Draft 29/5/2020

Woodland Management Plan

Completed by the plan author:		
Woodland Name	**Marlhill Copse, Swaythling**	
Woodland Management Plan case reference	**N/A**	
The landowner agrees this plan as a statement of intent for the woodland		**Yes**
Plan author's name	**Hugh Milner**	

For FC Use only:				
Plan Period *(Ten years)*	**Approval Date:**		**Approved until:**	
Five Year Review Date				

Five Year Review Date **1st July 2025**

(This date is inserted to ensure compliance with Criterion 6, page 2)

Revision No.	Date	Status (draft/final)	Reason for Revision

Owner: **Southampton International Airport Ltd.**

Address: **Wide Lane, Southampton, SO 18 2NL.**

Table of Contents

Appended Documents

Inventory and Plan of Operations

Appendix A – Hamwic (Saxon Southampton)
Appendix B – New River Itchen or a Saxon Canal
Appendix C – Itchen Valley Conservation Area
Appendix D – SNHS Ann Rpt 2005
Appendix E – TPO T2-020
Appendix F – TPO T2-597
Appendix G – FC Ops Note 11
Appendix H – OSA
Appendix I – Ecological report - PEA and HRA (Stage 1)
Appendix J – Management Plan 2003
Appendix K – NCA 128 South Hants Lowlands
Appendix L – Lilium Giganteum photo 4 1936
Appendix M – Mr Fred Rose photo 2
Appendix N – Ownership Timeline
Appendix O – HRA (Stage 2)

Map 1 – The wood in the local landscape
Map 2 – Species and Compartments
Map 3 – COT
Map 4 – Harvesting
Map 5 – Ancient Woodland
Map 6 – TPOs and IV Conservation Area
Map 7 – Registered Park and Garden
Map 8 – Likely Impact SSSI
Map 9 – Wood Priority and Improve
Map 10 – OG Management
Map 11 – PRW and Permissive Path
Map 12 – Soils
Map 13 – Parish Boundaries
Map 14 – Roman, Saxon and Medieval Southampton v Marlhill Copse
Map 15 – Milne's Map of Hants 1791
Map 16 – OSD 1806
Map 17 – Greenwood's Map of Hampshire 1826
Map 18 – Title Map 1844
Map 19 – OS 6_1866 nls
Map 20 – OS 25_1895 nls
Map 21 – OS 25_1908 nls
Map 22 – OS 25_1932 nls
Map 23 – OS 25_1941 nls
Map 24 – Aerial 1940s
Map 25 – Aerial 1999
Map 26 – Aerial 2004
Map 27 – Aerial 2012
Map 28 – Aerial 2018

i) Introduction

In August 2018, Southampton International Airport Ltd (SIAL) purchased Marlhill Copse, Swaythling, in order to undertake tree management work required under European Aviation legislation. Specifically, the airport has an obligation to manage and minimise obstacles that breach a set of 3D safeguarded surfaces around the airfield. These are designed to protect aircraft operating in the area.

The copse has a rich history as part of the Townhill Park Estate and is classified as Ancient Semi-Natural Woodland and a Registered Park and Garden. All trees in the copse are protected by virtue of their location within the Itchen Valley Conservation Area and/or by various Tree Preservation Orders.

This Woodland Management Plan details how SIAL will manage and enhance the woodland over the next 5-10 years. The plan ensures what forestry works within the woodland is completed in a responsible and sustainable way and in accordance with good forestry practice and relevant arboricultural regulations, guidance and best practices. The plan also ensures that the special character of the woodland and the woodland character of the area are maintained.

SIAL's priority is to make the woodland safe for the public and neighbouring residents, and to see Marlhill Copse maintained as a safe, beautiful and healthy space for the local community to enjoy. Through the delivery of the plan, Marlhill Copse will be restored to its former glory, whilst maintaining the woodland character of the area.

The plan has been developed in consultation with key ecological and environmental authorities, notably Natural England, Historic England and the Forestry Commission. We have also worked closely with SCC and local community groups to prepare the plan.

The plan states 8 key objectives:

- Enhance and maintain habitat diversity
- Promote sustainable woodland management & regeneration
- Embrace the woodland's landscape contribution
- Remove and control invasive exotic species
- Restore and improve derelict land
- Conserve heritage features
- Convert pine dominated southern & eastern edges to a natural shrub interface
- Adopt a safe and accessible community woodland ethos

The woodland will be considered alongside adjacent spaces, including Southampton City Council's Riverside Park to the west and their adjacent field to the east. Woodland management will be completed with sensitivity to and in conjunction with plans for adjacent areas. A permissive path will be established in the copse, running east through the adjacent field and out onto Cutbush Lane.

SIAL are fully committed to their health and safety and community responsibilities as current owners of the copse. However, in the long term SIAL's mission is to find the most appropriate owners for Marlhill Copse. During the delivery of this woodland management plan, an independent group will be set up to assess options for future ownership and agree a plan for handover and ongoing management. The group will be responsible for identifying the most suitable future owner and ownership model to ensure the ongoing and future restoration and enhancement of the woodland for all to enjoy.

Though derelict and in great need of suitable care and management, this woodland remains impressive and locally renowned. A long-term programme of management is required to both enhance and maintain its biodiversity and recreational value to the local community. Not only does the Woodland Management Plan address these issues, but it also ensures that SIAL's legislative obligations as airport operator are delivered in a sensitive and responsible way.

Note – This woodland management plan assumes that urgent safety critical works have completed (or are due to be completed) under separate notifications and applications throughout 2019 / 2020. Namely 5-day notice work and storm clearance throughout winter 2019 / 2020 and works associated with application 20/00067/TPO.

ii) UK forestry standard management planning criteria

Approval of this plan will be considered against the following UKFS criteria.
Prior to submission review your plan against the criteria using the check list below.

	UKFS management plan criteria	Minimum approval requirements	Author check ☑
1	**Plan Objectives:** Forest management plans should state the objectives of management and set out how an appropriate balance between social, economic, and environmental objectives will be achieved.	• Management plan objectives are stated. • Consideration is given to environmental, economic and social objectives relevant to the vision for the woodland.	Yes
2	**Forest context and important features in management strategy:** Forest management plans should address the forest context and the forest potential and demonstrate how the relevant interests and issues have been considered and addressed.	Management intentions communicated in ***Sect. 6*** of the management plan are in line with stated objective(s) ***Sect. 2***. Management intentions should take account of: • Relevant features and issues identified within the woodland survey (***Sect. 4***) • Any potential threats to and opportunities for the woodland, as identified under woodland protection (***Sect. 5***). • Relevant comments received from stakeholder engagement and documented in ***Sect. 7***.	Yes
3	**Identification of designations within and surrounding the site:** For designated areas, e.g. National Parks or SSSI, particular account should be taken of landscape and other sensitivities in the design of forests and forest infrastructure.	• Survey information (***Sect. 4***) identifies any designations that impact on woodland management. • Management intentions (***Sect. 6***) have taken account of any designations.	Yes
4	**Felling and restocking to improve forest structure and diversity:** When planning felling and restocking, the design of existing forests should be re-assessed, and any necessary changes made so that they meet UKFS requirements. Forests should be designed to achieve a diverse structure of habitat, species and ages of trees, appropriate to the scale and context. Forests characterised by a lack of diversity, due to extensive areas of even-aged trees, should be progressively restructured to achieve age class range.	• Felling and restocking proposals are consistent with UKFS design principles (for example scale and adjacency). • Current diversity (structure, species, age structure) of the woodland has been identified through the survey (***Sect. 4***). • Management intentions aim to improve / maintain current diversity (structure, species, and ages of trees).	Yes
5	**Consultation:** Consultation on forest management plans and proposals should be carried out according to forestry authority procedures and, where required, the Environmental Impact Assessment Regulations.	• Stakeholder engagement is in line with current FC guidance and recorded in ***Sect. 7***. The minimum requirement is for statutory consultation to take place, and this will be carried out by the Forestry Commission. • Plan authors undertake stakeholder engagement (ref FC Ops Note 35) relevant to the context and setting of the woodland.	Yes
6	**Plan Update and Review:** Management of the forest should conform to the plan, and the plan should be updated to ensure it is current and relevant.	• A 5-year review period is stated on the 1st page of the plan. • ***Sect. 8*** is completed with 1 indicator of success per management objective.	Yes

Section 1: Property Details

Woodland Property Name		Marlhill Copse	
Name	Southampton International Airport	Owner	
Email	steve.thurston@ southamptonairport.com	Contact Number	0344 481 7777
Agent's Name		Hugh Milner	
Email	hughmilner@hotmail.co.uk	Contact Number	02392 380708
County	Hampshire	Local Authority	Southampton UA
Grid Reference	SU 4495 1545	Single Business Identifier	N/A
What is the total area of this woodland management plan?		8.31 hectares	
An Inventory & Operational Plan is included with this woodland management plan		Yes	

Maps and Appendices

1.The Wood in the Local Landscape

2.Sub Compartments & Species Details

3.Constraints, Opportunities & Threats COT

4.Harvesting Details

5.Ancient Woodland ASNW

6.TPOs & Itchen Valley Conservation Area

7.Registered Park & Garden

8.Likely Impact to SSSI

9a.Site of Interest for Nature Conservation map SINC

9b.List of local SINCs including Marlhill Copse

10.Priority Deciduous Woodland Habitat

11.Open Ground Management OG

12.Public Rights of Way & Permissive Path PRW

15.Roman, Saxon & Medieval Southampton 70-1300

16.Milne's Map of Hampshire 1791

17.Ordnance Surveyor's Drawing 1806

18.Greenwood's Map of Hants 1826

19.South Stoneham Tithe Map 1844

20.OS 1st Edtn County Series 1866

21.OS 2nd Edtn county Series 1895

22.OS 3rd Edtn County Series 1908

23.OS 25" = 1Mile 1932

24.OS 25" = 1Mile 1941

25.Aerial Photo 1940s

26.Aerial Photo 1999

27.Aerial Photo 2004

28.Aerial Photo 2012

13.Soils 14.Parish Boundaries **Appendices** L & M are reproduced courtesy of Mrs Rosaleen Wilkinson A. Hamwic (Saxon Southampton) B. New River Itchen or a Saxon Canal C. Itchen Valley Conservation Area D. Soton Nat Hist Soc Annual Report 2005 E. Tree Preservation Order T2-020 F. Tree Preservation Order T2-597 G. Managing open space for wildlife	29.Aerial Photo 2018 H. Operational Site Assessment I. Ecological Report (PEA & HRA (Stage 1)) J. Management Plan of 2003 K. National Character Area 128 L. Last of the City's Grand Houses M. Mr Fred Rose, Head Gardener N. Ownership Timeline O. HRA (Stage 2)	
The information in this management plan & associated Inventory & Plan of Operations will be used to apply for a Felling Licence & conduct woodland improvement	Felling Licence	Yes
	Thinning Licence	Yes
	Woodland Improvement	Yes
It is declared that there is management control of the woodland detailed within the woodland management plan	Yes	
It is agreed to make the woodland management plan publicly available	Yes	

Section 2: Vision and Objectives

The following develops the long-term vision, expressing the overall direction of management for the woodland and how you envisage it to be in the future. This covers the duration of the plan and at least ten years beyond.

2.1 Vision

This is the long-term vision for the woodland (*As at June 2030*)

Marlhill Copse has developed into a place of historical natural beauty with extraordinary biodiversity, and provides a safe, sustainable and accessible space which educates, inspires and is prized by the whole community

2.2 Management Objectives (See also Sections 3, 6 & 8)

The following objectives of management demonstrate how sustainable woodland management is to be achieved. Objectives are a set of specific, quantifiable statements that represent what needs to happen to achieve the long-term vision.

No.	Objectives (include environmental, economic and social considerations)
1	Enhance and maintain habitat diversity
2	Promote sustainable woodland management and regeneration
3	Embrace the woodland's landscape contribution
4	Remove and control invasive exotic species
5	Restore and improve derelict land
6	Conserve heritage features
7	Convert pine dominated southern and eastern edges to a natural shrub interface
8	Adopt a safe and accessible community woodland ethos

Section 3: Plan Review – Achievements
See also Sections 2.2, 6 & 8

This section identifies achievements made against previous plan objectives. This section should be completed at the fifth-year review and could be informed through monitoring activities undertaken.

Objectives	Assess Achievement at 1/7/2025
1.Enhance and maintain habitat and species diversity	
2.Promote sustainable woodland management & regeneration	
3.Embrace the woodland's landscape contribution	
4.Remove and control invasive exotic species	
5.Restore and improve derelict land	
6.Conserve heritage features	
7.Convert pine dominated southern and eastern edges to a natural shrub interface	
8. Adopt a safe and accessible community woodland ethos	

Section 4: Woodland Survey

This section has collected information relating to this woodland and its location, including any statutory constraints i.e. designations.

4.1 Description

An ownership Timeline is shown at Appendix N. The following is a brief description of the woodland property in its time and place:

Situated on the north-eastern outskirts of Southampton and on the eastern bank of the River Itchen, Marlhill Copse, known locally also as Swan Copse, is an 8.31ha ancient hanger woodland rising from 3m to 20m above Ordnance Datum with a northerly aspect. Though partially surrounded by housing built in recent decades, see Map 1, it has most unusually nearly doubled in size since the 1980s when active management of the marshy fields to the north tailed off. These have now become New Native Woodland (NNW), see Compartment 2 on Map 2. The last area scrubbed over about 20 years ago.

The copse lay 1.5 miles, 2.35km up-river from Clausentum, the Roman Southampton, see Map 15, which flourished from 70AD to 407AD. Until the 2nd century, it was built with wood and after that all the poor people lived in wood and plaster huts. It is possible that the copse contributed timber, wattle panels and thatching spars.

Around 700AD Hamwic (or Hamtun), see appendix A, was built further down river on the west bank of the Itchen but still only 2.7 miles, 4.29km from the copse. It became large by Saxon standards with a population of 4-5,000, living in all-wooden houses, and Marlhill Copse was close by to supply the materials.

The generic 'Copse' indicates that when it was first named, the woodland was more important for its underwood products, such as hurdles and spars. Such woodlands were essential to the local Saxon economy (Gelling & Cole, 2000).

Christopher Currie, see Appendix B, records that the copse formed the northern boundary of the Anglo-Saxon Manor of South Stoneham and shows that the linear lake at the base of the hanger may be the 'New River', a man-made course of the Itchen to allow traffic to by-pass two mills on the main river, which became Wood Mill and Gaters Mill. Dug between 970 and 1045, it has been referred to as a Saxon canal, passing through the middle of this plan area, though a blocked exit is causing stagnant water.

Currie also suggests that the name 'Marlhill' is where marl was dug for fertiliser (or house building). Field 1430 at the west of the copse on the tithe map of 1844, is called Brick Kiln, see Map 19 and Appendix J. The name was first recorded in 1333 as *Malhull* or *Marlhill*. The east of the wood overlies more acid sands and gravels. I suggest it is as likely to be derived from Old English *Maere*+hyll, Boundary Hill. To this day it sits on the edge of three parishes, see Map 13, a classic location for an ancient woodland (Rackham, 1976).

The wood is first identifiable on a map of 1791, see Map 16, where it is shown as part of Townhill Park owned by N Middleton Esq. and enclosed by its own *park pale*. More

detail is evident on the Ordnance Surveyor's Drawing of 1806, see Map 16. A broadleaved woodland is shown on Map 18 of 1826, the arm of the river between Mansbridge and Woodmill has become part of the Itchen Navigation up to Winchester but significantly the New River at the foot of the copse is shown of equal size. It must have started to silt up by 1844, see Map 19, a narrow lake is depicted with a restricted exit (a sluice?). A path is shown from Mansbridge running through the copse to Cutbush Lane. By 1866, see Map 20, the track from Mansbridge through the copse now runs to Gaters Mill. All the woodland remains broadleaved. The New River has become much narrower and marshy ground is shown on both sides, indicating silting up. The beautifully clear map of 1895, see Map 21, informs us that conifers have been planted throughout the wood, significantly two years before the wood was bought by Lord Swaythling but small parts of the southern tip and eastern edge have been lost to fields, reducing the copse to 9.89 acres, 4.00ha. The ride is not shown anymore.

No changes have occurred by 1908, see Map 21 but by 1932, see Map 23, a driveway to the mansion house has been built through the top, southern part of the wood and numerous paths have been built in the east of the copse, clearly indicating the location of the 'garden' in the woodland, commissioned by the Second Lord Swaythling. By 1941, see Map 24, the path network embraces the whole wood and avenues of broadleaved trees have appeared beside them. Included in the introductions were the fine Lilium giganteum, see Appendix l, photo 4 and several rare hybrid Rhododendron bred by the Head Gardener Mr Fred Rose, see Appendix L, photo 2, and Appendices L & M. The giant lily was taken by the Montagus when they moved to Ascot in 1948.

Many Rhododendron remain in the copse and were inspected in April 2019 by experts, Lionel de Rothschild of Exbury Estate, Tom Clarke, his Head Gardener and Doug Harris of Pen Wood Nurseries, Newbury who confirmed that nearly all Rhododendron bushes are important hybrid specimens but R. ponticum was used then as a rootstock, so close monitoring and removal of any such basal growth must continue to be done to ensure it does not proliferate and invade. R. ponticum cannot be tolerated, especially in this ancient woodland because of its invasive and poisoning properties. Only one such rootstock had produced separate growth. This author removed that growth in 2019, covering the cut bases with polythene, which in turn was buried in soil to discourage further regrowth. This and all other such rootstocks will be monitored indefinitely.

This change from purely ancient woodland character took place before the importance and rarity of ancient woodland was realised by Oliver Rackham and George Peterken in the 1970s. An ancient woodland has the greatest holding capacity for wildlife of any habitat but comprises only 2.6% of England. Lord Swaythling was no doubt well intentioned and many introduced species certainly 'beautified' the copse but others, such as dwarf bamboo, are invasive and have damaged the habitat by smothering native plants.

A botanical survey, a measurement of richness of habitat, was commissioned by this author in 2003 from the Hampshire Biodiversity Information Centre (HBIC). Their report, see Appendix J and its Appendix G, showed the composition was mainly Ash-Maple-Dog's Mercury woodland National Vegetation Classification (NVC) W8e but with a more acid Oak-Bracken- Bramble NVC 10c area in the east. Smaller amounts of other mainly wet habitats straddle the New River. There are 45 different tree species in a total of 114 plants present. These include 16 Ancient Woodland Vascular Plants (AWVPs) six of which are most indicative of long continuity and possibly a link back to

our pre-historic 'wildwood' (Rackham, 1976). This richness will be maintained, monitored regularly and measured by a botanical survey every ten years, including the control of the invasive exotic species listed on page eight, see Section Eight.

Until 1941, no trees are shown on the fields north of the copse, which are included in this plan but the first aerial photograph of the 1940s, see Map 25, does show areas of trees here, particularly beside the New River and by 1999, see Map 24 most of the fields had become young willow and alder New Native Woodland (NNW) though HBIC did record an area of fen marsh still in 2003, in Sub Compartments 2b and 2c on Map 2. This too has now become woodland. Fen marsh is considered important for wildlife. Wet woodland is of equal importance, so both habitats will be promoted and maintained in future.

The aerial photographs of 2004, Map 27; 2012, Map 28 and 2018, Map 29 indicate little change over these recent years, validating a known lack of recent silvicultural management.

Many fine old oaks remain, though native underwood is scarce, no doubt either removed when the 'Valley Garden' was injected into the woodland and/or shaded out by the aftermath of 70 years of neglect. Mature Limes, London Planes, Hornbeams, Giant Redwoods, Red Cedars, Pines, Firs and Spruces with an underwood in places of Japanese Maples make Marlhill Copse into a fascinating arboretum.

Map 10, q.v. indicates that the copse is priority deciduous habitat to target woodland improvement.

A light crown thinning to best stems on an eight to ten-year rotation, concentrating on removing the young Sycamore & Norway Maple and older Turkey Oak content and reducing the crop height at the top of the hanger, whilst controlling the other invasive exotic species of Dwarf Bamboo, Skunk Cabbage, Japanese Knotweed and Himalayan Balsam, will have an immediate positive impact on biodiversity. Such height reduction will be achieved by judicious thinning and by crown reduction of the fine impressive mature old Oaks, London Plane and Common Lime so retaining them indefinitely for posterity.

Ivy will be retained on tree stems for both birds and bats. Only when it festoons tree canopies will it be cut. This will be assessed at each thinning cycle.

Within the confines of public safety, deadwood in live, standing trees and lying on the woodland floor will be retained as a host for insects and fungi.

Some of the old paths in the copse will be reopened for further permissive access. Signs will inform and guide visitors to the sylvan value of this Community Woodland and request they stay on the paths to protect the rich habitat. This may also be damaged by visitor's dogs, so signs will request also they be kept on leads. Conversely their presence has been beneficial by keeping deer away from destroying natural regeneration. Deer are frightened by the smell of their predator, the 'wolf', see Section 5.3.

The woodland will be considered alongside adjacent spaces, including Southampton City Council's Riverside Park to the west and their adjacent field to the east, which will be managed in future for biodiversity as scrubby grassland. It will be worked in future in conjunction with the copse by collaboration between both owners to optimise its Open Ground potential and as a Site of Alternative Natural Green Space, SANGS. A

permissive path will be established in the copse, running through this field and out onto Cutbush Lane.

Though derelict and in great need of suitable care and management, this woodland remains impressive and locally renowned. A long-term programme of management is required to both enhance and maintain its biodiversity and recreational value to the local community. This Woodland Management Plan addresses these issues and lays a trail into the future.

4.2 Information

This section identifies features that are both present in this woodland and where required, on land adjacent to the woodland. Known features are identified on accompanying maps, as listed in Section 1. Woodland information was found on the Government's Magic website or the Forestry Commission Land Information Search.

Feature	Within Woodland	Cpts	Adjacent to Woodland	Map or Appendix
Biodiversity- Designations				
Site of Special Scientific Interest SSSI	No		Yes	8
Special Area of Conservation SAC	No		Yes	8
Tree Preservation Order TPO	Yes	1a, b, c, 2a	No	6 E & F
Conservation Area CA	Yes	All	Yes	6 C
Special Protection Area SPA	No		No	
Ramsar Site RS	No		No	
National Nature Reserve NNR	No		No	
Local Nature Reserve LNR	No		No	
Site of Interest for Nature Conservation SINC	Yes	All	Yes	9a
N.B. A SINC is mainly a 'planning flag'				

Feature		Within Woodland	Cpts	Map/ Appendix	Notes
Biodiversity - European Protected Species					
Bat	Species: Cpip, Spip, Brown long-eared roosting and foraging. Serotine (occasional foraging)	Yes	1a,b,c	J, its H	Pipistrelle, myotis spp, Brown long-eared & serotine records within 2km 2019 bat surveys identified Brown long-eared, Pipistrelle spp., Soprano Pipistrelle, Daubenton's.

Dormouse	No			Records within 2km, Age and size of woodland may support historic populations. 2019 Dormouse surveys returned no positive results for Dormouse.
Great Crested Newt	No			2019 eDNA survey returned negative results for GCN.
Otter	No			2019 riparian mammal surveys returned no signs of Otter within the Marlhill Copse boundary
Sand Lizard	No			
Smooth Snake	No			
Natterjack Toad	No			Very unlikely
Biodiversity – Priority Species				
Schedule 1 Birds	Yes			Firecrest, Tree Creepers and nesting Kingfishers reported on site. Also suitable for nesting Hobby
Mammals: Water Vole	No			Very unlikely - Winter flooding 2019 riparian mammal surveys returned no signs of Water Vole within the Marlhill Copse boundary
Reptiles: grass snake, adder, common lizard etc	Yes?			All 4 common species within 2km
Plants	Yes?			Historic records for notable plants – Habitat infers
Fungi/Lichens	Yes?			Habitat infers
Invertebrates: butterflies, moths, beetles etc	Yes?			Records of stag beetle and southern damselfly within 2km. Habitat infers
Amphibians: common toad	Yes?			Habitat infers
Other:	No			

Historic Environment				
Scheduled Monuments SAM	No			
Unscheduled Monuments OAM	No			
Registered Parks and Gardens	Yes	1a, b	7	
Boundaries and Veteran Trees	Yes	2a	11	An ancient oak
Listed Buildings	No			
Other, specify: Heritage	Yes	1a, c		Wrought-iron fencing
Landscape				
National Character Area: NCA 128 South Hants Lowlands K				
National Park NPk	No			
Area of Outstanding Natural Beauty AONB	No			
Other	No			
People				
CROW Access	No			
Public Rights of Way (any)	No		12	Adjacent public park
Other Access Provision	Yes	1a, c	12	Permissive Path
Public Involvement	Yes			'Friends of Marlhill Copse Community Woodland'
Visitor Information	Yes			Information Boards
Public Recreation Facilities	Yes	All		Permissive paths
Provision of Learning Opportunities	Yes	All		With Local schools, Scout Groups and 'Forest Schools'
Anti-social Behaviour	Yes	1a, b, c		Dumping & damage
Other	No			
Water				
Watercourses	Yes	1b,c,2 a	2	'New River Itchen' Stream in E of 1a, b
Lakes	Yes	1b,c, 2a	2	The New River exit is blocked
Ponds	No			
Other	No			

4.3 Habitat Types

This section considers the habitat types within the woodland that might impact and inform on management decisions. There are no non-wooded areas to be considered. Where relevant this information helps inform management decisions. Woodlands should achieve a diverse structure of habitat, species and ages of trees, appropriate to the scale and context of the woodland.

Feature	Within Woodland	Cpts	Map / Appendix	Notes
Woodland Habitat Types				
Ancient Semi-Natural Woodland ASNW	Yes	1a,b	5	
Planted Ancient Woodland Site PAWS	Yes	1a,b	5	
Semi-natural features in PAWS	Yes	1a,b	5	
Lowland beech and yew woodland	No			
Lowland mixed deciduous woodland	Yes	All	2	
Upland mixed ash woods	No			
Upland Oakwood	No			
Wet woodland	Yes	1b,c, 2a,b,c	2	
Wood-pasture and parkland	No			
New Native Woodland NNW	Yes	2a, b, c	2	WL, AR
Non-Woodland Habitat Types				
Blanket bog	No			
Fenland	No			
Lowland calcareous grassland	No			
Lowland dry acid grassland	No			
Lowland heath land	No			
Lowland meadows	No			
Lowland raised bog	No			
Rush pasture	No			
Reed bed	No			
Wood pasture	No			
Upland hay meadows	No			
Upland heath land	No			
Unimproved grassland	No			
Peat lands	No			
Wetland habitats	No			
Other: Fen Marsh, to be re-created	Yes	2b, c	2	

4.4 Structure

This section provides a snapshot of the current structure of the woodland as a whole. A full inventory for this woodland is included in the separate Plan of Operations spreadsheet. Ensuring woodland has a varied structure in terms of age, species, origin and open space will provide a range of benefits for the biodiversity of the woodland and its resilience. The diagrams below show an example of both uneven and even aged woodland.

Woodland Type Broadleaf, Conifer, Coppice, Intimate Mix	Mgt Plan Area %	Mgt Plan Area ha	Age Structure (even/uneven)	Notes i.e. understorey or natural regeneration (RN) present
Old Broadleaved High Forest BHF	45.0	3.74	Uneven	P. 1870/1990 OK, LPL, HBM, LI, BE, SY(RN)
Old Coppice with Standards CwS	12.0	1.00	Uneven	P. 1870 HAZ, HOL, exotic Maple
Young NBL High Forest NNW	36.9	3.07	Even	P. 1990 WL, CAR, IPO
Old Conifer High Forest CHF	6.1	0.50	Even	P. 1900 WSQ, MOP, SP, CP, NS, RC, SF
Total =	100.0	8.31	57.0% 43%	Good but increase Unevenness

Woods have different age structures as shown in the following two diagrams.

Ancient trees containing both living and dead branches

Middle-aged trees

Fallen dead trees

Uneven-aged woodland – many wildlife habitats because of high diversit

Even-aged woodland – tidy but of low diversity

Section 5: Woodland Protection

Woodlands in England face a range of threats; this section considers the potential threats that are or could be facing this woodland. Using the simple Risk Assessment process below the author has considered any potential threats to the woodland and whether there is a need to take action to protect the woodland.

5.1 Risk Matrix

The matrix below provides a system for scoring risk. The matrix also indicates the advised level of action to take to help manage the threat.

Impact	High	Plan for Action	Action	Action
	Medium	Monitor	Plan for Action	Action
	Low	Monitor	Monitor	Plan for Action
		Low	Medium	High
		Likelihood of Presence		

5.2 Plant Health

Threat	Ash Dieback, Hymenoscyphus fraxineus
Likelihood of presence	High
Impact	Medium Dozens of dead and dying ash by the watercourse but has a low representation in the tree species' palette
Response	Monitor, thin out trees that die (those with less than 50% head of foliage), replant WSH or retain as standing deadwood if at least a tree's length away from the permissive path. Mark for retention any ash with more than 75% head of foliage after leaf-break in 2020, from which a new disease-resistant population may spring.

Threat	Red Band Needle Blight, Dothistroma septosporum
Likelihood of presence	High
Impact	Low There are only a few pines
Response	Monitor, thin out any trees that die, within falling distance of the permissive path. Retain as standing deadwood elsewhere.

Threat	Oak Death, Phytophthora ramorum
Likelihood of presence	Medium
Impact	High There are many oaks, mostly pedunculate
Response	Monitor, thin out trees that die, replant SC, WAL or retain as standing deadwood if at least tree's length away from the permissive paths. Remove & control all Rhododendron ponticum, the other host (retain all rare hybrid Rhododendron). POK may be more resistant than SOK.

Threat	Dutch Elm Disease (DED), Ceratocystis ulmi
Likelihood of presence	High
Impact	Medium Most WEM & EEM are in Sub Compartment 1c
Response	Monitor, thin out trees that die, replant SC, WAL or retain as standing deadwood if at least a tree's length away from the permissive path.

Threat	Massaria Disease, Splanchnonema platini
Likelihood of presence	Medium
Impact	Low There are only a few London Planes
Response	Monitor, treat as for DED above

Threat	Himalayan Balsam, Impatiens glandulifera
Likelihood of presence	High
Impact	High Unchecked it will invade all the wet woodland
Response	Pull up all plants before they flower (flower from July to October), every year until eradicated. Monitor for reinvasion.

Threat	Bracken, Pteridium aquilinum
Likelihood of presence	High present on the drier slopes of the hanger
Impact	Low only present in small patches
Response	Reduce presence to a scatter, due to its carcinogenic spores and Lyme's Disease from it harbouring the deer tick

5.3 Deer

Species: Likelihood of presence	Roe, Muntjac Low due to M27, adjacent housing & dog walkers
Impact	Medium, as long as dog walking continues
Response	Monitor bramble presence, its reduction indicates an increasing problem

5.4 Grey Squirrels

Likelihood of presence	High They are resident
Impact	Medium BE & PO are not prevalent, sacrificing SY & NOM is erroneous
Response	Monitor debarking levels each Spring. Control if unacceptable

5.5 Livestock and Other Mammals

Threat	Livestock
Likelihood of presence	Low No adjacent pasture
Impact	Low
Response	Once the fen marsh is restored, if grazed, it will be fenced

Threat	Rabbit
Likelihood of presence	Low Unsuitable habitat within copse
Impact	Low
Response	Form a 'Friends' group and continue dog walking

5.6 Water & Soil

Threat	Pollution from the River Itchen SAC/SSSI upstream
Likelihood of presence	Low
Impact	High Would impact on the wet half of the site
Response	Monitor water quality. To improve water quality and drainage in the copse, an application will be submitted, at a later date, to free the blocked water course running through the copse. Consideration will be given to the downstream effect on SAC/SSSI, as a result of unblocking the watercourse. A full hydrological assessment will be completed, and the application will be submitted in compliance with applicable legislation and consents. However, this work does not currently form part of this woodland management plan.

Threat	Pollution of 'lake' from hanger woodland
Likelihood of presence	Low
Impact	High
Response	Ensure all machinery in copse has spill kits. Monitor water quality

5.7 Environmental

Threat	Wind
Likelihood of presence	Medium
Impact	Low Sheltered from prevailing winds
Response	Do not over-thin hanger top. Conduct light crown thinning in old stands. Note: A clear priority is to make the woodland safe for the public and neighbouring residents, both in terms of immediate work and also ongoing management and clearance after storm events. This is particularly the case where the copse is adjacent to residential property and also along the permissive paths and routes through the copse. Safety work will be prioritised throughout the duration of this woodland a management plan.

Threat	Fire
Likelihood of presence	Low
Impact	Low Broadleaved woodland is generally 'fireproof'

5.8 Social

Threat	Anti-social behaviour
Likelihood of presence	Medium
Impact	Medium
Response	Monitor dumping, littering, drug dens and damage. Friends group will create 'parental' presence. 'Litter breeds litter'

Threat	Permissive access
Likelihood of presence	High
Impact	Low
Response	The Friends group can ensure in a friendly manner that visitors and their children & dogs use only the permissive paths

5.9 Economic

Threat	High operational costs
Likelihood of presence	Medium Small site
Impact	High for arboricultural work, Medium for silvicultural ops
Response	Restrict, where possible, arboricultural operations to safety critical and flight safety zone incursion trees. Following an initial period of flight safety works, remaining activity will be phased over several years to allow the woodland to respond naturally. This also allows costs to be profiled over the period, thus reducing the economic risk. Please also refer to proposals for future ownership.

Threat	Restricted access to wood product markets
Likelihood of presence	Medium Small product volumes
Impact	Medium
Response	Optimise niche markets

5.10 Climate Change Resilience

Threat	Uniform structure
Likelihood of presence	Low The ASNW/ PAWS composition is very diverse
Impact	Low
Response	Thinning will enhance underwood and ground flora, increasing uneven structure and biodiversity

Section 6: Management Strategy - see also Sections 2.2, 3 & 8

This section is a statement of intent, setting out how it is intended to achieve the management objectives and manage important features identified within the previous sections of the plan. A detailed work programme by sub-compartment forms a part of the Plan of Operations below.

All works should be completed in accordance with the principles of good forestry. This includes, where necessary, the removal of trees that are dead or dangerous, trees that are of poor physiological condition, trees that are of poor physical form and competing trees.

Resilience should be built into the woodland to support the fight against threats from pests and disease. Native planting (e.g. English Oak, Hazel, Beech and Field Maple) should contribute significantly to the reduction and impacts from pests and disease and enhance the ability of trees to respond and adapt to changes.

Given Marlhill Copse's significance in the local landscape and its heritage as part of the former Townhill Park Landed Estate, the special character of the woodland and the woodland character of the area should be maintained. While the removal of trees would have some impact on the skyline views from around the copse (in particular, those trees associated with Objective 7 below), the long-term impact will be negligible, and the works will provide a positive biodiversity gain.

Remaining trees in the woodland and the replacement woodland edge will provide a background woodland character to the landscape and whilst it will take time for replacement planting to reach maturity, necessary felling and thinning work will create an opportunity for surrounding trees to flourish and increase their own canopies. It is considered this growth that will most quickly reduce the impact on the woodland as works are completed.

It is accepted that there may be an impact on the special character of the woodland, but this would be limited to those walking within the woodland footpath network. The impact to people using the woodland would be greatest immediately after felling, but this would only be transitory and therefore negligible in the long term. The objectives set out below will enhance the woodland and are expected to have a positive impact on the wider community and environment as well as the overall character of the woodland.

This woodland management plan has been assessed as part of the combined Habitat Regulations Assessment Stage 2 Appropriate Assessment Report (Appendix I) to determine if the proposed woodland management works will have an adverse effect on the integrity of any European designated sites. The HRA report's assessment is based on the works proposals outlined in this Management Plan, with incorporated mitigation specified within the Appropriate Assessment report. Any works should be undertaken in line with the incorporated mitigation outlined within the Appropriate Assessment report.

If the scope of works contained within this Management Plan is to be amended or works cannot adhere to the incorporated mitigation outlined in the Appropriate Assessment report (e.g. for reasons of practicality), a review of and update to the Appropriate Assessment will be undertaken. The review and update will assess whether the amendments (including mitigation amendments) will have an adverse effect on the integrity of any European designated sites.

Management Objective	Management Intention
1. Enhance and maintain Habitat diversity	When thinning reduce Sycamore (SY) prevalence. Create ride-side scallops and maintain on a three-tier rising profile. Promote underwood and ground flora with the long-term aim of converting the woodland back to a coppice with standards (CwS). Identify future ancient trees, sky-lighting the one ancient oak. Retain ivy on tree stems for birds, bats and winter colour. Install bat boxes, create habitat piles from lop & top and standing deadwood where safe to do so. Pollard or crown-reduce, not fell, the mature broadleaved trees that invade the flight safety zone from Southampton Airport and leave monoliths where possible. Reinstate most recently overgrown (since 2003) area of fen-marsh (in Sub Compartments 2b and 2c on Map 2) to its original ecologically rich fen-marsh habitat. Note - To improve water quality and drainage in the copse, an application will be submitted, at a later date, to free the blocked water course running through the copse. Consideration will be given to the downstream effect on SAC/SSSI, as a result of unblocking the watercourse. A full hydrological assessment will be completed, and the application will be submitted in compliance with applicable legislation and consents. However, this work does not currently form part of this woodland management plan.

2. Promote sustainable woodland management and regeneration	Conduct an initial 20% silvicultural thinning to reduce Sycamore (SY), combined with a light crown thinning, including tree height reduction at the top of the hanger, to best stems, retaining species diversity, in mature stands on an eight to ten-year rotation. Promote both sexual and vegetative natural regeneration. Initially respace the New Native Woodland, Cpt 2 to 2.5m, then adopt above rotational silvicultural thinning.
3. Embrace the woodland's landscape contribution	Thin more heavily the lee-side of the New Native Woodland (NNW) adjacent Mansbridge Road to improve external appearance. Increase thinning intensity on low-side of top permissive path to enhance internal visual penetration.
4. Remove and control invasive exotic species	Retain and conserve all rare Rhododendron hybrids remaining from the 'Valley Garden' times but ensure no R. ponticum rootstocks produce their own foliage or flowers. All other 'invasive exotic pest' species will be controlled at the time of the first thinning or immediately afterwards, including residual regrowth in subsequent years, including the Dwarf Bamboo, Japanese Knotweed, Himalayan Balsam, Skunk Cabbage, Turkey Oak and Norway Maple. (Note – an initial phase of Himalayan Balsam removal completed in Spring 2020)
5. Restore and improve derelict land	Remove to an appropriate recycling facility all non-biodegradable refuse. Ensure all garden waste dumped in the copse by neighbours is removed from this ancient habitat. Liaise with all those who have created gated access into the copse to refrain from further dumping.
6. Conserve heritage features	Retain the remnant wrought-iron estate fencing. Ensure the tar-bound surface of the internal former driveway is not damaged during harvesting operations.
7. Convert pine dominated southern and eastern edges to a natural shrub interface	Fell the mature pines and associated potentially unstable Mixed Broadleaf (MB) between the Driveway and southern boundary against the closely adjacent housing in the south and SCC field to the east. Replant Hazel (HAZ), Hawthorn (HAW), Field Maple (FM) & Holly (HOL) to create rising but low-profile shrubby woodland edges.

8. Adopt a safe and accessible community woodland ethos	Act as a responsible landowner and practice safe and proper woodland management. Prioritise public safety. Ensure routes through the copse are visible, clear of obstructions and do not endanger users. Ensure, as far as reasonably practicable, properties adjacent to the copse are kept safe from the neighbouring woodland. Encourage access to and use of the copse. Ensure the copse is accessible, safe, healthy and welcoming for all to enjoy Re-open old paths for permissive access. Erect information and directional signs to guide visitors. Partner with local community groups and residents' associations. Establish initiatives and events within the copse with a focus on education, community engagement and sustainable management. For example, forest school sessions, nature trails and volunteering events. Make the most of educational opportunities by involving local schools, Scout groups, youth groups and the Forest School initiative. Create and link into circular walking routes in the vicinity, such as the Mosaic Trail. Set up an independent group to assess options for future ownership and agree a plan for handover and ongoing management. With the group responsible for identifying the most suitable ownership model and future owner to ensure the ongoing and future restoration and enhancement of the woodland for all to enjoy. Commitment to delivering the objectives of this plan and maintaining an ownership model that maintains an element of local stewardship will be prioritised. Use the group to further raise awareness of the copse, support community initiatives and help with appropriate and sustainable management.

Section 7: Stakeholder Engagement

There can be a requirement on both the FC and the owner to undertake consultation/engagement. Please refer to Operations Note 35 for further information. This section identifies organisations with an interest in your woodland and records any engagement that you have undertaken, relative to activities identified within the plan.

Work Proposal	Individual/ Organisation	Date Contacted	Date feedback received	Response	Action
Thinning & Selective Felling TPOd trees in a Conservation Area	Southampton CC	Nov 2018	3/12/2018 and March 2020		Plan amended to take account of appropriate recommendations
Thinning & Selective Felling	Historic England	Ongoing			
Thinning & Selective Felling Licence	Forestry Commission	4/11/2018			Produce ten-year Felling Licence
Woodland Management works and Felling within SAC/SSSI impact zone (not adjacent)	Natural England	Ongoing			Refer to HRA – Appendix I & Appendix O
Approval of this plan	Local Fire Service	TBC			Owner to provide map of access points and water sources as per Wildfire Agreement

Section 8: Monitoring – see also Sections 2.2, 3 & 6

Indicators of progress/success are defined for each management objective and then checked at regular intervals. Other management activities have been considered within this monitoring section. The data collected will help to evaluate progress.

Management Objective	Indicator of Progress/Success	Method of Assessment	Frequency of Assessment	Responsibility	Assessment Results
1. Enhance and maintain habitat diversity	Stable and increasing wildlife populations	Wildlife surveys	Pre-woodland management works surveys. Follow-up quinquennial and decennial surveys for monitoring.	Owner	
2. Promote sustainable woodland management and regeneration	Percentage of utilisable produce	Walk through survey	Decennial	Owner	
3. Embrace the woodland's landscape contribution	Enhanced visual penetration	Walk through survey	Decennial	Owner	
4. Remove and Control invasive exotic species	Lack of presence	Walk through survey	Biennial	Owner	
5. Restore and improve derelict land	Lack of presence	Walk through survey	Annual	Owner	
6. Conserve heritage features	Continued presence	Walk through survey	Quinquennial	Owner	
7. Convert pine dominated woodland crest to a natural shrub interface	Lack of pine on the southern and eastern edges	An inspection	Once	Owner	
8. Adopt a safe and accessible community woodland ethos	Establish Group	Actions Report	Annually	Owner	

iii) UK Forestry Standard woodland plan assessment

For FC office use and approval only:

UKFS management plan criteria	Minimum approval requirements	Achieved	Review notes
Plan Objectives: Forest management plans should state the objectives of management and set out how an appropriate balance between social, economic, environmental objectives will be achieved.	• Management plan objectives are stated. • Consideration is given to environmental, economic and social objectives relevant to the vision for the woodland.	**Yes/No**	
Forest context and important features in management strategy: Forest management plans should address the forest context and the forest potential and demonstrate how the relevant interests and issues have been considered and addressed.	Management intentions communicated in ***Sect.6*** of the management plan are in line with stated objective(s) in ***Sect. 2***. Management intentions should take account of: • Relevant features and issues identified in the woodland survey (***Sect. 4***). • Any potential threats to and opportunities for the woodland, as identified under woodland protection (***Sect. 5***). • Relevant comments received from stakeholder engagement are documented in ***Sect. 7***.	**Yes/No**	
Identification of designations within and surrounding the woodland site: For designated areas, e.g. National Parks or SSSI, particular account is taken of landscape and other sensitivities in the design of forests and forest infrastructure.	• Survey information (***Sect. 4***) identifies any designations that impact on woodland management. • Management intentions (***Sect. 6***) have taken account of any designations.	**Yes/No**	
Felling and restocking to improve forest structure and diversity: When planning felling and restocking, the design of existing forests should be re-	• Felling and restocking proposals are consistent with UKFS design principles (for example scale and adjacency). • Current diversity (structure, species, age	**Yes/No**	

assessed, and any necessary changes made to meet UKFS requirements. Forests should be designed to achieve a diverse structure of habitat, species and age range of trees, appropriate to the scale and context. Forests characterised by a lack of diversity, due to extensive areas of even-aged trees, should be progressively restructured to achieve age class range.	structure) of the woodland has been identified through the survey (***Sect. 4***). • Management intentions aim to improve / maintain current diversity (structure, species, and ages of trees).		
Consultation: Consultation on forest management plans and proposals should be carried out according to forestry authority procedures and, where required, the Environmental Impact Assessment (Forestry) Regulations.	• Stakeholder consultation is in line with current FC guidance and recorded in ***Sect. 7***. The minimum requirement is for statutory consultation to take place, and this will be carried out by the Forestry Commission. • Plan authors undertake stakeholder engagement (ref FC Ops Note 35) relevant to the context and setting of the woodland.	**Yes/No**	
Plan update and review: Management of the forest should conform to the plan, and the plan should be updated to ensure it is current and relevant.	• A 5-year review period is stated on the 1st page of the plan • ***Sect. 8*** is completed with 1 indicator of success identified per management objective	**Yes/No**	

Approved in Principle *This means the FC is happy with your plan; it meets UKFS requirements.* *a) You can use it to support a CS-HT or other grant application.* ***b) You do not yet have a licence to undertake any tree felling in the plan.***	**Name (WO or FM):**	**Date:**
Approved *This means FC is happy with your plan; it meets UKFS requirements, and we have also approved a felling licence for any tree felling in the plan (where required).*	**Name (AO, WO or FM):**	**Date:**