

LANDSCAPE AND ENVIRONMENT MANAGEMENT PLAN

JANUARY 2025

The Barns,
Lakeside View
Lower Road,
Halewood

**U R B A N
G R E E N**

QUALITY MANAGEMENT

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1. INTRODUCTION

- 1.1.1. This Landscape and Ecology Management Plan has been produced by Urban Green on behalf of MAC Group Ltd to provide a framework for the habitat creation, enhancement, and long-term management as part of the proposed residential development at 144 The Barns, Lakeside View, Lower Road, Halewood.
- 1.1.2. This Landscape and Ecology Management Plan brings together information from several other documents to provide a guide for the management and maintenance of the site for the 30 years / lifetime of the scheme.
- 1.1.3. This document should be read in conjunction with the drawings and reports provided by Urban Green, ref no.:
 - UG_2864_LAN_GA_DRW_001
 - UG_2864_LAN_HL_DRW_002
 - UG_2864_LAN_SL_DRW_003
 - UG_2864_LAN_SL_DRW_004
 - UG_2864_LAN_SL_DRW_005
 - Preliminary Ecological Appraisal 2024 (prepared by Tyrer Ecological Ltd)
 - Arboricultural Impact Assessment with Tree Protection Measures 2024 (prepared by Tyrer Ecological Ltd)
- 1.1.4. This report is structured as follows:
 - Section 2 sets out the management considerations and responsibilities to be taken onboard by the managing organisation.
 - Section 3 summarises the strategic vision of the management plan through a description of the key aims of the plan.
 - Section 4 provides an overview of the site, its current habitats and the proposed development.
 - Section 5 deals with the habitat creation and enhancement throughout the site; in respect of identifying and describing each landscape element proposed and existing as part of the proposed development.
 - Sections 6 describes the management and maintenance operations and services to be undertaken by the managing organisation to ensure the establishment and long-term interests of the site's ecology and landscape.
 - Section 7 sets the objectives of the maintenance specification and maintenance regime to fulfil the vision of the management plan.

- Section 8 provides the specific maintenance specification.
- Section 9 provided monitoring and review procedures.
- Section 10 provides detailed maintenance schedules for years 1 to 10 and onwards.
- Section 11 lists all relevant British Standards.
- Appendix 1 illustrates the arrangement of the proposed development.
- Appendix 2 provides details of the proposed soft landscape scheme.

2. MANAGEMENT CONSIDERATIONS

2.1. Management Responsibilities

- 2.1.1. The implementation of this management plan will be the responsibility of the landowner. Any transference of responsibility of this plan should be undertaken with the appropriate appointment of a competent organisation capable of delivering the detailed measures within this document.
- 2.1.2. This plan is not intended as a fully prescriptive or definitive 'maintenance' schedule but identifies key 'management and maintenance' requirements only.
- 2.1.3. The implementation of this plan will be undertaken by a management company with the necessary certificates of competence to implement landscape management operation on site. Where practical, contractors with experience in habitat creation and biodiversity management will be sought. The managing organisation will ensure that management complies with best practice standards and all relevant health and safety procedures, protection of the environment, avoidance of pollution and protection of protected species and habitats.

2.2. Health and Safety

- 2.2.1. The site will be managed to comply with all relevant health and safety legislation, approved codes of practice (ACOP'S) and Health and Safety Executive (HSE) guidance.
- 2.2.2. As the managing organisation will be the main company involved in on-site works, the managing organisation will fulfil the landowner's role and the work managers role. This places an obligation on the managing company to ensure that any contractor understands and fulfils their health and safety role and any work undertaken on the site will follow the guidelines of the HSE.

3. MANAGEMENT PLAN INTENTIONS

3.1. Vision of the Management Plan

- 3.1.1. The vision of this plan is to ensure that the management of the landscape, environmental and ecological features described within this document achieves the aspirations of the intended design and proposed planting. This will safeguard the provision of a valuable asset, which is welcoming and responds positively to the ecological and landscape context.
- 3.1.2. Good management and maintenance operations are integral to establishing and maintaining good design and biodiversity. This in turn provides favourable environments and conditions for people, flora and fauna.

3.2. Aims of the Management Plan

- 3.2.1. The main aims, below, guide the basis for the specific management operations of this plan, these include:

Aim 1: The sustainable management of existing vegetation: to retain existing trees and other vegetation that are worthy of retention, and to enhance their character, composition and age structure through positive management with consideration to long-term viability and health and safety.

Aim 2: To achieve a high standard of maintenance: to take measures to ensure the successful establishment and growth of new structural and incidental planting and to take appropriate long-term management measures to ensure the satisfactory appearance and sustainability of vegetation. To ensure that landscape components are replaced, augmented and/ or improved over time as appropriate.

Aim 3: To maintain and enhance biodiversity: to protect and enhance the nature conservation interest of both existing and new habitats and to ensure the adoption of management practices that enhance the biodiversity value of the site. To fulfil all legal requirements in relation to the protection and management of ecological features and the protection and management of target species including bats and birds.

Aim 4: To ensure health and safety: to uphold the duty of care that all landscape components are safe and that all reasonable steps are taken to minimise risk of injury and damage to people and property.

Aim 5: To provide a mechanism for monitoring and review: to ensure that management practices are monitored and where necessary reviewed on an annual basis in accordance with changing site circumstances.

4. THE SITE

4.1. Site Location and Description

- 4.1.1. The site is located in the area shown in Figure 1. The OS Grid Reference is SJ 45830 85927.



Figure 1 – Site Extent

- 4.1.2. SITE LOCATION –: The site is to the east of Halewood, between Liverpool and Widnes with agricultural land surround and new build housing and is located off Lower Road.
- 4.1.3. NOTABLE FEATURES –: The proposals is surrounding a large waterbody in the centre of the site. Immediately adjacent to the site, to the north is a newly completed Redrow housing development. Immediately to the southern boundary of the site is railway line with associated embankment and vegetation.

4.2. Existing Habitats

- 4.2.1. A PEA was undertaken by Tyrer Ecological Ltd in 2021, which found the following information on existing habitats.

- 4.2.2. EXISTING VEGETATION/ HABITAT – : The site currently contains areas of aquatic marginal vegetation, species rich neutral grass, neutral grassland, modified grassland, mixed scrub, trees, open water, with various areas of hardstanding and existing buildings.
- 4.2.3. Potential habitat provision was identified for species including bats, water vole and otters.

4.3. Designated Sites

- 4.3.1. DESIGNATED SITES INFO FROM ECO ASSESSMENT – : The development site is outside 2km from the Mersey Estuary Special Protected Area (SPA) and Ramsar site, which is within the Impact Risk Zone (IRZ).
- 4.3.2. Millwood & Alder Wood Local Nature Reserve (LNR) is the only statutory designated site within 2km of the site. The habitat includes broadleaf woodland with bluebells, neutral grassland, ponds and notable butterflies.
- 4.3.3. There are 6no non-statutory designated local wildlife sites (LWS) within 2km of the site. The closest of the sites are Ditton/ Netherley Brook LWS to the north, Cartbridge Lane Wood LWS further north, Greensbridge Plantation LWS to the north-west, Halewood Triangle LWS to the extended west and Flood Plain, Ditton Brook LWS to the extended east.

4.4. Protected and Notable Species

- 4.4.1. Multiple protected and notable species were considered within the assessment;

Species / Species Group	Details
Bats (all species)	INPUT FROM PRELIMINARY ECOLOGICAL APPRAISAL: Whilst following best practice guidance, the timber Hut and all trees on site are determined to offer 'Negligible' bat roost suitability in accordance with the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023). No specific trees amalgamated throughout the scrub and edges of the pond were noted as offering definitive bat roost suitability from the site walkover and no further surveys need be recommended in consideration of potential roost loss. However, the habitat is considered to offer 'Moderate' suitability given the presence of continuous well connected tree cover 'dark corridors' which will likely be used for essential foraging and commuting activity by bats known to the area, with the presence of woodland, scrub and freshwater bodies providing invertebrate prey.
Great crested newt (<i>Triturus cristatus</i>)	Risks to GCN are considered highly unlikely and no further surveys are recommended at this time.
Water vole & Otter	The ditch adjacent to the east boundary provides a potential suitable habitat for water vole breeding and could also be used by otter, subject to presence. Whilst the previous PEA dismissed impacts to water vole and otter, the proposals now encompass the whole pond and there is likely to be

	construction within 10 metres of the ditch adjacent to the east boundary, and as such off-site sensitive receptors could be impacted by development related activities, particularly, vibration, digging and piling, which could lead to an offence subject to the presence of water voles or their burrows and/or otters and their places of rest.
Specially Protected Birds	No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as barn owl or kingfisher and no further surveys or recommendations are necessary in relation to specially protected birds.
Common Reptiles	In respect of reptiles, no specific intervention measures other than that already outlined for amphibians, are necessary at this time.
Protected Invertebrates	No significant impacts are likely to occur from construction activity in respect to notable invertebrate assemblages.
Terrestrial Mammals	Regarding hedgehogs, a precautionary approach is recommended to be adopted considering likely presence of this species in the landscape. No impacts are anticipated or recommendations necessary concerning badgers or brown hares.

4.5. The Proposals

4.5.1. MAC Group Ltd have submitted a planning application for permission for the building of 15 no. dwellings. The scheme will incorporate the following:

- a) Access roads varying in character and private driveways for vehicular access to the dwellings and through the site;
- b) Rear garden boundary treatment to provide defined and secure garden spaces for residents;
- c) Soft landscape works shall incorporate tree planting to frontages of the properties, and along the new road to provide a tree lined aesthetic. Ornamental shrub used to define extent of front gardens;
- d) Areas of retained trees wherever possible;
- e) Public open spaces, featuring lake side access, native shrubs, trees, and ornamental planting, for recreation and habitat opportunity;

5. HABITAT ENHANCEMENT AND CREATION

5.1. Enhancement of Retained Habitats

5.1.1. As part of the proposed development, an area of existing buffer vegetation to the railway line on the southern boundary will be retained and enhanced through additional planting. The enhancement works will aim to improve the general condition of the existing habitats and therefore increase the biodiversity on site. The existing habitats to be retained and enhanced are described in detail below:

- Existing buffer vegetation planting will be retained and improved. Enhancement works to include the felling, deadwooding and coppicing of identified trees. Any felled timber and shrub/ scrub to be used to form deadwood habitat piles.

5.2. Habitat Creation and Proposed Landscape Elements

5.2.1. The proposed development incorporates the creation of new habitats aiming to assist mitigate the loss of existing habitats due to the development and enhance the on-site biodiversity. These are described in detail below:

- Native shrub planting is proposed in areas at the perimeter of the site.
- Tree planting is proposed in the form of avenue trees along the key vehicular routes, and informal tree planting as part of the green infrastructure network.
- Species rich grassland is proposed to be created within areas. In order to maximise the biodiversity on site, the grass will be maintained as a meadow with sections of grassland adjacent to hardstanding areas maintained as mown verges.
- An existing large waterbody is in the centre of the residential development. The waterbody edge will be enhanced with native planting.
- The proposed hardstanding will predominantly comprise vehicular asphalt surfacing, block paving, paved patios, and grass paving system surface.

5.2.2. Section 8 of this management plan provides a detailed description and specific management objectives for each existing and proposed habitat, along with the annual and occasional management regimes required.

5.3. Other On-site Enhancements

5.3.1. It is recommended that trees to be removed are used to create wood piles in suitable locations to provide hibernacula for invertebrate and amphibian species.

- 5.3.2. It is recommended that bat boxes are included within the proposed development, including integrated boxes on proposed buildings, to provide additional bat roosting opportunities.
- 5.3.3. The proposed landscape designs include the planting of a mosaic of habitats. It is anticipated these habitats will provide a range of habitats to attract larger numbers of invertebrate prey for bats.
- 5.3.4. It is recommended that a Bird Box Scheme is included, detailing specifications of boxes to specifically target notable bird species which have been identified on site or may be present on site.
- 5.3.5. The proposed landscaping includes the provision of planting across the extent of the site which in turn will provide suitable foraging, resting and breeding habitats for invertebrates. The long-term management proposed has been outlined with ecology in mind.

5.4. Control of Non-native Invasive Species

- 5.4.1. The site will be subject to an Invasive Species Management Plan, providing details for monitoring, control and eradication of invasive species present on site. All invasive species identified on site are to be controlled/ eradicated following the relevant Environment Agency guidance.
- 5.4.2. As part of the monitoring, the site will be annually checked for non-native invasive species. The checks are to be completed in spring or summer, where it is easier to identify the species.

6. MANAGEMENT AND MAINTENANCE

6.1. On-site Operations and Services

- 6.1.1. To achieve the long-term vision for the development and ensure that the landscape and ecology aims of the proposed development are maintained across the site, the estate management company will appoint a competent landscape maintenance contractor to carry out day to day maintenance duties. The management company will have a long-term interest and commitment to the development and a self-interest in establishing and maintaining the highest standards in management of existing and proposed habitats.
- 6.1.2. The estate management company will utilise local companies/ labour to ensure a local presence and will be accessible to all occupiers. It will deliver the following services:
- Maintain the public open space to be tidy, free of litter and debris;
 - Maintain the hardstanding areas and drainage systems;
 - Monitor, maintain and enhance the existing and proposed habitats; and
 - Maintain the establishment of the planting material free of pest and diseases.
- 6.1.3. Mature trees will be managed in line with the recommendations.
- 6.1.4. All vegetation clearance will be undertaken outside the bird nesting season (early March to September) unless a nesting bird survey is undertaken on site prior to any clearance works to ensure no nesting birds are present.

7. MAINTENANCE REGIME

7.1. Maintenance Regime

- 7.1.1. A maintenance operations schedule for year 1 to year 4-10 and onwards can be found within section 10 of this document. This has been prepared in order to provide a best practice baseline for the maintenance and management of the external landscape for the proposed development.
- 7.1.2. The success of the scheme is dependent upon the quality and frequency of the maintenance it receives during its lifetime and is therefore something that forms a key component of our plans.
- 7.1.3. The following aims and objectives will be adopted as part of the maintenance regime:
- To ensure the successful establishment and continued growth to maturity of the planting material;
 - To ensure that the design intentions of the scheme are fulfilled;
 - To ensure the effects of the different elements within the scheme such as the shrub planting and trees are both successful and effective;
 - To enhance the ecological potential of all planting and provide not only successful landscape planting but to achieve habitat potential for wildlife and increased overall biodiversity, as detailed within the Biodiversity Net Gain Assessment (prepared by others);
 - To maximise the potential of all plants through the adoption of pruning methods specific to species or groups of plants; and
 - To maintain a safe environment for site users by maintaining the footpaths in good condition.
- 7.1.4. During the first year after Practical Completion, the soft landscape will be maintained by the contractor responsible for implementation of the works. The contract should include a defects liability clause to ensure replacement planting is carried out and successful establishment achieved. Section 8 provides information on the general techniques and methods to be adopted for the ongoing maintenance operations.
- 7.1.5. This plan covers the maintenance of existing water bodies, newly planted and existing trees, shrub borders, hedges, grassland and hardstanding areas. The overall objectives are as follows:
- Apply good horticultural and ecological practice to all operations;
 - Promote healthy growth and establishment of all plants, trees and grassed areas;

- Ensure consistent control of invasive and aggressive competitor species e.g. common nettle and/ or invasive plant species listed in Schedule 9 of the Wildlife and Countryside Act 1981 e.g. Himalayan balsam;
- Ensure development of optimum plant form, shape and planting density;
- Provide protection against pests and diseases;
- Promote wildlife value and species diversity where appropriate;
- Ensure long-term commitment to replacement of defective plant material; and
- Review opportunities for introduction of new species or replacement of exhausted species where appropriate, in line with the original design intentions.

7.1.6. More specific management objectives are outline below:

Existing trees and buffer vegetation areas: to maximise biodiversity, enhance habitats, improve quality and diversity of the tree stock, enhance the visual amenity and provide a safe and secure site. Low impact management practices such as allowing dead wood to remain in place acting as hibernacula for invertebrate and amphibian species will be encouraged. Management to be carried out in line with this plans objectives and recommendations.

Tree planting: to establish stable and healthily growing trees with a well-shaped framework for future growth into maturity.

Hedge planting: where appropriate, to regularly clip the hedges to maintain a uniform and tidy appearance and a well-developed cover of vegetation over the whole hedge. Cutting to be within ecological guidelines.

Shrub planting: ensure that good horticultural practice is employed to encourage long term health and vitality of all shrubs. Planting to be thinned/ re-spaced in order that they have sufficient room to develop. Review opportunities for introducing native shrubs and those with particular wildlife value into planted areas. Maintain a clean and safe environment. Ensure horticultural techniques are employed which use a variety of mulches and organic fertilisers and which minimise the use of chemicals and peat wherever possible.

Amenity grass and grass verges: to provide an even stand of mown grass along the hardstanding areas and buildings, comprising of hard-wearing grass species free of broad-leaved weeds.

Species-rich grassland meadow: to provide a species-rich, predominantly weed-free sward of grasses and perennial wildflower species through the summer months, with the balance of species maintained in accordance with the original design and in the interests of wildlife and biodiversity.

Existing pond: to create simple, low maintenance year-round interest and which form a valuable aquatic habitat through planting of marginal and semi-aquatic plants, and wet meadows.

Hardstanding areas: to keep all areas of paving and footpaths and drainage systems across the site free of litter, weeds, silt and other debris that will detract from the appearance of the site and will help to retain functionality of the site.

Fencing: To ensure all fences are fit for purpose. The fencing will be subject to regular inspections, with repair work undertaken by the resident on garden boundaries.

8. MAINTENANCE SPECIFICATION

8.1. General Requirements

- 8.1.1. The following specification items are to be addressed within the long-term landscape maintenance contract. Included are performance specifications, quality standards and some detailed operational descriptions. The landscape maintenance contractor will be required to apply their expertise in relation to the Management Objectives above in producing annual programmes of work.
- 8.1.2. **Maintenance to accord with requirements of BS 7370:1991.**
- 8.1.3. Duration: Carry out the operations in the following clauses from completion of planting. Frequency of maintenance visits: monthly during the growing season or as necessary to establish a high-quality landscape.

8.2. Existing/ Mature Trees

DESCRIPTION

- 8.2.1. The management of the existing trees is set out below.
- 8.2.2. The mature native trees are found mostly on the southern boundary of the site.

ECOLOGICAL OPPORTUNITIES

- 8.2.3. Measures to enhance biodiversity that is beneficial to a variety of species (including invertebrates, birds, small mammals and amphibians) will include:
- 8.2.4. Retention of deadwood (including stable standing deadwood where safe to do so) and creation of habitat/ refuge piles at suitable locations where suitable;
- 8.2.5. Management of hedgerows to maintain and enhance habitat connectivity and ecological networks.

ANNUAL WORKS

- 8.2.6. **Visual Inspection:** Trees should be regularly visually checked for the presence of any diseased or rotten wood; fungal or other infections/ disease and stability. If any such issues are identified, then the advice of a qualified arboriculturist should be sought immediately. This needs only to be completed along the public footpath.
- 8.2.7. **Annual Arboricultural Assessment:** In any event, an Arboricultural Assessment should be undertaken once annually by a qualified arboriculturist inspecting the condition of existing trees including any cause of increased risk to people or property. Furthermore, during the Arboricultural Assessment, the health of the trees shall be monitored, and any works required for health and safety or to promote the health and sustainability of existing trees shall be identified, scheduled and actioned at a suitable time of year following application and

granting of appropriate consents by the LPA (where required). Refer to Occasional Works below.

OCCASIONAL WORKS

- 8.2.8. **Timeframes and Specialist Advice:** All works should be completed at an appropriate time of year and in accordance with relevant UK wildlife legislation. Where possible this should be outside of the bird nesting season (i.e. between October through to March inclusive). In any event according to the nature of the works, there may be an additional requirement for monitoring or a watching brief by a qualified ecologist to ensure there are no nesting birds or bats present.
- 8.2.9. **Tree Works*:** All works shall be carried out by a skilled, qualified and approved Arboricultural Contractor in accordance with BS3998: 2010 'Tree Work – Recommendations'. All brushwood and logs that result from surgery and felling of trees on site shall be reused on site to create new or pile up existing hibernacula. Brushwood may be chipped on site, but all wood chippings resulting from these operations shall be raked up, bagged and removed. Where surgery works affect a highway, the Arboricultural contractor shall ensure the relevant permissions and road control permits are obtained, and all necessary health and safety parameters are met.

***NOTE:** Consent under Tree Preservation Order should be submitted to and approved in writing by LPA prior to undertaking any works to the trees protected under TPO.

- 8.2.10. **Tree replacement and enhancement of tree cover:** Any tree that dies or is unnecessarily felled, but which is not removed as part of a programme of thinning or coppicing, shall be replaced with a tree of appropriate species and stock size. Such replacement shall be with a tree of either the same or similar species as those existing. The option for replacing with a different species is to allow some flexibility avoiding problems encountered with 'Same Species Disease' and to ensure sustainable tree cover in the interests of visual amenity. Possible damage to drainage/ services and adjoining building foundations must be considered before choosing a replacement tree species and location. Where alternative species are being considered, then the species should be suitable to the character of the location, either native (in the case of structural planting on the boundary of the site) or a source of local provenance where possible or if ornamental, then appropriate to the type of trees adjacent to them. Once annually, the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of trees and tree groups, in the interests of the long-term sustainability of strategically important vegetation. All trees should be a minimum stock size of standard (10-12cm girth) and implemented and maintained in accordance with good horticultural practice. Replacement and enhancement planting is best undertaken during the planting season (November through to March inclusive).

8.3. Proposed Tree Planting

DESCRIPTION

- 8.3.1. New tree planting is incorporated into the proposed development to provide landscape structure and amenity value. Such tree planting will define focal points and provide height interest.

MANAGEMENT OBJECTIVES

- 8.3.2. The management objectives for new tree planting is to:

- Ensure the satisfactory establishment and growth of new tree planting typical of the respective species;
- Promote conditions so that trees are healthy and safe; and
- Ensure continuity of the design approach and amenity value of tree planting.

ANNUAL WORKS

- 8.3.3. **General tree maintenance during establishment:** Check all trees for firmness and stability in the ground. Check and adjust tree ties, replacing if necessary. Top up bark mulch levels where necessary around the base of new trees, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. Where trees are in grass areas, remove weed growth by hand and retain a circle of bark mulch (approximate radius of 500mm) to aid mowing and prevent damage to the main stem. Prune back any diseased or rotten wood (including the removal of main stems and limbs) back to sound wood as required. Remove all cut material from site.
- 8.3.4. **Watering trees:** Water trees during dry periods (being any period without substantial rainfall for 14 days or more), until trees are successfully established (years 1-3). Water at a rate of 25 litres per tree position into watering tubes. Apply water at a frequency of once per fortnight from April to the end of September (to a maximum of 15 visits). Increase watering frequency during any continuous hot weather lasting more than 7 days. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract.

OCCASIONAL WORKS

- 8.3.5. **Checking and removal of tree stakes and ties:** Review the need for tree stakes and ties annually for up to 6 years. Remove stakes and ties up to 4 years after planting, but be sure trees are firm and stable. Stakes and ties removed shall be cut at ground level, below lowest grass height (to prevent snagging mower blades) or pulled from the ground and the post holes filled with suitable topsoil. If the tree is found to be weak or unstable after the stakes have been removed, then check the base of the tree for signs of rot. If rotten or unlikely to stabilise, remove the tree and replace. If the tree is free from rot or other cause of its

instability, then re-instate a tree support, using 100mm diameter chestnut stake and single tie. The stake should be pushed into the ground with a post rammer, to a depth of 600mm and cut to one third the height of the tree. Fix the tree stem with a rubber tie and spacing device attached to at a point no more than 25-35mm below the top of the post, in order to prevent chafing against the post in high winds. Remove old posts, ties and arisings and dispose of site.

- 8.3.6. **Long-term tree surgery works:** After 10-20 years of maintenance as above (or earlier if required), newly planted trees will reach semi-maturity and at this time may be in need of corrective surgery. Trees should become subject to the annual Arboricultural Assessment.
- 8.3.7. **Tree replacement and enhancement of tree cover:** Any tree that dies or is necessarily felled, but which is not removed as part of a programme of tree removals, shall be replaced with a tree of appropriate species and stock size. Such replacement shall be with a tree of either the same or similar species as those existing. The option for replacing with a different species is to allow some flexibility avoiding problems encountered with 'Same Species Disease' and to ensure sustainable tree cover in the interests of visual amenity. Possible damage to drainage/ services and adjoining building foundations must be considered before choosing a replacement tree species and location. Where alternative species are being considered, then the species should be suitable to the character of the location and adjoining trees. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of trees and tree groups, in the interests of the long-term sustainability of strategically important vegetation. Trees should be a minimum stock size of standards (10-12cm girth) and implemented and maintained in accordance with good horticultural practice. Replacement and enhancement planting is best undertaken during the planting season (November through to March inclusive).

8.4. Proposed Hedgerows

DESCRIPTION

- 8.4.1. New hedgerow planting is proposed throughout the new development to provide height interest to plot boundaries and create green links throughout the site.

MANAGEMENT OBJECTIVES

- 8.4.2. The management objectives for the proposed hedgerows are to:
- Ensure the satisfactory establishment and growth of new hedgerows; and
 - Maintain new planting in a healthy and attractive condition of value to wildlife.

ANNUAL WORKS

- 8.4.3. **Weeding and general maintenance:** Remove all weed growth by hand as necessary to ensure weed free and tidy planting areas. Seven visits are required per growing season. Visits should occur approximately monthly in the growing

season, subject to weather conditions from April to October, with an extra visit outside of the growing season in December or January to inspect the condition of the beds. Take great care not to disturb bark mulch; top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. All weeds shall be removed from the site.

- 8.4.4. **Annual cutting of new hedgerows:** To maintain a formal profile, trim or cut the top and sides of hedgerows twice a year in the first two years after planting and annually in following years, to an approximate height of 1.5m to form an even and tidy hedge line. Cut larger stems and prune any diseased rotten wood back to sound wood. Remove all cut material from site.
- 8.4.5. **Watering of new hedges:** During first 3 years of establishment, water new hedges during dry periods (being any period without substantial rainfall for 14 days or more). Water shrubs to field capacity (minimum 10 litres per m²) applying water in the morning or early evening to reduce evaporation. Apply at a frequency of up to 2 times per week from April to the end of September (to a maximum of 20 visits in any one calendar year) as required during any continuous hot weather lasting more than 7 days. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract.

OCCASIONAL WORKS

- 8.4.6. **Occasional works to hedgerows:** Where identified by the annual Arboricultural Assessment e.g. where hedgerows have become overgrown or require more extensive work, carry out recommended remedial work, including coppicing or hedge laying (in sections) to thicken and rejuvenate the hedge line. All extensive works shall be carried out by a skilled, qualified and approved Arboricultural Contractor in accordance with BS3998: 2010 'Tree Work - Recommendations'. All arisings that result from such management works shall be removed off site, unless needed to enlarge or renew hibernacula or eco piles.
- 8.4.7. **Timeframes & specialist advice:** All works should be completed at an appropriate time of year and in accordance with relevant EU and UK wildlife legislation. Where possible this should be outside of the bird nesting season (i.e. between October through to March inclusive). In any event according to the nature of the works, there may be an additional requirement for monitoring or a watching brief by a qualified ecologist to ensure there are no nesting birds or bats present.
- 8.4.8. **Gapping up hedges:** Where sections of hedgerow become thin or fail, gap up hedgerows with an appropriate mix of native species to an approximate density of 6 plants/ linear metre, planted in a double staggered row during the planting

season (November through to mid-March inclusively). Plants should be a minimum size of open ground whips 600-900mm high or 3L container grown stock for evergreen species (such as holly). Gap up areas of less dense growth with additional plants as required to achieve a continuous hedge line taking due allowance for natural growth and regeneration of cut material. All plants should be native (from a source of local provenance where possible), appropriate to the character of the area and should be selected to increase the species diversity of the existing hedgerow and maximise ecological value.

8.5. Proposed Shrub Planting

DESCRIPTION

- 8.5.1. Native shrub planting is proposed within the proposed development to provide a colour and seasonal interest. Proposed species are selected to provide general habitats and foraging for wildlife including flowering and fruiting varieties.

MANAGEMENT OBJECTIVES

- 8.5.2. The management objectives for new shrub planting are to:
- Ensure the satisfactory establishment and growth of the planting material;
 - Maintain planting in a healthy and attractive condition and enhance the value of planting as a food source to wildlife; and
 - Ensure continuity of the design approach and amenity value of planting.

ANNUAL WORKS

- 8.5.3. **Weeding:** Remove all weed growth by hand as necessary to ensure weed free and tidy planting areas. Eight visits are required per growing season. Visits should occur approximately monthly in the growing season, subject to weather conditions from April to October, with an extra visit outside of the growing season in December or January to inspect the condition of the beds. Take great care not to disturb bark mulch; top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied. All weeds shall be removed from the site.
- 8.5.4. **General planting maintenance:** At each visit firm in and straighten any loose plants. Top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture.
- 8.5.5. **Watering:** During first 3 years of establishment water shrubs during dry periods (being any period without substantial rainfall for 14 days or more). Water all shrubs to field capacity (minimum 10 litres per m²) and water all large specimens at 10 litres each. Apply water at a frequency of up to 2 times per week from April to the end of September (to a maximum of 15 visits in any one calendar year) as required during any continuous hot weather lasting more than 7 days. The

Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract.

OCCASIONAL WORKS

- 8.5.6. **Pruning:** If required, prune back shrubs in the period between October to March in accordance with sound horticultural practices, pruning back to a node, shoot or bud; prune out dead, leggy and broken branches, without damage to the natural habit or appearance of plant without box clipping or rounding off plants. Prune out crossover branches, invasive suckers, dead wood, damaged stems, any spindly growths and any epicormic growth that will weaken the plant. Prune back quick and leggy growing plants much harder than other species but prune back by no more than 30% in one growing season. Prune Cornus varieties back to 200mm above ground every 3rd year but retaining any young growths. In terms of herbaceous plants cut back all deciduous grasses in spring by removing dead stems before new growth starts to appear. Prune Geraniums hard after flowering to reduce foliage by 80%.
- 8.5.7. **Replacement and enhancement planting:** Cut back any shrubs and herbaceous plants where they have become old, misshapen, leggy or they have lost their vigour. Shrubs that fail to show growth or develop full foliage (including plants damaged during management operations), where such plant failure leaves a gap in the foliage not filled by adjacent plants, shall be replaced with stock of the size, species and quality originally specified. Include any plants that are destroyed by vandalism, theft or similar cause through no fault of the Landscape Management Contractor, up to and not exceeding 5% of the plant stock. Specimens, shrubs so replaced shall be the same as those specified, previously supplied and approved. Nursery stock shall be container grown and shall be a minimum stock size of a 3L pot. Planting should be implemented and maintained in accordance with good horticultural practice. Include any works necessary to enable planting to be properly carried out i.e. removal and disposal of dead material off site and for topping up/ replacement of bark mulch. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of vegetation in the interests of the long-term sustainability of strategically important vegetation.

8.6. Proposed Amenity Grass/ Grass Verges

DESCRIPTION

- 8.6.1. The use of amenity grassland will be kept to minimum in the form of grass verges maintained along the hardstanding areas and buildings.

MANAGEMENT OBJECTIVES

8.6.2. The management objectives for amenity grass areas will be to:

- To ensure the satisfactory establishment of the grass sward; and
- To maintain healthy and suitable grass areas, appropriate to function and use.

ANNUAL WORKS

8.6.3. **Mowing and edging:** grass verges shall be cut fortnightly from Mid-March until the end of October. Reduce frequency to every 21 days in hot and dry weather. Allow for a maximum of 12-15 cuts per year. Cut to a height of 35mm but increase to a height of 50mm in hot dry weather.

8.6.4. All grass shall be mown initially with a rotary mower once during the spring (mid-March), to a height of 50mm and thereafter using a cylinder mower, collecting the arisings each time, and removing off site or to a designated composting area. Soft edges between grass areas and planting beds shall be kept free from grass by cutting the grass with a 'half moon' edging tool to ensure a neat, clean-cut finish once per year at the start of the growing season. The edge of paving and shrub beds shall be kept free of grass using strimmers or edge clippers once per month during the growing season.

8.6.5. **Watering grass areas:** During the first 12 months following initial seeding or following re-seeding operations, water amenity grass areas during periods of extreme drought (2 or more weeks without substantial rainfall) to a maximum of 15 occasions. After establishment continue to water only if deemed to be required. To aid the natural establishment of grass areas, only water where unavoidable, where the grass is going brown and appears to be suffering from severe drought stress. When watering, water to field capacity (minimum 10L/m²) in the morning or in the evening to reduce water evaporation, when the water is more likely to reach the roots. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water.

OCCASIONAL WORKS

8.6.6. **Replacement of failed grass:** Small areas of dead, dying or failing grass shall initially be made good through changes to the mowing regime or through temporary protection of high wear areas using temporary fencing or similar. Larger areas of degradation may require re-cultivating and reseeded. Cut out sections of distressed and failing or dead areas of turf using a suitable turf-stripping machine or for small areas by hand. Supply and lay new turf of a suitable standard and lay flush with existing sward, filling any cracks and top dressing with a 70:30 ratio mix of sand and screened topsoil. This sand/ soil mix shall also contain grass seed of the same or similar species to the turf. For more wholesale degradation of the turf sward, the entire area will require to be re-seeded. Cultivate or power-harrow the affected area until a fine tilth is achieved (removing stones greater than 20mm) and grade until level with adjoining areas.

Apply a pre-seeding fertilizer at a rate of 70g/m² and seed with a general amenity seed mix such as Barenbrug Bar 11 or other equal and approved, raking until the seed is a few millimetres below the surface. Water thoroughly and maintain the soil in a moist condition, removing stones, weeding and mowing until the grass is established.

8.7. Proposed Species Rich Grassland

DESCRIPTION

- 8.7.1. To minimise the maintenance and increase the biodiversity on site, most of the grassed areas will be maintained as a wildflower meadow and mowing will be kept to a minimum.

MANAGEMENT OBJECTIVES

- 8.7.2. The management objectives for species rich grassland will be to:
- To ensure the satisfactory establishment of the grass sward; and
 - To maintain healthy, suitable, and low maintenance grass area, appropriate to function and use.

ANNUAL WORKS

- 8.7.3. **Establishment:** The establishment of the species rich grassland will vary depending on the time of seeding and should be as follows:
- For spring sowing: the grass shall be mowed regularly to prevent weeds smothering the slower growing species. Allow for at least one cut a month from May to October. Cut to 50mm and dispose of arisings.
 - For autumn sowing: the grass shall be mowed twice in spring (March and May) and after flowering in August/ September. Cut to 50mm and dispose of arisings.
- 8.7.4. **Mowing and edging:** following the establishment of the grass sward, mowing of wildflower grass should be kept to a minimum. Allow for 1 cut a year in late summer/ early autumn (September-October). Cut to a height of 75mm and dispose of arisings. All grass shall be mown with a rotary/ flail mower. Delay cutting of grass in case of extreme draught. To provide over-wintering opportunities for invertebrates, set aside approx. 1/3 of the grassed areas unmown, altering the location each year.
- 8.7.5. **General grass care:** Remove any noxious weeds by hand. Do not apply any herbicides, pesticides, or fertilisers to the sward.
- 8.7.6. **Watering grass areas:** During the 12 months following initial seeding or following re-seeding operations, water wildflower grass areas during periods of extreme drought (4 or more weeks without substantial rainfall) to a maximum of 15 occasions. To aid the natural establishment of grass areas, only water where unavoidable, where the grass is going brown and appears to be suffering from

severe drought stress. When watering, water to field capacity (minimum 20L/m²) in the morning or in the evening to reduce water evaporation, when the water is more likely to reach the roots. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water.

OCCASIONAL WORKS

- 8.7.7. **Reinstatement of species rich grassland:** Small areas showing signs of degradation shall be reseeded directly following the event. For more wholesale degradation of the grass sward, the entire area will require to be lightly raked using a chain harrow, scarifier, spring rake or hand cultivator to de-compact the soil and break the thatch of the existing vegetation (removing any arisings and stones greater than 20mm). Overseed the sward at 1g/sq. m with appropriate species rich seed mix as specified in the original design or other equal and approved. Water thoroughly and maintain the soil in a moist condition, removing stones, weeding and mowing until the grass is established.

8.8. Existing Pond

DESCRIPTION

- 8.8.1. The existing attenuation pond is to be enhanced within the development. The pond holds water year-round and will be planted with an appropriate semi-aquatic and marginal plants to minimise the maintenance operations and increase the biodiversity.

MANAGEMENT OBJECTIVES

- 8.8.2. The management objectives for pond will be to:
- To ensure the satisfactory establishment of the aquatic and marginal planting; and
 - To monitor the performance of the drainage infrastructure and ensure the health and safety.

ANNUAL WORKS

- 8.8.3. **Monitoring and maintenance:** the management objective is to ensure ongoing monitoring of the performance of drainage apparatus. All inlets, outlets, manholes, and gullies shall be inspected monthly and after large storms. All litter, debris and trash shall be removed and disposed of off-site. Any sediments from the inlets, outlets and forebays shall be cleared and removed at least once a year. Damaged gully gratings and manhole covers should be repaired or replaced with new products with immediate effect.

OCCASIONAL WORKS

- 8.8.4. **Control of pond vegetation:** the guidance on the management of pond vegetation has been provided in the **Section 8.3** of this report.
- 8.8.5. **Repairs to the basin:** Any signs of erosion or any other damage to the basin should be effected immediately. Any such damages should be repaired and replanted with appropriate marginal mix. Every 7-10 years remove slit build-up and dispose of on-site. Restore the basin to design contours if required.

8.9. Hardstanding Areas

DESCRIPTION

- 8.9.1. A range of hard landscape areas are incorporated into the design, including roads, car parking, and footpaths.

MANAGEMENT OBJECTIVES

- 8.9.2. To ensure that hard landscape surfaces are safe and comfortable to use and are clean from litter and other debris.

ANNUAL WORKS

- 8.9.3. **General cleanliness:** All hard surfaces shall be swept as required to ensure that they are clean, tidy and free from litter and debris (removing all arisings off site). Increase sweeping to fortnightly in autumn when leaves are falling.
- 8.9.4. **Condition of paved surfaces:** All hard landscape surfaces and edgings shall be inspected as required, checking for uneven surfaces, vandalism, waterlogging, litter and debris or any other defect. Any such defects shall be rectified by levelling out the surface and infilling with approved similar material if necessary.

OCCASIONAL WORKS

- 8.9.5. **Repairs and renewals:** Where scheduled inspection detects paved areas are in need of replacement, extension or alteration to their original intended function or to minimise risk of injury, then such repair and/ or renewals should be effected immediately.

IMPLEMENTATION, MONITORING AND REVIEW

8.10. Implementation

- 8.10.1. A Management Company will be established for the site to undertake all management aspects relating to the external landscape areas that lie outside adopted areas and of private residential gardens.
- 8.10.2. The Management Company will coordinate all management of the site in perpetuity in accordance with this Landscape Management Plan and the accompanying maintenance schedules.
- 8.10.3. The Management Company may employ a Landscape Management Contractor to carry out general maintenance operations. Specialist Contractors may be used on an as needs basis to complete specialist operations and/ or occasional works.
- 8.10.4. The Management Company may also appoint occasionally consultants to provide specialist advice, monitoring or to undertake a watching brief in relation to particular aspects of this site or specific maintenance operations. This may include suitably qualified ecologists, arboriculturists, landscape architects, engineers and/ or health and safety consultants.
- 8.10.5. All works, materials and operations will be in accordance with relevant legislation, British Standards, Regulations (including the CDM Regulations) and Codes of Practice.

8.11. Process for Monitoring and Review

- 8.11.1. The Landscape Management Plan and maintenance schedules will be monitored and assessed for their effectiveness on an annual basis for the first five years following the completion of the development.
- 8.11.2. Each annual review will be coordinated and completed by a suitably qualified representative of the Management Company. The review will include advice from specialist consultants as required (such as a qualified arboriculturist and ecologist), the Landscape Management Contractor and other stakeholders.
- 8.11.3. To this end the review shall may include (as appropriate):
- Specialist reports - advising on particular aspects such as protected species, general silvicultural husbandry and health and safety issues;
 - Records or attendance sheets demonstrating the maintenance work undertaken; and

- A walk over assessment of the landscape areas to assess landscape components and their condition, and the need for enhancement including minutes.

8.11.4. The review should identify any changes to site conditions and circumstances, whether the aims and objectives of the Landscape and Environment Management Plan are being met, and where identified changes are needed to existing management practices and timeframes. Furthermore, any strategic enhancements, including new planting should be identified and priorities established for undertaking these works.

8.11.5. Within 1 calendar month of the review, a revised Landscape and Ecology Management Plan shall be produced (if appropriate) and circulated to stakeholders. Within 5 years of the completion of the site, then the revised document shall be submitted to the LPA as a non-material amendment to the previously approved Landscape and Ecology Management Plan.

8.11.6. After the first five years, the Landscape and Environment Management Plan will be reviewed every five years, or as required to ensure the satisfactory management of the landscape in perpetuity.

9. DETAILS OF MANAGEMENT SCHEME FOR EXISTING AND PROPOSED HABITATS

9.1. Documentation for Operators

- 9.1.1. The detailed landscape scheme including the details for habitat creation and list of proposed species are included in Soft Landscape Plans (**Appendix 2**).
- 9.1.2. The hand-over to the Management Company will include this document and the above drawing (**Appendices 1 and 2**). This will enable the Management Company to know which areas of the site are covered by which section of this Management Scheme.

9.2. Maintenance of Soft Landscape Areas

General – All areas	Year 1	Year 2	Year 3	Years 4 to 10+
Weekly visual inspection of all areas; removal of any litter, debris or fly tipping as necessary;	Weekly	Weekly	Weekly	Weekly
Keep all grassed and planted areas tidy, rake and remove by hand all grass cuttings, litter and rubbish	Weekly	Weekly	Weekly	Weekly
All planted areas lightly cultivated, forked over to remove compaction, raked level, hand weeded	2 x year March & October	2 x year March & October	2 x year March & October	1x year October
Firming up: plants which have become loosened, lifted up or out of the ground to be set upright and re-firmed by treading	8 x year March-October	2 x year March & October	2 x year March/ October	
Pest and disease control: plants to be inspected and kept free of pests and diseases; control measures to be applied in accordance with specialist advice and manufacturers rates as necessary	Weekly	Weekly	Weekly	Weekly
Maintain all planted areas weed-free; control by hand-dig; localised herbicide will be allowed outside of the any River or Canal buffers	8 x year March-October	8 x year March-October	4 x year March-October	4 x year March-October
Apply organic wood chip/ bark mulch min 5 cm thick, to planted beds & 1m circle around tree stem	2 x year March & October	2 x year March & October	1 x year October	1 x year October
Diseased or dead plants to be removed and replaced with appropriate species in the next available growing season	As necessary	As necessary	As necessary	As necessary

Existing & Mature Trees	Year 1	Year 2	Year 3	Years 4 to 10+
Assess existing trees to determine need for ivy removal, pruning, crown lifting, removal of dead or dangerous trees.	1x year September-March	1x year September-March	1x year September-March	1x year September-March
Operations will be carefully planned to minimise site disturbance. Operations will be carried out of the bird breeding season, ideally during early autumn	As necessary	As necessary	As necessary	As necessary

Tree Planting	Year 1	Year 2	Year 3	Years 4 to 10+
Water monthly minimum 30 litres per tree in growing season (March to September) and at least weekly in dry periods to maintain healthy growth	Monthly or weekly in dry periods	Monthly or weekly in dry periods	Monthly or weekly in dry periods	As required in prolonged dry periods
Stakes and ties: check stakes are secure and adjust ties to allow for growth as necessary, avoid chaffing of bark. Remove stakes at the end of the third growing season.	2 x year March/ October	2 x year March/ October	2 x year March/ October	
Inspect annually, prune as necessary, remove dead, damaged or diseased branches; Works to be carried out by an Arboricultural Associated approved contractor in accordance with BS3998: Recommendations for Tree Work.	1 x year	1 x year	1 x year	1 x year

Hedgerows	Year 1	Year 2	Year 3	Years 4 to 10+
Water regularly minimum 10 litres per shrub during growing season (March to September) and at least weekly in dry periods to maintain healthy growth	Monthly or weekly in dry periods	Monthly or weekly in dry periods	Monthly or weekly in dry periods	As required in prolonged dry periods
Remove diseased or dead plants and replace with appropriate species	As necessary	As necessary	As necessary	As necessary
Clipping of new hedgerows: Years 1 & 2 cut back hard in June and September to encourage bushy growth; Years 4+, prune/ clip to create regular height and width as required	2 x year June & September	2 x year June & September	2 x year June & September	1 x year September

Shrub Planting	Year 1	Year 2	Year 3	Years 4 to 10+
Water regularly minimum 10 litres per shrub during growing season (March to September) and at least weekly in dry periods to maintain healthy growth	Monthly or weekly in dry periods	Monthly or weekly in dry periods	Monthly or weekly in dry periods	As required in prolonged dry periods
Prune as necessary: straggling, crossing stems, over-vigorous shoots, suckers and dead, misshapen or broken branches to	1x year As necessary	1x year As necessary	1x year As necessary	1x year As necessary

be removed with a clean smooth cut; also prune to avoid conflict with footpaths, grass mowing, etc;				
Works to be carried out by an approved landscape contractor				
Edge up planted areas to maintain soil levels 25mm below adjacent hard surfaces and kerbs. Soil washing onto hard surfaces are to be cleared off	2 x year June & September	2 x year June & September	1 x year August	1 x year August

Species-rich Grassland	Year 1	Year 2	Year 3	Years 4 to 10+
First year Maintenance: For spring sowing: mow at least 1x month., cut to 50mm and dispose of arisings For autumn sowing: mow twice in spring and once in late summer, cut to 50mm and dispose of arisings	1x month May-October 3x year March, May, and August/September)			
Year 2 and onwards maintenance: Allow for one cut per year in late summer/ early autumn, cut to 75mm and dispose of arisings. Set aside on rotation approx. 1/3 of the grass area.		1 x year September-October	1 x year J September-October	1 x year September-October
Maintain weed-free; remove noxious perennial weeds by hand	1x year in spring	1x year in spring	1x year in spring	1x year in spring
Over-seed damaged, worn, shaded areas @ 1g/ sq. m, to maintain a robust sward	As required After cut/event	As required After cut/event	As required After cut/event	As required After cut/event

Amenity Grass / Grass Verges	Year 1	Year 2	Year 3	Years 4 to 10+
Mow 2 x month in growing season; maintain grass height between 30-50mm	2 x monthly in growing season	2 x monthly in growing season	2 x monthly in growing season	2 x monthly in growing season
Maintain weed-free; if possible, remove by hand; spot treat persistent perennial weeds with selective herbicide	fortnightly in growing season	fortnightly in growing season	1 x year in spring	1 x year in spring
Over-seed damaged, worn, shaded areas @ 4g/sq.m, to maintain a robust sward	As required	As required	As required	As required

Existing Pond	Year 1	Year 2	Year 3	Years 4 to 10+
Monitoring	2x year In early spring and late summer	2x year In early spring and late summer	2x year In early spring and late summer	2x year In early spring and late summer
Litter removal	2 x year as required	2 x year as required	2 x year as required	2 x year as required
Vegetation clearance/ works	1x year in autumn	1x year in autumn	1x year in autumn	1x year in autumn
Maintain weed-free; remove noxious perennial weeds by hand	1x year in spring	1x year in spring	1x year in spring	1x year in spring
Inspect gullies for blockages and clear if necessary	Monthly / after large storms	Monthly / after large storms	Monthly / after large storms	Monthly / after large storms
Inspect banksides, gullies and manhole for damage and repair if necessary	Monthly / after large storms	Monthly / after large storms	Monthly / after large storms	Monthly / after large storms
Remove sediments from inlets outlets and forebay	1 x year after cutting	1 x year after cutting	1 x year after cutting	1 x year after cutting
Remove slit build-up and restore basin to design contours				Every 7-10 years

9.3. Maintenance of Hard Landscape Areas

Paved areas	Year 1	Year 2	Year 3	Years 4 to 10+
General: Weekly inspection of footpaths and safety surfacing is required. Sweeping by hand as required.	Inspect weekly	Inspect weekly	Inspect weekly	Inspect weekly
Paved surfaces: All paving to be maintained to original levels and falls. If required infill gaps and holes with similar material.	Inspect weekly	Inspect weekly	Inspect weekly	Inspect weekly
Weed killing for paths to be undertaken in early spring; control to be effected using an approved compound containing one or more residual chemicals; one application at the correct rate. Annual weeds should be spot treated with a contact herbicide when they are growing strongly.	1 x year plus spot treatment as required	1 x year plus spot treatment as required	1 x year plus spot treatment as required	1 x year plus spot treatment as required

10. BRITISH STANDARDS

10.1.1. In addition to the standards described above, the soft landscape works should meet the following British Standards:

Topsoil Handling, Stripping and Storage

- BS ISO 15799:2019 Soil quality – guidance on ecotoxicological characterisation of soils and soil materials
- BS 3882:2015 Specification for topsoil
- BS 6031:2009 Code of practice for earthworks
- BS 4428:1989 Guide of practice for general landscape operations (excluding hard surfaces) AMD 6784

Quality of Trees and Shrubs

- BS 3936-1:1992 Nursery stock specification for trees and shrubs
- BS 3936-5:1985 nursery stock specification for poplars and willows
- BS 3936-10:1990 nursery stock specification for ground cover plants

Maintenance of Gardens/ Landscapes

- BS 7370-3:1991 grounds maintenance recommendations for maintenance of amenity and functional turf (other than sports turf)
- BS3998: 2010 'Tree Work – Recommendations 'and AMD 6549

Horticulture

- BS EN 12579:2013 Soil improvers and growing media - sampling
- BS EN 13037:2011 Soil improvers and growing media - determination of pH

APPENDIX 1

LANDSCAPE GENERAL

ARRANGEMENT PLAN



Do not scale this drawing (printed or electronic version).
Contractors must check all dimensions from site.
This drawing is copyright and is for use on this site only. This drawing should be read in conjunction with all relevant consultants drawings and specialist subcontractors / supply chain drawings and specifications.
All works to be carried out in accordance with the latest British Standards / Codes of Practice unless specifically directed otherwise in the specification.
Responsibility for the reproduction of this drawing in paper form, or issued in electronic format, lies with the recipient to check that all information has been replicated in full and is correct when compared to the original paper or electronic image.
Graphical representations of equipment on this drawing have been co-ordinated, but are approximations only. Please refer to the specifications and / or details for actual sizes and / or specific contractor construction information.

Notes:- KEY

Hard Works

- Site Red Line Boundary**
- Vehicular Asphalt Surfacing**
To roads, Black colour. Hot rolled asphalt with Silver Grey Marshall's Conservation kerbs. To engineer specification & recommendations.
- Vehicular Concrete Block Paving**
To private driveways (permeable). Pennant Grey colour. Marshall's Tepla block paving or similar approved. Herringbone laid.
- Heritage Cobbles**
Silver Grey colour. Marshall's Conservation Setts.
- Pedestrian Concrete Block Paving**
To pavements (permeable). Silver Grey colour. Marshall's Conservablock block paving or similar and approved. Stretcher bond.
- Precast Concrete Flag Paving**
To private paths and patios. Silver Grey colour. Marshall's Fairstone Slate Casarts.
- Resin Bound Gravel**
To driveways and patios. Seville colour. Clearstone resin bound gravel.
- Treated Wood Decking**
Open joint decking. Western Red Cedar.
- Existing Boundary Treatment**
To be retained. To be made good where required.
- Estate Railing with Gate**
1200mm high. Metal estate railing with gudge to house side.
- Vertical Timber Slatted Fence**
2000mm high. With matching gates.
- Vertical Timber Ballustrade**
To edge of water. 1100mm high.
- Vertical Timber Screen**
2000mm high.
- High Brick Wall**
1800mm high. Red facing brick boundary wall.
- Brick Wall with Railing**
1515mm high. Red facing brick boundary wall with railing over.

Soft Works

- Existing Trees Retained**
- Existing Trees Removed**
- Proposed Tree Planting**
Clear stem heavy standard tree.
- Proposed Hedge Planting**
Mixed species native shrubs.
- Proposed Native Hedge Planting**
Mixed species native shrubs.
- Proposed Groundcover Planting**
Ornamental shrub mix.
- Proposed Ornamental Shrub Planting**
Native shrub mix.
- Proposed Native Shrub Planting**
Native shrub mix.
- Proposed Turf Grass**
To back gardens.
- Proposed Seeded Amenity Grass**
To back gardens.
- Proposed Seeded Species Rich Wildflower Meadow**
- Proposed Wet Meadow**
Seed mix. To pond area.
- Existing Vegetation**
To be retained and enhanced.
- Proposed Rain Gardens**
Planting mix.

P09	28/04/26	NINTH ISSUE	IG	SW
P08	23/04/26	EIGHTH ISSUE	IG	SW
REV.	DATE	DESCRIPTION	DRAWN	CHK'D

**U R B A N
G R E E N**

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Client: **MAC
GROUP UK**

Project: **THE BARNs,
HALEWOOD**

Title: **GENERAL
ARRANGEMENT PLAN**

Issue: **PLANNING**

Drawn: TH	Checked: SW	Approved: SA
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Project: UG2864	Scale @ A1: 1:500	Date: 20/01/25
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Dwg No: UG_2864_LAN_GA_DRW_001	Revision: P09
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The background of the entire page is a light blue topographic map pattern with intricate, swirling contour lines.

APPENDIX 2

SOFT LANDSCAPE

PLANS



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Notes:-

KEY

Site Red Line Boundary

Existing Trees Retained

Existing Trees Removed

Proposed Tree Planting
Clear stem heavy standard tree.

Proposed Hedge Planting

Proposed Native Hedge Planting
Mixes species native shrubs

Proposed Groundcover Planting

Proposed Ornamental Shrub Planting
Ornamental shrub mix.

Proposed Native Shrub Planting
Native shrub mix.

Proposed Turf Grass
To back gardens

Proposed Seeded Amenity Grass

Proposed Seeded Species Rich Wildflower Meadow

Proposed Wet Meadow
Seed mix. To pond area.

Existing Vegetation
To be retained and enhanced.

Proposed Rain Gardens
Planting mix.

P08	28/04/26	EIGHTH ISSUE	IG	SW
P07	23/04/26	SEVENTH ISSUE	IG	SW
P06	27/01/26	SIXTH ISSUE	JW	SA
P05	21/03/25	FIFTH ISSUE	TH	SA
P04	21/03/25	FOURTH ISSUE	TH	SA
P03	28/02/25	THIRD ISSUE	RS	SA
P02	06/02/25	SECOND ISSUE	SW	SA
P01	20/01/25	FIRST ISSUE	TH	SW
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Client:

MAC GROUP UK

Project:

THE BARNs,
HALEWOOD

Title:

SOFT LANDSCAPE
PLAN 1/3

Issue:

PLANNING

Drawn:

TH

Checked:

SW

Approved:

SA

Project:

UG2864

Scale @ A1:

1:500

Date:

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Revision:

P08



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Notes:-

KEY

- Site Red Line Boundary
- Soft Works
 - Existing Trees Retained
 - Existing Trees Removed
 - Proposed Tree Planting
 - Clear stem heavy standard tree
 - Proposed Hedge Planting
 - Proposed Native Hedge Planting
 - Mixes species native shrubs
 - Proposed Groundcover Planting
 - Proposed Ornamental Shrub Planting
 - Ornamental shrub mix
 - Proposed Native Shrub Planting
 - Native shrub mix
 - Proposed Turf Grass
 - To back gardens
 - Proposed Seeded Amenity Grass
 - To back gardens
 - Proposed Seeded Species Rich Wildflower Meadow
 - Proposed Wet Meadow
 - Seed mix. To pond area
 - Existing Vegetation
 - To be retained and enhanced
 - Proposed Rain Gardens
 - Planting mix

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Project:

THE BARNs, HALEWOOD

Title:

SOFT LANDSCAPE PLAN 2/3

Issue:

PLANNING

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Notes:-

KEY

Site Red Line Boundary

Soft Works

Existing Trees Retained

Existing Trees Removed

Proposed Tree Planting

Proposed Hedge Planting

Proposed Native Hedge Planting

Proposed Groundcover Planting

Proposed Ornamental Shrub Planting

Proposed Native Shrub Planting

Proposed Turf Grass

Proposed Seeded Amenity Grass

Proposed Seeded Species Rich Wildflower Meadow

Proposed Wet Meadow

Existing Vegetation

Proposed Rain Gardens

Plant Schedule

QTY	UNIT CODE	PLANTNAME	STOCK	FORM	GRTH/HEIGHT
Trees					
4 No.	ACEBShe	Acer campestre 'Briji'	FB	STD	12-14cm
6 No.	ADNGLUhs	Aulus glutinosa	FB	STD	12-14cm
4 No.	BETPEN 12	Betula pendula	FB	STD	12-14cm
9 No.	FAGSYLhs	Fagus sylvatica	FB	STD	12-14cm
6 No.	SALCAPhs	Salix caprea	FB	STD	12-14cm
6 No.	SORALChs	Sorbus aucuparia	FB	STD	12-14cm

QTY	UNIT CODE	PLANTNAME	STOCK	SIZE
Hedges				
104 m	Fas Hedge	Fagus sylvatica		C10L 40-60cm
416 No.	Plants spaced @4m in a Double Staggered Row			

PERCENT	QTY	UNIT	PLANTNAME	STOCK	SIZE
Hedge Mixes					
209m NATIVEHEDGE MIX 12 planted @6m in a Double Staggered Row					
25%	314 No.		Crataegus monogyna	BTrans	60-80cm
20%	251 No.		Ligustrum vulgare	C3L	60-80cm
15%	188 No.		Corylus avellana	BTrans	60-80cm
25%	314 No.		Ilex aquifolium	C3L	40-60cm
15%	188 No.		Viburnum Opulus	BTrans	60-80cm
To be planted in species groups of approximately 3-7.					

PERCENT	QTY	UNIT	PLANTNAME	STOCK	SIZE
Plant Mixes					
181m2 RAIN GARDEN MIX planted @5m2					
15%	136 No.		Anemone x hybrida Honorine Jbert	C3L	Full pot
10%	91 No.		Carex buchananii	C3L	Full pot
10%	91 No.		Echinacea purpurea	C3L	Full pot
20%	181 No.		Hemerocallis 'Pink Damsk'	C2L	Full pot
5%	45 No.		Iris sibirica 'Perry's Blue'	C2L	Full pot
10%	91 No.		Carex stricta	C2L	Full pot
10%	91 No.		Ligularia przewalskii	C2L	Full pot
10%	91 No.		Persicaria amplexicaulis alba	C2L	Full pot
10%	91 No.		Carex siderosticha	C2L	Full pot

1367m2 NATIVE SHRUB MIX B planted @2m2					
15%	410 No.		Cornus sanguinea	BTrans	60-80cm
15%	410 No.		Corylus avellana	BTrans	60-80cm
10%	273 No.		Crataegus monogyna	BTrans	60-80cm
10%	273 No.		Prunus spinosa	BTrans	60-80cm
10%	273 No.		Rhamnus frangula	BTrans	60-80cm
10%	273 No.		Salix caprea	BTrans	60-80cm
10%	273 No.		Sambucus nigra	BTrans	60-80cm
10%	273 No.		Viburnum opulus	BTrans	60-80cm
5%	137 No.		Rosa canina	BTrans	40-60cm
5%	137 No.		Ilex aquifolium	C2L	40-60cm
Individual varieties to be planted in groups of 3-5.					

83m2 ORNAMENTAL SHRUB MIX A planted @3m2					
20%	50 No.		Potentilla fruticosa 'Guldfinger'	C3L	20-30cm
20%	50 No.		Salix lanata	C3L	20-30cm
20%	50 No.		Skimmia japonica 'Rubella'	C3L	30-40cm
15%	37 No.		Cornus alba 'Kesselringi'	C3L	40-60cm
15%	37 No.		Prunus laurocerasus 'Zabelfiana'	C3L	30-40cm
10%	25 No.		Salix purpurea 'Nana'	C3L	40-60cm

317m2 POLLEN AND NECTAR WILDFLOWER MIX planted @1m2					
100%	317 No.		No. Superior Pollen and Nectar Wildflower Seed Mix	Seed	
Seeded at 2g m2 over prepared ground from Habitat Aid					
839m2 WET MEADOW MIX planted @1m2					
100%	839 No.		No. Wet Wildflower Meadow Seed Mix	Seed	
Seeded at 4g m2 over prepared ground from Habitat Aid					

Notes and Abbreviations					
B	=	Bare root (bagged).			
C	=	Container (or pot) grown, followed by size of the container (or pot).			
QTY	=	Quantity			
FORM	=	Shape of tree as supplied by the nursery.			
QTY	=	Quantity			
FB	=	Rootballed (balled and wrapped).			
SIZE	=	Height or Spread of juvenile plant.			
3d	=	(Clear stem) Standard.			
STOCK	=	Root condition/protection method eg Bare root.			
Trans	=	Transplant (or undercut seedlings).			
Refer to specification for further information.					
All plants to be completely hardened off.					
Substitutions to be agreed with Landscape Architect.					

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