



LOWER MILL
COTSWOLDS

LME LEMP 2022 - 2027
SECTION ONE - VILLAGES



LOWER MILL COTSWOLDS

Originally Lower Mill Estate was a livestock and arable farm with a farmhouse and a water mill drawing its power from the River Thames. It later became an extraction site for South Cerney gravel, resulting in virtually all the fields within the Estate being excavated to several metres depth and then allowed to flood. Some excavated fields were backfilled with the overburden and gravel washings and some left to vegetate naturally with willow being the main colonising tree. It is now actively managed by Habitat First Group to maximise its recreational and ecological value.

At completion, the built footprint of the Estate will comprise eight villages. In the order they were built, these are:

Mill Village
Clearwater Village
Howells Mere
Water Garden
Spinney Lake (to be completed)
Minety Lake (to be completed)
Lakeshore Reserve (to be completed)
Barberry Lake (to be completed)

The villages have been designed to be as nature-inclusive as possible and the newer phases have been designed to be sustainable and climate-resilient. Habitat First Group have committed to becoming carbon neutral by 2030.

An allotment has been established at the entrance to the Estate and this provides organically grown produce for the onsite restaurant.

Lower Mill Estate covers 195 hectares comprising ten lakes (when completed); sections of three rivers (Thames, Swillbrook & Flagham Brook); a SSSI grassland (Pike Corner); a large wildflower meadow; a nature reserve grassland; several woodland copses; and areas of scrub. In addition, Habitat First Group, own and manage Swillbrook Lakes which comprises a large area of lake-habitat, wetland, woodland and scrub.

In 2019, Habitat First Group were accredited with the Building with Nature Design Award for their Masterplan of up to 575 holiday homes as part of the ecologically sensitive restoration of the former quarry site that Lower Mill Estate sits on. The accreditation stated that Lower Mill Estate provides a rich network of green infrastructure, bringing benefit to both people and wildlife through a landscape-led approach.

The Building with Nature Full Award (Excellent) was granted for the completed phases at Mill Village, Clearwater, Howells Mere, Water Garden, Clearwater Village and Howells Mere.

The level of compliance of Building with Nature Standards at Lower Mill Estate is such that the Award given met the Excellent level of the Building with Nature Benchmark; and as such Lower Mill represents a national exemplar in the design, delivery and maintenance of high quality green infrastructure for the benefit of people and wildlife, now and long into the future.

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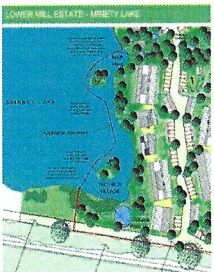
APPENDIX

- APPENDIX A: The Complete Hedge Good Management Guide

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General tasks					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
Reeds (A) Cut and remove reeds in front of properties and leave reeds growing between properties or cut kayak access channels depending on location of property (follow plans in Figs 4, 5 & 7– Clearwater, Howells Mere, Minety Lake) (B) Cut reeds in larger ponds (Howells Mere) on 4-7 years rotation to stop the whole pond over. (C) Follow any specific guidance on reed management in Wildlife Audit reports relating to breeding and wintering birds and Aquatic macrophytes (check with Ecologist) (D) Cut reeds in front of decks on properties; cut kayak channels through reeds.	Villages	Autumn/Winter	Once annually	Grounds team	Reedbeds come under the CWP Nature Recovery Plan Fen, Marsh & Swamp Priority Habitats. There is also a S106 wildlife auditing commitment at LME for the monitoring of Reed buntings and Reed warblers so significant areas of reed are important. If clearing reeds, be aware that storing cut reeds on site can cause localised nutrient enrichment and decreased plant diversity/water quality. Where possible, reeds should be burned/composted off-site.
	Villages	Summer	Monthly – in summer	Grounds team	Use the electric motor on boat and minimise time spent near reeds. Look for nests woven into reeds at any height from water level to top of reeds; and check for nests deep in the reeds at a water level, before doing any cutting. Cut same areas as cut in winter. No established reeds or reed beds may be cut during Summer months.
Hedgerows (A) Maintain hedgerows in villages in good condition (follow tips in link in Comments). (B) Don't cut during bird breeding season. (C) If cutting is needed in bird breeding season for H&S purposes etc then use the electric hedge trimmer and look for nests before starting. (D) Newly laid hedgerows should have base area strimmed for 12month period to inhibit bramble growth	Villages	1st Sept to 28th/29th Feb (inclusive)	Annually	Grounds team	Follow the top-10 tips for hedgerow management from HedgeLink Good Hedge Management Guide (in Appendix A of Section One)

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(E) Established hedgerows bordering Swillbrook Lakes Reserve – hedgerow on development side and hedgerow on Swillbrook Lakes sides, to be managed on rotation with no cutting of the areas between properties.	Nightingale Walk - Refer to Fig 5: Howell's Mere Howells Mere	1 st Sept to 28 th /29 th Feb (inclusive)	Annually	Grounds team	<i>The hedge must be managed in accordance with planning conditions:</i> <i>"screen hedging incorporating a hedge around a continuous dog-proof wire fence has been planted to run along a line approximately 15 metres from the northern bank of the Swill Brook which will abut the existing fencing at the western end of the Swill Brook and the existing fencing at the eastern side of a proposed nature reserve on land to the south of Freeth Mere thereby creating an enclosed corridor for the length of the Swill Brook."</i>
Lake edges (A) Do not mow or strim right up to the top of the banks along ponds and lakes. Allow long grass and marginal plants to develop to create uninterrupted wildlife corridors. Minimum 1.5m from top of bank edge. (B) Where scrub (bramble etc) takes over in front of a property, cut the lake edge including the bramble once every 3years, and allow to grow back. (C) Remove self set trees where they establish in front of properties. Where they are not an issue look to allow them to grow into small patches of scrub.	Villages – lake & pond edges  Spinney Lake edge	(A) From first cut of year (B) From 1 st October (once reptiles are hibernating) (C) 1 st Sept to 28 th /29 th Feb (inclusive)	Annually	Grounds team	<i>These edges were designed to be wildlife corridors for the safe passage of amphibians and reptiles; birds; invertebrates; and small mammals.</i> <i>Small patches of scrub act as 'stepping-stones' for wildlife across the site and help with carbon capture and water storage.</i> <u>*Spinney Lake edge was set out as a corridor for reptiles in the original plans – it needs to follow plans as much as possible</u> <u>*Refer to Swillbrook Lakes for management on Swillbrook Lakes opposite Lakeshore Reserve.</u>
Grass cutting Ensure successful establishment of grass sward and regularly watered during periods of extended dry weather. During establishment, control undesirable plant growth within sward if necessary, such as dandelion, dock, thistle, nettles, and ragwort by hand excavation and or pulling. Maintain grass in a height range of 50-150mm, mowing as appropriate between April and October.	Villages	(A) Growing season (B) End of July (every 3 years cut and collect mid-late August)	Annually	Grounds team/Grass cutters	<i>Where possible, grass to be mulched on amenity grass for the following reasons:</i> <ul style="list-style-type: none"> • Reducing wastage from grass cuttings • Retaining Moisture • Acts as a natural fertiliser • Micro-organisms feed off grass cuttings and provide benefits to soil quality. • Weed prevention. <i>(Any remaining grass cuttings to be composted away from any lake margin or</i>

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<p>Scarify if a thatch builds up and which affects the quality of the sward.</p> <p>In autumn and spring reseed/turf bare patches.</p> <p>Roll uneven areas as appropriate.</p> <p>In winter/spring inspect for areas of poor drainage and or compaction and instigate remedial action.</p>					<i>river bank or used to make Grass snake egg-laying piles in suitable locations.)</i>
<p>Meadow grass areas in gardens</p> <ul style="list-style-type: none"> Between October and July allow the grass to grow un-cut. In garden areas keep pathways cut during this time to allow access. In mid-July/August the grass is to be strimmed to a height of 75-150mm and the arisings removed to the compost area. Between July and October keep grass height within the range 100-150mm through regular mowing. Reduce mowing regime in time of drought. Control undesirable plant growth within sward if necessary, such as dock, thistle, nettles, and ragwort by hand excavation/pulling. <p>In winter/spring inspect for areas of poor drainage and or compaction and instigate remedial action.</p>	Villages	<p>Summer</p> <p>Winter</p>	Annually	Grounds team/Grass cutters	<i>Refer to individual landscape plans for each area of the development which will show you which parts of the garden are close mown and which are meadow grass and left longer – Lakeshore Reserve/Minety/Spinney etc</i>
<p>Wildflower areas in villages</p> <p>(A) Cut and collect once annually. Cut in hot, dry weather and leave the cuttings for 3 days to allow the seeds to drop out. Then collect all arisings and compost.</p> <p>(B) Hand- pull Docks and 1/3rd thistles annually as they emerge.</p>	Main entrance gates; Clearwater; Howells Mere and Millstone Park.	(A) End of July (every 3 years cut and collect mid-late August)	Annually	Grounds team	<i>Keeping some thistles will benefit the huge range of wildlife that is dependent on them for nectar and pollen; egg laying; seed eating.</i>

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Management & Monitoring Task/s		Location/Area	Timing	Frequency	Responsibility	Comments
Existing trees	<p>Assess trees in villages for signs of damage and disease which requires action (lopping/pollarding/coppicing).</p> <p>Work to retain all trees through management rather than removing them.</p>	Village-wide	1 st Sept to 28 th /29 th Feb	Ongoing	Grounds team	<p><i>Trees are covered in the CWP Nature Recovery Plan, Trees, Scrub and Wet Woodland Habitat Action Plan.</i></p> <p><i>Their benefits to carbon capture, cooling their surroundings, and water capture, as well as their value for biodiversity needs to be recognised.</i></p> <p><i>No tree works to be carried out in bird breeding season (March-August inclusive).</i></p> <p><i>All tree works to be considered for bat roost potential prior to any works being carried out. Grounds team have been on a Bats and Trees training course for this reason. Bats can even use very small diameter trees.</i></p>
New trees	<ul style="list-style-type: none"> • Ensure new trees are regularly watered during extended periods of dry weather (for at least the first three years). • Maintain weed free a minimum 1 metre radius mulch area around each tree. Neatly trim the grass edge to the circle. • Ensure mulch is contained within the circle and kept at between 50-75mm depth. • Check that stakes and cross bars are firm and secure and that ties/strips are holding the tree firm without damaging it. • Carry out regular tree health surveys and prune back branches where necessary. 	Village-wide	Annually	Ongoing	Grounds team	
House martins <i>(in 2021 House martins moved onto the RSPB's Red list of Birds of conservation concern)</i>	Check the House martin puddle in Millstone Park to ensure it stays wet and doesn't become too deep (House martins will use mud if it's more at surface level)	Villages	End March – September	Annually	Grounds team	
	Keep the Millstone house martin puddle wet using rainwater collected in the waterbutt attached to the Soft Play barn	Millstone Car Park	April-September	Annually	Grounds team	<i>The contents of this puddle should be sticky mud/clay so that it is suitable for the birds to collect and use for nest building.</i>
	Create some bare areas at the water's edge on lakes in the villages for House martins to collect mud from.	Clearwater Howells Mere Minety Lake Somerford Lagoon	End March to September	Annually	Grounds team	<i>Work with residents to identify suitable areas explaining the importance of these muddy areas for helping our House martin population.</i>

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Remove vegetation and turf and keep clear over the summer months and water well.					
Protect all House martin nests from damage – remind residents that these nests are protected from the moment they are in use.	Villages	Ongoing	Annually	Estate management	<p><i>All birds nests are protected from the moment they begin building until the final brood has left the nest. Any individual removing or disturbing active nests faces prosecution by law.</i></p> <p><i>Encourage residents to leave nests in place over winter to help returning House martins the following summer. To repair an old nests takes 3 days. To build a new nest takes them 3 weeks.</i></p>
If droppings become an issue homeowners can fix a shelf (250mm wide) about 2m below the nest to catch the droppings. Use key-hole brackets so the shelf can be removed for cleaning.	Villages	Ongoing	Annually	Estate management/ Grounds team/ Homeowner	
If a broken house martin nest is found with young inside an easy replacement can quickly be made from a four-litre ice cream tub. Cut an entrance in one long side, 25 mm deep and 60-65 mm wide, and make two small holes for fixing on the opposite side of the box. Roughen the surface beneath the entrance hole to help the young birds scramble up to the opening. Make two small drainage holes in the bottom of the tub and then put in the remains of the old nest (if you have it) or add hay to the tub. Fix firmly in place as near to the original site as possible and then add the birds and replace the lid.	Villages	As required	Annually	Grounds team/ Ecologist	
Bats Any bat found in a house must be reported immediately to the company Ecologist.	Villages	All year	Ongoing	Maintenance Team/ Estate management/ Grounds Team/ Ecologist	<p><i>All bats and their roosts (even when empty) are protected by law and access to any bat roost cannot be blocked up by anybody on the Estate without that person breaching laws and facing prosecution. It is the individual's responsibility.</i></p> <p><i>If bats are found by rental guests/homeowners at night time, the best option is to shut the door of the room the bat is in, turn off all the lights in that room and open the window so it can fly out.</i></p>

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					<p>If bats are found in a house during the day they should be carefully picked up using gloves and placed in a cardboard box with ventilation holes in the sides. A soft covering should be placed on the bottom of the box and a milk bottle top filled with water placed in the box. The box should be kept in a cool and quiet place until dusk when the box can be placed off the ground and opened to allow the bat/s to fly out.</p> <p><u>Any bat found needs to be reported to the Ecologist and repeated findings of bats may need intervention by a licensed bat worker only.</u></p> <p>There are known bat roosts in many properties/bin stores/garages/boat stores</p>	
Angling	Carp, Trout, Tench and Bream. Only those home-owners and guests staying on properties with direct access to the lake may fish in Clearwater.	Clearwater Lake	1st June-12th May		Estate management	
	Carp, Tench and Bream. Only those home-owners and guests staying on properties with direct access to the lake may fish in Howells Mere.	Howells Mere	1 st June-12 th May		Estate management	
	<ul style="list-style-type: none"> Tench, Perch – 1st June to 12th May. Pike – 1st October to 14th March. Trout all year round. 	Spinney Lake	<ul style="list-style-type: none"> Tench, Perch – 1st June to 12th May. Pike – 1st October to 14th March. Trout all year round. 	Ongoing	Estate management	
Invasive species	Monitor the Villages and Estate for invasive species including but not restricted to Japanese knotweed; Himalayan balsam; non-native Bluebells (Hyacinthoides non-scripta); Crassula (New Zealand Pygmyweed); Parrot's feather.	Villages/Estate	All year	Ongoing	Grounds team/Ecologist	Any non-native species found should be reported to the Ecologist so the appropriate course of action can be devised.
Algecides/Spider treatments/Weed killers/Moss treatments/Window cleaning	All chemical usage on site is to be minimised and eradicated over time where possible. (Even 'eco-friendly' products are often very harmful to aquatic life if you read the small print).	Villages	All year	Ongoing	Maintenance/Estate Management/ Grounds team	<p>New weed treatments are being developed all the time including heat treatments, steam treatments etc. As these develop the Estate could look at these as alternatives to chemicals.</p> <p>Spider treatments should remain non-chemical with the focus being on web removal. Spiders are a vital part of the</p>

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General tasks					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
					<p>ecosystem at Lower Mill and are food for many birds and bats.</p> <p>All chemical spraying must take place a minimum of 5m from any waterway or water course, waterway or water body along with any other requirements deemed fit by the Estate Team and relevant SDS sheets.</p> <p>No chemical usage should be undertaken if there is a risk of run-off into any water course, waterway or water body.</p>
<p>Leaf blowing</p> <p>The use of petrol driven leaf blowers to be minimised/phased out due to their significant emissions and carbon footprint.</p> <p>Any leaves collected to be used to create leaf mulch. Some leaves should be retained beneath hedgerows to degrade naturally to maintain a healthy soil ecosystem or to be used by hibernating animals.</p>	Villages	All year	Ongoing	Grounds team/Allotment manager	<p>Collected leaves can be placed into a chicken wire frame supported by stakes and moistened periodically if it dries. Leaf mould can be used as mulch, soil improver or winter covering for bare soils.</p> <p>Leaf mould can be created at the new composting areas.</p>
<p>Water levels</p> <p>Continue monitoring lake levels using gauge boards and look into low water levels as soon as possible</p>	Villages	All year	Ongoing	Grounds Team/Estate Management	<p>As the climate crisis progresses we may see lake levels fall more dramatically in the summer months and increase in the winter months. This may impact wildlife on these lakes.</p>
<p>Rodent control</p> <p>If pest control operations need to be carried out near water it is essential that a proper assessment of the rodent field signs is carried out. Both water vole and brown rat burrow into the banks of waterways and their signs can lead to confusion.</p> <p>Blocking water vole burrows is illegal as is the killing (accidental or otherwise) of water voles.</p> <p>Placing scatterpacks, traps or bait boxes into or in the way of water vole burrows could lead to prosecution.</p> <p><u>To control pests when water voles are present/potentially present:</u> (i) Always check for water voles before controlling rats along watercourses, ditches, lakes or ponds,</p>	Villages	Ongoing	Ongoing	Pest controller	<p>Rodent control on/near the River Thames and lakes (extracted from the Water Vole Conservation Handbook (3rd Ed), Strachan et al, 2011)</p> <p>Done carefully, rat control may be beneficial to the local water vole population as they sometimes prey on young water voles or may be a vector of disease.</p>

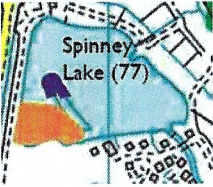
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<p>(ii) If correct identification is in doubt, consult with an ecologist before proceeding further.</p> <p>(iii) Live-capture traps are the only safe option – check twice a day to release animals that you do not intend to catch. Site traps in the open rather than in dense vegetation as water voles are less likely to cross open ground than brown rats. Avoid placing traps along the water’s edge.</p> <p>(iv) Avoid the use of break-back/snap traps. If these are used place them at least 5m from the water’s edge. Avoid the use of poison to control brown rats where water voles are known to occur. Do not place poison in burrows. It is illegal to block or obstruct water vole burrows.</p> <p>(v) Where no alternative is feasible, poison should be covered or placed in a bait box. This should be placed at least 5 m from the waterway. Avoid the use of poison grain or pellets. Use wax or soap blocks instead. If possible, site the poison off the ground as rats are more likely to climb than water voles. Poison bait is also best dispensed around buildings or litter bins where rats are more likely to be attracted to the food sources.</p> <p>(vi) Regularly inspect and monitor the control site, clearing away poisoned corpses. If any dead water voles are found, review the system of control being used immediately.</p>					

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Specific management tasks					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
<p>Ponds General</p> <p>(A) Maintain smaller ponds free from fish to make them suitable for breeding amphibians. This may involve periodically netting fish out of ponds.</p> <p>(B) Periodic removal of reeds when they begin to take over the ponds. Maintain reeds at pond edges and open water elsewhere.</p> <p>Any additional planting in ponds should include Aquatic mint (<i>Mentha aquatica</i>), as this is a preferred egg-laying plant for Great crested newts.</p> <p>(D) Any pumps used in ponds or lakes will need a fine filter mesh over the end to avoid sucking up and harming aquatic life.</p>	<p>Mill Village Clearwater Howells Mere Spinney Minety Barberry</p>	Ongoing	Annually	Grounds Team	<p><i>Great crested newts are a protected species so any works to ponds where this species may potentially be present, needs to be done following best practice guidance (discuss with ecologist).</i></p>
<p>Ponds Specific</p> <p>(A) Triturus Pond (Spinney Lake 14):</p> <p>(i) Manage pond so that there is 2/3 submerged pond cover on the pond bottom and ¼-1/2 emergent vegetation on the pond surface. The remaining ¾- ½ of the pond surface should be kept open for the newts to display in.</p> <p>(ii) Cut scrub around the pond on 7 year rotation (i.e. a different 1/7th cut every year). Cut brash to be made into brash piles around the pond.</p> <p>(iii) Maintain dog-free stock fence</p> <p>(iv) Manage newly planted hedgerow around the border of the pond. Cut back brambles that may smother the hedge. Lightly trim the hedge in the first few years. Manage into a thick hedge allowing an access point for management of the pond.</p>	<p>Spinney Minety Barberry</p>	Winter	Annually	Grounds team	<p>(A) <i>Triturus pond is a 'mitigation' pond, created, managed, and monitored as part of our Natural England Great Crested Newt licence and a requirement of the planning application that allowed Minety and Barberry Villages to be built.</i></p>

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Specific management tasks					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
<p>(B) Seasonal (Ephemeral) Ponds (Minety/Spinney/Barberry) These ponds should be planted using the soft landscaping plan for each village.</p> <p>(C) Footprint 1 pond- Barberry Village – This will be re-created at the end of the development as per the GCN licence from Natural England. Discuss management options at that time.</p> <p>(D) Minety Island Pond – clear any scrub growth around the pond and make sure Bulrush (<i>Typha latifolia</i>) doesn't take over</p>					<p>(B) <i>Seasonal ponds – these ponds hold water for some or all of the year, or may dry out. They have high value to wildlife provided they have been planted as per the soft landscaping scheme approved when planning was granted.</i></p> <p>(C) <i>Footprint 1 Pond was the original GCN breeding pond. This needs to be managed and monitored as per the Natural England licence.</i> <i>This pond should be around 500-700m2, deeper than 50cm, with lots of aquatic plants.</i></p>
<p>Islands on Lakes</p> <p>(A) Clearwater Coppice sections of scrub on Clearwater Island annually (on a 7 year rotation), creating a mosaic of trees, open areas and scrub of different ages.</p> <p>(B) Minety Monitor the pond for reed coverage and remove reeds as necessary to stop the pond drying out. Manage bramble and scrub growth in the wildflower areas of the island and on the bare gravel areas. Manage self-seeded alder and willow on the lake margins by coppicing the self-set trees on rotation around the island margin. Monitor the health of trees. Set the Swift Tower calling system to work between 8am-11am; 2-4pm; and 6-9pm. Please note the BASS dial should be set to minimum and the Treble dial at Maximum. Volume should be no more than ¼.</p> <p>(C) Spinney Island (A) Coppice willow and alder on northern end of island every 5 yrs to keep the gravel beneath open for colonisation by Stoneworts (purple area on plan). Cut reeds on south west end annually to keep gravel open for charophytes (orange area on plan). Other reeds around the island will need to be cut on rotation if they begin to scrub up. Manage scrub on island so the island remains a mosaic of scrub and open areas – Stonewort conservation.</p>	<p>Clearwater Minety Spinney Barberry</p> 	<p>1st Sept to 28th/29th Feb (inclusive) for any scrub clearance</p> <p>September for cut and collect</p>	<p>Annually</p>	<p>Grounds team</p>	<p>(A) <i>Creating a mosaic of habitats on this island will provide a wide range of nesting and roosting options for birds; resting sites for otter; and good conditions for a range of invertebrates.</i></p> <p>(B) <i>Minety Island is a range of habitats comprising a pond, otter holt, swift tower, scrub, trees, bare ground and wildflowers.</i></p> <p>(C) <i>Spinney Island is managed for a range of species including nesting waterbirds; nesting Reed buntings and Reed warblers; Roosting Starlings; Otters; and Charophytes (Stoneworts) which are aquatic plants that live on the gravels around the island margins. The recommendations for maintaining the optimal conditions for charophytes is set out by the independent Aquatic macrophyte surveyor.</i></p>

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LME – LEMP (2020 – 2027) – SECTION ONE

Specific management tasks						
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments	
<p>Spinney Islands (B & C) These islands should be kept clear of scrub in the centre and reeds cut around the islands on rotation (orange area on plan) – Stonewort conservation.</p> <p>(D) Barberry Island Meadow grass areas to be cut and collect once annually. Trees to be monitored for health and managed to ensure the island has a mix of shaded and unshaded meadow grass.</p>					<i>The two smaller islands (B & C on the plan) should be retained as open in the centre with a reed fringe. This means Spinney lake supports islands with varied substrates (gravel and vegetated) to support a wider range of wildlife species. Cutting the reed on rotation will keep clear areas of gravel below water level to support charophytes.</i>	
Mill Race	Clear a central channel of excess weed and emergent vegetation, leaving a buffer of marginal vegetation (i.e. a 1m fringe in the water on each side) on either side. No cleared vegetation to be left piled on the banks.	Mill Village from Mill to Round House	September/October	Annually	Grounds team	<i>This must be done with great care for the potential presence of Water voles. Enter and leave the water in as few places as possible to avoid damaging Water vole burrows. Clear any cuttings away from the bankside so Water vole burrows are not blocked.</i>
Spillway	<p>(i) Clear a central channel annually, leaving a buffer of marginal vegetation (i.e. in the water) on either side. No cleared vegetation to be left piled on the banks.</p> <p>(ii) Make a new Kingfisher perch with 2 perch heights so that it is usable even at high water level.</p>	<p>(i) Spinney</p> <p>(ii) Clearwater</p>	1 st Sept to 28 th /29 th Feb (inclusive) for any scrub clearance	Annually	Grounds team	<i>This is also known as the Flood route and is from Spinney Lake to Somerford Lagoon.</i>
Flagham Brook	<p>(i) Ensure a buffer of uncut vegetation long the Flagham Brook where it passes through Howells Barn.</p> <p>(ii) Ensure bamboo spreading outside of Howell Barn is treated and removed</p> <p>(iii) Manage the reeds in the centre of the channel as necessary to create a channel through the centre.</p> <p>(iv) Strim 1/3rd of each bank annually and remove cuttings. Do not strim patches opposite each other in the same year.</p>	<p>(i) Howells Barn</p> <p>(ii) Howells Barn</p> <p>(iii) In front of the 9s</p> <p>(iv) Between Clearwater and Howells Mere</p> <p>Refer to Fig 12: Flagham Brook Corridor</p>	<p>(i) 1st Sept to 28th/29th Feb (inclusive) for any scrub clearance</p> <p>(ii) Ongoing</p> <p>(iii) Autumn/winter</p> <p>(iv) 1st Sept to 28th/29th Feb (inclusive) for any scrub clearance</p>			<i>Water voles were recorded in Flagham Brook and the pond in Howells Barn in 2019.</i>
Top of Spillway between the River	The concrete area/base between the River Thames and Spinney Lake needs to be kept clear of vegetation throughout the	River Thames/Spinney lake	Year round	Annually	Grounds team	<i>This is an Environment Agency stipulation.</i>

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Specific management tasks					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
Thames and Spinney Lake					
<p>year. This will involve strimming in this area. Do not cut vegetation either side of the concrete base.</p> <p>Nature corridors</p> <p>(A) Lakeshore Reserve (Refer to Fig 8: Lakeshore Reserve):</p> <ul style="list-style-type: none"> • Manage pond so that there is 2/3 submerged pond cover on the pond bottom and ¼-^{1/2} emergent vegetation on the pond surface. The remaining ¾- ½ of the pond surface should be kept open for the newts to display in. • Cut scrub around the pond on 7 year rotation (i.e. a different 1/7th cut every year). Cut brash to be made into brash piles around the pond. • Manage scrub in the corridor to create a continuous corridor for wildlife. • Check Blackthorn in the nature corridor for eggs of Brown hairstreak butterfly. <p>(B) Minety/Spinney Nature Corridor adjacent to ML26 – Make sure area remains separate to the garden of ML26 and that it is managed as a nature corridor.</p> <ul style="list-style-type: none"> • Manage ponds as detailed above in (A). Plant Aquatic mint (<i>Mentha aquatica</i>) in ponds. • Manage areas of Meadow Grass in the same way as the Wildflower areas on site. Leave a buffer of uncut grass around each pond. • Water vole bank (ML27) – Allow grass to grow the full length of this bank and keep grass uncut 50cm back from the top of the bank. Allow a small amount of scrub on the bank but do let the whole bank scrub over. 	<p>(A) Lakeshore Reserve (B) Minety/Spinney (C) Minety Lake West (D) Barberry Village</p> <p>Refer to Fig 14: Nature Corridors</p>	(A) Winter	Annually	Grounds team/Ecologist	<p><i>These nature corridors have been created specifically to connect Swillbrook Lakes with Spinney Lake through Barberry and Minety Villages. This provides a natural corridor through which wildlife can move. These corridors need to be managed carefully and differently to other areas of the villages.</i></p> <p><i>The road verge and hedgerow along Minety Lane is important Roman snail (<i>Helix pomatia</i>) habitat on both sides of the LME boundary fence.</i></p>

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Specific management tasks					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
<p>(C) Minety Lake West – along the boundary fence connecting to Barberrry Village:</p> <ul style="list-style-type: none"> All the grass in this area is Meadow grass and should not be cut as amenity lawn. Plant a native, mixed-species hedgerow along the boundary fence to create a nature corridor and enhance the existing hedgerow which is Roman snail habitat. <p>(D) Barberrry – This area is an important area for Great crested newts (GCN) and forms part of the planning conditions and Natural England licencing.</p> <ul style="list-style-type: none"> <u>GCN underpass</u> – keep both ends of the underpass clear to allow passage by wildlife. <u>GCN Bridge</u> – Restrict access to the bridge apart from for maintenance. Ensure vegetation grows as per the landscape plan. Create stone and log-pile hibernacula. <u>Meadow grass area</u> – Meadow grass is an important habitat for GCN as they spend much of their life out of water. This area should be managed by strimming a different section annually. Cut to a height of 15cm. Only cut on hot, dry days (this minimises any potential risk impact on Great crested newts). Remove arisings and create egg-laying heaps for grass snakes. <u>GCN pond</u> - Manage the ponds to create optimal habitat for Great crested newts. <ul style="list-style-type: none"> (i) Ensure a good quantity of Aquatic mint (<i>Mentha aquatica</i>) is growing in each pond. Plants can be translocated from other areas of the Estate. 					

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Specific management tasks						
Management & Monitoring Task/s		Location/Area	Timing	Frequency	Responsibility	Comments
	<p>(ii) Manage 1/3rd of scrub around the ponds annually – creating access around the ponds for surveying. Create brush piles from cut material to make refuges for the newts and reptiles.</p> <p>(iii) Strim 1/3rd of grassland in the 5m from the pond edge annually in hot/dry weather only. This prevents scrubbing up.</p>					
Orchard (Mill Village)	<ul style="list-style-type: none"> The orchard trees are to be carefully pruned to maximise cropping. Any new trees added to the orchard should be Gloucestershire and/or local heritage varieties Allow longer grass and wildflowers to establish in areas of the orchard to create habitat for pollinators Add natural log bee hive to orchard 	Mill Village Orchard	Ongoing	Ongoing	Grounds Team/Gloucestershire Orchards Trust	<p><i>Many heritage varieties of fruit trees are on the verge of extinction. The Gloucestershire Orchard Trust will help with information and stocking of heritage trees and will also help with information on pruning.</i></p> <p><i>This area has communal access although this has not been widely utilised in the past.</i></p>

General landscape management					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
<p>(A) Existing trees</p> <p>(i) Maintain in safe condition and promote healthy growth. Achieve good form and longevity.</p> <p>(ii) Carry out regular inspections of the trees.</p> <p>(iii) Remove dead branches.</p> <p>(iv) Carry out formative pruning and selective thinning where appropriate, consider coppicing annually in autumn.</p> <p>(B) New tree and shrub planting</p> <p>(i) Trees and shrubs should be native, local provenance & British grown.</p> <p>(ii) Deciduous trees/shrubs - Plant late Oct-late March</p> <p>(iii) Conifers/Evergreens –Plant Sept/Oct or April/May</p> <p>(iv) Herbaceous plants –Plant Sept/Oct or March/April</p> <p>(v) New trees/shrubs./plants must be protected from damage by deer/rabbits/livestock.</p> <p>(vi) Trees should be held in place with stakes placed between the tree and the likely direction of the wind (i.e. if wind is westerly the stake should be fixed on the west side).</p> <p>(vii) Remove tree stakes and ties.</p> <p>(C) Watering</p> <p>(i) Water for first 2 years or until plants have established. Watering should continue beyond the 2 years if the plants are still not established.</p> <p>(ii) During wet summers the frequency of watering can be reduced and in hot, dry summers can be increased.</p> <p>(D) Weeding</p> <p>(i) Maintain weed free a minimum of 1m radius mulch area around each tree.</p> <p>(ii) Neatly trim the grass to the circle, ensure mulch is contained within circle and is at a depth of 50-75mm.</p> <p>(E) Native hedgerow planting</p> <p>(i) Carry out formative pruning to ensure a good shape. Plants between houses are to be cultivated to form an informal screen.</p> <p>(ii) Prune out old wood (depending on species) to promote new growth, particularly for species which exhibit winter twig colour.</p>	Villages	(B) (vii) - 4 years after planting remove tree stakes and ties	Annually	Grounds team	<p><i>New polytunnels should allow the growing of shrubs and perennials which are needed as replacements to any that fail or are eaten by herbivores such as deer and rabbits. This will enhance the sustainability of the soft landscaping on site.</i></p> <p><i>Tree workers/Contractors must work in accordance with BS3998: 2010 'Recommendations for Tree Work'.</i></p> <p><i>No tree clearance/maintenance, during Breeding Bird Season between 1st March and 31st August unless the tree presents a significant health and safety issue.</i></p> <p><i>Bat checks to be made on large trees that need felling/works.</i></p> <p><i>Look to change to electric leaf blowers if they must be used. Leave some leaves beneath hedges to create the natural leaf mulch which is important habitat for invertebrates, amphibians and small mammals.</i></p>

General landscape management					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
<p>(iii) Ensure specimen shrubs have sufficient space to develop by pruning ground cover if overcrowding occurs.</p> <p>(iv) For species that flower on second year wood, prune out second year after flowering retaining that years new growth.</p> <p>(v) Cut plants back where they overhang hard surface and grassed areas excessively</p> <p>(vi) Allow to grow to a height sufficient to be an effective screen; prune sides as necessary to avoid encroachment to other areas.</p> <p>(vii) Retain leaf litter at hedge bases.</p> <p>(F) Native shrub plants and Ground cover</p> <p>(i) Carry out formative pruning to ensure a good shape. Plants between houses are to be cultivated to form an informal screen.</p> <p>(ii) Prune out old wood (depending on species) to promote new growth, particularly for species which exhibit winter twig colour.</p> <p>(iii) Ensure specimen shrubs have sufficient space to develop by pruning ground cover if overcrowding occurs.</p> <p>(iv) For species that flower on second year wood, prune out second year <i>after flowering</i> retaining that years new growth.</p> <p>(v) Cut plants back where they overhang hard surface and grassed areas excessively.</p> <p>(vi) Remove invasive species such as bamboo, birch, ash, alder willow etc but allow colonisation by desirable native species such as buttercup.</p> <p>(vii) Keep beds weed free and maintain mulch depth in the range of 50-75mm until 100% cover of the beds has been achieved.</p> <p>(G) Hard landscaping</p> <p>(i) Carry out regular inspections of hard standing areas, particularly in autumn when leaf fall may be a problem.</p> <p>(ii) Collect leaves using leaf blower/sucker and use to make a leaf mould compost. Retain leaves underneath hedgerows.</p> <p>(iii) Place leaves into a chicken wire frame supported by stakes. Moisten periodically if it dries.</p> <p>(iv) Leafmould can be used as mulch, soil improver or winter covering for bare soils. Leafmould forms an</p>					

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General landscape management					
Management & Monitoring Task/s	Location/Area	Timing	Frequency	Responsibility	Comments
<p>invaluable soil conditioner which can be used in soils around plants in developed areas.</p> <p>(v) Sweep and remove litter as necessary, particularly important immediately after resin has set and for the following few weeks as loose gravel could cause slippage.</p> <p>(vi) Clean areas to remove built up debris that may cause slipping, or looks unattractive.</p> <p>(vii) Replace/repair areas that are broken and damaged as soon as possible.</p> <p>(viii) Control spread of herbaceous growth by selectively pulling out plants. Cut back remaining herbaceous growth as appropriate.</p> <p>(ix) Rake gravel between properties, redistributing if necessary to give even coverage.</p> <p>(x) Regularly inspect seats, tables, bollards, lighting columns & information boards, for damage, dirt, graffiti, wear, and malfunction. Instigate repair, cleaning, repainting as necessary.</p>					