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# HALSNEAD GARDEN VILLAGE WHISTON LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

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|                |                                          |
|----------------|------------------------------------------|
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| <b>CONTENTS</b>                                | <b>PAGE</b> |
|------------------------------------------------|-------------|
| 1.0 Introduction .....                         | 1           |
| 2.0 Site Management Considerations .....       | 4           |
| 3.0 Management Intentions and Operations ..... | 11          |
| 4.0 Monitoring and Review.....                 | 30          |

| <b>TABLES</b>                              | <b>PAGE</b> |
|--------------------------------------------|-------------|
| Table 1: Key Measures for Monitoring ..... | 30          |

## **APPENDICES**

- APPENDIX A: Planting Plan, Schedule and Specification (PGLA ref: PP01.00 Rev L) and  
Planting Plans (PGLA ref: PP01.01-18 Rev L)
- APPENDIX B: Bird and Bat Box Location Plan (TEP ref: D6987.02.001)
- APPENDIX C: Landscape Maintenance Schedules
- APPENDIX D: Legislation Context

## 1.0 Introduction

### **Purpose of the Management Plan**

- 1.1 This Landscape and Ecological Management plan has been produced by The Environment Partnership (TEP) Limited on behalf of Taylor Wimpey (North West) to provide a framework for long term landscape and ecological management and maintenance of the areas of public open space and retained habitat within the development at Halsnead Garden Village (hereby referred to as the 'Site').

### **Scope of the Management Plan**

- 1.2 This Management Plan covers all areas of open space within the Site, including retained habitats such as woodland and ponds and newly created habitat including wildflower planting and native whip planting. It excludes the residential gardens which are to be maintained by the property occupiers.
- 1.3 The Management Plan describes the Site in terms of landscape elements and management operations and provides a framework for the long-term landscape management and maintenance of the habitats, open space and landscaping associated with the Site.
- 1.4 The Management Plan should be read in conjunction with the Planting Plan, Schedule and Specification Notes (PGLA ref: PP01.00 Rev L), Planting Plans (PGLA ref: PP01.01-18 Rev L), the Biodiversity Enhancement Plan (TEP ref: 6987.02.001) and the Bird and Bat Box Location Plan (TEP ref: D6987.02.001), the Arboricultural Impact Assessment (TEP ref: 7137.001), and the Ecology & Nature Conservation chapter of the Environmental Statement (Pegasus Group ref: P18-1093).

### **Structure of the Management Plan**

- 1.5 Chapter 2.0 provides a summary of the factors influencing management and a site analysis. Chapter 3.0 outlines the long-term aims and objectives for management and Chapter 4.0 sets out how the success of the plan will be monitored, reviewed and updated over time.
- 1.6 Appendix A is the Planting Plan, Schedule and Specification (PGLA ref: PP01.00 Rev L) and Planting Plans (PGLA ref: PP01.01-18 Rev L), Appendix B is the Bird and Bat Box Location Plan (TEP ref: D6987.02.001), Appendix C provides a table of maintenance operations, Appendix D summarises relevant legislation.

### **Site Location**

- 1.7 The Halsnead Garden Village Site lies approximately 1.5 km south of Whiston town centre. The Site is bounded by arable farmland to the north, Fox's Bank Lane and Snape Gate Barn to the east, the M62 to the south and further arable farmland and residential development to the west.

## Planning and Development Context

- 1.8 A Full planning application was approved by Knowsley Council in April 2019 (application ref: 20/00417/FUL) for a residential development of 350 dwellings including associated highways infrastructure, SUDS, landscaping and other works at the Halsnead Garden Village site.

### Planning Condition

- 1.9 Full consent was granted, subject to conditions, including Condition 23 which states:

*Prior to first occupation of any of the dwellings hereby permitted, a Landscape and Ecological Management Plan (LEMP) shall be submitted to and approved in writing by the Local Planning Authority. The LEMP shall include timing/implementation details of each phase and shall include, but not be limited to the following:*

- (i) Submission of a breeding bird mitigation scheme which shall include details of the siting and type of bird boxes to be erected;*
- (ii) Submission of the bat mitigation scheme which shall include details of the siting and type of bat boxes to be erected;*
- (iii) Hedgerow planting;*
- (iv) Management proposals for Fox Clump and other retained habitats such as ponds, hedgerow and small woodland areas;*
- (v) SUDS and wildflower meadow management details;*
- (vi) Hibernacula for amphibians and measures for invertebrates and measures for invertebrates such as bug hotels;*
- (vii) Barn owl box to be erected on a suitable tree in Fox Clump, details of which shall be submitted to and approved in writing by the Local Planning Authority;*
- (viii) Hedgehog highways to be installed in boundary fences.*

*The LEMP shall also include the following:*

- (ix) Description and evaluation of the features to be managed;*
- (x) Ecological trends and constraints on site which may influence management;*
- (xi) Aims and objectives of management;*
- (xii) Appropriate management options for achieving aims and objectives;*
- (xiii) Prescriptions for management actions;*
- (xiv) Preparation of a work schedule (including an annual work plan and the means by which the plan will be rolled forward annually);*
- (xv) Personnel responsible for implementation of the plan;*
- (xvi) Confirmation of funding and ownership; and*

*(xvii) Details of a programme of monitoring and remedial measures triggered by monitoring.*

*Reason: To protect and preserve the green space areas, in the interests of visual amenity and in the interests of promoting biodiversity and sustainable developments. This condition has been imposed having regard to policies CS2, SUE2 and CS21 of the Knowsley Local Plan Core Strategy 2016.*

- 1.10 This Management Plan has been written to, in part, to discharge Condition 23.

## 2.0 Site Management Considerations

### **Responsibility for Site Management**

- 2.1 During the defect's liability period, landscape maintenance and replacement of failed planting will be completed by the landscape contractor who has implemented the scheme.
- 2.2 Following the defects liability period Taylor Wimpey (North West) will facilitate a managing organisation who will be responsible for operational management and maintenance of the landscape within the Site.
- 2.3 The managing organisation will require the necessary experience and certificates of competence to undertake landscape management operations on site. Where practical, contractors with experience in biodiversity management will be sought. The managing organisation will ensure that management complies with the guidelines set out in this Plan.

### Health and Safety

- 2.4 Taylor Wimpey (North West) will retain ultimate responsibility for the health and safety of the Site until such time as the open space and landscaping associated is transferred to a managing organisation(s). The Site will be subject to informal inspections and a formal annual inspection. Whenever the Site is visited, any deficiencies in safety provision will be noted and acted upon.
- 2.5 The appointed managing organisation is responsible for complying with the provisions of the Health and Safety at Work Act 1974. All machinery and apparatus brought onto the Site shall be safe and maintained to a standard that will not breach provisions within the Health and Safety at Work Act 1974 or any other statutory obligations.
- 2.6 The managing organisation shall be adequately trained and sufficiently competent to carry out maintenance operations without causing a Health and Safety risk to themselves or other uses of the site.
- 2.7 All works shall be undertaken in accordance with the relevant codes of practice. Appropriate machinery shall be used inclusive of adequate personal protective equipment to avoid harm to themselves or any other persons.

### Biosecurity

- 2.8 The management company should have a sufficient awareness of new and ongoing biosecurity threats, and the necessary precautions to avoid their spread should be undertaken on sites where they are known or suspected.
- 2.9 New findings of suspected non-indigenous plant pests and diseases should be reported to the Plant Health and Seeds Inspectorate or Forestry Commission - Forest Research Tree Health Diagnostic and Advisory Service or both.

## Management Objectives

- 2.10 The long-term management objectives of this plan are:
- To ensure the scheme is successfully maintained;
  - To safeguard and enhance the biological and physical integrity of the Site;
  - To enhance existing habitats to encourage new species of wildlife to inhabit the Site;
  - To ensure that retained and newly created habitats within the open spaces and wildlife corridor are managed to enhance their biodiversity and connectivity as foraging and commuting habitat for high value wildlife;
  - To enhance public awareness and appreciation of the habitats and associated flora and fauna of the Site;
  - Ensure new habitat features, including bird and boxes, are managed effectively to provide valuable new roosting and nesting opportunities on the Site;
  - To ensure new planting establishes to create a high quality landscaping scheme to provide an attractive and desirable setting to the development; and
  - To comply with legal obligations and constraints.

## Ecological Factors

### Designations

- 2.11 There are no statutory designations within 1km of the Site. However, there are ten Local Wildlife Sites (LWS) within 1km of Halsnead Garden Village which are listed within the Ecology and Nature Conversation Chapter of the Environmental Statement.

### Habitats and Species of Principal Importance in England

- 2.12 Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006) requires a list of habitats and species of principal importance in England to be drawn up.
- 2.13 Local Biodiversity Action Plans (LBAP) provide an indication of the relative value given to existing habitats and species. The North Merseyside Local Biodiversity Action Plan has been used when assessing the value of the habitats and species present within the Site.
- 2.14 The following priority species and habitats listed in the North Merseyside LBAP will be sustained around or within the Site:
- Bluebell;
  - Grey partridge;
  - Corn bunting;
  - Urban birds;
  - Lapwing;
  - Skylark
  - Bats;
  - Urban trees;

- Lowland mixed broad leaf woodland;
- Ponds; and
- Urban Green Infrastructure.

#### Ecological Surveys

2.15 Below is a list of the ecological surveys carried out at the Site:

- Desk study (TEP, 2018);
- Extended Phase 1 habitat survey (TEP, 2018 and 2019);
- Amphibian survey (TEP, 2018);
- Bat survey - preliminary ground-level roost assessment of trees (TEP, 2018);
- Bat survey - preliminary ground-level roost assessment of structures (TEP, 2018 & 2020);
- Bat survey - nocturnal roost surveys (TEP, 2018);
- Winter bird assessment (TEP, 2018 & 2019); and
- Breeding bird survey (TEP, 2018).

#### Chemical Use

2.16 The use of herbicide will be minimised wherever possible. Hand weeding will be utilised when feasible and the use of mulch around new planting will assist with suppressing weeds.

#### Habitats

2.17 The following habitats are either present or will be created within the Site:

- Semi-natural broadleaf woodland;
- Bodies of water/ponds;
- Native hedgerows;
- Scattered trees;
- Bluebells; and
- Wildflower meadows.

#### *Woodland and Trees*

2.18 A semi-natural broadleaf woodland is situated centrally within the Site at grid reference SJ 47620 90005. The woodland is known locally as Fox's Clump, and is approximately 0.8ha in size and will be retained as part of the development, with a new footpath proposed to incorporate the woodland within the landscape scheme. Fox's Clump composition is varied with mature coppice through to various young saplings. The primary species found within this woodland are English oak, sycamore, English elm and sweet chestnut. All trees are considered to be of high quality with the woodland providing valuable habitat for wildlife and aesthetic value for the setting of the Site.

- 2.19 The entirety of Fox's Clump woodland is protected under a Tree Preservation Order (TPO) with five individual trees also protected under TPO within the woodland. The locations of the protected woodland and trees can be found on Tree Constraints Plan included in the Arboricultural Impact Assessment (TEP ref: 7137.001).
- 2.20 Where a TPO is in place, lopping, topping, felling, uprooting or wilful damage caused to a tree is prohibited and such actions may be prosecuted and incur an unlimited fine. Works to TPO protected trees must only be undertaken with the written consent of the local authority.

#### *Ponds*

- 2.21 Three ponds are situated within the Site and will be retained and enhanced as part of the development. The first pond is located on the north-eastern edge of the woodland and is heavily shaded and devoid of marginal or aquatic vegetation. The second pond is ephemeral and doesn't hold water throughout the year, it is also shaded and is heavily silted. The third pond is located to the east of the Site and adjacent to the new access road. This pond is lined with existing marginal vegetation but is considered to lack submergent aquatic vegetation.
- 2.22 Two additional ponds are located in close proximity to the Site adjacent to the north west and south eastern boundaries. These ponds will have an influence on wildlife connectivity between the Site and the wider landscape and therefore, future management should be aware of this.
- 2.23 Two new attenuation ponds are being created as part of the Sustainable Urban Drainage System (SUDS) for the development. These have been designed to hold water during periods of heavy rainfall and will provide additional habitat for amphibians, bird species and other invertebrates through the inclusion of marginal planting.

#### *Invasive Non-Native Species*

- 2.24 Japanese knotweed and Rhododendron are located off-site adjacent to the north west boundary of the Site.
- 2.25 Invasive non-native species are defined as those which are either listed on Part II Schedule 9 of the Wildlife and Countryside Act (1981) as amended, Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019 and/or listed as an Invasive Alien Species of Union concern under Regulation (EU) 1143/2014. Under both the Wildlife and Countryside Act (1981) and the Invasive Alien Species (Enforcement and Permitting) Order 2019, it is an offence to allow plants referenced to grow in the wild (including via moving contaminated soil or plant cuttings). Liability may also extend in situations where a landowner has knowingly permitted the spread of invasive non-native species on to neighbouring land.

#### *Hedgerows*

- 2.26 There are two hedgerows on Site which will be retained as part of the development improving ecological connectivity within the east and north east of the Site. These hedges are a mix of species-poor native hedgerow and non-native hedgerow species.

- 2.27 The landscape proposals for the public open space around the Site features extensive new hedgerow planting which will provide additional foraging and commuting opportunities for wildlife.

*Native Bluebells*

- 2.28 The native bluebell (*Hyacinthoides non-scripta*) covers much of the woodland floor in Fox's Clump during the spring and summer months.
- 2.29 Native bluebells are protected under Schedule 8 of the Wildlife and Countryside Act (1981) which restricts picking or digging of bulbs for commercial purposes.

Species

*Amphibians*

- 2.30 The Site provides habitat for amphibian species including the smooth newt and common frog identified within the ponds on Site. The retention of the existing habitats and through new habitat creation, the Site will continue to provide habitat to support these species.

*Birds*

- 2.31 Breeding and wintering bird surveys completed by TEP (2018) identified a number of bird species within the Site boundary. Five notable species were confirmed or likely to be using the Site for breeding including skylark, linnet, house sparrow, dunnock and song thrush. These species are listed as species of principal importance under Section 41 of the NERC Act (2006).
- 2.32 As part of the development, woodland habitat is set to be retained and bird boxes are proposed within areas of woodland and featuring on the properties. For more information, please see the Bird and Bat Box Location Plan (TEP ref: D6987.02.001) included as Appendix B.
- 2.33 All UK wild birds are protected while at the nest under the Wildlife and Countryside Act (1981). Effectively, this means that if removal of habitats (which can include buildings, trees, hedges, scrub and grassland) cannot be timed to avoid the bird breeding season (March to August inclusive), then a survey by a suitably experienced ecologist will be required to ensure no nesting birds will be affected. There is generally no process to gain a licence to disturb nesting birds; therefore, if active nests are present works will need to avoid the area of the nest until the young have fledged.

*Bats*

- 2.34 Bat surveys on Site identified roosts within one of the existing farm buildings which is subsequently being demolished to accommodate development and therefore will mitigated as part of the ecological proposals. In addition to a sweet chestnut tree in Fox's Clump is identified as having high potential for roosting bats.

2.35 The former open arable fields comprising the majority of the Site offered limited opportunities for foraging and commuting bats. The landscape proposals and habitat creation featuring across the development however, will provide additional opportunities for bats for foraging, commuting and roosting. Bat boxes locations are proposed within areas of woodland, on existing trees and will feature on a number of the properties. For more information, please see the Bird and Bat Box Location Plan (TEP ref: D6987.02.001) included as Appendix B for locations of bat boxes located around the development.

2.36 Bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended and the Conservation of Habitats and Species Regulations 2017 (as amended).

#### *Hedgehogs*

2.37 There are no records of hedgehog on the Site, however the site provides habitat that is suitable for hedgehog. Hedgehog highways are incorporated within the design for the Site to encouragement this species to forage and commute across the development.

2.38 Hedgehogs are S41 species of principal importance under the NERC Act (2006).

### **Social Factors**

#### Public Amenity

2.39 The balance of both wildlife conservation and public amenity interests must be carefully managed due to close proximity to residential properties.

#### Accessibility

2.40 The public open space within the Site is accessible from the highway network and footpath routes implemented as part of the development. The walking and highway network will connect to existing infrastructure to the east of the Site and along Fox's Bank Lane, with opportunities to provided links to proposed future development to the north and west of the Site considered as part of the design.

2.41 Maintenance access will be via these highway and path networks.

#### Site Users and Community Groups

2.42 Awareness of the potential user groups, and their impact on the Site is an important aspect of implementing this Plan. Taylor Wimpey (North West) is responsible for considering the local community groups and their influence on the current use and future requirements of this landscape.

2.43 Possible key community groups or potential stakeholders within 1km of the Site have been identified as:

- St Leos & South Mead Catholic Primary & Nursery School;
- Sandfield Natural Play Centre;
- The Land Trust - Cronton Colliery; and
- Halsnead Park Big Water group.

- 2.44 Any resident's associations or resident's management company formed as part of the development should be engaged with during the review process – see Chapter 4.0.

**Legal Factors**

- 2.45 Management of the Site must be in line with all legislation relating to health and safety and the environment. A review of the relevant legislation affecting site management is at Appendix D.

## 3.0 Management Intentions and Operations

### Landscape Elements

3.1 The Site will comprise the following landscape elements as detailed on the Planting Plan, Schedule and Specification Notes (PGLA ref: PP01.00 Rev L), supporting Planting Plans (PGLA ref: PP01.01 - 18 Rev L) and the Bird and Bat Box Location Plan (TEP ref: D6987.02.001):

- Retained woodland and trees;
- Proposed trees;
- Proposed native whip planting;
- Proposed hedgerows;
- Existing hedgerows;
- Proposed shrub planting;
- Proposed grass;
- Proposed bulb planting;
- Proposed wildflower planting;
- Ponds (including proposed marginal planting);
- Sustainable Urban Drainage System (SUDS) (including proposed marginal planting);
- Amphibian and reptile hibernacula;
- Habitat piles;
- Invertebrate hotels;
- Bat boxes;
- Bird boxes;
- Footpaths; and
- Benches.

### Site Wide

#### Management Intention

3.2 The Site will be kept free from litter through regular cleansing. Regular inspections will ensure any health and safety hazards are identified and made safe.

#### Chemical Use

3.3 It should be recognised that plants considered as weeds can provide suitable habitat for invertebrates.

3.4 Weed control where feasible should be undertaken by hand pulling. However, in certain instances, herbicide may be the most effective measure to remove unwanted species during the planting establishment period. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

3.5 Consideration would need to be given to the fact that chemicals can prevent growth of grasses and woody species in landscape schemes.

- 3.6 Where herbicides are to be used within 10m of waterbodies care must be taken to only use formulations of Glyphosate which are approved for use close to water. It is essential that Environment Agency are notified, and an authorisation letter obtained (Form AqHerb01: Agreement to use herbicides in or near water).

- 3.7 Fertiliser is not to be applied to any of the meadow areas in order to conserve the development of a diverse sward.

#### Maintenance Operations

##### *Site Cleansing*

- 3.8 A litter pick of the Public Open Space areas of the Site will be carried out fortnightly and will include the SUDS. All litter will be removed and disposed of in an authorised manner.

- 3.9 The ponds and woodland areas will be cleansed on a quarterly basis to limit disturbance on wildlife. Cleansing within the woodland, including Fox's Clump should be avoided where possible, during April, May and June to avoid trampling the bluebells.

- 3.10 When removing material from within or near to the ponds, care must be taken to check for amphibians, which may be hiding in or under items. Any amphibians will be returned to suitable cover.

##### *Site Inspections*

- 3.11 Site inspections will be undertaken monthly to identify any health and safety hazards and arrange for them to be made safe as far as is practicable. Site inspections will include monitoring for presence of invasive non-native species, and if encountered within the woodland, a species-specific method statement will be written detailing appropriate control and treatment measures.

- 3.12 Results from the monthly site inspections will be compiled and presented within the annual report which will be used in the review of the Plan as detailed in Chapter 4.0.

### **Retained Woodland and Trees**

#### Management Intention

- 3.13 Fox's Clump woodland at the centre of the Site will be retained to provide high quality habitat and ecological connectivity. Fox's Clump will provide opportunities for foraging and refuge for wildlife. The woodland will be managed for the benefit of a variety of species in addition to providing recreational opportunities with a new footpath incorporated within the proposals. Key indicator species of healthy woodland identified within Fox's Clump including native bluebell (*Hyacinthoides non-scripta*).
- 3.14 Other trees are to be retained around the Site featuring along the Site boundaries and around the existing ponds and will provide a mature setting to the development
- 3.15 An arboriculturist will be consulted prior to undertaking any major tree works within the Site.

### Maintenance Operations

#### *Tree Survey*

- 3.16 A trained arboriculturist will carry out an inspection of mature trees within or adjacent to areas of public access to check for damage and disease and to maintain appropriate height clearances for safe pedestrian access. The survey will be carried out every three years or following a storm.

#### *Thinning and Cutting Understorey Vegetation*

- 3.17 Trees for thinning will be cut to a level stump length of 150mm for treatment with stump killer. A minimum of 50% of the stump surface will be scored over and treated to stop re-growth. Future growth of stumps will be monitored, and additional cuts and applications of stump killer will be made (or an appropriate herbicide application such as eco plugs) over the following two or three years as required.
- 3.18 Thinning and cutting understorey vegetation will be undertaken on an annual cyclical programme (5 - 10 year cycle) and will be carried out outside of bird nesting season (March to August inclusive). If works are required to any trees with bat roosting potential, advice must be sought from a licensed bat ecologist prior to any works commencing.

#### *Coppicing*

- 3.19 Trees for coppicing will be cut back to 50mm above ground level. Where a number of stems are coppiced on one plant, cut faces are to slope away from the centre. Care will be taken to ensure that coppicing, thinning and pruning operations do not cause damage to desirable plants, or rutting of the ground in wet conditions.
- 3.20 Wood under 250mm diameter collected from maintenance works will, wherever possible, be chipped and used sustainably on site.
- 3.21 Wood greater than 250mm diameter will be logged and used to create deadwood piles. Care will be taken to ensure that thinning/pruning operations do not cause damage to desirable plants or rutting of the ground in wet conditions.
- 3.22 Coppicing will be undertaken on an annual cyclical programme (3-year cycle) and will be carried out outside of bird nesting season (March to August inclusive). If works are required to any trees with bat roosting potential, advice must be sought from a licensed bat ecologist prior to any works commencing.
- 3.23 Trees covered by a Tree Preservation Order (TPO) are protected by law from felling or uprooting, pruning including 'topping/lopping' and wilful damage or destruction. Prior to any tree surgery and/or felling being carried out it will be necessary to apply to the local planning authority to gain consent for the works.

#### *Conserving Deadwood*

- 3.24 Deadwood management will be low intervention, this means that any deadwood found will be left in situ. If leaving deadwood in situ represents a health and safety risk or hinders management access, it will be moved and stacked elsewhere in appropriate locations onsite to retain shelter and forage opportunities for wildlife.

### *Visual inspection*

- 3.25 During monthly site inspections, the retained woodland and trees will be inspected for the presence of litter, debris and non-native invasive species.

## **Proposed Trees**

### Management Intentions

- 3.26 Proposed trees will feature extensively throughout the Site within the open space areas and along the new road network to create avenues. Tree planting is proposed to provide connectivity to the wider environment in addition to foraging and nesting opportunities for birds and wildlife. The species of trees selected will also provide seasonal interest for the residents and visitors to the Site.

### Maintenance Operation

#### *Weed Control*

- 3.27 To reduce excessive competition, a weed free area will be retained around the trees and will be maintained to a diameter of 2m around the base of the trees. Mulch will be replenished annually to a depth of 75mm.

#### *Re-firming*

- 3.28 Newly planted trees will require re-firming as required.

#### *Stakes, Ties and Underground Guys*

- 3.29 Where trees are staked, the stakes and ties will be checked quarterly and it is anticipated that they will need adjusting at least twice annually. Any broken or damaged stakes will be replaced and ties re-fixed at a slightly lower position, allowing for growth since planting.
- 3.30 Remove stakes as necessary, when the tree is suitably established, approximately by the end of Year 5.
- 3.31 Where necessary, underground guys will be tightened

#### *Pruning*

- 3.32 Formative pruning should only be carried out to maintain the health and vigour of the tree. Pruning and thinning of trees will be in accordance with BS 7370-4:1993 Recommendations for Maintenance of Soft Landscape (Other Than Amenity Turf).
- 3.33 Crown pruning and removing deadwood is required to ensure healthy growth of the trees and any dead or severely damaged trees will be felled and replaced accordingly.
- 3.34 Any epicormic growth found on the trees should be removed on an annual basis from Year 3 onwards.

#### *Replacement of Failed Planting*

- 3.35 Failed planting will be removed and replaced with the same species between November and March for deciduous species and between September and April for evergreen or coniferous species.
- 3.36 Failed planting will be replaced with a like-for like replacement, consistent in size with existing tree planting.
- 3.37 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted on agreement with the local planning authority.

#### *Watering*

- 3.38 Watering may be required during periods of drought in the three years following planting. Water should be applied to the base of the tree and should not be in excess of 20 litres every other day, as required, and should be available throughout the year.

#### *Fertiliser*

- 3.39 Apply slow release multi-purpose plant food and soil improver in Autumn during the first 5 years after planting.
- 3.40 Any bark or other weed suppressant should be carefully removed/lifted and fertilizer applied direct to the top layer of soil at the manufactures recommended rate.

#### *Inspections*

- 3.41 As part of the monthly inspection in November, tree pits will be assessed to ensure they are draining effectively.

#### *Post Establishment Maintenance*

- 3.42 See Retained Woodland and Trees.

### **Proposed Native Whip Planting**

#### Management Intentions

- 3.43 Native whip planting is proposed across the Site and will provide new habitat whilst strengthening connectivity to existing woodland habitat around the Site.
- 3.44 Native whip planting is proposed to provide additional screening along Site boundaries, whilst providing key shelter for commuting wildlife throughout the Site's green corridors.

#### Management Operations

##### *Weed Control*

- 3.45 Within the first five years of establishment, a bark mulch will be replenished around the base of all young plants to suppress weed growth and will be maintained to a depth of 75mm.

- 3.46 Weed control where feasible should be undertaken by hand pulling and should remove all dominant weeds such as docks, thistles, nettles, ragwort and willowherb. However in certain instances, herbicide may be the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small controlled areas and should only target the undesirable species. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

*Re-firming*

- 3.47 Newly planted trees will require re-firming as required.

*Stakes, Ties and Guards*

- 3.48 Tree stakes, ties and guards will be checked quarterly and it is anticipated that they will need adjusting at least twice annually. Any broken or damaged stakes and guards will be replaced and ties re-fixed at a slightly lower position, allowing for growth since planting.
- 3.49 Remove stakes, ties and stakes as necessary, when the tree is suitably established, approximately in Year 5.

*Pruning*

- 3.50 Pruning will be undertaken to clear deadwood, promote healthy growth and produce desired growth of flowers, fruit, foliage or winter colour as appropriate. Dead, broken, damaged, diseased branches will be removed. Pruning will also include for clearing out crossing branches and branches growing toward the middle of the plant. Pruning will be carried out between December and February.
- 3.51 Any plants subject to vandalism or storm damage should be pruned straight away.
- 3.52 In the long term, consideration will be given to active management, e.g. cyclical thinning and coppicing to create greater structural diversity.

*Watering*

- 3.53 Young single stem trees (whips) planted during the dormant season will need little or no watering. This will allow the tree to naturally acclimatise to the location and will encourage roots to spread down in search of water.
- 3.54 Watering may be required during periods of drought during the first three years after planting. Water should be applied to the base of the tree and should not be in excess of 20 litres every other day, as required, between April and September.

*Replacement of Failed Planting*

- 3.55 Failed planting will be removed and replaced with the same species between November and March for deciduous species and between September and April for evergreen species.
- 3.56 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted on agreement with the local planning authority.

### *Fertiliser*

- 3.57 Apply slow release multi-purpose plant food and soil improver in Autumn during the first 3 years after planting.
- 3.58 Any bark or other weed suppressant should be carefully removed/lifted and fertilizer applied direct to the top layer of soil at the manufactures recommended rate.

### *Constraints*

Any works required will be undertaken outside of the bird nesting season, between September and February. Should any works be required within the bird nesting season (March to August inclusive) an assessment will be undertaken by a suitably qualified ecologist before any works commence.

### *Post Establishment Maintenance*

- 3.59 See Retained Woodland and Trees.

## **Proposed Hedgerows**

### Management Intentions

- 3.60 Proposed hedgerow planting comprises native and ornamental species, with a high percentage of flowering and evergreen species used to reinforce the cottage garden aesthetic for the area. Hedgerows will provide structure and frame areas of public open space and pathways.
- 3.61 Proposed hedgerows will provide new habitat across the Site to assist with ecological connectivity and strengthen connections to the wider landscape by providing opportunities for foraging, commuting and shelter.

### Maintenance Operations

#### *Weed Control*

- 3.62 To reduce excessive competition, mulch mats will be secured at the base of all young planting. A weed free area will be retained around the base of all young hedgerow trees will be maintained to a diameter of 0.5m.
- 3.63 Mulch mats to the base of all hedgerow planting will be inspected to ensure they are in-situ and replaced if missing. Mulch mats will be removed (if not all decomposed) once plants are established in Year 5..
- 3.64 A glyphosate spray will be applied twice a year between April and August Herbicide applications will only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

#### *Formative Pruning*

- 3.65 Formative 'facing up' the hedgerow will establish dense branch growth annually in September.

#### *Guards, Canes and Fencing*

- 3.66 Spiral guards and canes will be checked quarterly. Any broken or damaged spiral guards and canes will be replaced.
- 3.67 Where planting is protected by protective fencing, this will be checked quarterly with any broken or damaged fencing replacement accordingly.
- 3.68 Remove all items as necessary, when the planting is suitably established, approximately in Year 5.

#### *Re-firming*

- 3.69 Newly planted hedgerow plants will require re-firming as required.

#### *Replacement of Failed Planting*

- 3.70 Failed planting will be removed and replaced with the same species between November and March for deciduous species and between September and April for evergreen species.
- 3.71 If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted on agreement with the local planning authority.

#### *Watering*

- 3.72 Young single stem trees (whips) planted during the dormant season will need little or no watering. This will allow the tree to naturally acclimatise to the location and will encourage roots to spread down in search of water.
- 3.73 Watering may be required during periods of drought during the first three years after planting. Water should be applied to the base of the tree and should not be in excess of 20 litres every other day, as required, between April and September.

#### *Fertiliser*

- 3.74 Apply slow release multi-purpose plant food and soil improver twice annually during the first 3 years after planting.
- 3.75 Mulch mats should be carefully removed/lifted and fertilizer applied direct to the top layer of soil at the manufactures recommended rate.

#### *Hedgerow Cutting*

- 3.76 The first cut to newly planted hedgerows is recommended within year 4 (dependant on growth). All hedge cuts must be undertaken using appropriate hand or power tools. Mechanical methods of management, where appropriate, will be used in favour of machinery.

- 3.77 Formal hedgerows, including ornamental species, will be cut twice annually to desired height of 1m, in January and September, outside of the bird nesting season (March and August inclusive). Should additional cutting or removal works be required inside the bird nesting season an assessment will be undertaken by a suitably qualified ecologist before any works commence. Arisings will be collected and removed from Site.
- 3.78 Native hedgerows, will be cut in an 'A' shape to maintain a wide base for bird nesting and roosting. Hedgerow cutting will be cut on a rotational basis with one third cut every three years to retain foraging and sheltering opportunities. If possible, a 1m grass strip of species rich tussock grass will be left uncut next to the hedgerow to increase habitat potential and increasing connectivity. The grass strip is to be cut simultaneously with the hedge cutting regime. Arisings will be collected and removed from Site.
- 3.79 Prune as necessary to ensure good establishment. Once hedgerows have established, trim in January on a 3 year rotation basis (3rd of the hedge to be cut each year – to improve biodiversity and allow fruiting species to produce fruit for wildlife).

### **Existing Hedgerows**

#### Management Intentions

- 3.80 Existing hedgerows located along sections of the eastern boundary will be retained to provide a mature setting to the Site, as well as retaining valuable green corridors. The hedges will also provide screening for the development from the east and Fox's Bank Lane.

#### Maintenance Operations

##### *Hedgerow Cutting*

- 3.81 Hedgerows will be cut in an 'A' shape to maintain a wide base for bird nesting and roosting. Hedgerow cutting will be cut on a rotational basis with one third cut every three years to retain foraging and sheltering opportunities. If possible, a 1m grass strip of species rich tussock grass will be left uncut next to the hedgerow to increase habitat potential and increasing connectivity. The grass strip is to be cut simultaneously with the hedge cutting regime. Arisings will be collected and removed from Site.
- 3.82 Additional hedgerow cutting may be required from a health and safety perspective should there be a good growing season.

### **Proposed Shrub Planting**

#### *Management Intentions*

- 3.83 Proposed shrub planting will provide focal points within areas of the public open space, contrasting with the native habitat creation featured throughout the development. A palette of shrub and herbaceous species will be introduced providing seasonal and aesthetic value to the Site in addition to added benefits for wildlife.

### Maintenance Operations

#### *Mulching and Weed Control*

- 3.84 A mulch of composted wood chip or bark will be maintained around the base of all young plants to suppress weed growth and will be maintained to a depth of 100mm.
- 3.85 Weed control where feasible should be undertaken by hand pulling and should remove all dominant weeds such as docks, thistles, nettles, ragwort and willowherb. However in certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small controlled areas and should only target the undesirable species. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

#### *Shrub Pruning*

- 3.86 Pruning will be carried out throughout the year and be specific to each individual species. This will assist with establishment and promote healthy growth and plant shape. The timing and methods of pruning will be in line with good horticultural practices and suitable to each species, encouraging species to flower.
- 3.87 Branches to be removed should be taken back to an outward facing node and cut cleanly approximately one inch above on a diagonal angle. Pruning will be undertaken carefully by manual means with appropriate hand tools such as secateurs or loppers; which should be regularly sharpened and cleaned after use to prevent the potential spread of disease.
- 3.88 Where pruning is limited to the extent of the current year's growth, work can be carried out at any time of year. If the pruning will be extensive then the works should be undertaken outside of bird nesting season.

#### *Herbaceous Pruning*

- 3.89 Selective maintenance will be undertaken in October to promote healthy growth and produce desired growth of flowers and foliage by retaining new growth and focusing on the removal of vegetation showing signs of decay or fungal growth. Some plants which produce attractive seedheads or stems will be trimmed back in January to allow winter interest and habitat for invertebrates.
- 3.90 Deciduous grasses will be cut back to ground level with arisings removed and disposed of appropriately. This will be done annually in January.
- 3.91 Leaf blades can be thick so goggles and thick gloves will be worn during pruning.

#### *Deadheading*

- 3.92 Herbaceous plants should be deadheaded to maintain aesthetic value and to encourage the production of new flowers, extending the flowering season. Early-flowering perennials can be cut to near ground level after flowering to encourage late summer flowering. These will then be cut back again in October or April.

### *Vegetation Removal*

Dead, broken, damaged, diseased stems will be removed throughout the year. Maintenance must be undertaken carefully by manual means with appropriate hand tools such as shears or secateurs; which should be regularly sharpened and cleaned after use to prevent the potential spread of disease.

### *Watering*

- 3.93 Watering may be required during periods of drought during the first five years after planting. Water should be applied to the base of the tree and should not be in excess of 20 litres every other day, as required, between April and September.

### *Fertiliser*

- 3.94 Apply slow release multi-purpose plant food and soil improver twice annually during the first five years after planting.
- 3.95 Mulch should be carefully removed and fertilizer applied direct to the top layer of soil at the manufacturer's recommended rate.

### *Replacement of Failed Planting*

- 3.96 Failed planting will be removed and replaced with the same species in the first five years following implementation. If there is a continuous failure of a certain species, this will be reviewed and, if appropriate, an alternate appropriate species will be planted on agreement with the local planning authority.

## **Proposed Grass**

### Management Intentions

- 3.97 Amenity grass is proposed across the Site and will provide tidy appearance and setting for the development. Areas of proposed grass will provide opportunities for recreation for residents and will be maintained to ensure safe public usage.

### Maintenance Operations

#### *Grass Cutting*

- 3.98 The grass will be kept to a length of 38mm. Arisings will be removed and disposed of appropriately where grass growth has exceeded 50mm.

#### *Cultivating and Re-seeding*

- 3.99 Any bare ground will be cultivated and re-seeded as required to successfully establish sward. This will be carried out twice annually between August and October.

#### *Weed Control*

- 3.100 Weed control will be undertaken annually between April and September and where feasible should be undertaken by hand pulling and should remove all noxious weeds such as docks, thistles, nettles, and ragwort.

- 3.101 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

*Fertiliser*

- 3.102 Apply a lawn fertiliser at the manufacturer's recommended rates annually during the first five years after sowing. Apply fertilisers when the soil is moist or when rain is expected.

**Proposed Bulb Planting**

Management Intentions

- 3.103 Bulb planting will provide further seasonal interest and increase biodiversity with a variety of species flowering throughout late winter and spring.

Maintenance Operations

*Grass Cutting*

- 3.104 Approximately 6-8 weeks after flowering, the bulb planted area will be cut with the surrounding grass.

**Proposed Wildflower Planting**

Management Intentions

- 3.105 Areas of wildflower planting is proposed throughout the development to introduce ecological diversity and valuable wildlife habitat to the Site. Wildflower planting will strengthen green corridors and connectivity between retained and other newly created habitats around the Site. This floral display will contribute to the aesthetic of the development.
- 3.106 Wildflower planting includes native species that will attract pollinator species and provide a colourful and interesting flowering period. The timing and frequency of grass cuts will be determined by management procedures required to maximise conservation benefits of desirable flora species and maintaining grassland habitats.

Maintenance Operations

*Grass Cutting*

- 3.107 The wildflower sward will be cut to a height of no less than 150mm in June of the first year after sowing.
- 3.108 From year two onwards, the grass will be cut twice a year, once in the spring and once in the autumn once the species have finished flowering and the seeds have dropped in October.

- 3.109 All arisings will be collected and immediately from Site following the spring cut. Following the autumn cut, arisings will be left in situ for 4 days to allow for further flower seed dispersal. The arisings will then be raked and removed from the Site to prevent nutrient enrichment and to retain the desired species composition.
- 3.110 With the exception of year 1, when the wildflower planting is establishing, grass cutting will be avoided between March and August (inclusive) to prevent risk of disturbance and destruction to nesting birds.
- 3.111 Where meadow area is adjacent to footpaths, a 1m wide verge is to be maintained as 'Proposed Grass' and mowed regularly as per the prescriptions outlined above.

#### *Cultivating and Re-seeding*

- 3.112 Any bare ground will be cultivated and re-seeded as required to successfully establish sward. This will be carried out twice annually between August and October.

#### *Weed Control*

- 3.113 Weed control will be undertaken annually between April and September and where feasible should be undertaken by hand pulling and should remove all noxious weeds such as docks, thistles, nettles, and ragwort.

#### *Fertiliser Use*

- 3.114 Fertiliser is not to be applied to any of the wildflower areas in order to conserve the development of a diverse sward.
- 3.115 In certain instances, herbicide maybe the most effective measure to remove unwanted species. Where herbicide application is needed this should be in small, controlled areas and should only target the undesirable species. Shields should be used as appropriate to prevent drift into sensitive areas. Herbicides should comply with the Control of Pesticides Regulations as amended (1997) and be on the current list of approved products.

#### *Inspections and Remedial Measures*

- 3.116 A visual inspection of the wildflower planting will be undertaken from year 4 onwards to monitor species diversification. Plug planting will be undertaken if required to maintain a good variety of species.

### **Ponds**

#### Management Intention

- 3.117 Three ponds will be retained as part of the proposals and will be managed to maintain open water and provision of dense stands of emergent vegetation, tall herbs and wet grasslands that are important to support a diverse and healthy population of small mammals, amphibians, insects and waterfowl. Management should focus primarily on maximising the nature conservation potential of component features.

#### Maintenance Operations

### *Inspections and Remedial Measures*

- 3.118 A visual inspection will be carried out as part of the monthly site inspection. This will include an inspection of the water quality for any signs of pollutants (e.g. scum, excessive algal growth and discolouration), conditions of any inlet and outlet structures, extent of vegetation zones and open water, presence of invasive species (including fish) and presence of rubbish and debris.
- 3.119 If pollutants are detected, options for remedial action will be discussed with the landowner and appropriate authorities.
- 3.120 In the event invasive or harmful species are identified, a treatment plan will be drawn up; spot treatment or pulling by hand will be the preferred method. Any other remedial actions will be implemented accordingly.

### *Removal of Debris and Rubbish*

- 3.121 Any debris and rubbish identified during the quarterly visual inspections will be removed.

### *Aquatic and Emergent Vegetation Removal*

- 3.122 Maintenance of open water and provision of dense stands of emergent vegetation, tall herbs and wet grasslands are important for maximising biodiversity.
- 3.123 Regular and gentle removal of aquatic and emergent vegetation to maintain 35% to 60% open water. Cutting or pulling by hand is the preferred method to minimise disturbance and will be carried out annually between late October and mid-November. The works will be carried out on a three year rotation (i.e. a 1/3 each year) or as required according to pond condition.
- 3.124 Vegetation will be removed according to a wedge rotation and laid on terram (or similar matting) at the pond's edge for a minimum 24hrs. The vegetation and terram will then be removed from the Site.
- 3.125 Vegetation removal will, wherever possible, avoid the amphibian breeding and bird nesting season.

### *Marginal Vegetation and Planting Management*

- 3.126 The marginal vegetation around the pond will be cut to no less than 150mm on a rotation basis. The inner fringe of vegetation immediately by the water's edge will be retained throughout the year to serve as a buffer and to maintain food and cover sources. The marginal vegetation and planting will be cut on a 3 year rotation basis (with one third of the area to be cut each year).
- 3.127 Arisings will be removed and disposed of appropriately.

### *Marginal Planting - Cultivating and Re-seeding*

- 3.128 Any bare ground will be cultivated and re-seeded as required to successfully establish sward. This will be carried out twice annually between August and October.

#### *Marginal Planting - Weed Control*

- 3.129 Weed control will be undertaken annually between April and September and where feasible should be undertaken by hand pulling and should remove all noxious weeds such as docks, thistles, nettles, ragwort and willowherb.

#### *Scrub Control*

- 3.130 Scrub, grassland and other vegetation will be monitored and reduced to ensure no encroachment on the ponds is caused.
- 3.131 Scrub will be cut back on a rotational basis in January. All arisings will be chipped and used sustainably on the Site. Larger brash will be utilised to create deadwood features within woodland.

#### *Fertiliser and Herbicide Use*

- 3.132 No fertilisers, pesticides or herbicides will be used on or around the pond.

#### *De-silting*

- 3.133 Should the water levels within the deepest area of the pond fall below half a metre in two consecutive years, de-silting will be required. De-silting will be carried out approximately every five years depending on the condition of the pond and will be undertaken between November and January.
- 3.134 Desilting will be undertaken by a long-armed excavator and entry and access to the pond will be limited to one point or section of bank. Ground protection will be utilised to reduce damage to marginal habitats.
- 3.135 The top third of a metre of silt will be temporarily placed around the margins of the excavated pond, onto protective membrane, to allow amphibians and invertebrates to return to the pond and to be used on completion of works to repopulate the invertebrate assemblage within the ponds.
- 3.136 All other materials generated will be placed on protective membrane around the pond for a minimum 48hrs to allow amphibians and invertebrates to return to the pond. After a period of 48hrs, the silt and the protective membrane will be removed from site.

### **Sustainable Urban Drainage Systems (SUDS)**

#### Management Intention

- 3.137 Two attenuation basins are proposed to the south of the development, to capture surface water run-off and treating and attenuating this water before it exits the Site.
- 3.138 The attenuation basins are designed to temporarily fill during times of high rainfall or flooding but have the added benefit of providing habitats for amphibians and other invertebrates as well as providing flood management and a level of security for the development during storms and periods of heavy rainfall.

### Maintenance Operations

#### *Inspections and Remedial Measures*

- 3.139 A visual inspection will be carried out as part of the monthly site inspection. This will include an inspection of the water quality for any signs of pollutants, bank stability, conditions of the inlet and outlet structures and presence of rubbish and debris.
- 3.140 If pollutants are detected, options for remedial action will be discussed with the landowner and appropriate authorities.
- 3.141 In the event invasive or harmful species are identified, a treatment plan will be drawn up; spot treatment or pulling by hand will be the preferred method. Any other remedial actions will be implemented accordingly.

#### *Removal of Debris and Rubbish*

- 3.142 Any debris and rubbish identified during the monthly visual inspections will be removed.

#### *Strimming*

- 3.143 The banks of the SUDS comprising of marginal planting, will be cut when not operational, to no less than 150mm on a rotation basis. The marginal planting will be cut on a 3 year rotation basis (one third of the area to be cut each year).

#### *Cultivating and Re-seeding*

- 3.144 Any bare ground will be cultivated and re-seeded as required to successfully establish sward. This will be carried out twice annually between August and October.

#### *Weed Control*

- 3.145 Weed control will be undertaken annually between April and September and where feasible should be undertaken by hand pulling and should remove all noxious weeds such as docks, thistles, nettles, ragwort and willowherb.

#### *De-silting*

- 3.146 De-silting will be carried out as required depending on the condition of the SUDS and should be undertaken between November and January.
- 3.147 Desilting will be undertaken by a long-armed excavator and entry and access to the pond will be limited to one point or section of bank. Ground protection will be utilised to reduce damage to marginal habitats.
- 3.148 The top third of a metre of silt will be temporarily placed around the margins of the excavated basin, onto protective membrane, to allow amphibians and invertebrates to return to the basin and to be used on completion of works to repopulate the invertebrate assemblage within the basin.

## **Amphibian and Reptile Hibernacula**

### Management Intention

- 3.149 Amphibian and reptile hibernacula is proposed adjacent to the ponds on Site to enhance opportunities for hibernating amphibians and reptiles. Further details on the amphibian and reptile hibernacula can be found in the Biodiversity Enhancement Plan (TEP ref: 6987.02.001).

### Maintenance Operations

#### *Inspections and Remedial Measures*

- 3.150 Amphibian and reptile hibernacula features will be inspected during the monthly site inspections to ensure they are in a viable condition.
- 3.151 In the event the condition of the refuge feature deteriorates to a point that maintenance cannot ensure its viability, a new refuge feature will be recreated nearby. The existing refuge feature will be maintained in situ in its existing condition; if this is not desirable, an ecologist will be appointed to supervise the dismantling of the non-functioning refuge feature.
- 3.152 Grass or shrub atop the refuge features and within 0.5m of the refuge features will be left uncut to avoid disturbance to the refuge feature.

## **Habitat Piles**

### Management Intention

- 3.153 Brash and log piles collectively referred to as habitat piles, are proposed within areas of woodland and existing vegetation on Site. Habitat piles will be maintained in a viable condition so as to function to provide shelter and winter refuge to local wildlife.

### Maintenance Operations

#### *Replenishment*

- 3.154 Habitat piles will be replenished annually in August or September using wood collected during maintenance works, this will ensure there is enough cover for the hibernation period.

## **Invertebrate Hotels**

### Management Intention

- 3.155 Invertebrate hotels are proposed within the woodland areas and adjacent to the ponds. These features will encourage invertebrate species populations on the site which will provide food resource for other wildlife. Further details on the invertebrate hotels can be found in the Biodiversity Enhancement Plan (TEP ref: 6987.02.001).

### Maintenance Operations

#### *Inspections and Remedial Measures*

- 3.156 Invertebrate hotels will be inspected annually during a routine monthly site inspection to ensure they remain in a viable condition and replaced as and when required.

## **Bat Boxes**

### Management Intention

- 3.157 Bat boxes are proposed across the development as part of the ecological enhancements on Site provide valuable new roosting opportunities for bats. Bat boxes will be of types that are generally maintenance free. The locations of the bat boxes located around the Site can be found on the accompanying, Bird and Box Location Plan (TEP ref: D6987.02.001).

### Maintenance Operations

#### *Inspections and Remedial Measures*

- 3.158 Bat boxes will be inspected from the ground to ensure they remain in viable condition. This will be undertaken annually and will be completed during the routine monthly site inspection in November.
- 3.159 Anything causing an obstruction to bats entering or leaving the boxes will be removed as soon as possible.
- 3.160 Where any bat box is found to be damaged, it will be replaced a similar model prior to the following February.
- 3.161 In the event that the bat box is occupied by wasp or hornets, the box will either be relocated to a safe place away from regularly accessed public places or be removed from site, as desired, and a replacement box will be installed.

## **Bird Boxes**

### Management Intention

- 3.162 A variety of general use bird boxes have been chosen to suit the assemblage of birds identified to be using the Site. In addition, a number of species-specific boxes are specified to encourage species onto the Site. The bird boxes will be maintained in a viable condition to provide nesting habitat throughout the year. Bird boxes will be of types that are generally maintenance free. The locations of the bird boxes located around the Site can be found on the accompanying, Bird and Box Location Plan (TEP ref: D6987.02.001).

### Maintenance Operations

#### *Inspections and Remedial Measures*

- 3.163 Bird boxes will be inspected from the ground to ensure they remain in viable condition. This will be undertaken annually and will be completed during the routine monthly site inspection in November.
- 3.164 Where any bird box is found to be damaged, it will be replaced a similar model prior to the following February.
- 3.165 In the event that the box is occupied by wasp or hornets, the box will be removed to a safe place away from regularly accessed public places and a replacement box will be installed.

## **Footpaths**

### Management Intention

- 3.166 Footpaths will be safe and useable. Maintenance will focus on clearing any obstacles to the use of footpaths and ensure they are free of slip and trip hazards.

### Maintenance Operations

#### *Inspections and Remedial Measures*

- 3.167 Footpaths will be inspected during the monthly site inspection and will be kept safe and usable and cleared of overhanging vegetation and broken branches. Any item considered unsafe must be removed or made safe and replaced as soon as possible.
- 3.168 Repairs will be carried out as required, the surfacing will be replaced in line with the manufacturer's recommendations. The use of materials for repairs and replacements will conform to the original design specification for external works.

#### *Encroaching Vegetation*

- 3.169 Encroaching vegetation will be managed manually using an appropriate edging tool.
- 3.170 Where applicable, a metre wide strip will be mown fortnightly during the growing season to both sides of the footpaths.

## **Benches**

### Management Intention

- 3.171 Timber benches and picnic tables are proposed to encourage public use of the space and places to rest and appreciate the landscape and wildlife on Site. All benches on the Site will be maintained to a safe, clean and functional condition.

### Maintenance Operations

#### *Inspections and Remedial Measures*

- 3.172 Benches will be inspected during the monthly site inspection. Any bench considered unsafe will be removed or made safe and/or replaced as soon as possible. The use of materials for repairs and replacements will conform to the original design specification for external works.
- 3.173 Graffiti removal will be carried out as required.

## 4.0 Monitoring and Review

### Site Monitoring

- 4.1 The key measures described in the table below will enable the managing organisation to measure the appropriateness of landscape maintenance operations and whether management of the Site is meeting the long term management objectives.

*Table 1: Key Measures for Monitoring*

| Feature                       | Key Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Site wide                     | <p>Is the landscape establishing well and attractive to residents and wildlife overall?</p> <p>Is the Site in a clean and tidy condition?</p> <p>Is public access to the Site maintained?</p> <p>Are there any health and safety hazards / deficiencies which require rectification?</p> <p>Does the Site comply with the relevant environmental and health and safety legislation (as set out in Appendix D of this Plan)?</p> <p>Are there any instances where planting is repeatedly failing? If so, has an arboricultural consultant or landscape architect been consulted with to specify an alternative species?</p> |
| Retained woodland and trees   | <p>Carry out an inspection to note any deficiencies. Concerns about risks to public health and safety and tree health, should be reported and specialist input sought as necessary.</p> <p>Review arboriculture assessment for recommendations on thinning and tree works.</p>                                                                                                                                                                                                                                                                                                                                             |
| Proposed trees                | <p>Stakes and ties to be inspected and newly planted trees re-firmed and kept weed free.</p> <p>Any dead or dying trees should be replaced as specified in the original planting plan.</p> <p>Review arboriculture assessment for recommendations on thinning and tree works.</p>                                                                                                                                                                                                                                                                                                                                          |
| Proposed native whip planting | <p>Stakes, ties and guards to be inspected and newly planted trees re-firmed and kept weed free.</p> <p>Any dead or dying trees should be replaced as specified in the original planting plan.</p> <p>Review arboriculture assessment for recommendations on thinning and tree works.</p>                                                                                                                                                                                                                                                                                                                                  |

| Feature                                                                         | Key Measures                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proposed hedgerows                                                              | <p>Inspection of the general establishment of the hedges until the branches of adjacent plants fully merge together to establish dense branch growth. Any dead or dying plants should be replaced as specified in the original planting plan.</p> <p>Inspect planting and prune as required, or prune straight away if presents a hazard.</p> |
| Existing hedgerows                                                              | <p>Carry out an inspection to note any gaps and re-plant with suitable native species.</p>                                                                                                                                                                                                                                                    |
| Proposed shrub planting                                                         | <p>Condition of mulch, including coverage, depth and effectiveness as a weed suppressant to be inspected.</p> <p>Any dead or dying specimens should be replaced as specified in the original planting plan.</p> <p>Inspect planting and prune as required, or prune straight away if damaged and presents a hazard.</p>                       |
| Proposed grass                                                                  | <p>Inspection of the grass to ensure a well maintained weed free appearance. Re-seed as required.</p>                                                                                                                                                                                                                                         |
| Proposed bulb planting                                                          | <p>Inspection of the general condition of the bulb planting.</p>                                                                                                                                                                                                                                                                              |
| Proposed wildflower planting                                                    | <p>Inspection of the grass to ensure botanical diversity, weeds kept to a minimum, and no scrub encroachment.</p> <p>Carry out plug planting if required to maintain a good variety of species.</p>                                                                                                                                           |
| Ponds (including proposed marginal planting)                                    | <p>Inspection to the banks and ensure any tree or shrub saplings within 5m are removed.</p> <p>Review assessments following inspections and carry out recommended works.</p>                                                                                                                                                                  |
| Sustainable Urban Drainage System (SUDS) (including proposed marginal planting) | <p>Inspection to the banks and ensure any tree or shrub saplings within 5m are removed.</p> <p>Carry out inspection of control structure and carry out minor repairs as required.</p> <p>Review assessments following inspections and carry out recommended works.</p>                                                                        |
| Amphibian and reptile hibernacula                                               | <p>Carry out inspection to check condition and remove blockages from access points.</p>                                                                                                                                                                                                                                                       |
| Habitat piles                                                                   | <p>Carry out inspection to check that materials have been replenished in time for the hibernation period in September.</p>                                                                                                                                                                                                                    |

| Feature             | Key Measures                                                                                                                               |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Invertebrate hotels | Inspect insect hotels to ensure they are in situ and in a suitable condition.                                                              |
| Bat boxes           | Ground based inspections of bat boxes to ensure they are in situ and report any missing or damaged boxes to an ecologist.                  |
| Bird boxes          | Ground based inspections of bird boxes to ensure they are in situ and report any missing or damaged boxes to an ecologist.                 |
| Footpaths           | Carry out an inspection to ensure weed free appearance and remove trip or slip hazards. Note any damage and carry out repairs as required. |
| Benches             | Carry out an inspection to note any damage and carry out repairs/ replacement.                                                             |

- 4.2 With respect to monitoring habitat creation, an annual habitat walkover survey will be carried out to ensure that habitats created are still viable for their intended purpose and to inform future management policies concerning potential matters such as protected species and invasive species control.

### Review

- 4.3 The Management Plan will be reviewed on an annual basis by the appointed managing organisation and other key partners to ensure that the plan is meeting the original management objectives and responding to the developing needs of the Site.
- 4.4 The annual review will identify the need for additional maintenance operations and inform future management decisions. This can be achieved by:
- Quarterly formal site inspections by the managing organisation to assess the appointed contractor's quality standards and deliverables in line with this management plan;
  - An annual site meeting with the managing organisation and stakeholders and the appointed contractor to assess quality standards and deliverables in line with this management plan; and
  - Ad hoc unannounced inspections by the managing organisation to review quality of maintenance work and any potential Health and Safety issues.
- 4.5 The managing organisation will produce an annual report, summarising the management of the Site over the last year. The report will include the key measures achieved, actions going forward and any updates to the maintenance operations if required, and how this information will be communicated to stakeholders and resident/friends groups.

- 4.6 It is also recommended the managing organisation produces a cash-flow forecast for the next 3-5 years but that can be flexible enough to respond to changing circumstances. This will ensure sufficient funds are in place to deliver long term management of the Site.
- 4.7 An appropriately qualified landscape consultant will formally re-assess the management plan and annual review information on a five yearly basis to ensure the habitats and landscaping associated with the Site are maintained in perpetuity.

## **APPENDIX C: Landscape Maintenance Schedules**

✓

Works to be carried out in these months

Works not to be carried out in these months

\*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

[illegible]

✓

Works not to be carried out in these months

\*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

| Activity                                                                                                                                       | Frequency per Annum | Years     | Indicative Timing of Operation |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|
|                                                                                                                                                |                     |           | J                              | F | M | A | M | J | J | A | S | O | N | D |
| Replace failed or damaged evergreen species.                                                                                                   | 1                   | 1 to 5    | ✓                              | ✓ | ✓ | ✓ |   |   |   |   | ✓ | ✓ | ✓ | ✓ |
| Apply slow release multi-purpose plant food and soil improver.                                                                                 | 1                   | 1 to 3    |                                |   |   |   |   |   |   |   | ✓ |   |   |   |
| Proposed Hedgerows                                                                                                                             |                     |           |                                |   |   |   |   |   |   |   |   |   |   |   |
| Glyphosate spot spray around base of hedgerow trees any vegetation within 0.5m.                                                                | 3                   | 1 to 5    |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |
| Replace any damaged or missing mulch mats.                                                                                                     | 1                   | 1 to 5    | ✓                              | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Remove mulch mats is not decomposed.                                                                                                           | 1                   | Year 5    | ✓                              | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Formative prune to establish fence branch growth.                                                                                              | 1                   | 1 to 3    |                                |   |   |   |   |   |   |   | ✓ |   |   |   |
| Replace any damaged or missing fencing, spiral guards and canes.                                                                               | 4                   | 1 to 5    | ✓                              | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Remove fencing, spiral guards and canes.                                                                                                       | 1                   | Year 5    | ✓                              | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Re-firm new planting as required.                                                                                                              | 1                   | 1 to 5    | ✓                              | ✓ |   |   |   |   |   |   | ✓ | ✓ | ✓ | ✓ |
| Replace failed or damaged deciduous species.                                                                                                   | 1                   | 1 to 5    | ✓                              | ✓ | ✓ |   |   |   |   |   |   |   | ✓ | ✓ |
| Replace failed or damaged evergreen species.                                                                                                   | 1                   | 1 to 5    | ✓                              | ✓ | ✓ | ✓ |   |   |   |   | ✓ | ✓ | ✓ | ✓ |
| Water new planting.                                                                                                                            | As required         | 1 to 3    |                                |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |
| Apply slow release multi-purpose plant food and soil improver.                                                                                 | 2                   | 1 to 3    |                                |   |   | ✓ |   |   |   | ✓ |   |   |   |   |
| Native hedges - hedges to be cut in an 'A' shape and will be cut on a 3 year rotational basis (1/3 to be cut each year) and strim grass strip. | 1                   | Year 4 +  | ✓                              |   |   |   |   |   |   |   |   |   |   |   |
| Formal hedges - face up to both sides and top to 1m.                                                                                           | 2                   | Year 4 +  | ✓                              |   |   |   |   |   |   |   | ✓ |   |   |   |
| Existing Hedgerows                                                                                                                             |                     |           |                                |   |   |   |   |   |   |   |   |   |   |   |
| Native hedges - hedges to be cut in an 'A' shape and will be cut on a 3 year rotational basis (1/3 to be cut each year) and strim grass strip. | 1                   | All years | ✓                              |   |   |   |   |   |   |   |   |   |   |   |
| Proposed Shrub Planting                                                                                                                        |                     |           |                                |   |   |   |   |   |   |   |   |   |   |   |
| Top up mulch to maintain a depth of 100mm around the base of all plants.                                                                       | 1                   | All years |                                |   |   |   |   |   |   |   | ✓ | ✓ |   |   |
| Hand pull weeds or glyphosate spot spray to weeds within planting beds.                                                                        | 5                   | 1 to 10   |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |
| Shrubs - species specific pruning.                                                                                                             | As required         | 1 to 5    | ✓                              |   |   |   |   |   |   |   |   | ✓ |   |   |
| Herbaceous - species specific pruning, deadheading and vegetation removal.                                                                     | As required         | 1 to 5    | ✓                              |   |   | ✓ |   |   | ✓ |   |   | ✓ |   |   |
| Water new planting.                                                                                                                            | As required         | 1 to 5    |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |
| Apply slow release multi-purpose plant food and soil improver.                                                                                 | 2                   | 1 to 5    |                                |   |   | ✓ |   |   |   | ✓ |   |   |   |   |
| Replace failed or damaged deciduous species.                                                                                                   | 1                   | 1 to 5    | ✓                              | ✓ | ✓ |   |   |   |   |   |   |   | ✓ | ✓ |
| Replace failed or damaged coniferous/evergreen species.                                                                                        | 1                   | 1 to 5    | ✓                              | ✓ | ✓ | ✓ | ✓ |   |   |   | ✓ | ✓ | ✓ | ✓ |
| Proposed Grass                                                                                                                                 |                     |           |                                |   |   |   |   |   |   |   |   |   |   |   |
| Cut (38mm) fortnightly during the growing season and remove arisings from the Site where grass growth has exceeded 50mm.                       | 16                  | All years |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |
| Cultivate and re-seed as required.                                                                                                             | As required         | 1 to 5    |                                |   |   |   |   |   |   | ✓ | ✓ | ✓ |   |   |
| Weed control.                                                                                                                                  | 1                   | All years |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |
| Apply lawn fertiliser.                                                                                                                         | 1                   | 1 to 3    |                                |   |   |   | ✓ |   |   |   |   | ✓ |   |   |
| Proposed Bulb Planting                                                                                                                         |                     |           |                                |   |   |   |   |   |   |   |   |   |   |   |
| Cut (38mm) 6-8 weeks after flowering.                                                                                                          | 1                   | All years |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |
| Proposed Wildflower Planting                                                                                                                   |                     |           |                                |   |   |   |   |   |   |   |   |   |   |   |
| Cut (150mm) once in the first year.                                                                                                            | 1                   | Year 1    |                                |   |   |   |   | ✓ |   |   |   |   |   |   |
| Cut (40mm) twice a year, remove arising immediately and after 4 days respectively.                                                             | 2                   | Year 2+   |                                |   |   | ✓ |   |   |   |   |   | ✓ |   |   |
| Cut 1m margin adjacent to footpaths as 'Proposed Grass' above.                                                                                 | 16                  | All years |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |
| Cultivate and re-seed as required.                                                                                                             | As required         | 1 to 5    |                                |   |   |   |   |   |   | ✓ | ✓ | ✓ |   |   |
| Weed control.                                                                                                                                  | 1                   | All years |                                |   |   | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |
| Inspect wildflower planting and carry out plug planting as required.                                                                           | 2                   | Year 4+   |                                |   |   | ✓ |   |   |   |   |   |   |   |   |
| Ponds                                                                                                                                          |                     |           |                                |   |   |   |   |   |   |   |   |   |   |   |

✓

Works not to be carried out in these months

\*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

[illegible]



Key

✓

 Works to be carried out in these months Works not to be carried out in these months

\*Bird breeding and nesting season (March to August inclusive) no works that may have an impact on nesting birds are to be undertaken

| Activity | Frequency per Annum | Years | Indicative Timing of Operation |   |   |   |   |   |   |   |   |   |   |   |
|----------|---------------------|-------|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|
|          |                     |       | J                              | F | M | A | M | J | J | A | S | O | N | D |

**NOTE** Glyphosate formulations containing the surfactant Polyethoxylated tallow amine (POEA) should not be used within close proximity to waterbodies or other wetland habitats as it can cause high amphibian larvae mortality.

## **APPENDIX D: Legislation Context**

## Summary of Relevant Legislation

The following legal obligations, among others must be considered in carrying out any management operations:

| Legislation                                                        | Obligations                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Health and Safety Legislation</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| The Health and Safety at Work Act (1974)                           | All operations carried out on the Site must only be undertaken by trained personnel, using methods and equipment approved by the Health and Safety Executive (HSE).                                                                                                                                                                                                                                                                                      |
| Occupiers Liability Act (1984)                                     | <p>Management organisation must ensure that every reasonable care is taken to remove any risks to both legitimate visitors and to any trespassers. In compliance it will be necessary:</p> <ul style="list-style-type: none"> <li>• To make sure that all footpaths and any other structures are safe;</li> <li>• To remove any hazardous objects; and</li> <li>• To conduct an annual safety audit in order to identify any further hazards.</li> </ul> |
| <b>Environmental Legislation</b>                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Conservation of Habitats and Species Regulations 2017 (as amended) | The Habitat Regulations for England and Wales assign a greater level of protection to a variety of native species of animals and plants listed. The 2017 Regulations have been amended by the 2019 EU Exit Regulations.                                                                                                                                                                                                                                  |
| Wildlife and Countryside Act (1981)                                | There is an obligation to comply with legislation for UK species protected (including amphibians, reptiles and bats) under this Act.                                                                                                                                                                                                                                                                                                                     |
| Environmental Protection Act (1990)                                | There is an obligation to keep the Site free from litter and refuse.                                                                                                                                                                                                                                                                                                                                                                                     |
| Countryside and Rights of Way Act (2000)                           | Imposes a new right of access on foot to registered common land and other areas of 'open countryside' which under certain circumstances allows access without being confined to footpaths.                                                                                                                                                                                                                                                               |



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