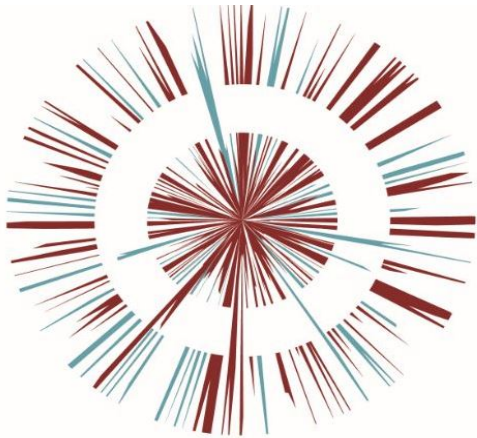




OMEGA ZONE 8, ST HELENS

Omega St Helens Ltd / T J Morris Ltd



Landscape & Ecology Management Plan – UNIT 1
UNIT 1 DOC. 8.

Ecological Assessments

Environmental Statements (Biodiversity)

Species Surveys

Phase I Habitat Survey

National Vegetation Classification

Planning Guidance

Habitat Regulation Assessment

Protected Species Licensing

42020 CEMP: Biodiversity

BREEAM LE01 - 05

Landscape & Ecology Management Plan (LEMP): Plot 1 - Unit 1



Plot 1, Omega Zone 8
St Helens, WA5 3UG



the **ecology** Practice

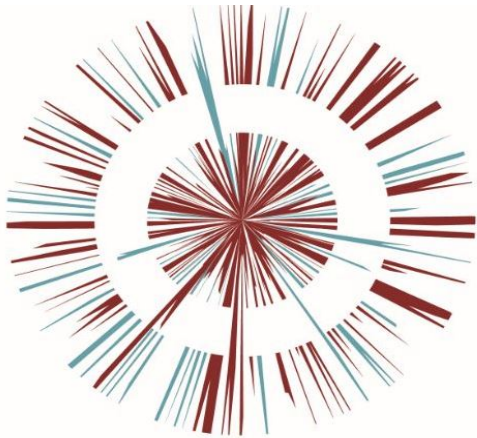
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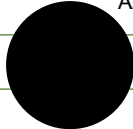
OMEGA ZONE 8, ST HELENS

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Landscape & Ecology Management Plan – UNIT 1
UNIT 1 DOC. 8.

REPORT STATUS

Issue/revision	Issue 1: DRAFT TO CLIENT	Issue 2: FINAL	Issue 3: AMENDED FINAL
Project No.	169-03		
Report Ref.	16903-LEMP (Unit 1)_A		
Date	25 ^h March 2020	26 th March 2020	03 rd August 2020
Prepared by	AA	AA	AA
Signature			
Reviewed by	CLIENT		
Signature			

INTRODUCTION

BACKGROUND

1. The following report has been prepared on behalf of Omega Warrington Ltd and provides a Landscape & Management Plan (LEMP) for works to be undertaken at Plot 1 (Unit 1), Omega Zone 8, St Helens ('The Site'). This document has been prepared following the British Standard 42020:2013¹.

Location & Site Description

2. The Site forms part of the Omega business estate located west of Warrington, falling just within St Helens District. It is immediately south of the M62, west of Junction 8, and west of the Warrington Borough boundary and Lingley Mere at GR SJ 550903.
3. The Site is dominated by arable land with woodland belts, a network of ponds and ditches, improved grassland and scrub habitat present. There is a brook along the Southern boundary of the Site from the northwest. Off-site woodland is present to the south, east and west of the Site.

Landscaping Proposals

4. A 31.15ha area forms Unit 1 and its landscaping, of which 19.4 is hardstanding (including buildings) and 11.75ha is set to landscaping. Of this landscaped area 5.50ha is ecologically important created habitat. The proposed works should reference the JB Landscape Associates landscape drawing set.²

¹ **The British Standards Institution 2013** BS 42020:2013 Biodiversity - Code of practice for planning and development. Published by BSI Standards Limited 2013. ISBN 978 0 580 77917 6

² **JB Landscape Associates** Drawing set 2138-PL001-1 *et seq.* Revision C

DESCRIPTION OF REMAINING ECOLOGICAL FEATURES TO BE MANAGED

Semi-Improved Grassland

5. A small semi-improved grassland verge extends onto the Site providing a c.1m verge. Scattered scrub, comprising of bramble *Rubus fruticosus agg.*, is present although in low abundance. Species noted include: Oxeye daisy *Leucanthemum vulgare*, Mugwort *Artemisia vulgaris*, Spear thistle *Cirsium vulgare*, Nettle *Urtica dioica*, Perennial ryegrass *Lolium perenne*, Doves-foot cranesbill *Geranium molle*, Rosebay willowherb *Chamaenerion angustifolium*, Cow parsley *Anthriscus sylvestris*, Creeping thistle *Cirsium repens*, Dandelion *Taraxacum sp.*, Cat's ear *Hypochaeris radicata*, Hoary willowherb *Epilbium parviflorum* and Field rose *Rosa arvensis*. Purple Ramping-fumitory *Fumaria purpurea* was also found present c.2-3m² on the Site, a S41, vulnerable and local BAP species. Refer to ES Appendix 9.10 & 11.

DESCRIPTION OF ECOLOGICAL FEATURES TO BE CREATED

6. Landscape design is shown in the JB Landscape drawing set². The species compositions are provided on the drawings and in Appendix 1.

Woodland and Hedgerow

7. The on-plot landscape scheme provides tree planting using 228 trees from a selection of 11 native trees (refer to Table 7). There are also a number of areas of mixed native planting totalling 1.42ha using mixes found in Table 9 to Table 11. Native hedges are to be provided throughout the scheme, totalling 1,185m.

Grasslands

8. The scheme creates 2 types of grassland to manage: a wildflower grass (2.36ha) found in Table 13 and a wet grassland (0.88ha) found in Table 14. There are other areas of amenity grassland, but these are not included in Ecological Management here.

Ponds

9. There are 2 large attenuation features to be provided. These will hold water throughout the year in their base but form larger basins to fill at time of greater attenuation, e.g. during heavy rain. They drain into the Whittle Brook, adjacent to the southern boundary. They provide a foci for emergent vegetation as described in Table 12, totaling 0.021ha. The attenuation features collectively provide for 0.064ha on average.

Figure 1 Unit 1 on-plot landscaping

Omega Zone 8, St Helens

Legend

- Site Boundary
- Vegetation to be cleared
- Existing vegetation to remain
- Area of Species rich grassland and Purple Fumitory to remain

Refer to JB Landscape
Associates drawing set 2138-
PL001-1

J B Landscape Associates

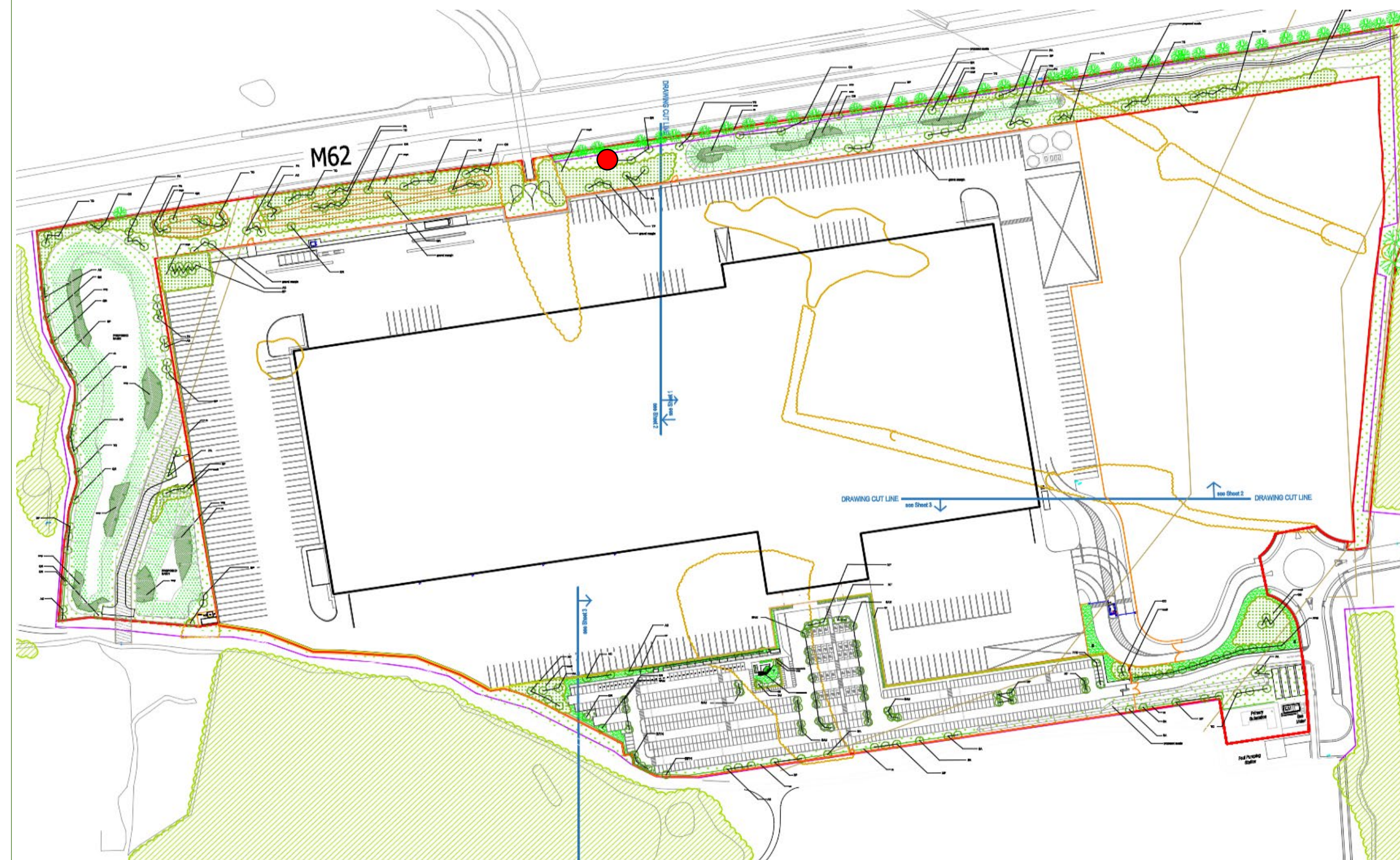


Drawing No.: 16903-04LEMP_A

Revision Dates			
A	B	C	D
25/03/20	03/08/20		

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Drawings are diagrammatic and not to scale. Refer to architect drawings for exact measurements

LANDSCAPE & ECOLOGY MANAGEMENT

ECOLOGICAL TRENDS

10. St Helens supports the North Merseyside Biodiversity Action Plan (NMBAP)³ which identifies the priorities for biodiversity locally to the Site and wider area. Table highlights those relative to the Site.

Table 1: Habitats and species from North Merseyside BAP.

Priority Habitat	Priority species
Lowland Mixed Deciduous Woodland	Brown Hare
Ponds	Bats
Field Boundaries	Lapwing
	Grey Partridge
	Song Thrush
	Skylark

ECOLOGICAL CONSTRAINTS

11. There is an existing area of species rich grassland, highlighted in the CEMP: Biodiversity, and JB Landscape Associates drawing set 2138-PL001-1, which should fall within grassland management.
12. The Site lies close to the M62 motorway.

³ <http://www.merseysidebiodiversity.org.uk/>

AIMS AND OBJECTIVES OF MANAGEMENT.

13. The aims and objective of this LEMP are broken down in Table 2 and should be read in conjunction with Table 3 to Table 5.

Table 2: Aims & Objectives

Aim	Objective
1. Increase the biodiversity value of created Woodlands & Hedgerows	WH1 Seed redistribution
	WH2 Replace failed plantings
	WH3 Water planted areas in drought
	WH4 Rotational hedge trimming
	WH5 Rotational edge cut back
2. Improve the biodiversity value of grassland habitat	G1 Rotational Mowing
	G2 To remove young scrub and tree invasion
	G3 Purple Fumitory Management
	G4 Water seeded areas in drought
	G5 Hibernacula & Refugia
3. Encourage pond biodiversity and protected species colonisation	PO1 Emergent Vegetation
	PO2 Rotational Mowing
	PO3 Shading
	PO4 Vegetation Management

MANAGEMENT PROJECT REGISTER

14. Management tasks for each aim and objective are outlined below and re to be read in conjunction with Table 6.

Table 3: Aim 1 - Increase the biodiversity value of created Woodlands & Hedgerows.

Objective	Tasks
WH1 Seeding	<ul style="list-style-type: none"> a) An ecologist to collect seed from hedgerows and woodland on the Site prior to clearance. b) Store seeds in the appropriate manner (see https://www.forestresearch.gov.uk/tools-and-resources/seed-storage/) c) Sow seeds into new planting areas in the first year of planting
WH2 Replace plantings	<ul style="list-style-type: none"> a) Failed saplings to be reusing a recognised placed with like for like plants as soon as reasonably possible (see landscape maintenance schedule)
WH3 Watering	<ul style="list-style-type: none"> a) In cases of drought, trees will require watering every day with freshwater for as long as the drought continues. b) Newly planted hedgerows will require regular watering and monitoring.
WH4 Rotational trimming (hedges)	<ul style="list-style-type: none"> a) Hedgerows are to be trimmed every 3rd year, on an annual 15m length rotation, trimming towards an A-shaped section and approximately 2-3m minimum bottom width, allowing the shrubs to produce more flowers and berries. a) Annual maintenance actions will include the selective spraying/streaming of weeds along all hedgerows, being careful of damaging any hedgerow or tree roots. b) All hedgerow maintenance actions to take place as late as possible in the autumn, to allow fruit and berries to be available for foraging birds.
WH5 Rotational trimming (woodland edge)	<ul style="list-style-type: none"> a) Woodland edges are to be trimmed every 5th year, on an annual 15m length rotation, allowing the ecotone shrubs to produce more flowers and berries. b) Annual maintenance actions will include the selective spraying/streaming of weeds along all edges, being careful to avoid damaging any tree roots. c) All maintenance actions to take place as late as possible in the autumn, to allow fruit and berries to be available for foraging birds.

Table 4: Aim 2 - Improve the biodiversity value of created grassland habitat.

Objective	Tasks
G1 Rotational Mowing	<ul style="list-style-type: none"> a) Mowing of bank and bank top vegetation on an annual rotational and compartment basis. In the first year, grassland areas should be cut (between 4-7cm) in October. In subsequent years cuts shall take place in March and September of each year to a height of between 10 and 15cm with localised mowing of tall, invasive ruderals in late-September and March. b) Wildflower areas should not be mown from early April to late July, August or early September. Cutting time is to be varied each year to prevent certain plants becoming dominant. If cutting takes place in July, uncut refuge should be left for invertebrates. c) Where grassland borders by ponds, it is preferable to establish long-grass margins at pond edges, rather than cutting grass right up to the pond edge, as this provides important areas of terrestrial refuge at pond margins. d) Grassland pond margins should be cut on a rotational basis (e.g. 1/3 margin every year), such that there is always an area undisturbed vegetation maintained. e) All arisings from any cut are to be removed or placed in piles close to ponds or woodland edges. f) It may be appropriate to designate non-intervention areas of grassland, where there is no cutting and long grass/scrub is allowed to establish.
G2 Scrub and tree invasion	<ul style="list-style-type: none"> a) Remove occasional overhanging branches, thin to remove weaker specimens ensuring that scrub and trees do not invade access routes. b) New scrub/tree growth in areas of grassland and pond habitat to be removed by hand, pulling roots out at the same time.
G3 Purple Fumitory	<ul style="list-style-type: none"> a) Removal of encroaching scrub from grassland verge, and to 2m where possible (G2); b) Prevent future encroachment of scrub onto grassland verge. Annual cutting back of scrub <u>only</u> to be undertaken between mid- September – February (outside flowering period); c) Monitor the presence of <i>Fumaria purpurea</i> over a 5-year period (annual monitoring visit by an ecologist) to ensure the plant is not reducing in area coverage;
G4 Watering	<ul style="list-style-type: none"> a) Areas of seeded grassland require watering in times of drought. b) Where areas of grassland die or fail to establish, they should be reseeded and watered until established.
G5 Hibernacula & Refugia	<ul style="list-style-type: none"> a) Piles of any cut vegetation arising from management operations, such as grass cuttings, brash, logs etc. can provide shelter and refuge. b) Piles should be left at pond edges/ hedgerows/in inconspicuous out of the way places.

Table 5: Aim 3 - Encourage pond biodiversity and protected species colonisation.

Objective	Tasks
PO1 Emergent Vegetation	a) Ponds on site to be additionally planted with species suitable for GCN egg-laying (refer to Table*). b) Where emergent vegetation fails to establish, replanting with like-for-like species should take place. c) Annual removal of excessive emergents to avoid a pond becoming choked should be carried out using hand tools. d) Any removed plant material should be left on the bankside for at least 24 hours to allow animals (amphibians & invertebrates) to return to the pond.
PO2 Rotational Mowing	a) Pond embankments should be mowed on a rotational basis (1/3 surrounding vegetation every year) such that there is always an area undisturbed vegetation maintained. b) Wet seasonal grass areas should be strimmed and any arisings removed. c) Arisings to be placed in piles along woodland boundary.
PO3 Shading	a) Woodland edges are to be managed to ensure that ponds do not become over shaded by branches or scrub vegetation. Where shading exceeds >70%, scrub and tree removal to be carried out. b) For the first 5 years, restriction of grassland surrounding ponds being invaded by scrub c) Leaf litter in ponds should be moved after every 5 year period.
PO4 Vegetation Management	a) In cases where failed plantings/seeding has taken place, this is to be replaced as soon as reasonably possible with like for like plants/seed mix. b) Annual monitoring to assess plant establishment, and to control blanket weed and duck weed in the first 2 years. c) Careful thinning of pond vegetation both marginal and submerged will be undertaken at three yearly intervals, removing up to a third of all plant material. See PO1, PO2 and PO3 for other required vegetation management practices.

5 YEAR WORK SCHEDULE

Table 6: Scheduling the Tasks.

Objective	Task	Activity	Years					Months											
			1	2	3	4	5	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
WH1 - Seeding	a	Collection																	
	b	Seed Storage																	
	c	Sowing																	
WH2 - Replace Plants	a	Replacement					*												
WH3 - Watering	a	Daily Watering		As required								As required							
	b	Watering Hedgerows		As required								As required							
WH4 - Hedge Trimming	a	Trimming			*														
	b/c	Maintenance		As required															
WH5 - Edge Trimming	a	Trimming					*												
	b/c	Maintenance		As required															
G1 - Mowing	a	Mowing																	
	b/c	Mowing		As required															
	d	Margins		As required															
	e	Arisings		As required															
G2 - Scrub and tree invasion	a	Remove overhangs					*												
	b	Remove new growth					*												
G3 – Purple Fumitory	b	Annual Scrub Removal																	
	c	Monitoring																	
G4 - Watering	a/b	Water dry areas		As required															
G5 - Hibernacula & Refugia	a/b	Piles		As required															
PO1 - Emergents	a	Egg-laying plants																	
	b	Re-planting		As required															
	c	Emergent removal					*												
	d	Arisings																	

Objective	Task	Activity	Years				
			1	2	3	4	5
PO2 - Mowing	a	Mowing			As required		
	b	Strimming			As required		
	c	Arisings					
PO3 - Shading	a	Branch removal					*
	b	Scrub removal					
	c	Dredging					
PO4 - Vegetation Management	a	Replanting		As required			
	c	Monitoring		As required			
	c	Vegetation thinning					*

* - Asterix denotes a follow on is likely in the forthcoming 5 years during the Plan review (refer to 22)

Months											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

MANAGEMENT PERIOD

15. The management and annual work plan detailing works for all features can be found in Table 3 to Table 6 and are valid for 5-years.

MANAGEMENT RESPONSIBILITIES

16. The implementation of the management plan will be the responsibility of a new Management Company, funded by occupiers. This will account for the funding and legal mechanisms required for the long-term implementation of this landscape and ecology management plan.
17. Any transference of responsibility of this plan should be done so with the appropriate appointment of a competent organisation capable of delivering the measures outlined within this document.

MONITORING

18. Monitoring is to be undertaken to ensure that the appropriate management actions prescribed in this LEMP are delivering the proposed ecological objectives. Successful delivery of this LEMP will require the ability to modify management actions in response to monitoring outcomes.
19. Monitoring aims to check the success and progress against the aims and objectives and, if required, will provide strategies for implementing remedial measures to be agreed and implemented by the landowner.
20. A review of the LEMP is to be undertaken after 5 years.

APPENDIX 1

SPECIES MIXES

Table 7: Tree Planting

Latin Name
<i>Acer campestre</i>
<i>Betula pendula</i>
<i>Carpinus betulus</i>
<i>Cornus controversa</i>
<i>Malus floribunda</i>
<i>Prunus avium</i>
<i>Prunus fruticosa Globosa</i>
<i>Sorbus aucuparia</i>
<i>Sorbus aria Mitchelli</i>
<i>Tilia cordata</i>
<i>Quercus robur</i>

Table 8: Native Hedgerow

Latin Name
<i>Crataegus monogyna</i>
<i>Corylus avellana</i>
<i>Ilex aquifolium</i>
<i>Rosa canina</i>
<i>Viburnum opulus</i>

Table 9: Mixed Native Planting (1)

Latin Name
<i>Acer campestre</i>
<i>Alnus glutinosa</i>
<i>Betula pendula</i>
<i>Corylus avellana</i>
<i>Crataegus monogyna</i>
<i>Prunus avium</i>
<i>Sorbus aucuparia</i>
<i>Quercus robur</i>

Table 10: Mixed Native Planting (2)

Latin Name
<i>Alnus glutinosa</i>
<i>Betula pendula</i>
<i>Betula pubescens</i>
<i>Carpinus betulus</i>
<i>Crataegus monogyna</i>
<i>Prunus avium</i>
<i>Sorbus aucuparia</i>
<i>Quercus robur</i>
<i>Tilia cordata</i>

Table 11: Mixed Native Planting (3)

Latin Name
<i>Acer campestre</i>
<i>Corylus avellana</i>
<i>Crataegus monogyna</i>
<i>Ilex aquifolia</i>
<i>Malus sylvestris</i>
<i>Rosa canina</i>
<i>Sorbus aucuparia</i>

Table 12: Marginal Emergents

Latin Name
<i>Carex acutiformis</i>
<i>Iris pseudocorus</i>
<i>Phalaris arundinacea</i>
<i>Schoenoplectus lacustris</i>
<i>Typha minima</i>

Table 13: Wildflower Meadow

Latin name	Common name
<i>Agrostis capillaris</i>	Common Bent
<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Phleum bertolonii</i>	Smaller Cat's-tail
<i>Poa pratensis</i>	Smooth-stalked Meadow-grass
<i>Centaurea nigra</i>	Common Knapweed
<i>Daucus carota</i>	Wild Carrot
<i>Galium verum</i>	Lady's Bedstraw
<i>Leucanthemum vulgare</i>	Oxeye Daisy - (Moon Daisy)
<i>Malva moschata</i>	Musk Mallow
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Poterium sanguisorba</i> - (<i>Sanguisorba minor</i>)	Salad Burnet
<i>Prunella vulgaris</i>	Selfheal
<i>Rumex acetosa</i>	Common Sorrel
<i>Silene dioica</i>	Red Campion
<i>Agrostis capillaris</i>	Common Bent
<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Phleum bertolonii</i>	Smaller Cat's-tail
<i>Poa pratensis</i>	Smooth-stalked Meadow-grass

Table 14: Wet Meadow

Latin Name	Common Name
<i>Achillea ptarmica</i>	Sneezewort
<i>Angelica sylvestris</i>	Wild Angelica
<i>Caltha palustris</i>	Marsh Marigold
<i>Centaurea nigra</i>	Common Knapweed
<i>Eupatorium cannabinum</i>	Hemp Agrimony
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Geum rivale</i>	Water Avens
<i>Hypericum tetrapterum</i>	Square-stalked St John's Wort
<i>Iris pseudacorus</i>	Yellow Iris
<i>Lotus pedunculatus</i>	Greater Birdsfoot Trefoil
<i>Lycopus europaeus</i>	Gypsywort
<i>Lythrum salicaria</i>	Purple Loosestrife
<i>Mentha aquatica</i>	Water Mint
<i>Pulicaria dysenterica</i>	Common Fleabane
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Sanguisorba officinalis</i>	Great Burnet
<i>Silene flos-cuculi</i> - (<i>Lychnis flos-cuculi</i>)	Ragged Robin
<i>Succisa pratensis</i>	Devil's-bit Scabious
<i>Vicia cracca</i>	Tufted Vetch
<i>Agrostis capillaris</i>	Common Bent
<i>Alopecurus pratensis</i>	Meadow Foxtail (w)
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass (w)
<i>Briza media</i>	Quaking Grass (w)
<i>Cynosurus cristatus</i>	Crested Dogstail
<i>Deschampsia cespitosa</i>	Tufted Hair-grass (w)
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Hordeum secalinum</i>	Meadow Barley (w)



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