WESTON HOMES

ECOLOGYSOLUTIONS

Part of the ES Group

ANGLIA SQUARE,
NORWICH

Biodiversity Net Gain Assessment

July 2022
7948.BNG.vf1

ecology solutions for planners and developers

CONTENTS

PLANS

1. INTRODUCTION

1.1. A hybrid planning application (Ref. 22/00434/F) (the Application) was submitted by Weston Homes (the Applicant) to Norwich City Council (NCC) on 1st April 2022 for the comprehensive redevelopment of Anglia Square and various parcels of mostly open surrounding land, (the Site), as shown within a red line on drawing 'ZZ-00-DR-A-01-0200'. The Application comprised a full set of technical documents to assess the potential impacts of the proposals, including an EIA which covered a number of topics. In respect of Biodiversity Net Gain (BNG), this was described and explained in the Biodiversity Net Gain Assessment (March 2022) and supporting metric document. Please refer to the original documents for further details.

1.2. Following submission of the Application, and completion of the statutory consultation exercise, the Applicant has worked with NCC to review the consultation responses received from the local community, statutory consultees and other key stakeholders, so as to identify an appropriate response where considered relevant. As a result of consideration of these comments, as well as ongoing discussions with NCC, a number of changes to the Application as originally submitted are now proposed, including the reduction in height by 1 storey of Blocks A and D; realignment of basement and ground level car park accesses to Block A; repositioning of houses and apartments forming Block B; amendments to the housing mix; raising of Block C ground level to above 100year (+climate change) flood levels; distance between Block C and 4-10 Beckham place increased; elevational changes and repositioning of Block L (Stump Cross building); roof ridge and eaves on east side of Block M reduced in height; introduction of 2 storey podium between Blocks E and EF to provide larger car park; proposed crossings on Edward Street (opposite Beckham Place) and Pitt Street (by Tooley Lane removed; and landscape amendments. These changes comprise the Amended Application submitted in July 2022. Overall, the Amended Application continues to seek consent for up to 1,100 dwellings and up to 8,000 Sqm (NIA) non-residential floorspace and associated development.

1.3. This update to the Biodiversity Net Gain Assessment (March 2022) describes how the design has been developed and adapted and finally considers the implications of the changes to the scheme now proposed.

1.4. This updated Biodiversity Net Gain Assessment provides Norwich City Council with information regarding the level of BNG of the proposed development. It has been prepared with due consideration to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)[12] in relation to BNG and is based on the results of the habitat surveys completed, as set out in the Ecological Assessment.

[1] CIEEM (2019). *Biodiversity Net Gain. Good Practice Principles for Development, A Practical Guide.*
[2] CIEEM, CIRIA, IEMA (2016). *Biodiversity Net Gain: Good Practice Principles for Development.*

2. BIODIVERSITY METRIC 3.0

2.1. The Biodiversity Metric 3.0 was released on 7 July 2021 and uses habitat features as a proxy measure for capturing the value and importance of nature. It uses calculations to assess the importance of each habitat based on its size, ecological condition and location. The Biodiversity Metric 3.0 has been used in place of the new 3.1 Metric, in order to be consistent with the previous assessment, as per guidance.

2.2. Measurements for habitats pre-development were calculated using QGIS. Assessments regarding the habitats present, as well as their condition, were based on information gathered during survey work. The Biodiversity Technical Supplement[3] and professional judgment were used to inform the habitats' condition criteria.

2.3. Measurements for the post-development situation were calculated using the Hardworks Site Plan (ANG-PLA-XX-XX-DR-L-1000) (12.07.22), Softworks Site Plan (ANG-PLA-XX-XX-DR-L-2000) (12.07.22), Landscape Masterplan (ANG-PLA-XX-XX-DR-L-0001) (12.07.22) and Landscape Masterplan Roof Level (ANG-PLA-XX-XX-DR-L-0002) (12.07.22), prepared by Planit-IE, the project landscape architects. Clarification on the nature of the landscape proposals was provided by Planit-IE where necessary.

[3] Natural England (2021). *The Biodiversity Metric 3.0, Auditing and Accounting for Biodiversity, Technical Supplement,* Natural England Joint Publication JP039.

3. METHOD FOR CALCULATING POST-DEVELOPMENT STATUS

BNG Metric

3.1. The metric runs calculations based on all areas within the detailed and outline application boundaries. The metric is designed to provide habitats which are accurately reflective of those proposed in the Hardworks and Softworks Site Plans but incorporates a more conservative approach to the condition scoring of proposed habitats. Proposed habitats have thus been classified as 'Poor' condition to illustrate the minimal biodiversity impact that they will have within the site.

Green Roof

3.2. The 'Landscape Masterplan Roof Level' was used to inform the classification of proposed roof habitats. The extensive green roof within the detailed application area will comprise a sedum green roof system and has been classified as 'Extensive Green Roof' within the metric. The proposed intensive roof space (hereafter referred to as non-extensive roof space) within the detailed application area will comprise a mix of 'Residential Yard', 'Lawn Area', and hardstanding. These habitats have been classified based on their expected future use (see Table 3.1).

3.3. Owing to the outline nature of roof areas beyond the detailed application boundary, coupled with the conservative approach taken, estimates of potential green roof space within the outline application area were not included in the metric. Such an approach will mean that any future green / brown roof space within the outline application area will positively impact the BNG on-site.

Remaining Areas

3.4. The remaining areas of hard and softworks were assigned appropriate habitats and condition scores based on their expected future use. The proposed habitats and their metric counterparts are illustrated in Table 3.1. Several street trees are proposed off-site and within the blue line area to the southwest, along Magdalen Street. These trees were not included as part of the assessment considering their location outside of the application boundary.

Proposed Habitat	BNG Metric Habitat Classification
Wildflower	Other Neutral Grassland
Swale Planting	Bioswale
St George's St Mix	Ground Level Planters
Botolph St Mix	Ground Level Planters
Residential Yard Mix	Ground Level Planters
Lawn Area	Modified Grassland
Green Roof	Extensive Green Roof
Tree Planting	Urban Tree
Mixed Native Hedging	Hedge Ornamental Non-Native
Buildings / Hardstanding	Developed Land; Sealed Surface
Vegetable Growing Area	Allotments

Table 3.1. Reconciliation of landscape strategy and metric habitat types.

4. RESULTS AND DISCUSSION OF METRIC

4.1. This section should be read in conjunction with the Biodiversity Metric calculation tool which has been provided separately.

4.2. Baseline Habitat (Pre-Development)

4.2.1. Table 4.1 below summarises the habitats present on site pre-development.

4.2.2. A baseline total of 1.04 habitats units and 0 hedgerow units are present within the site pre-development.

Habitat Units					
Baseline habitat	**Baseline Biodiversity Units**	**Condition**	**Ecological Features**	**Impact**	**After Works**
Developed Land; Sealed Surface	0	N/A	The majority of the Site comprises buildings with associated hardstanding including car parking and roads. Anglia Square, a concrete plaza, is situated towards the centre of the Site.	The majority of these areas are to be lost, with new buildings and associated infrastructure created in their place. A small shed-like structure in the northwestern site parcel (Block B) will be retained.	0 units lost
Modified Grassland	0.54	Poor	Several areas of modified grassland are present across the Site, with the majority of these areas being situated within the largest southern site parcel. A small area of grassland is present within Block B. The northeastern site parcel (Block C) is devoid of this habitat.	All areas are to be lost.	0.54 units lost
Urban Tree	0.50	Poor	Twenty-seven trees are present across the Site and comprise Silver Maple *Acer saccharinum,* Common Lime *Tilia* x *europaea*, Large-leaved Lime *Tilia platyphyllos*, Sycamore *Acer pseudoplatanus,* Oak *Quercus* sp., Red Oak *Quercus rubra*, Silver Birch *Betula pendula*, Whitebeam *Sorbus aria*, and London Plane *Platanus* x *hispanica*. These trees constitute Trees T1-T4, T6 and T7, T9-T22, and a group of	Twelve trees will be lost as part of the development (T2, T3, T6, T14, T15 and G1).	0.14 units lost 0.36 units retained

			seven trees (G1) comprising Sycamore, Laburnum *Laburnum anagyroides* and Elder *Sambucus nigra*. Trees T6 and T7 are situated within the blue line area to the southeast of the site, but were considered part of the site, given that Tree T6 is marked for removal. A single Rowan *Sorbus* sp. (T23) and Large-leaved Lime (T8) are present off-site to the southeast along Magdalen Street and a single Sycamore (T5) is present immediately off-site to the northwest of Block C. These trees were not included as part of the baseline.		

Table 4.1 Summary of Baseline Habitats.

4.3. **Post-Development**

4.3.1. Table 4.2 below summarises the habitats that are proposed on-site, post-development.

4.3.2. The proposals will comprise a variety of habitats including Other Neutral Grassland, Modified Grassland, Ground Level Planters, Bioswale, Allotments, Extensive Green Roof, Hedgerow, and Urban Trees. In addition, Buildings with associated hardstanding will be created across the Site.

Created Habitats				
Metric Habitat	**Landscape Plan Habitat**	**Condition**	**Biodiversity Units**	**Comments**
Other Neutral Grassland	Wildflower Seed Mix	Poor	0.27	An area of Wildflower Grassland will be created within the south of the southern site parcel adjacent to St Crispins Road, in addition to within the south of Block B. These areas will be sown with 'Emorsgate EM4 Meadow Mixture for Clay Soils'. This mix comprises a diverse assemblage of grass and floral species and it is considered that these areas will be left largely unmanaged to allow for areas of tall or tussocky sward. Thus, Other Neutral Grassland is considered an appropriate classification for this habitat.
Modified Grassland	Lawn Area	Poor	0.14	Amenity lawn is proposed in Block B and roof areas within the detailed application area. These areas will be managed to retain their aesthetic value and constitute a short species sward. Modified Grassland has therefore been used to classify this habitat.

Ground Level Planters	St George's St Mix / Botolph St Mix / Residential Yard Mix	Poor	0.44	Shrub and groundcover planting is proposed across the Site at ground level and on roof areas within the detailed application boundary. These areas will comprise an almost entirely non-native mix of ornamental plants. The proposed planting constitutes the 'St George's St Mix', the 'Botolph St Mix', and the 'Residential Yard Mix'. This vegetation will be situated in planting beds throughout the Site and as such, these areas have been treated as 'Ground Level Planters', fixed at poor condition.
Bioswale	Swale Planting	Poor	0.08	Areas of swale are proposed within the southern site parcel, along the western and southwestern site boundary. These areas will be sown with 'Emorsgate EP1 Pond Edge Mixture' and 'Emorsgate EM4 Meadow Mixture for Clay Soils'. In addition, a selection of native and non-native species will be planted here including Yellow Iris *Iris pseudacorus* and Pendulous Sedge *Carex pendula*. The area is to be designed to provide benefits for biodiversity in addition to offering functional drainage.
Extensive Green Roof	Extensive Green Roof	Poor	0.41	Extensive green roofs within the detailed application area will comprise a pre-grown sedum green roof system. It is considered that the sedum roof system will not comprise an overly diverse assemblage of plant species and as such the low distinctiveness 'Extensive Green Roof' classification has been assigned to this habitat.
Developed Land; Sealed Surface	New buildings and associated hardstanding	N/A	0	The development proposal is to redevelop the Site to provide up to 1,100 dwellings and up to 8,000sqm (NIA) flexible retail, commercial and other non-residential floorspace.
Vegetable Growing Area	Allotments	Poor	0.03	Areas for growing vegetables are proposed on the detailed application roof space and as such, have been classified as Allotments.
Urban Tree	Tree Planting	Poor	0.30	A total of 233 small trees will be planted across the Site (132 trees at ground level in the largest southern parcel, 71 trees at roof level within the southern site parcel, 23 trees in Block B, and 7 trees in Block C).
Created Hedgerows				
Hedge Ornamental Non-Native	Mixed Native Hedging	Poor	1.24	New ornamental hedgerows will be planted throughout the Site in all three site parcels. Hedgerows will comprise native Box *Buxus sempervirens* and Beech *Fagus sylvatica*. Proposed hedgerows are to be maintained at 1.2m in height and will provide an amenity aesthetic in addition to offering habitat for local wildlife.

Table 4.2. Summary of post-development habitats and hedgerows.

4.3.3. Table 4.3 summarises the BNG results for the Site.

Baseline	Habitat Units	1.04
	Hedgerow Units	0
	River Units	0
Post-intervention	Habitat units	2.03
	Hedgerow Units	1.24
	River Units	0
Total Net Unit Change	Habitat units	0.99
	Hedgerow Units	1.24
	River Units	0
Total Net Percentage Gain	**Habitat Units**	**95.47%**
	Hedgerow units	**100%**
	River Units	**N/A**

Table 4.3. Summary of Biodiversity Net Gain results.

4.3.4. The proposed development would result in a gain of 0.99 habitats units. This results in an increase of 95.47% from pre- to post-development.

4.3.5. There is also a gain in linear features (i.e. hedgerows) of 1.24 hedgerow units, which is a percentage change of 100% owing to the lack of linear features on site pre-development.

4.3.6. 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 benefit in the future.

4.3.7. It is important to note that an error within the metric 3.0 calculation tool regarding the loss and creation of urban trees, stated that the development footprint and habitat creation areas exceeded the areas lost, resulting in an error message. This error has since been rectified within the new 3.1 version of the metric. It is considered that an increase of 95.47% is an accurate measure of Biodiversity Net Gain within the site despite this computational error.

5. EVALUATION

5.1. The Principles of Evaluation

Biodiversity Net Gain – Good Practice Principle for Development

5.1.1. 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.

5.1.2. **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.

5.1.3. **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.

5.1.4. **Principle 3. Be inclusive and equitable.** Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluation the approach to net gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.

5.1.5. **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.

5.1.6. **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.

5.1.7. **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.

5.1.8. **Principle 7. Be additional.** Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).

5.1.9. **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.

5.1.10. **Principle 9. Optimise sustainability.** Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.

5.1.11. **Principle 10. Be transparent.** Communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

Lawton's Principle

5.1.12. Principles for enhancing England's wildlife sites were developed as part of the Lawton Review[4]. 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.

5.2. Post-Development Evaluation

5.2.1. The contribution of the Site to Biodiversity Net Gain has been assessed with due regard to the principles outlined and discussed above.

5.2.2. The landscape strategy includes a variety of habitats including Other Neutral Grassland, Modified Grassland, Ground Level Planters, Bioswale, Allotments, Extensive Green Roof, Hedgerow, and Urban Trees. In addition, Buildings with associated hardstanding will be created across the Site. Provision of these new habitats will not only mitigate for the losses of on-site habitat but provide significant net benefit and new opportunities for wildlife.

[4] Department for Environment, Food and Rural Affairs (2010). *Making Space for Nature: A Review of England's Wildlife Sites*, DEFRA.

Baseline	Habitat Units	1.04
	Hedgerow Units	0
	River Units	0
Post-intervention	Habitat units	2.03
	Hedgerow Units	1.24
	River Units	0
Total Net Unit Change	Habitat units	0.99
	Hedgerow Units	1.24
	River Units	0
Total Net Percentage Gain	**Habitat Units**	**95.47%**
	Hedgerow units	**100%**
	River Units	**N/A**

Table 5.1. Summary of Biodiversity Net Gain results.

5.3. **Substantial Weight**

5.3.1. In the decision in Rainham, Kent (MC/19/1566; 3 November 2021), the Inspector concluded a 20% gain should be given substantial weight (paragraph 12.204), stating:

Indeed, one of the suggested conditions secures at least 20% biodiversity net gain. I consider that the benefits secured in this regard attract substantial weight.

5.3.2. The Secretary of State agreed with the Inspector's decision (paragraph 35 of the Secretary of State's letter):

For the reasons given at IR12.204, the Secretary of State agrees that the development would result in significant improvements in terms of ecology and biodiversity. Like the Inspector, he considers that the benefits secured in this regard attract substantial weight.

5.3.3. Consistent with these positions, it can be stated that the BNG benefits that would accrue from the proposed development should attract substantial weight.

6. SUMMARY AND CONCLUSIONS

6.1. The Biodiversity Metric 3.0 was used to calculate the pre-development baseline units. A total of 1.04 baseline habitat units and 0 hedgerow units are present pre-development.

6.2. The proposed development will achieve an increase of 95.47% in habitat units and 100% in hedgerow units.

6.3. The landscape scheme has been designed to ensure that gains for biodiversity are achieved. Proposals will increase the floristic diversity across the Site, which in turn will attract a greater diversity of invertebrates and increase opportunities for foraging and dispersal for birds.

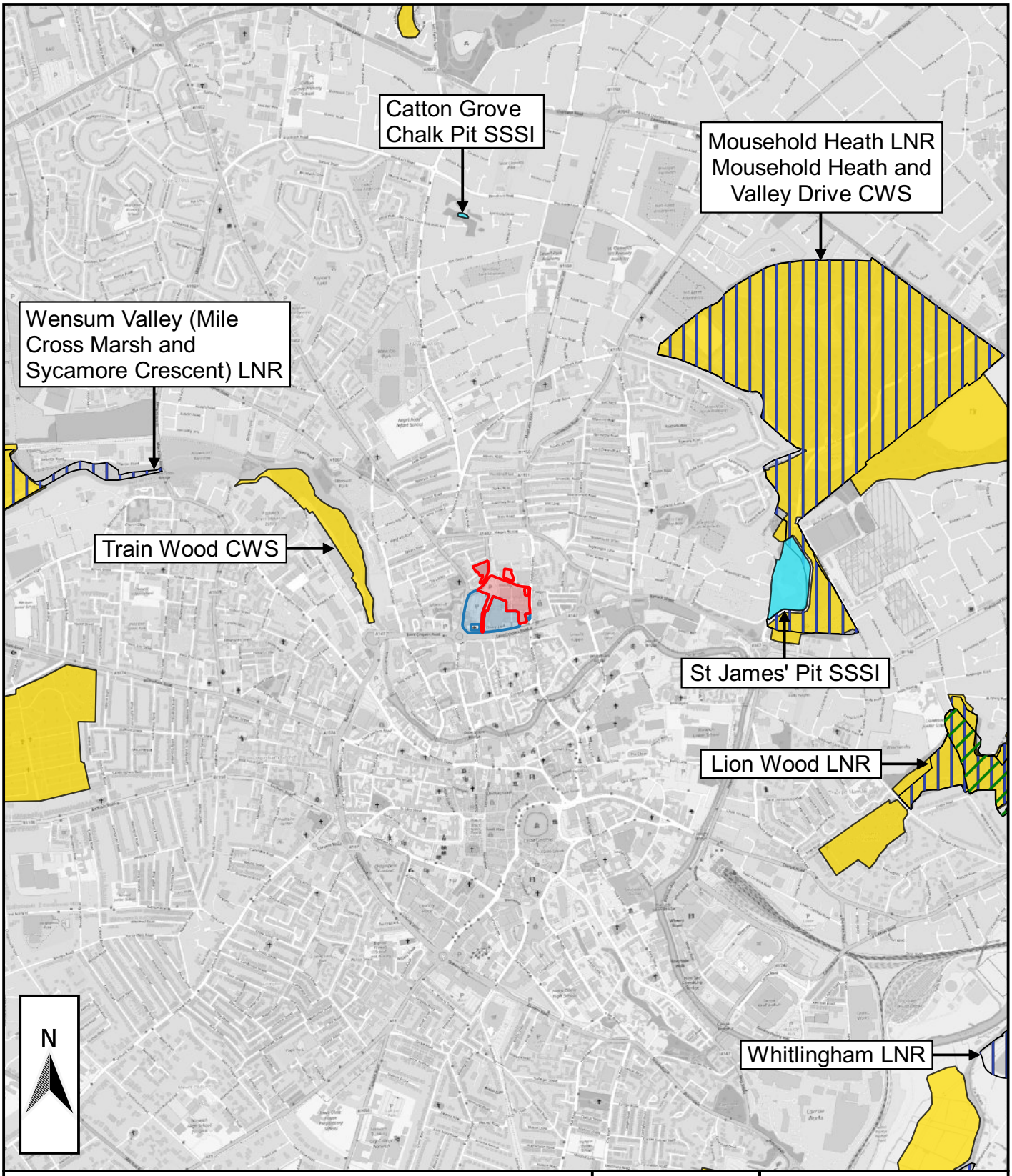
6.4. In conclusion, the Site is projected to achieve a significant level of Biodiversity Net Gain. Conservative assumptions have been made as to the condition of new habitats. Any future additions of green / brown roof within the outline application area will only be of benefit to the expected biodiversity net gain calculated.

6.5. It can be confidently stated that the results are in excess of the 20% net gain recognised by the Secretary of State as attracting ‘substantial weight’.

PLANS

PLAN ECO1

Site Location and Ecological Designations



KEY:

- DETAILED APPLICATION BOUNDARY
- OUTLINE APPLICATION BOUNDARY
- SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
- LOCAL NATURE RESERVE (LNR)
- COUNTY WILDLIFE SITE (CWS)
- ANCIENT WOODLAND

ECOLOGYSOLUTIONS
Part of the ES Group

Cokenach Estate
Barkway | Royston
Hertfordshire | SG8 8DL

+44(0)1763 848084
east@ecologysolutions.co.uk
ecologysolutions.co.uk

7948: ANGLIA SQUARE, NORWICH

PLAN ECO1: SITE LOCATION AND ECOLOGICAL DESIGNATIONS

Rev: C

Mar 2022

PLAN ECO2

Ecological Features

KEY:

- DETAILED APPLICATION BOUNDARY
- OUTLINE APPLICATION BOUNDARY
- BUILDING
- HARDSTANDING
- AMENITY GRASSLAND
- IVY
- TREE

N

ECOLOGYSOLUTIONS
Part of the ES Group

Cokenach Estate
Barkway | Royston
Hertfordshire | SG8 8DL

+44(0)1763 848084
east@ecologysolutions.co.uk
ecologysolutions.co.uk

7948: ANGLIA SQUARE, NORWICH

PLAN ECO2:
ECOLOGICAL FEATURES

Rev: C

Mar 2022

PLAN ECO3

Baseline Habitats

Baseline Habitat and Condition with Total Area:

Modified Grassland (Poor)	= 0.27 ha
Developed Land; Sealed Surface (N/A)	= 4.38 ha
Urban Tree (Poor)	= 0.12 ha

KEY:

SITE BOUNDARY

BASELINE TREES

LARGE URBAN TREE

MEDIUM URBAN TREE

SMALL URBAN TREE

BASELINE HABITATS

DEVELOPED LAND; SEALED SURFACE

MODIFIED GRASSLAND

N

ECOLOGYSOLUTIONS
Part of the ES Group

Cokenach Estate
Barkway | Royston
Hertfordshire | SG8 8DL

+44(0)1763 848084
east@ecologysolutions.co.uk
ecologysolutions.co.uk

7948: ANGLIA SQUARE, NORWICH

PLAN ECO3:
BASELINE HABITATS

Rev: A

Jul 2022

PLAN ECO4

Post-Development Habitats

Proposed Habitat and Condition with Total Area:

Allotments (poor)	= 0.01 ha
Bioswale (poor)	= 0.06 ha
Developed Land; Sealed Surface (N/A)	= 3.98 ha
Extensive Green Roof (poor)	= 0.21 ha
Ground Level Planters (poor)	= 0.23 ha
Modified Grassland (poor)	= 0.07 ha
Other Neutral Grassland (poor)	= 0.07 ha
Urban Tree (poor)	= 0.11 ha

Proposed Hedgerow and Condition with Total Length:

Hedge Ornamental Non Native (poor)	= 1.29 km

KEY:

- SITE BOUNDARY

PROPOSED HABITATS

- ALLOTMENTS
- BIOSWALE
- DEVELOPED LAND; SEALED SURFACE
- EXTENSIVE GREEN ROOF
- GROUND LEVEL PLANTERS
- MODIFIED GRASSLAND
- OTHER NEUTRAL GRASSLAND

PROPOSED HEDGEROWS

- HEDGE ORNAMENTAL NON NATIVE

PROPOSED URBAN TREES

- LARGE URBAN TREE
- MEDIUM URBAN TREE
- SMALL URBAN TREE

N

ECOLOGYSOLUTIONS
Part of the ES Group

Cokenach Estate
Barkway | Royston
Hertfordshire | SG8 8DL

+44(0)1763 848084
east@ecologysolutions.co.uk
ecologysolutions.co.uk

7948: ANGLIA SQUARE, NORWICH

PLAN ECO2: POST-DEVELOPMENT HABITATS

Rev: A

Jul 2022

ECOLOGYSOLUTIONS

Part of the ES Group

Ecology Solutions Limited | Cokenach Estate | Barkway | Royston | Hertfordshire | SG8 8DL

01763 848084 | east@ecologysolutions.co.uk | www.ecologysolutions.co.uk