

# Carpenders Park, Three Rivers

Burlington Property Group

## Biodiversity Net Gain Report

| Version | Created By       | Approved By  | Date       |
|---------|------------------|--------------|------------|
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## Contents

|      |  |    |
|------|--|----|
| 1.   | Introduction .....                               | 1  |
| 1.1. | Background & Proposals .....                     | 1  |
| 1.2. | Site Characteristics .....                       | 1  |
| 1.3. | Biodiversity Net Gain Report .....               | 1  |
| 2.   | Statutory Biodiversity Metric .....              | 2  |
| 2.2. | Methodology .....                                | 2  |
| 3.   | Results and Discussion of Metric .....           | 3  |
| 3.2. | On-site Baseline Habitat (Pre-Development) ..... | 3  |
| 3.3. | On-site Post-development .....                   | 8  |
| 4.   | Evaluation .....                                 | 14 |
| 4.1. | The Principals of Evaluation .....               | 14 |
| 4.2. | Post-Development Evaluation .....                | 15 |
| 4.3. | Satisfying Trading Rules .....                   | 16 |
| 4.4. | Off-site Compensation .....                      | 17 |
| 5.   | Summary and Conclusions .....                    | 18 |

## Plans

|           |   |
|-----------|---|
| PLAN ECO1 | Site Location and Ecological Designations |
| PLAN ECO2 | Pre-Development Habitats                  |
| PLAN ECO3 | Post-Development Habitats                 |

## Appendices

|            |  |
|------------|--|
| APPENDIX 1 | Illustrative Landscape Masterplan (drawing ref. P24-2420-EN-08)<br>(Pegasus Group) |
| APPENDIX 2 | Baseline Tree Conditions   |

## 1. Introduction

### 1.1. Background & Proposals

1.1.1. Ecology Solutions was commissioned by Burlington Property Group in July 2024 to provide a Biodiversity Net Gain report for Carpenders Park, Three Rivers (see Plan ECO1), hereafter, referred to as the site.

1.1.2. The proposals for the site include a mixed-use development with up to 257 homes, housing with care, a children's home and associated parking, open space, Sustainable Urban Drainage (SUDs), landscaping and vehicular access, in addition to a care home.

### 1.2. Site Characteristics

1.2.1. The site measures approximately 12.7ha in size and is located to the east of Carpenders Park, a suburb of Watford. Arable land borders the site to the immediate north with the A4008 extending along the western site boundary. Carpenders Park Care Home is additionally present to the west of the site, beyond which is housing. Little Hartsbourne Wood which is managed by the Woodland Trust, constitutes most of the eastern site boundary. Grassland fields intersected by scrub extend southwards from the site with a tributary of the River Colne and Grims Dyke Golf Club situated further to the south.

1.2.2. The site is comprised of three fields separated by bands of Blackthorn *Prunus spinosa* scrub (see Plan ECO2). Mature trees are situated along the site's perimeter, in addition to within the central field. Areas of Bramble *Rubus fruticosus* and ruderal vegetation are also present throughout, with a small area of woodland extending into the southeast of the site, connecting to Little Hartsbourne Wood.

### 1.3. Biodiversity Net Gain Report

1.3.1. This document assesses the level of Biodiversity Net Gain within the site. This report has been prepared with due consideration to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)<sup>12</sup> in relation to Biodiversity Net Gain. This assessment has been based around the results of the habitat survey undertaken in July 2024 for the development site.

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<sup>1</sup> CIEEM (2019). *Biodiversity Net Gain. Good Practice Principles for Development, A Practical Guide.*

<sup>2</sup> CIEEM, CIRIA, IEMA (2016). *Biodiversity Net Gain: Good Practice Principles for Development.*

## 2. Statutory Biodiversity Metric

2.1. The Statutory Biodiversity Metric was released on 29 November 2023 and was updated on 12 February 2024. It uses habitat features as a proxy measure for capturing the value and importance of nature and uses calculations to assess the importance of each habitat based on its size, ecological condition and strategic location.

### 2.2. Methodology

2.2.1. The proposed development site was surveyed in July 2024 based on UK Habitat survey (UKHab) methodology, as recommended by Natural England, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail.

2.2.2. Measurements for on-site habitats pre-development were calculated using Natural England's QGIS Net Gain Habitat Mapping template and QGIS Import Tool. Information regarding the habitats present, as well as their condition, were based on survey information obtained in July 2024 by Ecology Solutions (see report: 12195.EcoAs.vf). The Biodiversity Metric User Guide<sup>3</sup>, as well as professional judgement, was used to inform the habitats condition criteria.

2.2.3. Measurements for post-development on-site habitats are based on the Illustrative Landscape Masterplan (drawing ref. P24-2420-EN-08) by Pegasus Group.

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<sup>3</sup> Natural England (2024). *The Statutory Biodiversity Metric, User Guide*, Department for Environmental, Food and Rural Affairs

### 3. Results and Discussion of Metric

3.1. This section should be read in conjunction with the DEFRA Biodiversity Metric calculation tool and Ecology Solutions' Ecological Assessment, both of which have been provided separately.

#### 3.2. On-site Baseline Habitat (Pre-Development)

3.2.1. The site was subject to a UKHab survey in July 2024.

3.2.2. The following main habitat / vegetation types were identified within the site during the surveys undertaken:

- Other neutral grassland;
- Blackthorn scrub;
- Bramble scrub;
- Tall forbs;
- Lowland deciduous woodland; and
- Individual trees

3.2.3. The location of these habitats, which are photographed and described in detail within the existing Ecological Assessment (report ref: 12195.EcoAs.vf; dated February 2025), are illustrated on Plan ECO2.

3.2.4. Table 3.1 below summarises the habitats present on site and replicates the condition assessment undertaken at the time of the UKHab classification survey. A baseline total of 128.36 habitat units are present pre-development.

3.2.5. Habitats were classified based on their conformity to UK habitat classifications<sup>4</sup> and condition assessments were completed for each habitat identified within the site. The Biodiversity Technical Supplement<sup>5</sup> as well as professional judgment was used to inform the habitats' condition criteria.

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<sup>4</sup> Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). *UK Habitat Classification – Habitat Definitions V1.1* at <http://ukhab.org>.

<sup>5</sup> Department for Environment, Food and Rural Affairs (2024). *The Statutory Biodiversity Metric: User Guide*, Department for Environment, Food and Rural Affairs. Available at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

**Table 3.1.** Summary of on-site baseline habitats

| Baseline habitat  | Baseline Biodiversity Units | Condition Criteria / Pass or Fail / Indicator Score   |      | Condition   | Ecological Features and Condition Notes  | After Works                                  |
|---|-----------------------------|---|------|---|--|--|
| Other neutral grassland   | 80.46                       | Grassland Medium Distinctiveness  |      | Moderate<br><br>(4 / 6 condition criteria passed = Moderate | Three other neutral grassland fields comprise the majority of the site. The areas exhibit high species diversity with dominant Yorkshire Fog <i>Holcus lanatus</i> . With abundant, Creeping Thistle <i>Cirsium arvense</i> , White Clover <i>Trifolium repens</i> , Creeping Cinquefoil <i>Potentilla reptans</i> , Red Clover <i>Trifolium pratense</i> and Ragwort <i>Senecio jacobaea</i> .<br><br>The grassland areas are overall good representation of the habitat types. However, although the species diversity is high the areas include high proportions of sub-optimal species including Creeping Thistle, White Clover, Greater Plantain <i>Plantago major</i> , Curled Dock <i>Rumex crispus</i> , Creeping Buttercup <i>Ranunculus repens</i> and Common Nettle <i>Urtica dioica</i> , and therefore fails Criteria E and essential Criteria F, meaning the habitat reaches moderate condition. | 60.92 units lost<br><br>19.54 units enhanced |
|   |                             | A – The grassland is a good representation of the habitat type it has been identified as.   | Pass |   |  |  |
|   |                             | B – There is a varied sward height.   | Pass |   |  |  |
|   |                             | C – Cover of bare ground is between 1% and 5%.  | Pass |   |  |  |
|   |                             | D – Cover of Bracken is below 20% and cover of scrub is below 5%.   | Pass |   |  |  |
|   |                             | E – Combined cover of species indicative of a sub-optimal condition and physical damage are below 5% cover. No invasive non-native plant species are present. | Fail |   |  |  |
| F – There are 10 or more vascular plant species per square meter. | Fail                        |   |      |   |  |  |
| Blackthorn Scrub  | 10.66                       | Heathland and Scrub Medium Distinctiveness  |      | Moderate  | Blackthorn <i>Prunus spinosa</i> dominant scrub is present to the site boundaries and delineating the three grassland fields. Other species present include Ash <i>Fraxinus excelsior</i> ,  | 3.94 units lost<br><br>4.74 units retained   |
|   |                             | A – Scrub is a good representation of the habitat type.   | Pass |   |  |  |

| Baseline habitat | Baseline Biodiversity Units  | Condition Criteria / Pass or Fail / Indicator Score   |      | Condition  | Ecological Features and Condition Notes   | After Works   |
|------------------|--|---|------|--|---|---|
|                  |  | B – Seedlings, saplings, young shrubs and mature shrubs all present.                            | Pass | (4 / 5 condition criteria passed, = Moderate)            | <p>Hawthorn <i>Crataegus monogyna</i>, Bramble and Oak <i>Quercus robur</i>.</p> <p>The scrub area does not include any clearing or glades and therefore fails criterion E, condition the habitat as Moderate.</p> <p>Areas of scrub will be retained where possible, with areas cut back to 5m width and height. Further scrub will be planted adjacent to retained areas within the centre of the site. With scrub areas retained and enhanced where possible, along the site boundaries.</p> | 1.98 units enhanced   |
|                  | C – Absence of invasive non-native plant species.                              | Pass  |      |  |   |   |
|                  | D – Scrub has well developed edge with scattered scrub and grassland or forbs. | Pass  |      |  |   |   |
|                  | E – There are clearings, glades or rides present within the scrub.             | Fail  |      |  |   |   |
| Bramble Scrub    | 3.11   | Condition Assessment N/A  |      | N/A  | <p>Eight areas of Bramble dominant scrub are present throughout the site, with the largest area along the western boundary of the central grassland field.</p> <p>No condition assessment is required for this habitat type.</p>  | <p>2.12 units lost</p> <p>0.05 units retained</p> <p>0.94 units enhance</p> |
| Tall Forbs       | 1.09   | Sparsely Vegetated Land Low Distinctiveness   |      | Moderate<br>(2 / 3 condition criteria passed = Moderate) | <p>Tall Forbs habitat is present to the western boundary of the central grassland field and the southern site boundary.</p> <p>The patches present along the western boundary are dominated by Common Nettle with occasional Ragwort, Hogweed <i>Heracleum sphondylium</i> and Willowherb</p>   | 1.09 units lost   |
|                  |  | A – Vegetation structure is varied. A single component does not account for >80% of total area. | Fail |  |   |   |

| Baseline habitat                 | Baseline Biodiversity Units | Condition Criteria / Pass or Fail / Indicator Score                   |      | Condition         | Ecological Features and Condition Notes  | After Works                                       |
|----------------------------------|-----------------------------|---|------|-------------------|--|---|
|                                  |                             | B – Area contains different plant species of benefit to wildlife      | Pass |                   | <i>Epilobium</i> sp. As Nettle accounts for over 80% of the habitat the areas fail condition criteria A and as such reaches Moderate condition.  |   |
|                                  |                             | C – Invasive and non-native species cover <5% of total vegetated area | Pass |                   |  |   |
| Lowland Mixed Deciduous Woodland | 4.55                        | Woodland Medium Distinctiveness                                       |      | 37 / 39<br>= Good | <p>Woodland present to the southeast of the site is connected to offsite Merry Hill and Little Hartsbourne Wood, managed by the Woodland Trust.</p> <p>The woodland has been effectively managed to achieve a Good condition, damaged to woodland has been caused by problems with vandalism, dog walker, horses and bikes straying from the designated pathways.</p> <p>The woodland area within the site has been classified as Priority Deciduous Woodland within the MAGIC map by DEFRA. As such onsite woodland has been included as an ecologically desirable location, not included within local strategy.</p> <p>Woodland will be largely retained within the development with a small section removed to facilitate the establishment of a woodland footpath.</p> | <p>4.08 units retained</p> <p>0.47 units lost</p> |
|                                  |                             | A – Age distribution of trees   | 3    |                   |  |   |
|                                  |                             | B – Wild, domestic and feral herbivore damage                         | 3    |                   |  |   |
|                                  |                             | C – Invasive plant species  | 3    |                   |  |   |
|                                  |                             | D – Number of native trees species                                    | 3    |                   |  |   |
|                                  |                             | E – Cover of native tree and shrub species                            | 3    |                   |  |   |
|                                  |                             | F – Open space within woodland  | 3    |                   |  |   |

| Baseline habitat | Baseline Biodiversity Units | Condition Criteria / Pass or Fail / Indicator Score                    |   | Condition                              | Ecological Features and Condition Notes  | After Works                             |
|------------------|-----------------------------|--|---|--|--|---|
|                  |                             | G – Woodland regeneration  | 3 |  |  |   |
|                  |                             | H – Tree health  | 3 |  |  |   |
|                  |                             | I – Vegetation and ground flora  | 3 |  |  |   |
|                  |                             | J – Woodland vertical structure  | 3 |  |  |   |
|                  |                             | K – Veteran trees  | 3 |  |  |   |
|                  |                             | L – Amount of deadwood   | 3 |  |  |   |
|                  |                             | M – Woodland disturbance   | 1 |  |  |   |
| Individual Trees | 28.49                       | Condition assessments for Individual Trees are detailed at Appendix 2. |   | Good<br>6/6 condition criteria = Good) | 47 trees are present within the site pre-development. Of these, 22 are Very Large. 14 are Large and the remaining 11 are Medium sized. All trees are in good condition.<br><br>The development will result in the loss of one large tree and 2 medium trees. All remaining trees will be retained. | 27.66 units retained<br>0.83 units lost |

### 3.3. On-site Post-development

- 3.3.1. Table 3.2 below summarises the habitats and hedgerows that are to be created on-site post-development and are illustrated on Plan ECO3 and also found on Illustrative Landscape Masterplan (drawing ref. P24-2420-EN-08) by Pegasus Group. Table 3.3 below summarises the enhancements proposed for the site, again, as shown on Plan ECO3.
- 3.3.2. The landscape strategy includes a variety of habitats and will comprise new other neutral grassland and modified grassland planting, scrub planting, biodiverse green roofing and vegetated gardens. In addition to Sustainable Urban Drainage (SuDs) with associated wetland grass and aquatic planting. The establishment of species-rich native hedgerows and ornamental hedgerows, traditional orchard planting and urban tree planting across the site.
- 3.3.3. While retention and enhancement of the habitats considered to be of greatest value has been sought including areas of scrub and grassland, the proposed scheme would result in a net loss of 43.61 habitat units, largely due to the losses to other neutral grassland dominating the site. This results in a loss of -33.97% in habitat units from pre- to post-development. The metric does not provide a percentage net gain for hedgerow units as no hedgerows are present in the site baseline. Nonetheless, there is an increase in hedgerow units as detailed by the metric.
- 3.3.4. The targeted conditions for proposed habitats will be achieved through appropriate management undertaken during the operational phase of the proposals. This will ensure that the proposed habitats continue to offer biodiversity benefits in the future. It would be expected that a condition be applied to the planning permission detailing the prescribed planting, management and monitoring to be undertaken to ensure the aspirations set out are delivered.

**Table 3.2.** Summary of post-development habitats and hedgerow types that will be created.

| Created Habitats        |   |                  |                                |  |
|-------------------------|---|------------------|--------------------------------|--|
| Proposed Habitat        | Landscape Plan Habitat                                | Target Condition | Biodiversity Units Delivered   | Target Condition Notes   |
| Other Neutral Grassland | Other Neutral Grassland                               | Good<br><br>Poor | 3.65<br><br>0.06<br><br>= 3.71 | <p>Areas of other neutral grassland will be seeded around the site in areas of previous scrub habitat lining footpaths around the development. These areas will be reflective of enhanced other neutral grassland areas within the site and be kept to the same management regime, thus achieving the same Good condition.</p> <p>Grassland wetland margins will also be planting surrounding new sustainable urban drainage systems, including native wetland species. These areas will not be highly managed, but will ensure any invasive /non-native species are not present. These habitats will therefore be in Good condition.</p> <p>Mown walkways through the proposed community orchard and wildflower meadow are to be kept short for accessibility, therefore the area is likely to fail condition criteria A, B and E and be in Poor condition.</p> |
| Modified Grassland      | Included within built form areas / Amenity open space | Poor             | 1.19                           | <p>Areas of amenity planting and lawn will be established around residential properties within the site, it is anticipated that Modified Grassland habitat will account for approximate 10% of all built form residential areas. A larger open amenity grassland area for recreation is also proposed to the northeastern boundary of the site.</p> <p>These areas are expected to be managed for amenity and aesthetic value and will therefore fail essential criterion A, as such the grassland will be of Poor condition.</p>  |
| Traditional Orchard     | Community orchard                                     | Moderate         | 0.59                           | <p>A Community orchard is proposed to the northeast of the site, adjacent to the public right of way footpath. The area will include tree planting within wildflower meadow with informal mown grassland footpaths for accessibility.</p> <p>The fruit trees within the orchards should not be smothered by scrub, and scrub that begins to grow between trees will occupy less than 10% of the ground cover. Trees should be managed to maintain their longevity and be kept free from anthropogenic and animal damage. In addition, the underlying grassland will be species rich and free from overgrazing. The area should be</p>  |

|                       |                                    |                          |      |   |
|-----------------------|------------------------------------|--------------------------|------|---|
|                       |                                    |                          |      | <p>managed so that invasive non-native plant species will be prevented from establishing and growing and species indicative of sub-optimal conditions will cover less than 10% of the underlying ground.</p> <p>To achieve good condition, the presence of ancient or veteran trees is required, in addition to the presence of deadwood in or on the trees. Thus, the proposed habitat will achieve Moderate condition.</p>  |
| Mixed Scrub           | Native Shrub Planting              | Moderate                 | 0.94 | <p>Mixed scrub will be established to the north of the proposed care home, along the western boundary of the development. The area will include native shrub planting with trees. The area should be managed to ensure the absence of invasive / non-native and sub-optimal species including Bracken. The scrub will likely fail Criteria B and E reaching Moderate condition.</p>   |
| Blackthorn Scrub      | Blackthorn Scrub                   | Good                     | 2.93 | <p>Existing areas of Blackthorn scrub delineating the fields will be cut back to 5m height and width, with new planting established adjacent to the managed areas., with a ride present between the retained and newly planted scrub. The areas are expected to fulfil all criteria, achieving Good condition.</p>  |
| Biodiverse Green Roof | Green Roof                         | Good                     | 1.13 | <p>Biodiverse green roofing is proposed on the six new apartment blocks within the development. These areas should include a variety of sedum and wildflower planting. The habitat vegetation structure should be varied providing opportunities for a variety of invertebrate species, The depth of the habitat should also be varied between 80 to 150mm with at least 50% being 150mm</p> <p>The habitats should fulfil all 4 condition criteria and be of Good condition.</p> |
| Vegetated Garden      | (Included within built form areas) | Condition Assessment N/A | 2.63 | <p>Vegetated garden is considered an appropriate classification with the build form areas. It is considered that vegetated gardens will account for approximately 30% of the built form residential areas and 20% of the care home development.</p> <p>No condition assessment is applicable for this habitat type.</p>   |

|  |   |                      |                                |  |
|--|---|----------------------|--------------------------------|--|
| Other Woodland;<br>Broadleaved                 | Native woodland                             | Poor                 | 1.16                           | Woodland planting is proposed to the western edge of the development within the northern parcel. Woodland is to include predominately Oak <i>Quercus robur</i> and Hazel <i>Corylus avellana</i> .<br><br>New woodland planting will not exhibit a range of tree age classes, woodland regeneration, diverse vertical structure, veteran trees or deadwood. And therefore, will be in Poor condition at establishment.   |
| Sustainable<br>Drainage System                 | Attenuation Basin                           | Good                 | 1.02                           | Two sustainable drainage systems are proposed to the northwest and southern boundary of the site. The areas will be seeded with wet meadow grass to banks and enhanced with appropriate native marginal and aquatic vegetation. The areas are expected to fulfil all condition criterion achieving Good condition.   |
| Developed Land;<br>Sealed Surface              |   | N/A                  | 0                              | This area includes the proposed buildings, associated hardstanding and infrastructure through the site. Developed land will account for 60% of built for areas and 70% of the proposed care home area to the west of the site. No condition is applicable.<br><br>Areas include a footpath through the woodland to the southeast of the site, within the ecologically desirable location   |
| Artificial<br>Unvegetated;<br>Unsealed Surface | Locally Equipped<br>Area for Play<br>(LEAP) | N/A                  | 0                              | The LEAP is positioned along the northern boundary of the site.<br><br>No condition assessment is applicable for this habitat type.  |
| Urban Tree                                     | Tree Planting                               | Moderate<br><br>Poor | 1.39<br><br>0.55<br><br>= 1.94 | A total of 160 trees will be included within the development including scattered individual native tree planting along the site boundaries and throughout areas of open space. Trees will be reflective of the young woodland through Merry Hill.<br><br>Trees within open areas are expected achieve Moderate condition (70%) meeting criteria A, B, D and F. Remaining trees (30%) along roads and walkways will likely be managed to achieve Poor condition, failing criterion A. |

| Created Hedgerows                       |   |                  |                              |  |
|---|---|------------------|------------------------------|--|
| Proposed Habitat                        | Landscape Plan Habitat                    | Target Condition | Biodiversity Units Delivered | Target Condition Notes   |
| Non-native and Ornamental Hedgerow      | Ornamental Shrub Planting                 | Poor             | 0.06                         | Ornamental shrub planting is to be established around the northern LEAP area. Condition criteria for this habitat is fixed at Poor   |
| Species-rich Native Hedgerow            | Mixed-species Native Hedgerow             | Good             | 3.39                         | Species rich native hedgerows will be established to the north of built form areas in the site, with further establishment within the centre of the site and to the south of newly planting woodland along the western site boundary. The hedgerows should be managed to ensure that invasive / non-native species remain absent. The areas should fulfil criteria A1, A2, B1, B2, C1, D1 and D2, achieving Good condition.  |
| Species-rich Native Hedgerow with trees | Mixed-species Native Hedgerow with trees. | Good             | 2.09                         | Includes native hedgerow planting to the east of the proposed care home, along the course of the historic treeline. Including bolster planting of new individual Oak trees.<br><br>In addition, to the frontage of the care home new native hedgerow will be established with ornamental tree planting, defining the area from the adjacent residential land usage.<br><br>Hedgerows should be managed to ensure invasive / non-native species do not establish. Habitat should fulfil criteria A1, A2, B1, B2, C1, D1, D2 and E2 Hedgerows established along previous tree course will also fulfil criterion E1. Hedgerows should therefore achieve Good condition. |

**Table 3.3.** Summary of habitat enhancements

| Enhanced Habitats       |                    |                         |                  |                              |   |
|-------------------------|--------------------|-------------------------|------------------|------------------------------|---|
| Baseline Habitat        | Baseline Condition | Proposed Habitat        | Target Condition | Biodiversity Units Delivered | Target Condition Notes  |
| Other Neutral Grassland | Moderate           | Other Neutral Grassland | Good             | 26.38                        | Areas of retained Other Neutral Grassland will be enhanced via the removal of species indicative of sub-optimal conditions, and bolster planting of new native vascular plant species. Enhancements will fulfil criteria E and F, achieving Good condition.                         |
| Blackthorn Scrub        | Moderate           | Blackthorn Scrub        | Good             | 2.87                         | Retained blackthorn scrub within the centre of the site will be enhanced via planting of adjacent scrub with the provision of a ride between retained and established areas, passing condition criterion E, thereby fulfilling all condition criteria and achieving Good condition. |
| Bramble Scrub           | Condition N/A      | Mixed scrub             | Moderate         | 1.73                         | Bramble scrub present along the western boundary of the site will be enhanced to mixed scrub via bolster planting of native species. The scrub will likely fail Criteria B and E reaching Moderate condition.   |

## 4. Evaluation

### 4.1. The Principals of Evaluation

#### *Biodiversity Net Gain – Good Practice for Development*

- 4.1.1. CIRIA, CIEEM and IEMA have developed principles of good practice to achieve Biodiversity Net Gain. These principles provide a framework that helps improve the UK's biodiversity by contributing towards strategic priorities to conserve and enhance nature through sustainable development. There are ten principles in total, and all principles must be applied together as one approach. The ten principles are set out below.
- 4.1.2. **Principle 1. Apply Mitigation Hierarchy.** Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision makers where possible, compensate for losses that cannot be avoided. If compensation for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.
- 4.1.3. **Principle 2. Avoid losing biodiversity that cannot be offset by gains elsewhere.** Avoid impacts on irreplaceable biodiversity; these impacts cannot be offset to achieve no net loss or net gain.
- 4.1.4. **Principle 3. Be inclusive and equitable.** Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.
- 4.1.5. **Principle 4. Address risks.** Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.
- 4.1.6. **Principle 5. Make a measurable net gain contribution.** Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.
- 4.1.7. **Principle 6. Achieve the best outcomes for biodiversity.** Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly justified choices when:
- Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses.
  - Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation.
  - Achieving net gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels.
  - Enhancing existing or creating new habitat.

- Enhancing ecological connectivity by creating more bigger, better and joined areas for biodiversity.
- 4.1.8. **Principle 7. Be additional.** Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).
- 4.1.9. **Principle 8. Create a net gain legacy.** Ensure net gain generates long-term benefits by:
- Engaging stakeholders and jointly agreeing practical solutions that secure net gain in perpetuity.
  - Planning for adaptive management and securing dedicated funding for long-term management.
  - Designing net gain for biodiversity to be resilient to external factors, especially climate change.
  - Mitigating risks from other land uses.
  - Avoiding displacing harmful activities from one location to another.
  - Supporting local-level management of net gain activities.
- 4.1.10. **Principle 9. Optimise sustainability.** Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.
- 4.1.11. **Principle 10. Be transparent.** Communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

#### *Lawton's Principle*

- 4.1.12. Principles for enhancing England's wildlife sites were developed as part of the Lawton Review<sup>6</sup>. Across the UK, these principles can be used to design Biodiversity Net Gain activities to boost wildlife sites. They are:
- Improving the quality of wildlife sites;
  - Increasing the size of the wildlife sites;
  - Enhancing connections between, or joining up wildlife sites;
  - Creating new wildlife sites; and
  - Reducing pressure on wildlife sites.

## 4.2. Post-Development Evaluation

- 4.2.1. The site's contribution to Biodiversity Net Gain has been assessed with due regard to the principles outlined and discussed above.
- 4.2.2. The on-site landscape strategy includes a variety of species-rich habitats and will comprise tree planting, non-native and species hedgerow planting, mixed scrub, and modified and other neutral grassland establishment, with traditional orchard and blackthorn scrub planting. Focus has been had towards the

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<sup>6</sup> Department for Environment, Food and Rural Affairs (2010). *Making Space for Nature: A Review of England's Wildlife Sites*, DEFRA.

retention and enhancement of habitats of greatest diversity providing species-rich habitats within landscaped areas.

4.2.3. The development of the site will result in the loss of 44.53 habitat units resulting in the percentage change of -36.38%. The metric does not provide a percentage net gain for hedgerow units as no hedgerows are present in the site baseline. Nonetheless, there is an increase in hedgerow units as detailed by the metric.

**Table 4.1.** Summary of Natural England's Biodiversity Metric Results

|                           |                          |                |
|---------------------------|--------------------------|----------------|
| On-site Baseline          | Habitat Units            | 128.36         |
|                           | Hedgerow Units           | 0              |
|                           | Watercourse Units        | 0              |
| On-Site post-intervention | Habitat Units            | 84.76          |
|                           | Hedgerow Units           | 5.54           |
|                           | Watercourse Units        | 0              |
| Total Net Percentage Gain | <b>Habitat Units</b>     | <b>-33.97%</b> |
|                           | <b>Hedgerow Units</b>    | <b>N/A</b>     |
|                           | <b>Watercourse Units</b> | <b>N/A</b>     |

4.2.4. The development proposals do not achieve mandatory 10% net gain, as per the requirements of the Environment Act 2021.

4.2.5. Trading rules are also not satisfied. This is due to the loss of lowland mixed deciduous woodland (high distinctiveness habitat) and other neutral grassland (medium distinctiveness habitat).

### 4.3. Satisfying Trading Rules

4.3.1. High distinctiveness habitats require the same habitat as compensation i.e. lowland mixed deciduous woodland for lowland mixed deciduous woodland. Medium distinctiveness habitats require the same broad habitat or a higher distinctiveness habitat i.e. individual trees for another individual tree habitat of medium distinctiveness (urban trees or rural trees). Low distinctiveness habitats require the same distinctiveness habitat or better as compensation.

4.3.2. As per the current BNG guidance, newly created woodland should be entered into the Metric as either other woodland; broadleaved, other woodland; mixed and other coniferous woodland. Newly planted woodland can therefore not compensate for the loss of lowland mixed deciduous woodland from within the site. A very high distinctiveness habitat would need to be provided to satisfy trading rules or alternatively biodiversity units purchased. The provision of very high distinctiveness habitats such as lowland meadow is not considered very feasible given the difficulties and cost involved with creating such a habitat. The purchase of off-site units is therefore recommended.

4.3.3. To satisfy the medium distinctiveness trading rule, further grassland habitat and heathland and scrub habitat needs to be planted or alternatively a higher distinctiveness habitat established. Due to the difficulties of creating a higher distinctiveness habitat, the purchase of off-site units is therefore recommended to meet trading standards and offset any losses in habitat units.

#### 4.4. **Off-site Compensation**

- 4.4.1. Developers should first seek to compensate for biodiversity losses on-site. If this is not possible, a mixture of on-site and off-site compensation may be used. This can include purchasing off-site land and establishing compensatory habitats within it, contacting the Wildlife Trust / other similar organisations, or by purchasing off-site credits from the private market (a broker such as the Environment Bank).
- 4.4.2. It is important to note that not all habitat bank providers have operational habitat banks in every county. It may not be possible to purchase biodiversity units in the first instance. Units may be purchased from a neighbouring county's habitat bank if one is available. This could incur additional costs, however, if the area of offsetting is further away from the site and situated within a different natural character area. As a result, the metric applies various multipliers to the calculations. The further the habitat bank is from the site, the less value habitats have within the metric, and thus more habitat may be needed to provide compensation. Therefore, the cost of offsetting increases. This principle also applies to a developer's own land. If the land purchased is situated far from the site, more land may be required to provide compensatory habitat.
- 4.4.3. If the development remains short of mandatory BNG targets despite the above approaches, statutory biodiversity credits must be purchased from DEFRA. This is a last resort option and is more expensive (the reasoning for this being to ensure the off-site market is not undermined by DEFRA prices).
- 4.4.4. The above offsetting options can be combined, so long as the steps are followed in order. The order of steps is termed the Biodiversity Gain Hierarchy. Whichever route is taken, the off-site provider would need to manage the land for conservation, including any habitat creation or enhancement measures, for 30 years.
- 4.4.1.
- 4.4.2. The biodiversity units required to satisfy trading rules will achieve 51.55 habitat credits, a further 4.89 units are required to meet 10% net gain,

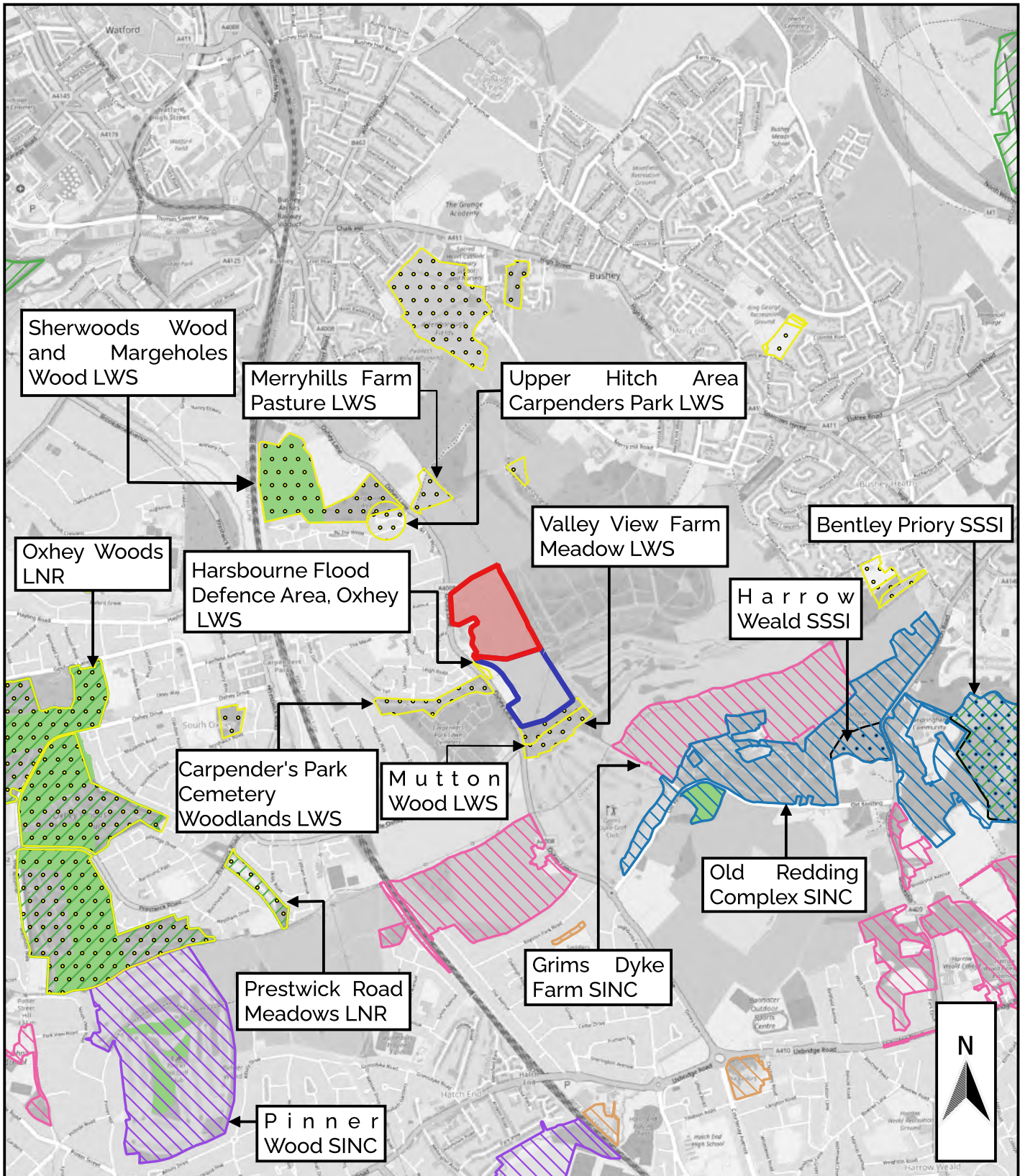
## 5. Summary and Conclusions

- 5.1. Ecology Solutions was commissioned by Burlington Property Group in July 2024 undertake a Biodiversity Net Gain (BNG) assessment of the site at Carpenders Park, Three Rivers,
- 5.2. The proposals for the site include a mixed-use development with up to 260 homes and associated parking, open space, Sustainable Urban Drainage (SUDs), landscaping and vehicular access, in addition to a care home. An illustrative masterplan of the proposal is included within Appendix 1.
- 5.3. The Statutory Biodiversity Metric was used to calculate the pre-development baseline units. A total of 128.36 on-site baseline habitat units, zero hedgerow units and zero watercourse units are present on-site pre-development.
- 5.4. The landscape strategy includes a variety of habitats and will comprise new other neutral grassland and modified grassland planting, scrub planting, biodiverse green roofing and vegetated gardens. In addition to Sustainable Urban Drainage (SuDs) with associated wetland grass and aquatic planting. The establishment of species-rich native hedgerows and ornamental hedgerows, traditional orchard planting and urban tree planting across the site.
- 5.5. While retention and enhancement of the habitats considered to be of greatest value has been sought including areas of scrub and grassland, the proposed scheme would result in a net loss of 43.61 habitat units, largely due to the losses to other neutral grassland dominating the site. The proposed development will result in a net loss of -33.97% in habitat units. The metric does not provide a percentage net gain for hedgerow units as no hedgerows are present in the site baseline. Nonetheless, there is an increase in hedgerow units as detailed by the metric. The proposals do not achieve the mandatory 10% BNG as mandated by the Environment Act 2021. Trading rules for habitats are also not satisfied.
- 5.6. In conclusion off-site compensation will be required to satisfy all trading rules and achieve a net gain of 10% to meet mandatory national and local policy requirements

## Plans

## **PLAN ECO1**

Site Location and Ecological Designations



|  |  |
|--|--|
| <b>KEY:</b>  |  |
|  | SITE BOUNDARY                              |
|  | WIDER STUDY AREA                           |
|  | SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI) |
|  | LOCAL NATURE RESERVE (LNR)                 |
|  | LOCAL WILDLIFE SITE (LWS)                  |
| <b>SITE OF IMPORTANCE FOR NATURE CONSERVATION (SINC)</b> |  |
|  | BOROUGH IMPORTANCE GRADE 1                 |
|  | BOROUGH IMPORTANCE GRADE 2                 |
|  | LOCAL IMPORTANCE                           |
|  | METROPOLITAN IMPORTANCE                    |
|  | ANCIENT WOODLAND                           |

|   |  |
|---|--|
| <p><b>ECOLOGY SOLUTIONS</b><br/>LANDSCAPE, MITIGATION &amp; BIODIVERSITY<br/>A PHENNA GROUP COMPANY</p> | <p>Cokenach Estate<br/>Barkway   Royston<br/>Hertfordshire   SG8 8DL</p> |
|   | <p>info@ecologysolutions.co.uk<br/>ecologysolutions.co.uk</p>            |

**12195: CARPENDERS PARK,  
THREE RIVERS**

|   |                            |
|---|----------------------------|
| <p>PLAN ECO1: SITE LOCATION AND<br/>ECOLOGICAL DESIGNATIONS</p> | <p>Rev: A<br/>Mar 2025</p> |
|---|----------------------------|

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## **PLAN ECO<sub>2</sub>**

Pre-development Habitats

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- KEY:**
- SITE BOUNDARY
  - HABITATS**
  - OTHER NEUTRAL GRASSLAND
  - BLACKTHORN SCRUB
  - BRAMBLE SCRUB
  - LOWLAND MIXED DECIDUOUS WOODLAND
  - TALL FORBS
  - INDIVIDUAL TREES**
  - VERY LARGE RURAL TREE
  - LARGE RURAL TREE
  - MEDIUM RURAL TREE



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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO2: PRE-DEVELOPMENT HABITATS

Rev: A  
Mar 2025


## **PLAN ECO<sub>3</sub>**

Post-development Habitats

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**KEY:**

-  SITE BOUNDARY
- HABITATS**
-  BUILT FORM AREA. 60% DEVELOPED LAND; SEALED SURFACE; 30% VEGETATED GARDEN; 10% MODIFIED GRASSLAND
-  CARE HOME DEVELOPMENT. 70% DEVELOPED LAND; SEALED SURFACE; 20% VEGETATED GARDENS; 10% MODIFIED GRASSLAND
-  ARTIFICIAL UNVEGETATED, UNSEALED SURFACE
-  BIODIVERSE GREEN ROOF
-  BLACKTHORN SCRUB
-  BRAMBLE SCRUB
-  DEVELOPED LAND; SEALED SURFACE
-  LOWLAND MIXED DECIDUOUS WOODLAND
-  MIXED SCRUB
-  MODIFIED GRASSLAND
-  OTHER NEUTRAL GRASSLAND
-  OTHER WOODLAND; BROADLEAVED
-  SUSTAINABLE URBAN DRAINAGE SYSTEM
- HEDGEROWS**
-  NON-NATIVE ORNAMENTAL HEDGEROW
-  SPECIES-RICH NATIVE HEDGEROW
-  SPECIES-RICH NATIVE HEDGEROW WITH TREES
- INDIVIDUAL TREES**
-  LOST RURAL TREE



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12195: CARPENDERS PARK, THREE RIVERS

PLAN ECO3:  
POST-DEVELOPMENT HABITATS

Rev: A  
Mar 2025

## Appendices

## **APPENDIX1**

Illustrative Landscape Masterplan  
(drawing ref. P24-2420-EN-08) (Pegasus Group)

**Design Rationale:**

1. Area of amenity open space to encourage informal sports, games and recreation.
2. Locally Equipped Area for Play (LEAP) positioned to be accessible to both the existing and proposed community, and benefiting from natural surveillance from the PRoW and adjacent properties. Play area to include a range of natural style timber play equipment and seating, with ornamental shrub planting and focal trees to define the space.
3. Scattered individual native tree planting along the edge of the proposed development and throughout area of public open space is reflective of the adjacent young woodland through Merry Hill, extending the character of views from PRoW footpath route 'WATFORD RURAL 013' through the northern field parcel. Tree cover will assist in visually screening the proposed new built form from the adjacent settlement edge and from footpath routes both within the site and the surrounding landscape.
4. Existing Public Right of Way (ref 'WATFORD RURAL 013') to be retained along existing alignment.
5. Proposed attenuation basin to be seeded with wet meadow grass to banks and enhanced with appropriate native marginal and aquatic planting.
6. Native woodland planting to western edge of the proposed development within northern parcel to soften potential views of new built form once established. Woodland to include larger standard trees for immediate visual screening. To contain a large proportion of Oak and Hazel reflective of the surrounding landscape character.
7. Native hedgerow planting along course of historic tree line and bolstered with new individual Oak tree planting.
8. Green corridors through the development defined by existing trees. Footpath routes through the corridors to be supplemented with ornamental and focal tree planting along the interface with properties fronting onto the area of public open space.
9. Native hedgerows proposed to the western boundary, enhanced with native shrub planting with trees to soften interface with adjacent Carpenders Park Care Home.
10. Community orchard planted within wildflower meadow grassland with informal mown footpath routes for accessibility. Orchard to include fruit trees of local provenance, enhancing the sense of place and reflecting the existing landscape character. Wildflower meadows will assist in pollinating fruiting trees and would provide seasonal interest for visual amenity.
11. Avenue tree planting to main road, with smaller ornamental tree planting to incidental areas of open space and grass verges to minor streets, creating visual amenity and seasonal interest to the internal street scene.
12. Proposed built form to be a minimum of 15m offset from adjacent woodland edge to ensure no conflicts with Root Protection Areas (RPAs) of trees along western edge of Merry Hill Wood. Landscape buffer around the periphery of the development allows for a circular footpath route to enhance connectivity with the PRoW network, creating opportunities for informal recreation and encouraging active lifestyles.
13. Overgrown scrub, brambles and blackthorn to be removed adjacent to existing neglected internal hedgerows, with hedgerows brought under management, cut and maintained to 3m height and width. Areas of mixed native shrub to be planted adjacent to maintained hedgerows to enclose the rear and side elevation of proposed properties, to enhance security and replace lost habitat for biodiversity. Areas of open space to be maintained along interface with frontage of new properties and supplemented with ornamental and focal tree planting for an attractive outlook for new residents.
14. Proposed attenuation basin to southern area of open space be seeded with wet meadow grass to banks and enhanced with appropriate native marginal and aquatic planting. Native wetland trees and shrub planting around the basin will provide additional habitat opportunities while aiding in visual screening of new built form from points to the south.
15. Native hedgerows with ornamental tree planting defines the interface between residential areas and proposed care home.



| Key |  |
|-----|--|
|     | Site Boundary.   |
|     | Existing trees to be retained.<br>- Pink dashed line indicates root protection area.<br>- As per Tree Survey Plan by ACD Environmental (PR124711-01).  |
|     | Existing trees to be removed.<br>- Subject to Arboricultural review.   |
|     | Existing Public Right of Way (PRoW).   |
|     | Proposed extent of residential development parcel.<br>- Indicative Layout - subject to detailed design.  |
|     | Proposed extent of Care Home development parcel.<br>- Subject to detailed design.  |
|     | Existing underground water main.<br>- With 9m easement.  |
|     | Existing underground electrical cables.  |
|     | Proposed native tree.  |
|     | Proposed feature tree.   |
|     | Proposed street tree.  |
|     | Proposed orchard tree.   |
|     | Proposed native woodland to include understorey planting with larger standard trees.   |
|     | Proposed native shrub.   |
|     | Existing overgrown hedgerows.<br>- To be brought into management - overgrown scrub, bracken and brambles to be removed and hedgerows to be cut and maintained to 3m height and width. Gaps to be filled with native species. |
|     | Proposed mixed-species native hedgerows.   |
|     | Proposed native marginal / aquatic planting.   |
|     | Proposed ornamental shrub planting.  |
|     | Proposed wet-tolerant meadow grassland to banks of attenuation basins.   |
|     | Existing grassland to be retained where possible. Where disturbed, to be seeded with species-rich meadow grass of local provenance.  |
|     | Proposed wildflower meadow grass to community orchard.   |
|     | Proposed amenity grass to informal recreational space.   |
|     | Proposed 1.8-2m width footpath route.<br>- To be self-binding gravel.  |
|     | Proposed Locally Equipped Area for Play (LEAP)<br>- To include natural style timber play equipment and seating with appropriate safety surfacing and fencing.  |

**DRAFT**

**LAND AT CARPENDERS PARK - ILLUSTRATIVE LANDSCAPE MASTERPLAN**



## **APPENDIX2**

### Baseline Tree Condition



| Tree No. | Tree Size  | Retained or Lost | 1 - Tree is native. | 2 - Canopy is continuous. Individual trees automatically pass this criterion. | 3 - Tree is mature. | 4 - Little or no evidence of adverse impact on tree health. | 5 - Natural ecological niches are present. | 6 - More than 20% of canopy overshails vegetation beneath. | Condition criteria passed (out of 6) | Condition Score |
|----------|------------|------------------|---------------------|---|---------------------|---|--|--|--------------------------------------|-----------------|
| 31       | Medium     | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 32       | Medium     | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 33       | Medium     | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 34       | Very Large | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 35       | Medium     | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 36       | Medium     | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 37       | Large      | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 38       | Large      | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 39       | Large      | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 40       | Medium     | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 41       | Medium     | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 42       | Large      | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 43       | Very Large | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 44       | Very Large | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 45       | Very Large | Retained         | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 46       | Medium     | Lost             | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |
| 47       | Medium     | Lost             | Pass                | Pass  | Pass                | Pass  | Pass                                       | Pass   | 6                                    | Good            |



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