Biodiversity Net Gain Assessment

Project: Campus East, Welwyn Garden City, AL8 6AJ (1006146)

Technical Note TN01: Biodiversity Net Gain Assessment Using Biodiversity Metric 3.1 Calculation Tool

Date: 18th November 2022

1. Introduction

1.1. Aspect Ecology was commissioned by Bellway Homes Ltd in September 2021 to undertake ecological survey work and a Biodiversity Net Gain (BNG) assessment for the proposed redevelopment of land at Campus East, Welwyn Garden City, AL8 6AJ, to provide new residential development of 313 units with associated parking and landscaping. The planning application is informed by an Ecological Appraisal produced by Aspect Ecology in October 2022. This briefing note accompanies the Biodiversity Metric spreadsheet to provide a summary of the results and rationale for the choice of habitat types and conditions.

2. Policy

2.1. The National Planning Policy Framework (NPPF) takes forward the Government's strategic objective to halt overall biodiversity loss, as set out at Paragraph 174, which states that planning policies and decisions should contribute to and enhance the natural and local environment by: '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*'

2.2. The Environment Bill received Royal Assent in November 2021, such that it is now an Act of Parliament with a mandate for development in England to achieve a net gain in biodiversity. The Act sets out the need to achieve a minimum 10% gain, calculated using an approved metric (calculation tool), with habitat obligations secured for at least 30 years. However, secondary legislation is required to implement these commitments to Biodiversity Net Gain which is not expected to be passed until late 2023. The 10% biodiversity net gain requirement set out in the Act is therefore not yet law, such that it is not applicable to the proposals.

2.3. Welwyn Hatfield Borough Council does not currently have a local policy requirement for the use of a Biodiversity Net Gain metric, however Policy R11 of the Welwyn Hatfield District Plan (adopted in 2005) states that:

'*All new development will be required to demonstrate how it would contribute positively to the biodiversity of the site…*'

3. Approach and Methodology

3.1. To quantify the level of biodiversity net gain that can be delivered under the proposed development, the change in biodiversity value resulting from the scheme has been calculated

using the Biodiversity Metric 3.1 calculation tool and associated user guide[1]. This takes account of the size, distinctiveness and ecological condition of existing and proposed habitat areas to provide a proxy measure of the present and forecast biodiversity value of a site, and therefore determine the overall change in biodiversity value. These calculations are provided in the accompanying metric spreadsheet.

3.2. To establish the habitat baseline, broad habitat areas have been identified based on the survey work undertaken at the site, the results of which are set out with Aspect Ecology's Ecological Appraisal, dated October 2022 (see Plan 6146/BNGA2). Habitat conditions have then been assigned based on the guidance set out in the Technical Supplement[2], other appropriate guidance and professional judgement. The post-development information has been taken from the Landscape General Arrangement Plan (see Appendix 6146/1 and Plan 616/BNGA2).

[1] Natural England (April 2022) *Natural England Joint Publication JP039. The Biodiversity Metric 3.1: auditing and accounting for biodiversity – User Guide. Beta Version.*

[2] Natural England (April 2022) *Natural England Joint Publication JP039. The Biodiversity Metric 3.1: auditing and accounting for biodiversity – Technical Supplement. Beta Edition*

4. Biodiversity Net Gain Assessment

4.1. The following section provides a systematic review of the input information, justifying the habitat categories and their condition chosen from the drop-down menus of the Biodiversity Metric.

A-1 Site Habitat Baseline (Pre-development)

Habitat	Rationale for Habitat Type	Condition	Condition Rationale
Grassland – Modified Grassland	Habitat comprises amenity grassland managed for recreation and amenity purposes that is regularly mown, resulting in a consistent height throughout. Does not meet criteria for moderate distinctiveness grassland as does not have 9 or more species per m^2.	Good	Grassland meets 6 of the 7 condition assessment criteria, including essential criterion 1 of 6-8 species per m^2.
Woodland and Forest – Other Woodland; Broadleaved	Small belt of broadleaved woodland present at the northern boundary of the site comprising native species such as Cherry *Prunus* sp., Ash *Fraxinus excelsior*, Oak *Quercus sp.*, and Willow *Salix sp.* within the canopy. The understorey and ground flora comprise native scrub species, including Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium* Blackthorn *Prunus spinosa*, Dogrose *Rosa canina* and Dogwood *Cornus sanguinea*.	Moderate	The woodland contains a mix of native tree and scrub species and does not contain invasive species. Across the woodland condition parameters this area of woodland scores 27 points and is therefore of 'moderate' condition.
Urban – Introduced Shrub	Areas of ornamental shrubs within the existing car park, including Cotoneaster.	N/A	In accordance with the technical supplement, no assessment of introduced shrub is required as the condition assessment is fixed as 'N/A'.
Urban – Developed Land; Sealed Surface	Car park hardstanding and building on-site.	N/A	No assessment of condition is required for buildings and hardstanding as they are of inherently negligible ecological value, so the condition assessment is set as 'N/A'.

Urban – Urban Tree	Urban trees located outside of existing hedgerows or woodland, within car park and modified grassland.	Moderate	The urban trees comprise >70% native species, have little or no evidence of adverse impact on tree health by anthropogenic activities, and provide micro-habitats for birds, mammals and insects such as deadwood, cavities and ivy.

B-1 Site Hedge Baseline (Pre-development)

Habitat	Rationale for Habitat Type	Condition	Condition Rationale
H1 – Native Species Rich Hedgerow	Hedgerow H1 is species rich as it comprises at least 5 native woody species within a 30m length. Hedgerow H1 comprises >80% native species.	Good	Hedgerow H1 has no more than 2 failures in total and does not fail both attributes in more than one functional group (fails B2 and C1).
H2 – Native Species Rich Hedgerow with Trees	Hedgerow H2 is species rich as it comprises at least 5 native woody species within a 30m length. Hedgerow H2 comprises >80% native species and contains numerous trees.	Good	Hedgerow H2 has no more than 2 failures in total and has no more than 1 failure in any functional group (fails C1).
H3 – Hedge Ornamental Non-Native	Hedgerow H3 is dominated by non-native Pyracantha, Cotoneaster and Portuguese Laurel.	Poor	Hedgerow H3 comprises non-native species and is automatically assigned a habitat condition of poor.
H4 – Native Species Rich Hedgerow with Trees	Hedgerow H4 is species rich as it comprises at least 5 native woody species within a 30m length. Hedgerow H4 comprises >80% native species and contains trees closer than 20m apart.	Good	Hedgerow H4 has no more than 2 failures in total and has no more than 1 failure in any functional group (fails C1, E1).
H5 – Native Species Rich Hedgerow with Trees	Hedgerow H5 is species rich as it comprises at least 5 native woody species within a 30m length. Hedgerow H5 comprises >80% native species and contains numerous trees.	Good	Hedgerow H5 has no more than 2 failures in total and has no more than 1 failure in any functional group (fails C1).

A-2 Site Habitat Creation (Post-development)

Habitat	Target Condition	Rationale for Condition
Grassland – Other Neutral Grassland	Moderate	Areas of wildflower grassland will be sown in the open green space at the west of the site, utilising an appropriate diverse, native seed mixture, and is expected to exceed an average of 9 species per m^2. The grassland will be managed so as ensure the presence of bracken and scrub will not exceed 20% of the habitat, and the presence of non-native/undesirable species will be controlled such that they do not exceed 5% of ground cover. Any occurrences of bare ground are likely to be localised, and kept below 5% of the area as part of the management. The area of wildflower grassland created may meet at least 5 of the assessment criteria, however, due to the close proximity to modified grassland and play equipment, a condition of moderate has been selected.
Grassland – Modified Grassland	Poor	Amenity grassland managed for recreation and amenity purposes that is regularly mown, resulting in a consistent height throughout. The amenity grassland may reach moderate condition if sown with a flowering lawn mix to increase species richness. However, given the location of the grassland close to paths, roads and heavily accessed areas, a condition of poor is selected.
Heathland and Shrub – Mixed Scrub	Poor	Areas of native shrub planting are proposed along the north-western boundary of the site. These areas will be planted with a mix of native species such as Hazel *Corylus avellana*, Hawthorn *Crataegus monogyna* and Dogwood *Cornus sanguinea*. The mixed scrub will comprise at least three woody species with no one species comprising 75% of the cover and be absent from invasive non-native species, however due to its proposed location adjacent to hardstanding areas, the mixed scrub will not have a well-developed edge with scattered scrub and tall grassland present between the scrub and adjacent habitats. This feature is therefore expected to achieve poor condition.
Urban – Sustainable Urban Drainage Feature	Moderate	A number of proposed swales in the centre of the site will be planted with wet-tolerant species. No invasive non-native species will be included. However, the water table may not be at or near the surface throughout the year. This feature is therefore expected to achieve moderate condition.

Urban – Introduced Shrub	N/A	Areas of mixed ornamental shrub planting are proposed throughout the development. In accordance with the technical supplement, no assessment of introduced shrub is required as the condition assessment is fixed as 'N/A'.
Urban – Urban Tree	Poor	The 105 trees indicated on the Landscape General Arrangement Plan are assumed to be small specimens in poor condition as a conservative estimate. In reality, more trees/ larger specimens/ better condition may be achieved.
Urban – Developed Land; Sealed Surface	N/A	Buildings and hardstanding are inherently of negligible ecological value, and in accordance with the technical supplement no condition assessment is required.

B-2 Site Hedge Creation (Post-development)

Habitat	**Rationale for Habitat Type**	**Condition**	**Condition Rationale**
Native Hedgerow	Lengths of formal hedgerow planting. Many of the newly planted hedgerows will not be >20m in length as they are to be included at the junctions between green open areas and buildings/hardstanding. However, they will form linear features, so they are included as hedgerows.	Poor	The newly planted hedgerows are only expected to reach poor condition, as they are likely to be subject to frequent heavy pruning, and be adjacent to disturbed ground.

5. Habitat Biodiversity Impact Calculator Assessment Score Results

5.1. In summary, the Biodiversity Metric indicates that the development will result in a **net gain of 29% Habitat Units and a net loss of -37.86% Hedgerow Units.** There are no river/stream features present within the site and, as such, no score is generated for this section.

	Change in Units	% Change
Habitats	+1.08	+34.42%
Hedgerows	-3.58	-37.86%
Rivers/Streams	N/A	N/A

5.2. The metric results in a trading error due to the loss of 0.03ha of woodland habitat, where the habitat will be cut back slightly to allow for construction of the adjacent road. In reality this loss will have a negligible impact on the woodland habitat present. There is also a loss in hedgerow units on-site due to the loss of H2 and parts of H1 and H5. Although the new hedgerow planting proposed will not offset this loss in the metric, the extensive native shrub planting at the north-western boundary will in effect provide an equivalent linear feature, albeit more than 5m wide in places.

5.3. The net gain in habitat units as calculated via the metric demonstrates compliance with local and national policy in terms of providing '*net gains for biodiversity*' in accordance with the NPPF and the contributing *'positively to the biodiversity of the site'* in accordance with local policy.

5.4. In addition to the measurable habitat benefits described above, it is anticipated that the development will deliver a number of faunal benefits; however, it is not possible to quantify these benefits with the Biodiversity Metric. The faunal specific benefits of the proposed development include installation of enhancements targeted to specific species, such as bat boxes, which would provide new roosting opportunities for a number of Priority Species such as Soprano Pipistrelle *Pipistrellus pygmaeus*, in addition to bird boxes.

Enclosed:

- Plan 6146/BNGA1: Pre-development Metric Habitat Plan
- Plan 6146/BNGA2: Post-development Metric Habitat Plan
- Appendix 6146/1: Landscape General Arrangement Plan

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Plan 6146/BNGA1:

Pre-development Metric Habitat Plan

Key:

- Site Boundary
- Developed land; sealed surface (1.79ha)
- Introduced shrub (0.03ha)
- Modified grassland (0.24ha)
- Other woodland; broadleaved (0.07ha)
- Ditches (0.09km)
- Native Hedgerow (0.53km)
- Existing Tree (0.21ha)

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Campus East, Welwyn Garden City	PROJECT
Pre-development Habitat Measurments	TITLE
6146/BNGA1	DRAWING NO.
D/BG	REV
November 2022	DATE

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Plan 6146/BNGA2:

Post-development Metric Habitat Plan

Key:

- Site Boundary
- Proposed Developed land; sealed surface
- Proposed Introduced shrub (0.32ha)
- Proposed Mixed scrub (0.07ha)
- Proposed Modified grassland (0.19ha)
- Proposed Other neutral grassland (0.07ha)
- Retained Other woodland; broadleaved (0.04ha)
- Sustainable urban drainage feature (0.06ha)
- Proposed Native Hedgerow (0.31km)
- Retained Ditches (0.09km)
- Retained Native Hedgerow (0.32km)
- Proposed Tree (105)
- Retained Tree (30)

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Campus East, Welwyn Garden City	PROJECT
Post-development Habitat Measurements	TITLE
6146/BNGA2	DRAWING NO.
C/BG	REV
November 2022	DATE

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Appendix 6146/1:

Landscape General Arrangement Plan

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MA DRAWING: 3224.MA.1001 LANDSCAPE GENERAL ARRANGEMENT PLAN, SHEET 1 OF 4

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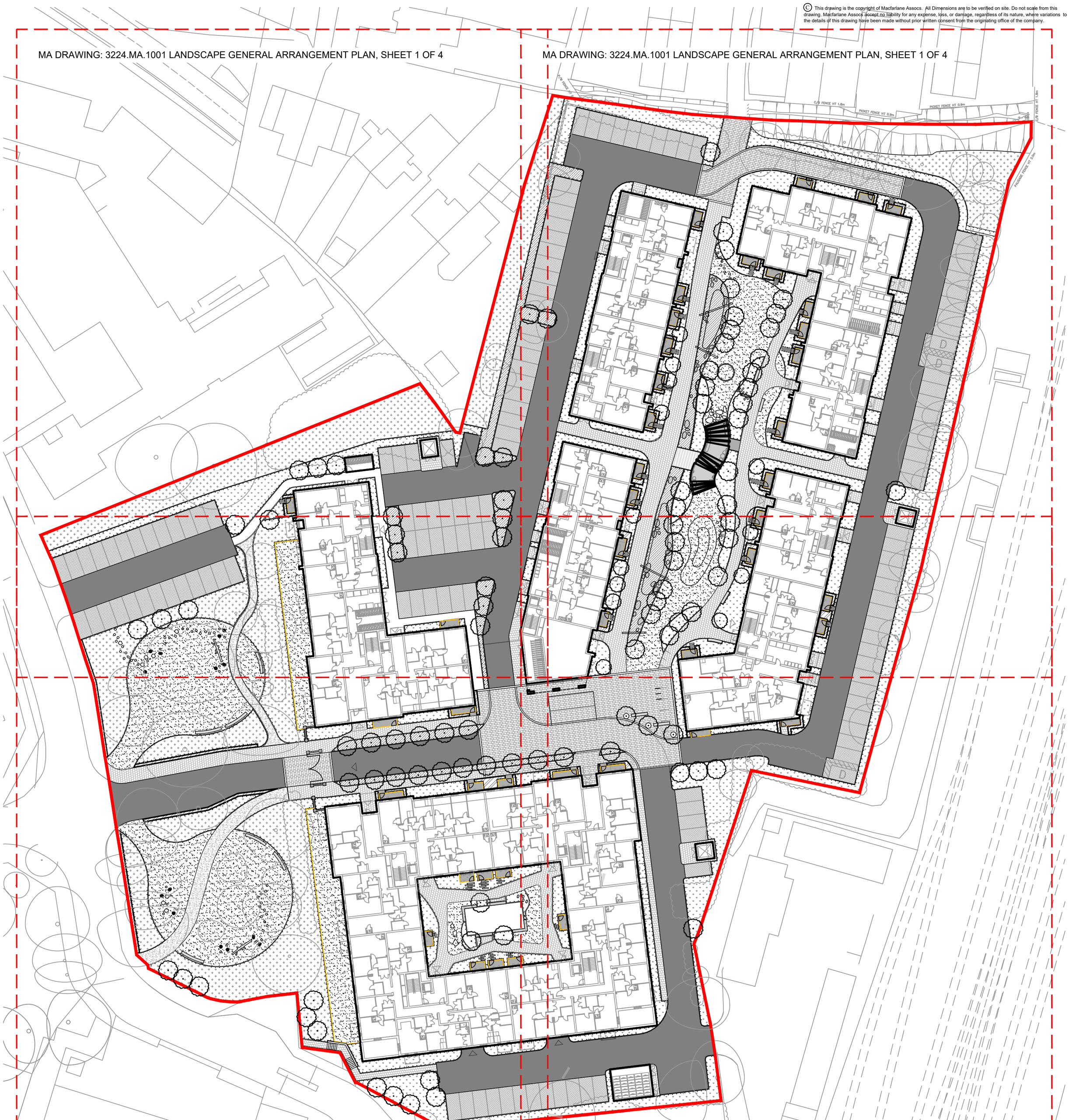

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MA DRAWING: 3224.MA.1004 LANDSCAPE GENERAL ARRANGEMENT PLAN, SHEET 4 OF 4

LEGEND

- SITE BOUNDARY
- PAVING TYPE 1 - PERMEABLE BLOCK PAVING TO PARKING BAYS
- PAVING TYPE 2 - CONCRETE BLOCK PAVING TO FOOTPATHS
- PAVING TYPE 3 - CONCRETE BLOCK PAVING TO SHARED SURFACE
- PAVING TYPE 4 - CLAY PAVING TO PRIVATE PATIOS
- SURFACE TYPE 1 - TIMBER DECKING
- SURFACE TYPE 2 - SELF-BINDING AGGREGATE
- SURFACE TYPE 3 - TARMAC TO ENGINEER SPECIFICATIONS
- EDGING TYPE 1 - 255MM CONCRETE FLUSH KERB
- BOUNDARY TYPE 1 - METAL RAILING, GATE TO MATCH
- CONCRETE STEPPING STONES
- PLAY EQUIPMENT TYPE 1 - NATURAL STONE STEPPING STONES
- PLAY EQUIPMENT TYPE 2 - NATURAL BOULDERS
- PLAY EQUIPMENT TYPE 3 - LOG SEATING
- PLAY EQUIPMENT TYPE 4 - STEPPING STUMPS
- FURNITURE TYPE 1 - TIMBER BENCH
- FURNITURE TYPE 2 - BLOCK SEATINGS
- FURNITURE TYPE 3 - OUTDOOR TABLES AND CHAIRS
- AMENITY LAWN
- SUDS PLANTING
- ORNAMENTAL SHRUB PLANTING
- NATIVE MIX PLANTING
- NATIVE HEDGE
- PROPOSED TREES
- EXISTING TREES TO BE RETAINED

N

1:500

0 5 10 15 20 25 30

Metres

Rev	Date	By	Notes
E	26.10.22	HM	PLANNING ISSUE
D	06.10.22	GY	UPDATE TO ARCHITECTURAL COORDINATION
C	05.10.22	GY	PLANNING ISSUE
B	30.09.22	GY	DRAFT PLANNING
A	23.09.22	GY	DRAFT PLANNING

Client
BELLWAY HOMES LIMITED

Project
CAMPUS EAST
WELWYN GARDEN CITY

Title
LANDSCAPE GENERAL ARRANGEMENT PLAN, SITE-WIDE

Status
FOR PLANNING

Drawing No.
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Scale
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