

HEYFORD PARK, PHASE 9, BICESTER

LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

4 ACRE ECOLOGY DOCUMENT

January 2021

4 ACRE ECOLOGY: MANAGEMENT AND MONITORING PROGRAMME (EXTRACT)

8. Management and Monitoring Programme

Habitat/Feature	Objective	Proposed Management	Proposed Monitoring	Performance Indicators		Remedial Actions
				Poor	Good	
Bats	Ensure no bats or bat roosts are negatively impacted upon during demolition and operational phases. Enhance the ecological value of the site and maintain the conservation status of bats in the local area.	A precautionary approach with regard to the demolition of the buildings via site registration under a Bat Mitigation Class Licence	Annual inspection of bat boxes to determine use	Additional bat roost recorded demolition delayed	Different species using bat boxes and commuting and foraging around site	Review lighting plan and provide further enhancements
Badgers	Ensure no badgers or setts are impacted upon during the demolition and operational phases.	A precautionary approach with regard to the demolition of the building and site clearance works	Pre-commencement badger walkover to be undertaken by a suitably qualified ecologist.	Badger sett recorded on-site; site clearance and demolition delayed	No badgers recorded on-site.	Review mitigation works and habitat management.
Birds	Protection of nesting birds that may be present within the existing hedgerow, trees and shrubs.	Undertake any clearance or management work outside the bird nesting season between 1 st March to 31 st August, a pre-commencement check will be required by a suitably qualified ecologist	Ecologist to carry a pre-commencement check for active nests if required	Nesting bird activity is recorded leading to proposed works being delayed.	No nesting birds are present within the specified habitats	Works only to proceed outside the nesting season or where no active nests have been confirmed by a suitably qualified ecologist.
GCN	Protection of GCN in terrestrial habitat thus maintaining favourable conservation status within the area.	Undertake site clearance and groundworks works under working method statement between 1 st March to 30 th October	GCN licenced ecologist to carry out pre-commencement check of grassland habitat and any rubble piles.	GCN are found to be present delaying ground clearance works and demolition	No GCN are present within the specified habitats	Works only to proceed between 1 st March 30 th October when GCN are active and where no GCN have been confirmed by a suitably qualified ecologist.
Reptiles	Protection of Reptiles that may be present within the existing semi-improved grassland habitat	Undertake site clearance and groundworks under working method statement between 1 st March and 30 th October	Suitably qualified ecologist to carry our pre-commencement check and supervise clearance of semi-improved grassland.	Reptiles are found to be present delaying ground clearance and ground works.	No Reptiles are present within the specified habitats	Works only to proceed between 1 st March and 30 th October when reptiles are active and where no reptiles have been confirmed by a suitably qualified ecologist.

Supplementary planting of hedgerow	Ensure satisfactory establishment and growth of new planting	Plant species listed in section 5.4 and protect with appropriate guards.	All trees to be inspected annually by a qualified arborist for the successful establishment and health of the trees	Poor growth of individual plants	Healthy plants with good habitat structure	Replace any plants that die within the first five years with the same species.
		Water trees in first two years between April-September if required. In subsequent years water if drought stressed	Monitor health of individual trees (retained and newly established)	Wilting plants with poor growth	Healthy plants with expected growth rate	Review frequency of watering
	Maintain planting in a healthy and attractive condition, to retain their contribution to the landscape structure, biodiversity, food source to wildlife, and amenity value.	Stakes ties and guards are to be checked	Monitor efficiency of stakes, ties and guards monthly from March to October, or following hard frosts and high winds.	Poorly supported or damaged plants	Well established plants	Stakes guards and ties adjusted or replaced as necessary to prevent damage to the tree. After the third-year stakes and ties are to be removed if plants are self-supporting.
		Pruning as required weeding at base of new plantings to reduce competition	Retained and newly planted hedgerow to be inspected annually by a qualified arborist for disease and damage	Poor growth of individual plants	Healthy plants forming intact hedgerow	Remedial work to be carried out as required to meet objective.
	Retain dead wood at the site for biodiversity value within the hedgerow.	Dead wood and suckers to be removed as required to ensure the development of a main leader. Where possible some dead wood has to be left for biodiversity value.	Monitor presence of dead wood and suckers plus the associated health and establishment of the plant.	Poorly developed plant. No dead wood for biodiversity	Well established plants. Some dead wood for biodiversity	Review frequency of monitoring and management practices.
New tree and shrub planting	Ensure satisfactory establishment and growth of new planting	Plant species listed in 5.21 protect with appropriate guards	Monitor successful establishment of individual plants	Poor growth of individual plants	Health plants with good habitat structure	Replace any trees that die in the first five years. Replace any shrubs that die within the first three years with the same species.
		Maintain a weed free 1.4m diameter area around the trees and shrubs through mowing, mulch mats or herbicide spray for first three years then as required. If mulch mats are used	Monitor growth of competitive weeds around individual trees and shrubs.	Excessive weed growth competing for resources	Lack of weed growth around new trees and shrubs	Review intensity of weed treatment increase/decrease as appropriate.

		ensure there is a 10cm gap around the trunk of the tree to avoid the bark rotting.				
		Water new shrubs if they show signs of drought stress	Monitor health of individual trees and shrubs	Wilting plants with poor growth	Healthy plants with expected growth rate	Review frequency of watering
		Use of stakes, ties and guards are to be checked	Monitor efficiency of stakes, ties and guards during each visit for the first five years	Poorly supported or damaged plants	Well established plants	Stakes, ties and guards adjusted or replaced as necessary to prevent damage. To be removed after five years.
	Maintain planting in a healthy and attractive condition, to retain their contribution to the landscape structure, biodiversity, food source to wildlife and amenity value	General pruning completed as necessary to remove damaged vegetation limited to maintain the natural shape of the plant.	Monitor health and distribution of individual plants	Poor growth and structure	Desired structure and distribution	Review frequency and method of cutting. Re-plant any trees or shrubs lost.
Species rich hedgerow margin grassland	Ensure satisfactory establishment of grass margin sward	Plant grass mix Emorsgate EHI hedgerow mix in autumn or spring	Monitor Successful establishment of grassland.	Poor establishment of sward structure and species distribution	Healthy sward and good species distribution and diversity	Re-seed as appropriate in the spring or autumn.
		In the first year the margin will be mown regularly March to November to a height of 40-60mm with arisings removed if dense				
	Maintain healthy and diverse sward cut appropriately to its function and use	After the first year a zoned management of the grassland margin will be implemented. With the grass at the hedgerow edge allowed to become rough and tussocky. This section of grassland will be cut bi-annually. The remaining grassland margin will be cut three times a year in March, July and November with the arisings removed.	Monitor sward structure	Poor sward structure, species distribution and diversity	Health sward and good species distribution and diversity	Review cutting regime and increase/decrease as appropriate

Species rich semi-improved grassland meadow	Ensure satisfactory establishment and growth of semi-improved grassland	Use general wildflower meadow mix Emorsgate EM3 to create a species rich meadow grassland to be sown in the spring or autumn.	Monitor successful establishment of the grassland	Poor establishment of sward structure and species distribution	Healthy sward and good species distribution and diversity	Re-seed as appropriate in the spring or autumn
		In the first year the grassland will be mown regularly to a height of 40-60mm with the arisings removed if dense between March to November				
	Maintain healthy and diverse sward cut appropriately to its function and use.	After the first year the grassland will be managed as a traditional hay meadow with the main cut taken in late July/early August. The cuttings will be left on the ground for 1-7 days before removing, to allow the seed to shed. The re-growth will then be cut in November to a height of 50mm with a further cut in March if required. All arisings will be removed	Monitor sward structure	Poor sward structure, species distribution and diversity	Healthy sward and good species distribution and diversity	Review mowing regime and increase/decrease as appropriate.
SuDs Scheme	Create a Sustainable Drainage system.	SuDs scheme will comprise a system made up of a network of swales, soakaways, infiltration trenches and attenuation pond with pollution controls, to take away water run-off from development site into the general water course. Any grassland planting should be Emorsgate EG22C a grass mix recommended for Suds systems.	Monitor SuDs system	System fails to take away water run-off. Polluted water enters the general water course.	Water run-off is removed from the development site un-polluted water enters the general water course	Review SuDs system as appropriate.
	Ensure silt accumulation does not affect the free flow of water or vegetation establishment.	Silt removal: scarify and spike topsoil to improve infiltration, break up silt deposits and prevent compaction of surface soil.	Monitor Silt accumulation	Silt accumulation affecting water flow and vegetation establishment	Free water flow and good establishment of vegetation.	Review silt accumulation and management requirements.
	Create attenuation basin for drainage and to improve biodiversity for amphibians and wildfowl	Plant species listed in section 5.48	Monitor successful establishment of plants	Poor establishment of plants and species distribution	Healthy plants and good species distribution	Poor establishment of vegetation to be re-planted in the spring or autumn. Review plant types alter where

						necessary to better suit conditions.
		Selective thinning of wetland vegetation	Monitor structure and health of plants in association with basin quality	Plants with poor structure and lack of species diversity.	Healthy plant structure functional and diverse. Water draining into basin and emptying slowly after.	Review management techniques and frequency.
Bird nest boxes, Bat boxes and invertebrate boxes	Create additional habitat for nesting birds, roosting bats and invertebrates.	Install-bird/bat/invertebrate boxes described in section 6	Annual monitoring of boxes for damage and use.	Damaged boxes/boxes not utilised by wildlife	Intact boxes used by intended species.	Repair/modify where necessary

10 Year Management Programme

Landscape Buffer and Green Corridor	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
Existing Trees	Annual inspection by a qualified arborist for disease, damage and potential problems-remedial work to be carried out as required					
Hedgerow and supplementary planting	Water between April and September as necessary		Water if showing signs of drought stress			
	Annual inspection by a qualified arborist for disease, damage and potential problems – remedial work to be carried out as required					
	Hand weed monthly March to October inclusive during the first year, reduced to bi-annually by year three		Remove weeds as necessary			
	During each visit check and replace ties, stakes and guards/shelters if necessary				Remove ties, stakes and guards/shelters once plants have established	
	Carry out general pruning to remove dead or damaged vegetation, but limit to the minimum necessary to retain the natural shape of the plant					
New trees and shrubs	Water between April and September as necessary		Water if showing signs of stress			
	Inspect trees annually in September and replace dead trees and shrubs in the next planting season					
	Annual inspection by a qualified arborist for disease, damage and potential problems – remedial work to be carried out as required					
	Check stakes, ties and guards monthly from March to October, inclusive and after frosts or high winds and adjust or replace as necessary		Remove stakes and ties if trees are self-supporting			
	Maintain 1.4m diameter area around trees and shrubs weed free through mowing, mulch mats or herbicide					
	Remove dead wood where necessary, and suckers as required					
EH1 Hedgerow grass margin mix.	Cut grassland bi-monthly to a height of 40-60mm with arisings removed if dense March to November. Remove pernicious weeds by hand or spot herbicide spray.		Grassland at edge of hedgerow cut to 100mm height in year 3 then bi-annually. Remaining grassland margin cut three times per year March, July and November to a height of 40-60mm with all arisings removed.			
EM3 Wildflower meadow grassland mix	Mow grassland in March, July and November to a height of 40-60mm with arisings removed if dense		Grassland managed as hay meadow with main cut in late July/early August. Arisings to be left on the grassland for 1-7 days to allow seed to be shed before removing. Re-growth to be cut back to 40-60mm in November with arisings removed. If required cut grassland in March to a height of 40-60mm with arisings removed			

SuDs Scheme	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
SuDs	Remove litter, leaf fall, undesirable weeds and debris monthly. Dispose off-site					
	Selectively thin 35%-55% of the vegetation annually to establish and maintain plant distribution and diversity. Vegetation to be cut in the autumn/winter with arisings left on the bank for 1-2 days before removing the arisings.					
	Re-plant areas of poor vegetation growth in next planting season. Amend plant type to better suit conditions if required					
	Maintain 50% of open area in attenuation basin. Review SuDs scheme and management if basins holding water.					

Species Enhancements	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
Bat Boxes	Checked annually by a licenced bat ecologist.					
Bird Nest Boxes	Checked annually between November and February, with repairs and modifications as necessary. Relocate bird boxes to a different area of the site in year 6 if boxes are showing no signs of use.					
Habitat Piles	Checked as part of general site maintenance and repairs undertaken. Additional material added regularly from hedgerow and grassland management.					
Invertebrate Boxes	Checked annually between November and February, with repairs and modification as necessary. Relocate invertebrate boxes to a different area in year 6 if boxes are showing no signs of use					
Loggeries	Checked as part of general site maintenance					

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