
<i>Carpinus betulus</i>	Hornbeam
<i>Carya ovata</i>	Shag Bark Hickory
<i>Castanea sativa</i>	Sweet Chestnut
<i>Crataegus monogyna</i>	Hawthorn
<i>Crataegus monogyna</i> Cvs.	Hawthorn cultivars
<i>Fagus sylvatica</i>	Common Beech
<i>Fagus sylvatica</i> Purpurea Group	Copper Beech
<i>Fraxinus excelsior</i>	Common Ash
<i>Fraxinus ornus</i>	Manna Ash
<i>Ilex x altaclerensis</i> Cvs notably <i>Hodginsii</i>	Highclere Holly
<i>Ilex aquifolium</i>	Common Holly
<i>Ilex aquifolium</i> cvs	Common Holly Cultivars
<i>Liriodendron tulipifera</i>	Tulip Tree
<i>Malus domestica</i>	Apple
<i>Platanus x hispanica</i>	London Plane
<i>Populus</i> Sp.	Poplar
<i>Prunus avium</i>	Wild Cherry
<i>Prunus padus</i>	Bird Cherry
<i>Pyrus</i> sp.	Pear
<i>Quercus cerris</i>	Turkey Oak
<i>Quercus coccinea</i>	Scarlet Oak
<i>Quercus x hispanica</i> 'Lucombeana'	Lucombe Oak
<i>Quercus phellos</i>	Willow Oak
<i>Quercus robur</i>	Common Oak
<i>Quercus rubra</i>	Red Oak
<i>Quercus x turneri</i>	Turners Oak
<i>Robinia pseudoacacia</i>	False Acacia
<i>Salix fragilis</i>	Crack Willow
<i>Salix caprea</i>	Goat Willow
<i>Sorbus aria</i>	Whitebeam
<i>Sorbus aucuparia</i>	Rowan
<i>Sorbus intermedia</i>	Swedish Whitebeam
<i>Sorbus torminalis</i>	Wild Service Tree

Species	Common Name
<i>Tilia cordata</i>	Small Leaved Lime
<i>Tilia x europaea</i>	Common Lime
<i>Tilia platyphyllos</i>	Large Leaved Lime
<i>Tilia tomentosa</i>	Silver Lime
<i>Ulmus glabra</i>	Large Leaved Elm
<i>Ulmus procera</i>	Small Leaved Elm

Woodland Coniferous Species

Species	Common name
<i>Calocedrus decurrens</i>	Incense Cedar
<i>Chamaecyparis lawsoniana</i>	Lawson's Cypress
<i>Chamaecyparis pisifera</i>	Sawara Cypress
<i>Larix decidua</i>	European Larch
<i>Larix kaempferi</i>	Japanese Larch
<i>Metasequoia glyptostroboides</i>	Dawn Redwood
<i>Picea smithiana</i>	West Himalayan Spruce
<i>Pinus cembra</i>	Arolla Pine
<i>Pinus jeffreyi</i>	Jeffery Pine
<i>Pinus radiata</i>	Monterey Pine
<i>Pinus sylvestris</i>	Scots Pine
<i>Pinus Wallichiana</i>	Himalayan White Pine
<i>Pseudotsuga menziesii</i>	Douglas Fir
<i>Sequoiadendron giganteum</i>	Wellingtonia
<i>Taxodium distichum</i>	Swamp Cypress
<i>Taxus baccata</i>	Common Yew
<i>Taxus baccata Aurea Group</i>	Golden Yew
<i>Thuja plicata</i>	Western Red Cedar
<i>Tsuga heterophylla</i>	Western Hemlock

Woodland Shrubs and Climbers

Species	Common Name
<i>Amelanchier lamarckii</i>	Snowy Mespilus
<i>Aucuba japonica</i>	Spotted Laurel
<i>Buddleja davidii</i>	Butterfly Bush
<i>Buxus sempervirens</i>	Common Box
<i>Cornus sanguinea</i>	Dog Wood
<i>Corylus avellana</i>	Hazel
<i>Daphne laureola</i>	Spurge Laurel
<i>Euonymus europaeus</i>	Spindle Tree
<i>Hedera helix</i>	Common Ivy
<i>Ligustrum vulgare</i>	Common Privet
<i>Lonicera periclymenum</i>	Common Honey Suckle
<i>Magnolia x soulangeana</i>	Hybrid Magnolia
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Prunus laurocerasus</i>	Cherry Laurel

Species	Common Name
<i>Prunus lusitanica</i>	Portuguese Laurel
<i>Rhamnus cathartica</i>	Purging Buckthorn
<i>Rhododendron</i> Cvs.	Rhododendron
<i>Rhododendron ponticum</i>	Rhododendron
<i>Rosa</i> sp.	Dog Rose
<i>Rubus</i> 'Beneden'	Ornamental Bramble
<i>Rubus fruticosus</i>	Bramble
<i>Ruscus aculeatus</i>	Butchers Broom
<i>Sambucus canadensis</i> 'Aurea'	Golden Elder
<i>Sambucus nigra</i>	Common Elder
<i>Symphoricarpos</i> sp.	Snow Berry
<i>Viburnum lantana</i>	Wayfaring Tree
<i>Viburnum opulus</i>	Guilder Rose

Ground Flora (Woodland)

Species	Common Name
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Anemone nemorosa</i>	Wood Anemone
<i>Arctium minus</i>	Lesser Burdock
<i>Arum maculatum</i>	Lords and Ladies
<i>Athyrium filix femina</i>	Lady Fern
<i>Brachypodium sylvaticum</i>	False Wood-Brome
<i>Bryonia dioica</i>	White Bryony
<i>Carex pendula</i>	Pendulous Sedge
<i>Carex remota</i>	Remote Sedge
<i>Carex sylvatica</i>	Wood Sedge
<i>Cyclamen hederifolium</i>	Cyclamen
<i>Dactylis glomerata</i>	Cocksfoot
<i>Digitalis purpurea</i>	Foxglove
<i>Dryopteris dilatata</i>	Broad Buckler
<i>Dryopteris filix mas</i>	Male Fern
<i>Epipactis helleborine</i>	Broad-Leaved Helleborine
<i>Glechoma hederacea</i>	Ground Ivy
<i>Geranium dissectum</i>	Cut-Leaved Crane's-Bill
<i>Geranium robertianum</i>	Herb Robert
<i>Geum urbanum</i>	Wood Avens
<i>Heracleum sphondylium</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire Fog
<i>Hyacinthoides hispanica</i>	Spanish Bluebell
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Impatiens glandulifera</i>	Himalayan Balsam
<i>Impatiens parviflora</i>	Small Balsam
<i>Juncus effusus</i>	Soft Rush
<i>Lamium galeobdolon</i>	Yellow Archangel

Species	Common Name
Myosotis sp.	Forget-Me-Not
Narcissus Cvs	Daffodils
Poa annua	Annual Meadow Grass
Poa pratensis	Smooth Meadow grass
Polystichum setiferum	Soft Shield fern
Primula vulgaris	Primrose
Pteridium aquilinum	Bracken
Ranunculus ficaria	Greater Celandine
Rumex sanguineus	Wood Dock
Scrophularia nodosa	Common Figwort
Silene dioica	Red Campion
Solanum dulcamara	Bittersweet
Symphytum officinale	Comfrey
Urtica dioica	Nettle
Veronica chamaedrys	Germander Speedwell

Ground Flora (Glade Area)

Species	Common Name
Agrimonia eupatoria	Common Agrimony
Agrostis stolonifera	Creeping Bent
Alopecurus pratensis	Meadow Foxtail
Anthoxanthum odoratum	Sweet Vernal Grass
Anthriscus sylvestris	Cow Parsley
Cardamine pratensis	Cuckoo Flower
Carex hirta	Hairy Sedge
Carex sylvatica	Wood Sedge
Centaurea nigra	Common Knapweed
Cirsium arvense	Creeping Thistle
Dactylis glomerata	Cock's-Foot
Festuca rubra	Red Fescue
Galium aparine	Cleavers
Heracleum sphondylium	Hogweed
Holcus lanatus	Yorkshire Fog
Lathyrus pratensis	Meadow Vetchling
Lolium perenne	Perennial Rye-Grass
Lotus corniculatus	Bird's-Foot Trefoil
Lotus pedunculatus	Greater Bird's-Foot Trefoil
Plantago lanceolata	Ribwort Plantain
Potentilla reptans	Creeping Cinqfoil
Primula veris	Cowslip
Ranunculus acris	Meadow Buttercup
Ranunculus repens	Creeping Buttercup
Rumex acetosa	Common Sorrel
Stellaria graminea	Lesser Stitchwort
Trifolium pratense	Red Clover

Species	Common Name
Trifolium repens	White Clover
Veronica chamaedrys	Germander Speedwell
Vicia cracca	Tufted Vetch
Vicia sepium	Bush Vetch

Appendix 4 Compartment Management Plans

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
7034 Boundaries: N Lake E Ditch S Main foot path W Meadow	Dominant: Horse Chestnut, Common Oak, Common Lime, Hawthorn, Crack Willow, Alder, Beech. Sub Dominant: Small leaved Elm, Sycamore, Wild Cherry, Bird Cherry, Common Oak, Large leaved lime, Red Oak, Scots Pine, Silver Birch, Apple, Dawn Redwood, Field Maple, Hornbeam.	Woodland edge boundary with successional area - high potential for wildlife Spindle and Elder present along with Bramble and Willow herb. Veteran Hawthorn partially wind blown but represents an acceptable hazard. Alder and willow at lake edge to the north	Boundary ditch	As now part of the Whiteknights Successional Area all recommended works suspended	
7032 Boundaries: N. Lake E. Foot Path (Early Gate) S. Entrance W. Drainage Ditch	Dominant: Horse Chestnut, Common Oak, Turkey Oak, Common Lime, Hawthorn, Alder, Ash, False Acacia, Silver Birch, Wild Cherry, Beech, Incense Cedar, Holly, Yew, Sycamore, Incense Cedar. Sub Dominant: Douglas Fir, Black Pine, Scots & Himalayan White Pine, Field and Red Maple, Sycamore, Small leaved Elm, Bird Cherry, Common Red & Fastigiated Oak, Large leaved lime,	Rhododendron partially cleared and area replanted early 90's with successful establishment of mixed broadleaves and some natural regeneration of Silver Birch. Remaining Rhododendron, Cherry and Portuguese Laurel cleared Jan 2020 and extensive replanting. Some large specimens of Portuguese Laurel. Alder at lake edge to the north Attempt to block path on northern boundary as becomes quagmire in winter months unfortunately walkers just walking round	Notable trees: Incense Cedar Highclere Holly Veteran Oak.	Monitor and maintain new planting. Control Laurel re-growth. Select Turkey Oak for removal venteranisation or monoliths prioritising those specimens impacting on the veteran trees.	

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
7150 Boundaries: N. Glade Area E. Harris Garden Fence S. Harris Garden Fence W. Foot Path (Early Gate)	Dominant: Horse Chestnut, Common Oak, Turkey Oak, Common Lime, False acacia, Silver Birch, Wild Cherry, Beech, Incense Cedar, Holly Yew, Sycamore, Incense Cedar, Jeffrey Pine, London Plane, Goat Willow, Hornbeam, Holly, Ash Sub Dominant: Small leaved Elm, Sycamore, Turkey Oak Wild Cherry, Irish Yew Small leaved lime, Red Oak, Silver Birch, Hornbeam, False Acacia.	Ornamental trees, shrubs and former hedge lines. Areas of dense Rhododendron and Laurel were partially cleared by a student project but without follow up has regrown. A number of recently windblown trees possibly as a result of the clearance. Small areas of good ground flora Wood anemone, Blue bell and Primrose. <i>Impatiens parviflora</i> rapidly colonises cleared ground. A number of Box specimens make up the shrub layer. A low lying area floods during the winter months and provides opportunity for habitat enhancement. Numerous standing and fallen dead wood. Planting 2017 on eastern boundary well established.	Notable trees: Fastigiated Oak (County Champion) Yew Walk Standing stones (former fernery) Remnants of House and military base	Remove Rhododendron and replant cleared areas. Manage Laurel surrounding the standing stones to deter inappropriate use of the area. Coppice /pollard Willow in wet area and east boundary Manage dead Birch. Clear young Sycamore and Elder from mature Yew east Monitor Horse Chestnut Bleeding Canker. Select Turkey Oak for removal venteranisation or monoliths prioritising those specimens impacting on the veteran trees.	Dig out wet area to retain water for longer period. Enhancement planting of mixed native shrub/hedge species along boundary with glade to the north.

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
7194 Glade Area Boundaries: N. Woodland edge E. Harris Garden Fence S Woodland Edge W. Foot Path (Early Gate)	Dominant: Holly, Hornbeam, Common, Turkey, Willow leaved & Fastigiated Oak, Silver Birch, Sub Dominant: Willow Leaf Oak, Wild Cherry, Arolla & Monterey Pine, Picea smithiana, Irish Yew.	The Glade area has a meadow like grass sward which is cut once a year, arisings are generally left on site. The area is heavily trafficked in places with damage to the existing herbage. A number of young (30-40 year old) Turkey and Common Oak give the area a wood pasture feel but some are squirrel damaged. The area includes the source of the Whiteknights lakes with opportunities for enhancement.	The Grotto	Maintain open area through selection of trees for removal venteranisation or monoliths. Cut Bramble encroachment from under trees. Annual cut within meadow area.	
7195 Boundaries: N Woodland Edge E. Foot Path (Early Gate) S. Lake W. Lake	Dominant: Common and Turkey Oak, Swamp Cypress, Alder, Ash, Hawthorn, Crack Willow, Yew. Sub Dominant: Tulip Tree, Birch, Lime, Bird Cherry, Holly, Rowan.	Reasonable ground flora Bluebell, Wood Anemone and Primrose but Ivy dominates in places some shrubs Spindle and Hazel on eastern boundary with path. Western boundary with lake area site wet	Veteran Swamp Cypress Lake side edge	Phased severance of Ivy especially Ash on northern boundary. Remove old chestnut pail fence and relocate on concrete post should desire lines redevelop. Eastern boundary to become no-mow area to protect Veteran Oak. Ensure drain out fall remains clear.	Select those Turkey Oak impacting on the veteran Oak to the north for removal venteranisation or monoliths

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
7254 Boundaries N. Foot path (Wilderness Rd) E. Harris Garden S. Glade area W. Foot Path (Early Gate)	Dominant: Common, Turkey, Turners, Red & Lucombe Oaks, Common Lime, Horse Chestnut, Wellingtonia, Western Red Cedar, Silver Birch, Sub Dominant: Birch, Bird Cherry, Holly, Hawthorn, Elm, Sycamore, Common & Turkey Oaks, Hemlock, Yew, Hornbeam.	Area dominated by Common and Turkey Oaks with a dense stand to the west which is long overdue thinning. A stand of Western Red Cedar to the east of the site with some Birch mainly in decline to the south. A shrub layer of Bramble, Elder, Spindle, Hazel and some Box. Large areas of Laurel and some rhododendron. Ground flora dominated by Ivy, nettle and <i>Impatiens parviflora</i> but some good areas of Bluebell to the south of the site. The compartment contains important specimens of Lucombe and Turners oaks along with other specimens dating back to the previous landscaping. Open area in canopy west of site being colonised by Bird Cherry regeneration. Good quantities of dead wood	Veteran Common, Turners and Lucombe Oaks. Remnants of former glass houses	Carryout remedial works as captured on ArboTrack. Select trees impacting on the veteran trees for removal, venteranisation or monoliths. Thin common Oaks identifying individual or groups of trees to be retained for perpetuity. Remove Rhododendron on Southern boundary. Remove or coppice laurel as appropriate. Manage dead wood/trees near or over foot paths. Remove/sever Ivy as appropriate. Adapt layout of informal paths to avoid hazard trees using dry hedging as appropriate.	Enhancement planting of mixed native shrub/hedge species along boundary with glade.

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
7252 Boundaries N. Agriculture E Drainage ditch S Foot path (Wilderness road) W Foot path (Earley Gate)	Dominant: Common, Turkey, & Holm Oaks, Horse Chestnut, Beech (Purple) Shagbark Hickory, London Plane, Sweet Chestnut, Swamp Cypress, Scots pine. Sub Dominant: Holly, Hawthorn, Large leaved Elm, Red Oak, Yew, Sycamore, and Silver Lime.	Area densely covered by Common and Turkey Oaks with a number of specimen and veteran trees. Shrub layer dominated with Laurel and <i>Aucuba</i> . Some areas of Bluebell and <i>Narcissus</i> but generally the ground flora is poor: Ivy and nettle and bramble at the woodland edge north.	Veteran Sweet Chestnuts Shag Bark Hickory (Champion Tree)	Carryout remedial works as captured on Arbortrack. Select trees impacting on the veteran trees for removal, venteranisation or monoliths. Thin common Oaks identifying individual or groups of trees to be retained for perpetuity. Remove Laurel internally but retain or coppice where the protect desire lines or veteran trees. Manage dead wood/trees near or over foot paths. Remove/sever Ivy as appropriate. Adapt layout of informal paths to avoid hazard trees using dry hedging or fencing as appropriate. Carry out replanting to bring diversity to shrub layer or to fill gaps in the canopy should they occur.	Enhancement planting of mixed native shrub/hedge species along northern boundary.

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
7255 Boundaries: N. Builders Yard E. Drainage ditch S. Drainage Chamber W. Laurel Hedge	Dominant: Common & Turkey Oaks, Horse Chestnut, Sweet Chestnut, Scots Pine, Common Lime, Lawson Cypress, Wild Cherry, Sub Dominant: Holly, Hawthorn, Large leaved Elm, Yew, Sycamore, Broad leaved Lime, Beech, Common Oak, Birch, Rowan, Bird & Wild Cherry, Douglas Fir, Western Red Cedar.	The area has higher mature tree density to the north. The Lime and Horse Chestnut probably remnants of the old garden. The Horse Chestnuts are heavily in decline. The area was replanted in the early 90's with good establishment. The site has a number of Lawson Cypress which is suppressing the ground flora and young planting. Rhododendron Cherry laurel and Aucuba are dense within the centre of the site. A Portuguese Laurel hedge (Uncut) runs along the west boundary. A very dense stand of young Yew suppresses all ground flora at the north end but in other places Ferns, Blue bells, Fox glove, Hazel and Common Privet are evident	Veteran Wild Cherry Sweet Chestnut Ditch habitat standing Dead wood	Halo around Veteran trees and carryout remedial works as captured on Arbortrack. Select Lawson Cypress, Western Red Cedar and Hemlocks for retention. Select Turkey Oak for removal venteranisation or monoliths prioritising those specimens impacting on the veteran trees. Thin new plantings and Yew group remove competing vegetation. Remove Rhododendron and Laurel. Manage dead wood/trees near or over foot paths. Remove/sever Ivy as appropriate. Carry out replanting to bring diversity to shrub layer or to fill gaps in the canopy should they occur. Yearly maintenance of ditch and chamber to ensure free flow of water Remove long term rubbish. Ensure storm damaged tree made safe as undergrowth cleared	Enhancement of west boundary with glasshouses Coppice Ash and Lime sow with woodland flower mix plant Hazel

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
8356 Boundaries N. Builders Yard ditch E. Drainage ditch S. Composting yard W. Drainage ditch	Dominant: Common & Turkey Oak, Lawson Cypress, Beech, Yew, Silver Birch, Sycamore, Holly, European Lime. Sub Dominant: Small Leaved Elm. Himalayan White Pine, Small leaved Lime, Silver Birch, Sycamore, Beech.	The area to the south was replanted in the early 90's with some reasonable establishment in places. Bramble, Sycamore and small leaved Elm regeneration which is dense in places forms thickets with the older Elms succumbing to Dutch Elm Disease. To the North the mature Oak are in decline with a number of trees affected by Honey fungus with a recent removal giving an opportunity for replanting. Again the Lawson Cypress looks incongruous among the other broadleaves and suppresses the ground flora which is generally poor. Rhododendron is in small sporadic groups	Ditch habitat	Remove selected Lawson Cypress. Select Turkey Oak for removal venteranisation or monoliths prioritising those specimens impacting on the veteran trees. Thin new plantings remove Rhododendron. Manage dead wood/trees near or over foot paths. Remove/sever Ivy as appropriate. Carry out replanting to bring diversity to shrub layer or to fill gaps in the canopy should they occur. Remove long term rubbish and tree shelters. Carryout remedial works as captured on Arbortrack.	Build culvert under foot path as original cluster of pipes collapsed and blocked which causes water to back up. Remove selective existing vegetation on boundary with composting yard and replant with mixed native shrub/hedge species

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
8357 Boundaries N. Early gate entrance E. Drainage ditch S. Drainage ditch W. Boundary Fence	Dominant: Common & Turkey Oak, Beech, Yew, Silver Birch, Holly, European Lime, Robinia, Sweet Chestnut, Horse Chestnut, Rowan, Hornbeam, Norway Maple. Sub Dominant: Large Leaved Lime. Holly, Yew, Cherry, Sycamore.	The area has higher mature tree density to the north and western boundary the Lime, Horse Chestnut and Robinia probably remnants of the old garden. A number of mature Beech most of which are in terminal decline but they do provide habitat opportunities. Dense stands of Holly regeneration suppress the ground flora and few surviving plantings made after the 1990 storm. Blue bell is present in sporadic locations. Rhododendron and Laurel is present and is dense in places. The ditch is generally overgrown.	Ditch habitat Standing dead wood and habitat trees	Select Turkey Oak for removal venteranisation or monoliths prioritising those specimens impacting on the veteran trees. Remove all Holly<100mm at 1.3m then select trees for retention. Carryout remedial works as captured on Arbotrack prioritising trees on the western boundary. Remove Rhododendron and Laurel but retain or coppice Laurel where it protects desire lines or veteran trees Carry out replanting to bring diversity to shrub layer or to fill gaps in the canopy should they occur.	Build sleeper bridges over 3 ditch crossing points. Clear windblown trees from ditch.

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
8358 N. Whiteknights Road E. Wilderness Road S. Wilderness Rd Entrance W. Drainage Ditch	Dominant: Common & Turkey Oak, Beech, Yew, Silver Birch, Holly, Sweet Chestnut, Horse Chestnut, Rowan, Hornbeam, Ash, Sycamore, Hemlock Poplar sp., Alder Scots Pine. Sub Dominant: Small Leaved Lime. Holly, Yew, Wild and Bird Cherry, Sycamore, Field Maple, Hawthorn, Hemlock, Sweet Chestnut, Himalayan White Pine, Whitebeam, Rowan, Goat Willow	This is the largest compartment of the woods at just over 3.5ha. In the centre Oak, Alder, Goat Willow and Poplar dominates within the dished, winter flooding, area. In the north and south Beech and Sweet Chestnut mix with the Oak. To the North Sweet Chestnut dominates with dense Holly, Rhododendron and Laurel understory and poor ground flora. To the south the ground flora includes Fox Glove Bluebell and <i>Lamium galeobdolon</i> ; but in places is dominated by the dense Holly regeneration. Some remnants of early 90's planting survive. A number of the Oaks are in decline with standing and collapsed trees providing large quantities of dead wood. Again the Lawson Cypress and Hemlocks look incongruous among the Sweet chestnut. The eastern boundary was excavated through in the early 80's to install a water main; post work has seen the decline and death of a number of mature trees. The subsequent mitigation planting is native but not typical for the area and is variable in its success.	Veteran Sweet Chestnuts and Oaks Wet area	Select Turkey Oak for removal venteranisation or monoliths prioritising those specimens impacting on the veteran trees Remove all Holly<100mm at 1.3m then select trees for retention. Carryout remedial works as captured on Arbortrack prioritising trees on the eastern and northern boundaries. Remove Rhododendron and Laurel but retain or coppice Laurel where it protects desire lines, site lines to the road or veteran trees. Carry out replanting to bring diversity to shrub layer or to fill gaps in the canopy should they occur. Select Hemlocks and Lawson Cypress for retention. Thin new plantings remove competing vegetation and Sycamore regeneration. Thin and adjust species mix of eastern boundary to produce a thicket of hedgerow and small trees.	Sow wildflower wetland mix within flooded area (Excavation to enhance is unlikely to be practical because of pressurised gas main) Select suitable specimens of Sweet Chestnut for bringing into coppice cycle

Compartment	Tree species	Brief description of Area	Special features	Recommended works	Desirable works
7835 Boundaries: N. Boundary fence E. Drainage Ditch S. Informal Path W. Boundary Fence	Dominant: Common & Turkey Oak, Holly, Sweet Chestnut, Hornbeam, Wild Cherry, Rowan Sub Dominant: Large Leaved Lime, Hornbeam, Yew, Holly.	Since the removal of all the Cherry Laurel ground flora and natural regeneration is succeeding. Area cleared and replanted with Hazel and Oak in 2011	Veteran Sweet Chestnut, Hornbeam	Manage undergrowth until Hazel and trees established.	Relocate fence line to protect Oak rooting area and maintain vehicular access