

Technical Briefing Note

CD 5.29

Project: Land off Brook Meadows, Tiptree, Colchester (1005786)

Biodiversity Net Gain Assessment Using the DEFRA Biodiversity Metric 3.0

14th January 2022

1. Introduction

- 1.1. An outline application (ref. 202604) for the erection of up to 221 dwellings was submitted by Kler Group in November 2020 in relation to Land off Brook Meadows, Tiptree, Colchester, hereafter referred to as the 'site'. The application was accompanied by an Ecological Appraisal dated November 2020 prepared by Aspect Ecology. The Ecological Appraisal highlights that the site is part of a wider Local Wildlife Site (LWS) designation, with the qualifying feature within the site being the neutral grassland and associated flora. As set out in the Ecological Appraisal, the LWS is vulnerable to inappropriate management or lack of management, with scrub encroachment being a particular threat. In the absence of appropriate management, the grassland interest will therefore inevitably be lost. In contrast, the development proposals present the opportunity to introduce appropriate management of the remaining grassland areas of the on-site LWS component.
- Nonetheless, the proposed development will result in loss of part of the LWS. In order to quantify this loss and objectively determine the level of mitigation and compensation required, the Ecological Appraisal included a Biodiversity Impact Assessment of the proposals using the Defra Biodiversity Metric 2.0. Defra has since released an updated version of the metric referred to as version 3.0. In addition, since the previous metric was completed, the Concept Masterplan and associated Landscape Strategy Plan have been revised. The information presented in the Ecological Appraisal and the latest Landscape Strategy Plan (Rev E, enclosed) has been input into the most up to date version of the Defra Biodiversity Metric 3.0 (as of January 2022). This enables the change in 'Biodiversity Units' for 'Habitats' pre- and post-development to be measured and provides indicative 'Biodiversity Compensation' values. It should be noted that due to the proposals being submitted as an outline application in illustrative form, and therefore likely to be subject to change throughout the planning process, the results of this BNGA exercise should be treated as indicative. Furthermore, due to the illustrative nature of the Landscape Strategy Plan, 70% of the built development area has been assumed to be attributed to buildings and hardstanding, with the remaining 30% recognised as private gardens.
- 1.3. An initial assessment of the hedgerow units has been completed. As the proposals are not sufficiently detailed to display more than indicative hedgerow locations / extents associated with curtilages of the new dwellings, the current assessment focuses on enhancing onsite existing hedgerows. This is entirely acceptable for this stage of the planning application, albeit considerably greater net biodiversity gains for hedgerows would clearly be delivered under the scheme.



1.4. This briefing note provides a summary of the results of the Defra Biodiversity Metric 3.0 Biodiversity Net Gain Assessment Calculator and justifies the choice of habitat definitions, distinctiveness, target habitat condition and temporal factors where appropriate. In addition, a comparative exercise has also been undertaken to respond to consultation comments received from Essex Wildlife Trust (EWT), which were provided following its review of the previously submitted Biodiversity Impact Assessment using Defra's 2.0 metric version.

2. Biodiversity Net Gain Assessment

- 2.1. This section references, justifies and discusses the habitat categories and their condition chosen from the drop-down menus of the Defra Biodiversity Metric 3.0 Biodiversity Impact Assessment Calculator (see attached extracts). The 'Ref no.' refers to column D of the Biodiversity Impact Assessment Calculator for ease of reference.
- 2.2. Three Biodiversity Net Gain Scenarios are presented, as follows:
 - **Scenario 1**. This largely reflects the previously prepared Biodiversity Impact Assessment based on the Defra 2.0 metric, albeit updated to utilise the Defra 3.0 metric and based on the latest Concept Masterplan and Landscape Strategy Plan.
 - Scenario 2. This reflects the consultation comments received from Essex Wildlife Trust (dated 02/02/2021) in response to the previously prepared Biodiversity Impact Assessment based on the Defra 2.0 metric. Specifically, Scenario 2 reflects the Wildlife Trust's 'Assessment 2' and associated (unsupported) assertions that the baseline condition of the existing grassland should be increased from 'Poor' to 'Fairly Poor' and the category of the grassland post-development should be downgraded from 'Lowland meadow' to 'Other neutral grassland' with target condition downgraded from 'Good' to 'Fairly Good'. As with Scenario 1, Scenario 2 uses the Defra 3.0 metric and is based on the latest Concept Masterplan and Landscape Strategy Plan.
 - **Scenario 3.** This is identical to Scenario 2 above but includes a greater area of offsite land to demonstrate how a 10% biodiversity net gain can be achieved.

Existing Site Habitats (Pre-development)

2.3. Scenario 1 - Ref nos. 1-3 - 'Grassland – Other neutral grassland' – condition 'Poor'. The majority of this habitat comprises neglected/infrequently managed rough grassland with a tussocky sward of between 5 - 30cm in height (less than 20% shorter then 7cm), with extensive areas of developing scrub present (greater than 5% coverage) at the time of survey. Evidence of rabbit grazing is present throughout, with patches of bare ground (less than 1% coverage) present where this is more evident. A small area of wet flush is present at the centre of this area, as described within the Ecological Appraisal. A small number of indicator species of higher quality grassland are present, however these are not sufficiently abundant for the grassland to qualify as a Priority Habitat in its current condition. Furthermore, more than 5% undesirable species and a Schedule 9 invasive species (Japanese Knotweed) are present. Therefore, in the Ecological Appraisal the grassland is categorised as the Phase 1 habitat type semi-improved grassland. This corresponds with the 'other neutral grassland' category under The UK Habitat Classification System¹, which the Defra metric uses, and also with the LWS citation. 'Poor' condition has been selected on the basis that the grassland passes less than three of the condition assessment criteria², as illustrated in the table below:

¹ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). UK Habitat Classification – Habitat Definitions V1.1

² Panks, S., *et al.* (2021). Biodiversity metric 3.0: Auditing and accounting for biodiversity – Technical Supplement. Natural England



Gr	assland (medium distinctiveness and above)	
1	Closely matches characteristics of specific habitat type	Pass
2	Varied sward height (>20% less than 7cm, >20% more than 7cm)	Fail
3	Cover of bare ground between 1 and 5%	Fail
4	Less than 20% bracken and 5% scrub	Fail
5	Absence of Sch9 invasive species and <5% combined undesirable species (C Thistle, Sp Thistle, Docks, Nettle, G Plantain, W Clover, Cow Parsley) or physical damage (excessive poaching, machinery use/storage etc)	Fail
Со	ndition	Poor

- 2.4. Scenarios 2 and 3 Ref nos. 1-3 'Grassland Other neutral grassland' condition 'Fairly Poor'. EWT asserts that the baseline condition of the on-site grassland should be increased to 'Fairy Poor'. This has been included to inform the comparative exercise, albeit this assertion is not supported by the condition assessment criteria provided within the Defra 3.0 metric Technical Supplement (as illustrated above).
- 2.5. This remains the same for Scenarios 1, 2 and 3 Ref no. 4 'Woodland and forest Other woodland; broadleaved' condition 'Moderate'. This habitat comprises two woodland pockets that support a limited diversity of common and widespread species. The woodland pockets are lacking in canopy species diversity and age range, and do not have diverse understorey or ground flora. Despite this and following a review of the Defra 3.0 condition assessment criteria, the condition of the on-site woodland has been upgraded from 'Fairly Poor' (under the Defra 2.0 metric) to 'Moderate' condition.
- 2.6. This remains the same for Scenarios 1, 2 and 3 Ref no. 5 'Heathland and Shrub Mixed scrub' condition 'Fairly Poor'. This habitat largely comprises Hawthorn Crataegus monogyna, Blackthorn Prunus spinosa and Dog-rose with occasional Wild Cherry Prunus avium, Elder Sambucus nigra, and Gorse Ulex europaeus. The scrub is relatively even-aged and not a high-diversity type, and it does not contain any clearings, glades or rides, therefore 'fairly poor' condition has been selected.
- 2.7. This remains the same for Scenarios 1, 2 and 3 Ref no. 6 'Sparsely vegetated land ruderal / ephemeral' condition 'Poor'. This habitat is dominated by Common Nettle *Urtica dioica*, Cow Parsley *Anthriscus sylvestris*, Common Evening-primrose *Oenothera biennis* and Broad-leaved Dock *Rumex obtusifolius*. This habitat comprises botanical species which are common and widespread within the local and national context and is of relatively low biodiversity value, and does not have a particularly varied vegetation structure or a diverse range of flowering plants, hence 'Poor' condition has been selected.
- 2.8. This remains the same for Scenarios 1, 2 and 3 Ref no. 7 'Urban Developed land; sealed service' condition 'N/A Other'. This habitat comprises an area of tarmac which is largely devoid of vegetation. As such, this habitat's condition is not relevant to the assessment.
 - On-site Habitat Creation (Post-development)
- 2.9. For all of the created habitats, the Defra 3.0 metric automatically assigns the timeframe associated with achieving the targeted condition, which cannot be amended as part of the assessment. As such, these timescales are considered to represent a reasonable and realistic estimation of time to achieve the stated condition.
- 2.10. This remains the same for Scenarios 1, 2 and 3 'Urban Developed land; sealed surface' condition 'N/A Other'. This habitat represents the buildings and hardstanding which would



provide no measurable benefit to biodiversity. As such, the condition is assigned as 'N/A - Other'.

- 2.11. This remains the same for Scenarios 1, 2 and 3 'Urban Vegetated garden' condition 'Poor'. This habitat would be located within the private curtilage of the individual properties. As the management of these habitats will be at the discretion of the occupants, and not necessarily for the benefit of biodiversity, the target condition is set at 'Poor' and achievable within 1 year.
- 2.12. This remains the same for Scenarios 1, 2 and 3 'Grassland Modified grassland' condition 'Poor'. This habitat comprises amenity grassland located within areas of public open. As a conservative estimate this habitat is anticipated to achieve a 'Poor' condition in 1 year. In reality, this habitat can be managed to create a more diverse habitat and better condition, with the inclusion of areas of flowering lawn for example, however the 'Poor' condition has been selected to ensure a conservative assessment is provided at this stage.
- 2.13. This remains the same for Scenarios 1, 2 and 3 'Lakes Ponds (Priority Habitat)' condition 'Good'. This habitat comprises a new drainage pond that will be created and managed to achieve a 'Good' condition within approximately 5 years, and will provide beneficial habitat conditions for a number of botanical and faunal species / Priority Species. The pond will be set within semi-natural habitat, and will include a marginal fringe of emergent vegetation and a range of submerged and floating plants. The pond will have naturally fluctuating water levels. The pond will be managed to limit / control the establishment of invasive plants. Furthermore, subject to further safeguarding measures being implemented, such as the erection of fences around the banks of this habitat to prevent access for dogs, and protection of the pond from artificial drainage, it is considered that a 'Good' condition is achievable in 5 years.
- 2.14. This remains the same for Scenarios 1, 2 and 3 'Heathland and Shrub Mixed Scrub' condition 'Good'. This habitat has been allocated to areas of new landscape planting throughout the development that will be planted as native mixed scrub habitat. At least three woody species will be included within this habitat, which will be managed in such a way to ensure that no one species comprises more than 75% of the cover. Native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn Prunus spinosa, Bramble Rubus fruticosus agg., Hawthorn Crataegus monogyna, Crab Apple Malus sylvestris, Hazel Corylus avellana and Elder Sambucus nigra. The scrub habitat will be of varying age and will comprise a mixture of seedlings, saplings, young shrubs and mature shrubs, and will have a number of tall herbs within a well-developed edge. The scrub habitat is anticipated to provide potential foraging opportunities for a number of faunal species in the local area in addition to providing habitat links to the existing wider landscape. This habitat is estimated to achieve a 'Good' condition within approximately 10 years.
- 2.15. This remains the same for Scenarios 1, 2 and 3 'Woodland and Forest Other woodland; broadleaved' condition 'Fairly Good'. New native planting will reinforce the retained pockets of woodland at the western boundary of the site, and will increase the woody habitat cover. Species planted will be native and locally appropriate and include Silver Birch, English Oak Quercus robur, Alder Alnus glutinosa, Field Maple Acer campestre and Wild Cherry, with understorey comprising Holly, Dog-rose, Guelder-rose Viburnum opulus, Wild Privet Ligustrum vulgare, Hazel Corylus avellana, Hawthorn, Elder and Blackthorn. The enhancement of the woodland will contribute to the increased ecological value of the site, and will provide direct benefits to faunal species, through increasing the habitat suitability as a foraging resource and enhancing the connectivity through the site. This habitat is estimated to achieve a 'Fairly Good' condition within approximately 20 years.



Habitat Enhancement (Post-development)

- 2.16. Scenario 1 'Grassland Lowland Meadow' condition change 'Lower Distinctiveness Habitat Fairly Good'. Retained areas of existing grassland will be enhanced to provide Lowland Meadow habitat. This habitat is anticipated to achieve 'Fairly Good' condition within approx. 12 years through the implementation of appropriate management and will provide habitat for a wide range of botanical and faunal species. The objective will be to create species-rich grassland characteristic of the Lowland Meadow habitat type, with a varied sward height, between 1-5% coverage of bare ground, and less than 5% scrub and undesirable species. In response to the Wildlife Trust's comments regarding future recreational impacts on the grassland (notwithstanding these would be actively managed as a result of development, compared to the current uncontrolled recreational access), the target condition has been reduced from 'Good' to 'Fairly Good' compared to the previous Defra 2.0 assessment.
- 2.17. Scenarios 2 and 3 'Grassland Other neutral grassland' condition change 'Lower Distinctiveness Habitat Fairly Good'. EWT suggests that it may prove too difficult for the retained areas of 'Other neutral grassland' to meet the criteria required for this habitat to be enhanced to 'Lowland Meadow'. As such, this has been reflected within the Scenario 2 approach, whereby the habitat type remains as 'Other neutral grassland' as opposed to 'Lowland Meadow'. This habitat is anticipated to achieve a 'Fairly Good' condition within approximately 10 years through the implementation of appropriate management and will provide a habitat for a wide range of botanical and faunal species.
- 2.18. This remains the same for Scenarios 1, 2 and 3 'Woodland and Forest Other woodland; broadleaved' condition change 'Moderate Good'. This habitat would be retained and enhanced, and is estimated to achieve a 'Good' condition within approximately 10 years.
- 2.19. This remains the same for Scenarios 1, 2 and 3 'Heathland and Shrub Mixed Scrub' condition change 'Poor Good'. A proportion of the existing scrub habitat would be retained and enhanced to achieve a 'Good' condition within approximately 10 years.

Off-site Habitat Creation

- 2.20. Under Scenario 2, which takes into account EWT's consultation response that suggests increasing the baseline condition of the on-site grassland and decreasing the distinctiveness and condition of the proposed enhanced grassland habitats, 7ha of off-site Lowland Meadow habitat creation is required in order to demonstrate a notional (1.89%) net biodiversity gain can still be achieved under the proposals.
- 2.21. Under Scenario 3, which also takes into account EWT's consultation response that suggests increasing the baseline condition of the on-site grassland and decreasing the distinctiveness and condition of the proposed enhanced grassland habitats, 9.25ha of off-site Lowland Meadow habitat creation is required in order to demonstrate a 10.66% net biodiversity gain can be achieved under the proposals.
- 2.22. An off-site solution can be brokered, for example through a provider such as The Environment Bank, who has already confirmed that suitable land is available. Lowland Meadow is not an irreplaceable habitat and for the purposes of the Defra metric this habitat type can be created within a relatively short time period. This would result in additional high-quality habitat being created, managed, and monitored off-site (albeit within the same administrative area) and is an entirely acceptable alternative approach in planning terms, supported by a recent appeal decision³.

³ See Appeal Ref: APP/Y0435/W/20/3251121



Biodiversity Net Gain Assessment (Hedgerows)

2.23. This section references, justifies and discusses the hedgerow and tree line categories and their condition chosen from the drop-down menus of the DEFRA Biodiversity Metric 3.0 Calculation Tool. The 'Ref no.' refers to the 'Baseline ref' column within 'B-1 Site Hedge Baseline' of the DEFRA Biodiversity Metric 3.0 Calculation Tool for ease of reference.

On-site - Existing Hedgerows (Pre-development)

- 2.24. **Ref no. 1 'Native Hedgerow with trees' condition 'Good'**. This hedgerow is located at the northern site boundary, is relatively substantial and comprises standard trees. This hedgerow is not considered to be species-rich⁴, albeit is likely to qualify as a Priority Habitat. On a precautionary basis this hedgerow is considered to be in 'Good' condition. This hedgerow has been identified as being entirely retained.
- 2.25. **Ref no. 2 'Native Hedgerow Associated with bank or ditch' condition 'Good'**. This hedgerow is located at the north-eastern site boundary. This hedgerow is not considered to be species-rich⁴, albeit is likely to qualify as a Priority Habitat. On a precautionary basis this hedgerow is considered to be in 'Good' condition. This hedgerow has been identified as being entirely retained.
- 2.26. **Ref no. 3 'Native Hedgerow Associated with bank or ditch' condition 'Good'**. This hedgerow is located at the north-eastern site boundary, is not considered to be species-rich⁴, but is likely to qualify as a Priority Habitat. On a precautionary basis this hedgerow is considered to be in 'Good' condition. This hedgerow has been identified as being entirely retained and enhanced.
- 2.27. **Ref no. 4 'Native Hedgerow Associated with bank or ditch' condition 'Good'**. This hedgerow is located at the northern site boundary and is somewhat gappy in nature. This hedgerow is not considered to be species-rich⁴, albeit is likely to qualify as a Priority Habitat On a precautionary basis this hedgerow is considered to be in 'Good' condition. This hedgerow has been identified as being entirely retained and enhanced.
- 2.28. **Ref no. 5 'Native Hedgerow with trees' condition 'Good'**. This hedgerow is located at the eastern site boundary, is relatively substantial and contains a number of standard trees. This hedgerow is not considered to be species-rich⁴, albeit is likely to qualify as a Priority Habitat. On a precautionary basis this hedgerow is considered to be in 'Good' condition. This hedgerow has been identified as being entirely retained.

On-site - Hedgerow Enhancement (Post-development)

- 2.29. 'Native Hedgerow with trees' (Good Condition and Medium Distinctiveness) enhanced to 'Native Species Rich Hedgerow with trees' (Good Condition and High Distinctiveness). The enhancement of hedgerows H1 and H5 to create a higher quality hedgerow habitat will provide a number of biodiversity benefits. This will be achieved through additional planting of native woody species such that the hedgerows will meet the definition of species-rich⁴. These hedgerows are anticipated to continue to remain in a 'Good' condition through the implementation of appropriate management.
- 2.30. 'Native Hedgerow Associated with bank or ditch' (Good Condition and Medium Distinctiveness) enhanced to 'Native Species Rich Hedgerow Associated with bank or ditch'

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⁴ i.e. five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual



(Good Condition and High Distinctiveness). The enhancement of hedgerows H2, H3, and H4 to create a higher quality hedgerow habitat will provide a number of biodiversity benefits. This will be achieved through additional planting of native woody species such that the hedgerows will meet the definition of species-rich⁴. These hedgerows are anticipated to continue to remain in a 'Good' condition through the implementation of appropriate management.

Habitat Biodiversity Net Gain Assessment Score

2.31. With the condition of the existing habitats currently present within the site and with the habitats to be enhanced and created as part of the proposals (as justified above) input into the Defra 3.0 metric, the total net % changes for Scenarios 1, 2 and 3 are summarised in the table below.

Biodiversity Change Summary Table

Scenario	Total Net Biodiversity Unit Change	Total Net Biodiversity Percentage Change
Scenario 1	+11.54 units	+20.32%
Scenario 2	+1.51 units	+1.89%
Scenario 3	+8.50 units	+10.66%

Hedgerow Biodiversity Net Gain Assessment Score

2.32. Subject to the condition of five existing hedgerows being enhanced (as justified above), the proposals would deliver at least 3.23 hedgerow units, which equates to 41.84% net gain in hedgerow habitat.

3. Discussion

- 3.1. In summary, the Defra 3.0 Biodiversity Net Gain Assessment indicates that the development proposals can achieve a net biodiversity gain under all of the scenarios assessed, notwithstanding that current planning policy in Colchester does not require developments to achieve a measurable net gain.
- 3.2. It is however important to note that the metric calculation only forms part of the overall assessment of biodiversity net gains and a number of specific faunal enhancements and other qualitative enhancements are also proposed under the scheme, which are anticipated to provide further net gains for biodiversity, in addition to those detailed above.
- 3.1. Such enhancements are briefly summarised below and include:
 - Positive ecological management to considerable areas of retained habitats that are identified by Essex Wildlife Trust as 'vulnerable to inappropriate management';
 - Positive management of currently unmanaged areas of woodland;
 - Increased tree planting;
 - New pond creation;
 - Extensive new hedgerow planting;
 - Increased roosting opportunities for bats;
 - Increased nesting opportunities for birds;
 - Specific nesting opportunities for Barn Owl;
 - Habitat management for reptiles and amphibians;
 - New long-term opportunities for Hedgehogs.



- 3.2. In addition, the Defra metric cannot take into account the bespoke measures provided in relation to the grassland and proposed orchid translocation exercise, which go beyond the generic approach to achieving biodiversity net gains.
- 3.3. It will also be possible to further increase the net gain of biodiversity units through the inclusion of additional hedgerow planting within the finalised / detailed proposal plans, which will demonstrate further increases in ecologically beneficial habitats within the site.

Enclosed:

Landscape Strategy Plan (Rev E)

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Application Site Boundary



Public Rights of Way



Key Vegetation Structure Retained



Proposed Soft Landscaping to Provide Opportunity for Ecological Enhancement



Proposed Native Woodland Planting



Footpath Links within Site Provided Through Green Infrastructure & Public Open Space



Proposed/Enhanced Lowland Meadow



Proposed Surface Water Balancing Area will Provide Opportunity for Ecological Enhancement



Existing Pedestrian Links and Access Points Retained & Improved



Proposed Area of Play (LEAP & LAP)



Enclosed Area for 'Dogs off Leads'



Proposed Pocket Parks: Centrally Located & to include Seating, Planting & Play





Land off Brook Meadows, Tiptree Landscape Strategy Plan

Kler Group

SCALE	DATE	DRAWN	CHK'D
1:2,000@A3	MAY 2020	SB	CJ
DRAWING NUMBER	REVISION		
7024 / ASP4 / L	E		