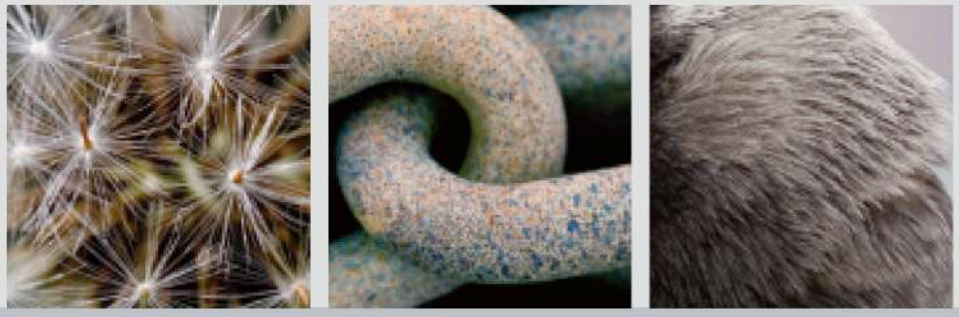
Car Park P
Alton Towers Resort

CEMP & LEMP

September 2021



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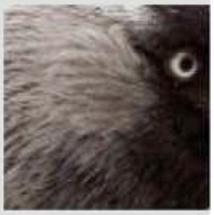

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1 Introduction

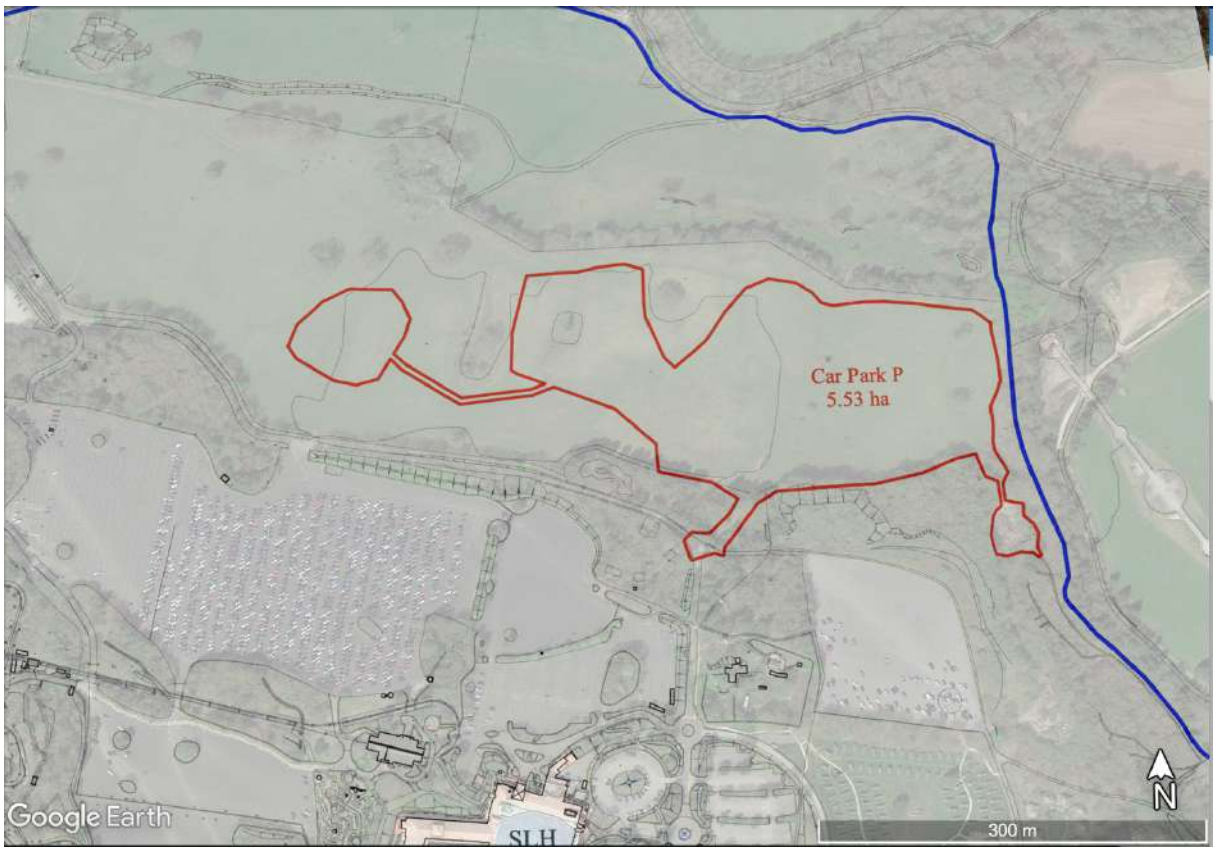
1.1 The Proposed Development

1.1.1 Alton Towers Resort (ATR) is proposing to surface part of the existing overflow car park in an area of grassland to the northeast of the resort. This area is known as The Meadows, or Car Park P, and includes land covered under the Alton Park Local Wildlife Site (LWS) designation.

1.1.2 The proposed development has been granted planning permission (Ref: SMD/2019/0695), with two Conditions attached, which require the production and implementation of a Construction and Environmental Management Plan (CEMP), and a Landscape and Ecological Management Plan (LEMP), for the development. This document provides the CEMP and LEMP for the scheme. Alton Towers Resort is located immediately southeast of the village of Farley in Staffordshire, and approximately 28km east of Stoke-on-Trent. The central Ordnance Survey Grid Reference (OSGR) for the Meadows site is approximately SK 08418 43482.

1.1.3 See Figure 1 for an aerial view of part of the Alton Towers Resort and the Meadows site – with the approximate red line boundary shown.

Figure 1 Aerial view of the site



1.2 Planning Conditions

1.2.1 The planning consent for the proposed development (Ref: SMD/2019/0695) includes Conditions 4 and 5, which respectively require a CEMP and LEMP to be implemented at the site. The text of the two Conditions is copied below:

Condition 4. No development (including site clearance, site stripping and access improvement) shall take place until such time that a Construction and Environmental Management Plan (CEMP) together with a timetable for implementation of the elements of the CEMP has been submitted to and approved in writing by the Local Planning Authority. The CEMP shall include but not be restricted to the following:-

a) A detailed baseline survey of the application site, consisting of flora species lists for each type of grassland along with abundance recorded using DAFOR scale, and a record of other features listed within the grassland Local Wildlife Site criteria

b) Details of soil handling and preparation including prevention of silt washing into the nearby ephemeral pond; grassland seeding methods and seed sources; marking and translocation of useful vegetation such as wetland plants where possible.

c) Risk assessment of potentially damaging construction activities.

d) Identification of "biodiversity protection zones".

e) Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction as follows:

- Pre-works checks for bats, badgers and nesting birds
- Erection of fencing and screening barriers to protect the trees and woodland from dust and pollution during site clearance and construction
- Protection of root zones - ensuring that any site clearance or digging of services takes place outside of these
- Keeping heavy machinery and excavation work away from suspected setts
- Closing open excavations overnight or ramping one end of an excavation to enable escape by mammals
- Careful dismantling of timber stacks to protect reptiles and amphibians, employing an ecological watching brief if carrying out such works in the main active season (March- September)
- A method statement for soil excavation, transport and storage

f) The location and timing of sensitive works to avoid harm to biodiversity features:

- Timing of works to avoid impacts on nesting birds

g) The times during construction when specialist ecologists need to be present on site to oversee works.

h) Responsible persons and lines of communication.

i) The role and responsibilities on site of an ecological clerk of works (ECoW) or similarly competent person.

j) Use of protective fences, exclusion barriers and warning signs.

k) Description of ecological design features to be incorporated within the scheme including;

- Use of permeable surface substrates and SuDS for the car park
- Species-rich topsoil re-use within Sudspave car park
- Creation of wildflower grassland areas on fill locations
- Retaining and incorporating veteran trees within open space
- Planting of new single trees in permanent plots to create future veteran standards
- Provision of bat boxes on trees.
- micro-habitat creation for invertebrates
- detailed design and planting of SuDS features
- enhancement of woodland areas with suitable management, addition of shrubs and ground flora

The development shall be carried out strictly in accordance with the approved CEMP and timetable. Reason:- In the interests of the protection and enhancement of biodiversity

Condition 5. No development, including site clearance, site stripping and access improvement shall take place until a Landscape and Ecological Management Plan (LEMP) has been submitted to and approved in writing by the Local Planning Authority. The LEMP shall include but not be restricted to the following:-

a) Description and evaluation of features to be managed

- Veteran trees
- Grassland areas
- Bat and bat boxes

b) Ecological trends and constraints on site that might influence management.

- Agricultural management practices
- Public use of the site

c) Aims and objectives of management.

- Protection of veteran trees
- Botanically rich grassland vegetation

- Enhancement for fauna species

d) Appropriate management options for achieving aims and objectives.

- Maintenance of permanent fencing
- Annual cutting/grazing recommendations

e) Prescriptions for management actions.

f) Work schedule (an annual work plan covering a five-year period).

g) Details of the body or organization responsible for implementation of the plan.

h) Ongoing monitoring and remedial measures.

- Annual site monitoring and reporting to the LPA
- Remedial works actions
- LEMP review and renewal process

The development shall thereafter be carried out strictly in accordance with the LEMP. Reason:- In the interests of the protection and enhancement of biodiversity

1.3 Other Conditions and Plans

1.3.1 It should be noted that there is some overlap between the Conditions attached to the planning consent. In particular, tree protection and enhancement measures are required to be detailed under Conditions 9-12 of the planning consent and are not repeated here. Condition 13 also requires a Construction and Environmental Method Statement, focussing on pollution and waste management.

1.3.2 To avoid any duplication or lack of clarity in the scope of each Condition, this document focusses only on biodiversity issues, and does not cover arboricultural or general environmental topics.

2 Baseline Conditions

2.1 Introduction

2.1.1 Previous reports have provided information on the site, to set out its interest in terms of designated sites, habitats and species (ref: Baker Consultants 'Car Park P Ecological Assessment' November 2019, ref: 826.06_rep_v4_R.pdf). The desk and study methods implemented at the site are described there.

2.1.2 As part of the CEMP and LEMP, a detailed baseline survey of the application site is required, including of lists of flora species the grassland at the site.

2.2 Designated Sites

2.2.1 There is a single statutory designated site of nature conservation importance located within 2km of the proposed development site. This is Saltersford Lane Meadows Site of Special Scientific Interest (SSSI), located approximately 1.4km to the south of the site. The SSSI encompasses two species rich meadows, both examples of a traditionally managed hay-meadow. Such hay-meadows are now uncommon in Staffordshire, having declined due to changes in agricultural practice. The potential for any adverse impacts on the SSSI are negligible. Review of the SSSI Risk Zones on Magic.defra.gov.uk, show that the development type does not fall into any of the risk categories identified for the SSSI.

2.2.2 The proposed development site is situated within the Alton Park LWS, which is designated for its wood pasture with veteran trees. The site citation states it is "A lowland wood pasture with a number of veteran trees in the southern field. In the northeast is an abundance of scattered oak and sweet chestnut over poor semi-improved grassland on a north-facing slope --- The single southern field [which is where the car park is proposed] stretches the full length of the pasture site, containing many mature tree specimens and five veterans. A small pool is situated in the central part of this field. There are several nectar sources within the site consisting of dense hawthorn scrub in the centre, a wide linear corridor, from the centre to the eastern border, of young woodland plantation contains a high population of ruderals and umbellifers. The broadleaved plantation that contains three veteran trees has a large ruderal zone flanking its southern side".

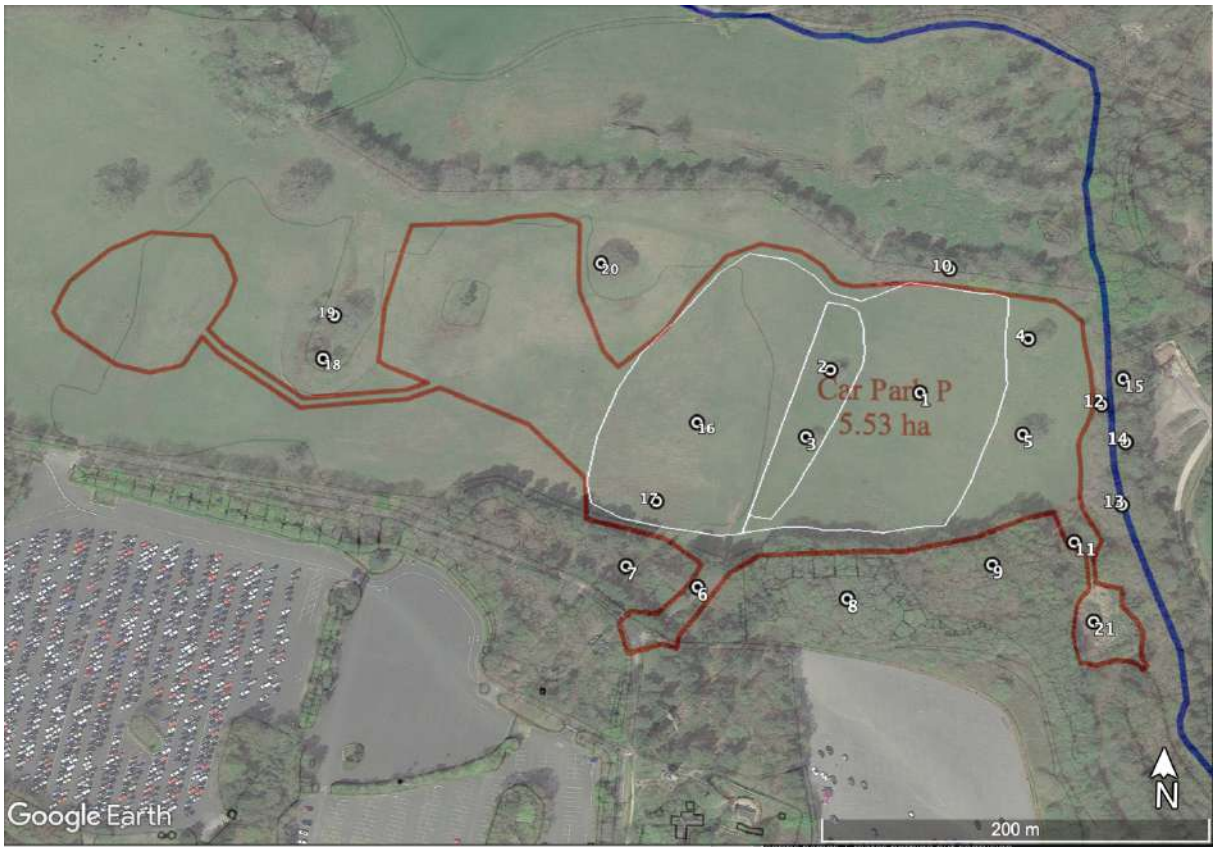
2.3 Habitats

2.3.1 Habitats and features of particular interest identified on sites are identified in the site plan (Figure 2) as target notes (referred to as 'TNs' in the main body of text).

2.3.2 The proposed car park site is an old wood pasture with a field layer of grassland, which varies in its composition and quality. Bordering this on all sides except the west are belts of mixed plantation woodland and broadleaved woodland, with an

area of dense scrub in the southeast corner.

Figure 2. Target Note Locations



Grassland

2.3.3 The current land use of the site is grassland, which is grazed by cattle. The eastern end of the site, is agriculturally improved, with limited diversity (TN1, Figures 3 and 4). Dominant species here include perennial rye-grass *Lolium perenne*, Yorkshire fog *Holcus lanatus*, ribwort plantain *Plantago lanceolata*, white clover *Trifolium repens* and broadleaved dock *Rumex obtusifolius*. The sward is low, tightly grazed and slightly poached by livestock.

2.3.4 The western part of the proposed car park (TN16) has a higher herb content and more species-rich composition than the eastern area. This part of the site includes species such as crested dog's tail *Cynosurus cristatus*, meadow foxtail *Alopecurus pratensis*, red fescue *Festuca rubra*, common bent *Agrostis capillaris*, mouse ear *Cerastium fontanum* and sorrel *Rumex acetosa*.

2.3.5 Across the site, often in hollows, are plant species that indicate damp conditions, such as creeping bent *Agrostis stolonifera*, cocks-foot *Dactylis glomerata*, creeping buttercup *Ranunculus repens*, and soft rush *Juncus effusus* (e.g. TN17).

Figure 3. Grassland



Figure 4. Grassland



2.3.6 A botanical walkover survey was undertaken by Mark Woods on the 21 June 2021. All vascular plant species were recorded and relative abundance estimated using DAFOR. The results of this survey are detailed below

2.3.7 The grassland sward is cattle grazed and in relatively good condition. Sward height is variable but away from the woodland edge is 10-50cm. There is minimal thatch and bare ground is localised around gate entrances and mole hills. There are a few tyre ruts that have created damp hollows, but these have not had an adverse impact on the sward characteristics. Bryophyte (moss) cover is minimal, with some local frequency in wetter patches. Agricultural weeds such as common ragwort *Jacobaea vulgaris*, thistles *Cirsium* spp., and docks *Rumex* spp. are scattered and occasionally clumped in areas of past disturbance, but the overall cover is <10% of the grassland. The cover of species, such as perennial rye-grass *Lolium perenne*, Yorkshire fog *Holcus lanatus* and white clover *Trifolium repens*, that are indicative of agricultural improvement is probably slightly more than 10% but this is largely caused by the abundance of Yorkshire fog in wetter soils, where it is a characteristic component rather than an indicator of agricultural improvement.

2.3.8 With the exception of bramble and tall-herb stands on the grassland margins, the overall composition of the grassland suggests the presence of two distinct grassland community types and an ill-defined community type that occupies most of the land.

2.3.9 The damp to wet soil supports a grassland community that is a reasonable goodness-of-fit to the published tables for the MG10 *Holcus lanatus – Juncus effusus* grassland: Typical sub-community. The community is generally species-poor and forms in poorly-drained soils of damp hollows or on damp, compacted soils of established or newly seed grasslands. The localised prominence of jointed rush *Juncus articulatus* is not typical of MG10 grassland and suggests that the wettest soils support a community type that has a better fit to the M23 *Juncus effusus/acutifloris – Galium*

palustre rush pasture. MG10 grassland is a common community found throughout lowland England. The M23 rush pasture is a less common feature in agricultural systems of lowland England, owing to agricultural improvement and drainage. A few isolated plants of common spotted orchid and southern marsh orchid were recorded as present in this community.

2.3.10 Areas of fluctuating open water, i.e. where rainwater ponds, in association with the MG10 grassland and M23 rush pasture support small, fragmented stands of MG13 *Agrostis stolonifera – Alopecurus geniculatus* grassland. This community typically occurs on moist soils that are frequently inundated, particularly where livestock have caused soil poaching. This community is widespread in the English lowlands on circumneutral soils.

2.3.11 The most extensive areas of grassland on the site occur on dry to damp soils that are circumneutral, but slightly more acidic on the more free-draining slopes. The grassland has been subject to some form of past improvement, probably over-seeding and fertilising after previous depositions of soil associated with developments at Alton Towers, but perennial rye-grass and white clover are minor components of the sward, which is not typical of improved grasslands. The best examples of unimproved grasslands on circumneutral soils that are dominated by crested dog's-tail *Cynosurus cristatus* would normally be much more herb-rich and the classic indicator species such as black knapweed *Centaurea nigra* and Lady's bedstraw *Galium verum* would typically be frequent to abundant. There are, however, species such as common mouse-ear *Cerastium fontanum*, bird's-foot trefoil *Lotus corniculatus*, red clover *Trifolium pratense* and a wide variety of grasses that usually occur in less agriculturally improved swards. It is, therefore, best to consider the dry to damp grassland sward as being intermediate between MG5 *Cynosurus cristatus – Centaurea nigra* grassland and MG6 *Lolium perenne – Cynosurus cristatus* grassland. With regards to allocating the grassland to a particular NVC grassland community type, there is a slight increase in species-richness from east to west across the field, but there is no obvious dividing line and there are species-rich patches to the east and species-poor patches to the west.

2.3.12 The full list of species present at the site is presented in Table 1 below:

Table 1. Botanical species list

DAFOR scale – dominant, abundant, frequent, occasional, rare. An L prefix is used to denote that the species is localised, and restricted to parts of the site, rather than being widespread.

Latin name	Common name	DAFOR
Rubus fruticosus agg.	Bramble	LD
Cynosurus cristatus	Crested dog's-tail	A
Trifolium pratense	Red clover	A
Carex flacca	Glaucous sedge	LA
Centaurea nigra	Black knapweed	LA
Cirsium palustre	Marsh thistle	LA
Epilobium hirsutum	Greater willowherb	LA
Juncus effusus	Soft rush	LA
Pteridium aquilinum	Bracken	LA
Anthoxanthum odoratum	Sweet vernal-grass	F
Carex leporina	Oval sedge	F
Cerastium fontanum	Common mouse-ear	F
Holcus lanatus	Yorkshire fog	F
Poa trivialis	Rough meadow-grass	F
Ranunculus acris	Meadow buttercup	F
Ranunculus repens	Creeping buttercup	F
Agrostis stolonifera	Creeping bent-grass	LF
Alopecurus geniculatus	Marsh foxtail	LF
Cirsium arvense	Creeping thistle	LF
Dactylis glomerata	Cock's-foot	LF
Hypochaeris radicata	Common cat's-ear	LF
Impatiens glandulifera	Himalayan balsam	LF
Juncus articulatus	Jointed rush	LF
Lotus corniculatus	Bird's-foot trefoil	LF
Stellaria holostea	Greater stitchwort	LF
Urtica dioica	Common nettle	LF
Veronica chamaedrys	Germander speedwell	LF
Festuca rubra	Red fescue	O-LF
Jacobaea vulgaris	Common ragwort	O-LF
Agrostis capillaris	Common bent-grass	O
Lolium perenne	Perennial rye-grass	O
Plantago lanceolata	Ribwort plantain	O
Prunella vulgaris	Self-heal	O
Rumex acetosa	Common sorrel	O
Rumex obtusifolius	Broadleaved dock	O
Trifolium repens	White clover	O
Alchemilla filicaulis subsp. vestita	Lady's-mantle	R
Alopecurus pratensis	Meadow foxtail	R
Anthriscus sylvestris	Cow parsley	R
Arrhenatehrum elatius	False oat-grass	R

Bellis perennis	Daisy	R
Bromus hordeaceus	Soft brome	R
Cardamine flexuosa	Wavy bitter-cress	R
Cardamine pratensis	Lady's-smock	R
Cirsium vulgare	Spear thistle	R
Dactylorhiza fuchsii	Common spotted orchid	R
Dactylorhiza praetermissa	Southern marsh orchid	R
Deschampsia cespitosa	Tufted hair-grass	R
Digitalis purpurea	Foxglove	R
Dryopteris dilatata	Broad buckler-fern	R
Dryopteris filix-mas	Male fern	R
Epilobium parviflorum	Hoary willowherb	R
Epilobium tetragonum	Square-stemmed willowherb	R
Galium saxatile	Heath bedstraw	R
Geranium robertianum	Herb robert	R
Glyceria fluitans	Flote grass	R
Heracleum sphondylium	Hogweed	R
Hyacinthoides non-scripta	Bluebell	R
Juncus bufonius	Toad rush	R
Juncus conglomeratus	Compact rush	R
Lathyrus pratensis	Meadow vetchling	R
Luzula campestris	Field wood-rush	R
Myosotis discolor	Changing forget-me-not	R
Phleum pratense	Timothy	R
Plantago major	Greater plantain	R
Poa annua	Annual meadow-grass	R
Poa pratensis	Smooth meadow-grass	R
Potentilla erecta	Tormentil	R
Potentilla reptans	Creeping cinquefoil	R
Rumex crispus	Curled dock	R
Schedonorus pratensis	Meadow fescue	R
Silene dioica	Red campion	R
Taraxacum agg.	Dandelion	R
Trifolium dubium	Less trefoil	R
Veronica serpyllifolia	Thyme-leaved speedwell	R

Trees and Woodland

2.3.13 As denoted on Figure 2, there are a number of mature or veteran pedunculate oak *Quercus robur* trees scattered across the site (TN2-5). The condition of the trees varies and they are described further in the bat roost assessment below.

2.3.14 The proposed vehicular access to the car park will be made along an existing trackway through woodland at the southwest corner of the site (TN6). The woodland here is extensively overgrown with bramble *Rubus fruticosus* agg. To the west of this access is an area of plantation mixed woodland (TN7, Figures 5 and 6). This woodland has good structural diversity, and dominant species include silver birch *Betula pendula*, Scot's pine *Pinus sylvestris*, and pedunculate oak. The understorey largely comprises bramble, rosebay willowherb *Chamerion angustifolium* and bracken *Pteridium aquilinum*.

Figure 5. Plantation mixed woodland (semi-mature Scot's pines)



Figure 6. Plantation mixed woodland (background)



2.3.1 To the east of the access track, and to the south of the proposed car park there is a broadleaved woodland (TN8, Figure 7). The trees within this habitat are typically more mature than in TN7, and the understorey is generally more open. The dominant species here include pedunculate oak and silver birch, with elder *Sambucus nigra* and willows *Salix spp*. The ground flora includes bramble, bracken, male fern *Dryopteris filix-mas*, and wood avens *Geum urbanum*. Within this woodland are two veteran oak trees with large splits, cavities and deadwood throughout (TN9). The woodland stretches for a length of approximately 200m before joining an area of dense scrub at the southeast corner.

2.3.2 To the north of the proposed car park area is a belt of mixed woodland plantation

(TN10). It is partly fenced, but cattle have access and have disturbed the ground. The trees present include pedunculate oak, silver birch, Scot's pine, rowan *Sorbus aucuparia*, and sweet chestnut *Castanea sativa*.

Figure 7. Broadleaved woodland to the south



Figure 8. Bramble scrub along the woodland edge



Dense Scrub

2.3.3 Areas of dense scrub are present across the site, particularly bordering the woodland edges (Figure 8). This habitat type is dominated by bramble, with some immature broadleaved trees, such as silver birch *Betula pendula* and hawthorn *Crataegus monogyna,* also present.

2.3.4 The southeast corner of the site receives drainage from the existing car park area, and it is proposed to construct a Sustainable Drainage System (SuDS) in this location. The area is covered by goat willow *Salix caprea*, silver birch, oak and bramble, and has been used for a considerable time for the placement of cut timbers and stumps from felled trees, many of which are very large (TN11).

2.3.5 To the south of the scrub area is a muddy compound, surrounded by bunds and used for storage and composting (TN21).

Open Water

2.3.6 A small pond is present approximately 250m to the west of the proposed car park area, outside of the red-line area (TN18). This was recorded in 2016 as being 4m x 3m in area and approximately 10cm deep, with aquatic vegetation limited to common duckweed *Lemna minor*. This was visited again in 2019 and 2021, and found to still be present in much the same condition, but with a moderate diversity of aquatic and marginal plants.

Drystone wall

2.3.7 A neglected dry-stone wall is present along the eastern boundary of the site (TN12). The wall is 0.6m – 1.8m high. It is surrounded by tall ruderal vegetation with species including rosebay willowherb, bracken and bramble, and the line of the wall is marked by a number of mature oak trees

2.4 Species

Bats

2.4.1 Bats and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000), and by the Conservation of Habitats and Species Regulations 2017. Seven bat species are also listed as Species of Principal Importance under the provisions of the NERC Act 2006.

2.4.2 A number of bat species are present in and around Alton Towers Resort. Records include brown long-eared bats *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, Nathusius pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula,* Leisler's *Nyctalus leisleri*, and Myotis bats *Myotis spp*.

2.4.3 The site supports natural habitat types that provide foraging habitat for bats. The linear features of tree belts and their boundaries may also provide bats with commuting connectivity to the wider landscape. Trees have been assessed for their potential to support bat roosts, and a number have been found to support crevices that could support roosting bats (Figures 9 and 10).

2.4.4 A summary of the potential roosting features in the trees is shown below in Table 2, indicating that five trees within the study area have high bat roost potential, with two having moderate potential. As a result, there is a likelihood that bat roosts could be present within the trees on site. However, all the highlighted trees will be retained during works and so there will be no direct impact on potential roost features.

Table 2. Bat roost potential in trees

TN	Species	Description	Roost Potential
2	Pedunculate oak	Cracks throughout. Large tear-out in top of crown – 15x40cm	High
9	Pedunculate oak	Two mature oak trees in woodland. Both similar in characteristics – large splits, deadwood and cavities throughout.	High
14	Pedunculate oak	Split limbs and cracks throughout the tree.	High
15	Pedunculate oak	An abundance of vertical cracks in the tree.	High
20	Pedunculate oak	Mature oak. Large vertical cracks on trunk. Various holes.	High
4	Pedunculate oak	Rot holes on southeast side at 2m height.	Moderate

TN	Species	Description	Roost Potential
13	Pedunculate oak	A couple of rot holes on west-facing side around 6-8m high.	Moderate
3	Pedunculate oak	Large parts are dead. Small split, but limited bat roost potential.	Low
19	Pedunculate oak	Semi-mature with limited potential	Low
5	Pedunculate oak	Intact tree with no visible roost potential.	Negligible

Figure 9. Mature oak tree with high bat roosting potential



Figure 10. Mature oak tree with high bat roosting potential



Badgers

2.4.5 Badgers are protected under the Badgers Act 1992. This makes it an offence to willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.

2.4.6 A 2016 survey recorded the presence of a single outlier sett, off-site to the west. The single sett entrance was approximately 40cm in diameter and visible prints nearby suggested that the sett had been active within the past year.

2.4.7 No field signs such as latrines or foraging pits were recorded within the site boundary during surveys in 2019 or 2021.

Other Mammals

2.4.8 There are a number of rabbit burrows in the eastern section of the TN8 woodland.

Birds

2.4.9 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some of the rarer species (listed on Schedule 1 of the Act), it is an offence to intentionally or recklessly disturb them while they are building a nest or whilst they are in or near a nest with eggs or young, or to disturb the dependent young of such a bird.

2.4.10 There are a number of nesting opportunities for breeding birds on the site, and several relatively 'common' bird species were recorded occupying the habitats on site during the site surveys (Table 3). The 2016 desk study returned records for a number of bird species, of which three are Red-listed under the Birds of Conservation Concern (BoCC) initiative (Eaton *et al.*, 2015).

2.4.11 Site clearance or construction works, if undertaken during the bird breeding season, could potentially damage active nests and result in an offence under the legislation.

Table 3. Incidental bird sightings on site

Common name	**Scientific name**
Robin	*Erithacus rubecula*
Blackbird	*Turdus merula*
Nuthatch	*Sitta europaea*
Great tit	*Parus major*
Wood pigeon	*Columba palumbus*
Chaffinch	*Fringilla coelebs*
Collared dove	*Streptopelia decaocto*
Pheasant	*Phasianus colchicus*
Carrion crow	*Corvus corone*
Tree creeper	*Certhia familiaris*
Wren	*Troglodytes troglodytes*
Magpie	*Pica pica*
Blue tit	*Cyanistes caeruleus*
Goldfinch	*Carduelis carduelis*
Green woodpecker	*Picus viridus*
Rook	*Corvus frugilegus*
Coal tit	*Periparus ater*
Long-tailed tit	*Aegithalos caudatus*

Amphibians & Reptiles

2.4.12 All British reptiles are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000). Grass snake, slow worm, common lizard and adder are protected against intentional killing or injury and against sale. In addition, all British reptiles are listed as Species of Principal Importance under the provisions of the NERC Act 2006.

2.4.13 Desk study has not provided any amphibian records for the area around Alton Towers Resort, but common lizard *Zootoca vivipara* and grass snake *Natrix natrix* are known to be present locally.

2.4.14 Although no evidence has been recorded to suggest the presence of reptiles within the study site, targeted surveys have not been undertaken. Suitable habitat is present within the study area, particularly within the scrub and piles of dead timber in the southeast corner of the site. Clearance of this area could cause potential impacts on the reptile population, including direct mortality, loss of hibernation and refuge sites, and reduction in the area of foraging habitat. This potential impact will be addressed through appropriate mitigation during the construction phase of development.

Invasive Species

2.4.15 No invasive species were recorded on site during the Phase 1 surveys. A small thicket of rhododendron *Rhododendron sp.* is present within the broadleaved woodland to the southeast of the site (outside of the site boundary).

3 CEMP

3.1 Landscape plans

3.1.1 This CEMP should be read and interpreted in conjunction with the approved landscape plans for the development produced by Nichols Brown Webber, which are listed below:

- 03224-03 373_100_2 Block Plan as Existing 10-03-2020
- 03224-03 373_100_3 Block Plan showing Constraints 10-03-2020
- 03224-03 373_100_4 Block Plan Proposed 10-03-2020
- 03224-03 373_100_19A 1881 Overlay 10-03-2020

3.1.2 This CEMP should also be read and interpreted in conjunction with the arboricultural assessment report and plans for the development produced by Tree Heritage Ltd, listed below:

- Arboricultural Report THL-R1906, 01 November 2019
- THL-0730 ATR Car Park Tree Constraints Plan
- THL-0730-2 ATR Arboricultural Impact Assessment
- THL-0730-3 ATR Tree Protection Plan
- THL-0730b ATR Tree constraints plan 1

3.2 Risk assessment of construction activities

3.2.1 The proposed construction activities have been assessed in terms of their potential to cause ecological impacts at the site. This assessment is set out in Table 4 below.

Table 4. Construction activity ecological risk assessment

Activity	Potential impact on receptor	Risk level with mitigation
Site access by vehicles	Access will take place on existing site access roads. No potential for significant impact on ecology	N/A
Contractors car parking	Car parking will take place in the nearby Car Park J. No potential for significant impact on ecology	N/A
Site vehicle activities/ movements	Movement and operation of site vehicles, such as excavators and dumpers could adversely affect tree root zones, damage grassland swards and cause soil compaction. However, tree protection fencing will be installed to BS.5837/2012 standard, and according to the Tree Heritage Arboriculture Report reference THL-R19-6, dated 1st November 2019. The principal contractor will also form all access routes and work areas by stripping back topsoil and subsoils, storing them for reuse on site. Site dumpers will travel on stripped areas only to minimise compaction of soils, and soil tipping will be a retreat operation. In addition, heavy machinery or excavation could affect any active badger setts that might be present on or near the site. This will be avoided by a prior site inspection by the ECoW, and implementation of fencing or other measures as required	Low

Activity	Potential impact on receptor	Risk level with mitigation
Silt runoff from work areas	With bare soil surfaces being created, there is potential for silt to run off into the pond at TN18 and other local watercourses. This will be prevented by effective silt management during site clearance and construction operations. Cut off ditches will be formed around the excavation areas to divert any surface run-off into silt traps and settling holding areas.	Low
Creation of open excavations	Open excavations, if deep, and potentially traps wildlife such as badgers and hedgehogs that may be present on the site during construction. To avoid this, all open excavations will be ramped or closed off to prevent animals falling in and/or allow them to escape unhindered.	Low
Clearance of vegetation or dead timber stacks	Depending upon the time of year, clearance of vegetation or dead timber materials has the potential to adversely affect bird nests, possible badger setts or sheltering reptiles. To prevent these impacts, works will be appropriately timed to avoid the bird breeding season, and an ECoW watching brief will be undertaken in any locations where potentially damagaing operations are to take place.	Low

3.3 Biodiversity protection zones

3.3.1 There are no required biodiversity protection zones within the main grassland development area, beyond the veteran trees that will be subject to standard root zone protection under the requirements of Conditions 9-12 and BS5837:2012.

3.3.2 At the southeast corner of the proposed development is the area that will be used to provide the outfall route from the SuDS system to an existing surface watercourse. This outfall pipe and headwall will be installed within an area of scrub, with abundant deadwood, where branches and trunks from felled trees have been placed over a number of years. This area, along with the woodland belts that border the development, should be treated as a biodiversity protection zone. These areas are separated from the grassland working areas by existing fences. Notices should be fixed to this fencing warning personnel not to enter. They should read "CONSTRUCTION EXCLUSION ZONE – NO ACCESS WITHOUT ECOLOGICAL SUPERVISION".

3.4 Habitat protection and enhancement measures

Soil handling and preparation

3.4.1 The car park improvement proposals include for the provision of 880 defined parking spaces, with the ground in the parking area to be reinforced using a 'Sudspave' surface. The Sudspave product is a cellular paving system consisting of a plastic lattice crate, laid on a stone sub-base. Once installed, this is then filled with either gravel or a soil/sand mix that can then be seeded with a grassland surface. It is proposed that the access roads within the car park are provided with a gravel finish, while the parking bays have a grassland finish. As part of the Sudspave installation, soil removal and levelling will be required within the car park area. Excess material will be moved to the western part of the redline area shown in Figure 1.

3.4.2 It should be noted that the site has been subject to soil deposition in the past when

the hotel developments were constructed (Alton Towers Hotel in 1994 and Splash Landings Hotel in 2002 - see drawing ref. 373/100/18). The historic fill has created changes in levels, and it is therefore proposed to smooth the profile of the land to create a more gradual slope.

3.4.3 To enable construction of car park, the topsoil needs to be stripped from the proposed parking area. Some of this will be reused for backfilling the Sudspave cells, and the remainder will be deposited on site outside of the car park area. Within the Sudspave cells, species-rich topsoil from the TN16 area of the site will be mixed 1:1 with sand to provide a free-draining and nutrient-poor fill. This re-use of the topsoil will address the seed source and translocation of useful vegetation aspects of part (b) of Condition 4.

3.4.4 The proposed fill area to the west of the car park has been discussed with the Council's ecologist, tree officer and conservation officer. It will require the removal of one old pine tree (see drawing ref. 373/100/17 for fill area 2) which is in poor health. There is a smaller area of fill proposed on Area 1. This will smooth the profile of this part of the site and better respect the parkland setting.

3.4.5 The soil excavation will be undertaken by 360˚ excavator, and transported across the site using dumpers. Surface vegetation should first be stripped by blading off and kept separate to the topsoil that will be backfilled into the Sudspave system. Topsoil will be dug to the depth necessary for Sudspave installation. The excavator should work from unstripped areas, with dumpers running on the bare subsoil layer. Movement of vehicles and equipment will be confined to clearly defined haul routes that will be as narrow as is feasible without compromising the safety of the workforce. The width of the corridor may vary according to the location and type of work that is needed.

3.4.6 Any temporary stockpiling of soil will be undertaken in such a way as to maintain soil quality, avoid compaction, and prevent erosion and pollution to waterbodies.

3.4.7 All work should be undertaken in accordance with good practice guidance, such as 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (Defra 2009) [1].

3.4.8 If sustained heavy rainfall (e.g. >10mm in 24 hours) occurs during soil stripping operations, work must be suspended and not restarted until the ground has had at least a full dry day or as otherwise agreed by the project manager and Ecological Clerk of Works (ECoW).

3.4.9 Prior to any soil excavation and transport, the pond at TN18 (the 'ephemeral pond' referred to in Condition 4(b)) will be protected by a fine-mesh silt retention fence, that will be installed in a U-shape upslope of the water feature, i.e. to the west, south and east of the pond. The fence will be installed at the edge of the works, as indicated by the redline boundary, and at least 15m from the pond edge, to ensure that a

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/716510/pb13298-code-of-practice-090910.pdf

vegetated buffer strip is retained between the construction area and the pond.

Grassland seeding methods

3.4.10 The Sudspave and fill areas to the west will be reseeded after all soil movements and car park installation has been completed. It is expected and desired that some vegetation will occur naturally from seed sources within the re-used topsoil. Ideally, green hay or harvested seed would be used to augment this natural colonisation, but this is unlikely to available at the time of works. Instead, a commercially available wildflower seed mix will be sown onto the site after earthmoving and Sudspave installation is completed.

3.4.11 All the bare ground created on site as a result of the works will be sown with a native species-rich grassland seed-mix[2] suitable for acid to neutral substrates, at a rate of 4gm/m^2 immediately after re-build work is completed. The seed mix will be approved by the ECoW prior to purchase and use. The sown areas will be isolated from livestock until the sward has sufficiently recovered.

Ponds

3.4.12 As part of the proposed development, a Sustainable Drainage System (SuDS) will be provided, including balancing ponds around the car park area. Although primarily intended to control surface water flows, these features will have significant biodiversity benefits, providing a new habitat on site for aquatic plants and animals.

3.4.13 The proposed SuDS scheme is detailed on drawing ref: 7271 - 010 CAR PARK DRAINAGE PLAN AND DETAILS, rev P5 dated January 2019. This indicates that four small attenuation ponds will be provided within the centre of the car park area, with flows directed to a larger basin close to the eastern site boundary. These features will be connected by pipes beneath the car park surface, and will discharge from the larger basin through another pipe and outfall into an existing ditch to the southeast.

3.4.14 There are some existing areas of wet grassland, with rushus and other flora within the construction area. Where possible, these will be stored during site clearance and translocated into the new SuDS features to enable the rapid development of wetland vegetation with the attenuation basins. In addition, the ECoW will translocate small samples of aquatic plants from the pond at TN18 into the new ponds to establish the same local species within these features - see Condition 4(b).

Trees

3.4.15 The proposed landscaping scheme has been designed to maintain the parkland setting and has been influenced by the historic 1881 map of the site (see drawing ref. 373/100/19). The 1881 survey was overlaid on the current survey and it was noted that eleven of the original 26 trees were still present on-site. All but one of these trees will be retained on the site, and incorporated into open space provision.

[2] Example seed mixes: https://britishwildflowermeadowseeds.co.uk/products/sandy-soil-meadow-seed-mix?variant=32619217092745 and https://wildseed.co.uk/mixtures/view/3

3.4.16 As part of the proposals, 24 new standard trees will be planted, with ten of these replacing historically lost trees and one replacing a pine which is in poor health and will be removed to allow for regrading to take place.

3.4.17 New standard trees will be protected from traffic movements and livestock damage by enclosing them within fenced parkland tree shelters to allow these to develop into future veteran trees over the long-term.

3.4.18 Post-construction enhancement of woodland areas, with suitable management, addition of shrubs and ground flora, is detailed in the accompanying LEMP.

3.5 Species protection and enhancement measures

Bats

3.5.1 As the trees and woodland will be retained during construction, there is minimal likelihood of bats being adversely affected by works. However, should plans change during construction and the felling or delimbing of any mature trees be required, then further survey for bats should be undertaken. In this case, bat activity and the presence of roosts should be assessed using methods set out in the standard good practice guidelines [3]. If bat roosts are considered likely to be affected after such assessment, then licensing by Natural England will be required prior to works proceeding.

3.5.2 Enhanced bat roosting opportunities will be provided by the provision of bat boxes on trees around the site. These will be sited by an experienced and licensed bat ecologist to ensure that the locations are suitable in terms of bat access and flight-lines, exposure to sunlight, and separation from built development. Locations will not include veteran trees, but will take place within the tree belts to the north and south of the car park area (Figure 11). It is anticipated that small scale roost features are already likely to be present within the adjacent woodland, so larger 'colony' boxes are proposed, rather than numerous standard size boxes (Figure 12). In addition, self-cleaning designs have been chosen to minimise maintenance requirements.

3 Collins, J. (ed) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition*. Bat Conservation Trust, London.

Figure 11. Proposed locations for bat, insect and bird boxes

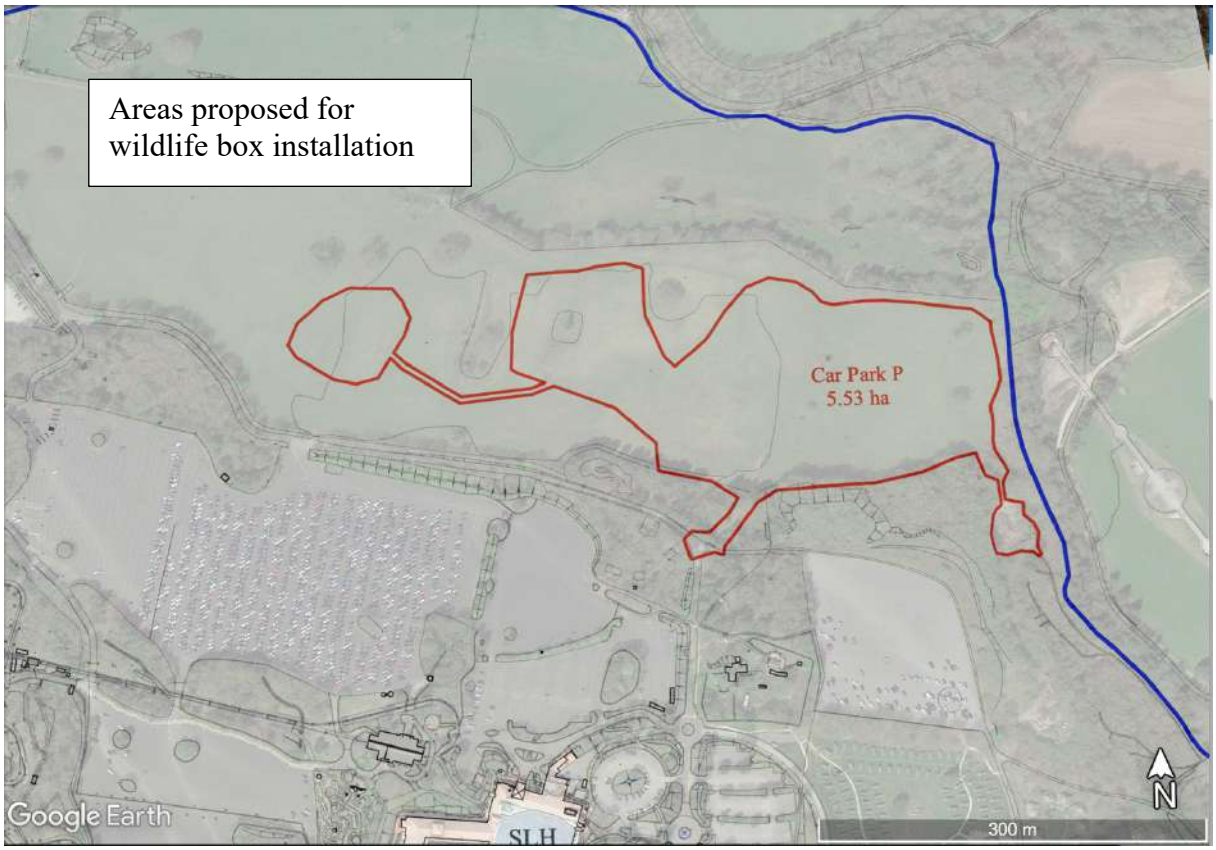


Figure 12. Proposed bat box designs (or as determined by ecologist)

2no. Schwegler 67-1FFH	2no. Schwegler 65-1FF	2no. Miramare Woodstone
		

Badgers

3.5.3 Prior to works commencing on site, a careful search will be undertaken by the ECoW for any newly created potential badger setts within the site. If no setts are found then works can proceed. If a potential sett entrance is found then this shall be recorded and marked and no works shall take place within 30m of the entrance, with a cordon of tape demarcating that area. This will ensure that heavy machinery and excavation work is kept away from suspected setts, as required under Condition 4(e). The cordon shall be maintained until further survey work, through use of camera traps, is complete (generally the camera traps are left for a minimum of 14 days to establish presence /absence). If camera traps confirm a sett to be in active use by badgers the cordon shall be maintained. If camera traps confirm the sett not to be in active use by badgers the cordon shall be lifted and works may proceed in accordance with this CEMP. If the sett entrance is occupied by another species, excavation using hand tools will be required to ensure that the animal(s) can escape without being harmed.

3.5.4 If any deep excavations (>0.5m depth) are created during the construction process, these will be closing overnight or will be ramped at one end to enable escape by mammals such as badgers.

Reptiles

3.5.5 Prior to works commencing, a check of the site will be undertaken by the ECoW to identify areas of current potential reptile habitat and inspect these for the presence of reptiles before they are affected by works.

3.5.6 During construction works, care will be taken when operating machinery close to watercourses, amongst leaf litter, and when clearing vegetation or removing rubble. If any reptiles, such as grass snakes, are observed, they should be allowed to escape unharmed. If any animal is found and does not attempt to move, work should cease and the ECoW contacted for advice or assistance.

3.5.7 Clearance of the southeast part of the site, where the SuDS features are to be constructed, will be carefully undertaken with on-site supervision (an 'ecological watching brief') by the ECoW. This will include removal of vegetation and dismantling of timber stacks. Any amphibians or reptiles will be captured during this process and held temporarily in suitable containers until the work is completed. Release at the same location will then take place.

Invertebrates

3.5.8 Micro-habitats will be created for invertebrates through both the car park forming exercise and by the provision of invertebrate boxes around the perimeter of the site.

3.5.9 The provision of the Sudspave car park surface itself, with a sandy and species-rich topsoil mix, will provide a suitable habitat for a range of invertebrate fauna. This will produce an open, low sward with a variety of nectar-source flowering plants suitable

for ground fauna and flying insects such as bees and hoverflies. The light soils here, although likely to become slightly compacted in some areas, will provide digging conditions for the nests of some bees and wasps in less trafficked areas around the edges of the car park plots.

3.5.10 Invertebrate nesting habitat will be enhanced on and around the site by providing insect boxes on trees, along the woodland boundaries of the site (Figure 11). These will provide for invertebrates such as solitary bees, wasps, lacewings and ladybirds. The boxes will be sited by the ECoW in locations appropriate to the box design types and will comprise the following (Figure 13):

Figure 13. Proposed insect box designs (or as determined by ecologist)

4no. Woodstone insect box	4no. Schwegler insect nesting aid
	

Birds

3.5.11 To avoid committing an offence under the Wildlife and Countryside Act it will be necessary to programme all construction works that might directly impact upon breeding birds to the September-February period outside the bird breeding season. If this is not feasible and nesting habitat cannot be excluded then checks by the ECoW, immediately before clearance, will be required. Only if no nesting activity is detected, should works proceed. If nesting activity is detected, further work will need to be delayed until nesting activity ceases.

3.5.12 If nesting checks are undertaken to enable vegetation clearance during the bird nesting season then a report of the findings must be submitted to and approved in writing by the Local Planning Authority under Condition 11 of the planning consent.

3.5.13 Bird nesting habitat will be enhanced on and around the site by providing bird boxes on trees. To provide for a range of bird species, a variety of bird boxes will be provided along the woodland boundaries of the site (Figure 11). These will be sited by the ECoW in locations appropriate to the box design types and the boxes will comprise the following (Figure 14):

Figure 14. Proposed bird box designs (or as determined by ecologist)

2no. NHBS large nest box	5no. Schwegler 1B 32mm 5no. Schwegler 1B 26mm	5no. Schwegler 2H
		

3.6 Roles and Responsibilities

3.6.1 The CEMP will be implemented by Alton Towers personnel, the construction contractor and the ECoW, who will all engage in regular communication before and during the site works. A pre-start meeting will be held to brief all parties on the content of the CEMP, and ensure that all measures are implemented appropriately during works.

3.6.2 A tool box talk must be given to all persons who are working within the site prior to commencement of their work. If new staff arrive on site, the tool box talk must be repeated to the new staff.

3.6.3 The tool box talk must cover:

- Background to the works;
- Basic ecology and identification of protected species, invasive species and how to identify features of importance;
- Legislation, offences and penalties;
- Role and remit of the ECoW;
- Measures covered under the site CEMP

3.6.4 A register must be kept of all those who attend the tool box talk.

3.7 CEMP Timetable

3.7.1 The timetable for implementation of the CEMP will depend upon the details of the proposed construction works, and the time period when operations are to take place on site. These are not fully known at this time, and so a detailed timetable will be provided separately (or as an update to this document) prior to works commencing on site.

4 LEMP

4.1 Aims and objectives

4.1.1 The long-term management of the Car Park P area will be integrated into the wider site management that takes place at Alton Towers. In this location, the biodiversity management actions will focus on the following three features:

- Protection of veteran trees
- Management of botanically-rich grassland vegetation
- Enhancement for fauna species

4.1.2 The responsibility for implementing this LEMP will lie with Alton Towers Resort site staff, making use of local farmers, contractors and consultants as required.

4.1.3 A description of the features to be managed is provided within the CEMP – section 3 above.

4.2 Ecological trends and constraints

4.2.1 There are two main processes on site that may influence long-term biodiversity management in and around the car park area. These are the use for car parking (and pedestrian access from rights-of-way), and the agricultural management practices associated with grazing of the grassland. Neither of these processes is expected to cause an adverse impact on the implementation of appropriate management at the site. Car parking is expected to cause some short-term and localised disturbance to the grassland sward, but this will recover after use, particularly with the number of days use being constrained at the site. Grazing management is expected to continue at the site post-development (once the grassland sward has redeveloped) and will help to promote grassland biodiversity. Newly planted trees will be appropriately protected from damage by livestock by the maintenance of fences and tree-shelters as highlighted below.

4.3 Management prescriptions

Protection of veteran trees

4.3.1 Fencing and tree guards on the site will be subject to regular checks (in March and September each year as a minimum), with like-for like repairs being made as necessary.

4.3.2 Broadleaved woodland habitat outside the boundaries of the site will be managed by minimal intervention. Trees on the woodland boundary that become hazardous will be pruned, or coppiced, or pollarded (as appropriate) to maintain a safe environment.

Felled materials will be collected and placed into the woodland to naturally decay.

Management of botanically-rich grassland vegetation

4.3.3 All of the grassland within the site will be grazed annually through the autumn and winter (September-March), with stock being excluded between April and August. Alternatively, the grassland may be cut twice annually in April and August, with arisings baled and taken off-site. The grassland will be inspected annually in the summer months, for the duration of the management plan, to review establishment of the sward and monitor cover of weeds. Pernicious weeds including common nettle, docks, thistle, spear thistle and common ragwort will be controlled by application of a suitable herbicide.

Enhancement for fauna species

4.3.4 If any of the bird and bat boxes located on the site lost or damaged within the LEMP period, they will be immediately replaced like-for-like as close to the original location as is feasible.

4.4 Five-year work schedule

4.4.1 There is no requirement for an annual work plan within this LEMP, as each management prescription will be carried out every year.

4.5 Annual monitoring and LEMP review

4.5.1 The results of site monitoring and any remedial actions undertaken at the site will be compiled into an annual report and submitted to the LPA every year in Nov-Dec.

4.5.2 The LEMP will be reviewed in summer 2026 to cover the 2026-2031 period, updated as necessary to reflect any changes to the site or its management, and will then be submitted to the LPA for approval. The renewed plan will then be implemented as described.



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