

Technical Briefing Note

Project: Land South of Holt Cottages, Ashford Hill

Technical Briefing Note: Biodiversity Net Gain Assessment Using DEFRA Biodiversity Metric 3.0 Calculation Tool.

Date: August 2021

1. Introduction

- 1.1. Aspect Ecology has been appointed by JPP Land Ltd / Rosemary Pelham and Timothy Pyper to carry out a Biodiversity Net Gain Assessment (BNGA) in relation to the proposed development of Land East of B3051, Ashford Hill (hereafter referred to as the 'site').
- 1.2. A planning application is to be submitted for the development of the site to provide 45 residential dwellings with associated public open space, landscaping and means of access.
- 1.3. Aspect Ecology undertook an Ecological Appraisal of the site, the findings of which are detailed in the report 'Land South of Holt Cottages, Ashford Hill – Ecological Appraisal (August 2021)' to inform the planning application.
- 1.4. This technical briefing note carries out a BNGA of the proposals by assessing quantifiably habitat losses and gains using the DEFRA Biodiversity Metric 3.0 Biodiversity Impact Assessment Calculator (BIC), and by carrying out an assessment of qualitative net gains (such as faunal enhancements) which can be delivered as part of the proposals. Further detail on this is set out below. This BNGA is informed by the above Ecological Appraisal report.

Biodiversity Net Gains - Current and Emerging Policy Position

- 1.5. There is currently no mandatory requirement to demonstrate or quantify biodiversity net gains in national policy, rather, the National Planning Policy Framework (NPPF, 2021) states "*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*". The NPPF also states "*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measureable net gains for biodiversity or enhance public access to nature where this is appropriate*". However, the upcoming Environment Bill, which will set out a plan of how to protect and improve the natural environment in the UK, will include a requirement for developments to demonstrate they can achieve a 10% net gain in biodiversity. At the time of writing, the Bill has not been brought into law, and is currently at the Report stage at the House of Lords.
- 1.6. In addition to this, ahead of the upcoming Environment Bill, and in response to advances in quantifying habitat losses and gains over recent years, the requirement to quantify net gains is now finding its way into local policy. The Basingstoke and Deane Local Plan 2011 – 2029 states

in Policy EM4 that *“In order to secure opportunities for biodiversity improvement, relevant development proposals will be required to include proportionate measures to contribute, where possible, to a net gain in biodiversity, through creation, restoration, enhancement and management of habitats and features including measures that help to link key habitats”*. However, it should be noted that the policy does not specify that the gain must be quantified by completion of a metric and refers only to achieving a net gain where possible.

Selection and Limitations of Biodiversity Impact Calculators

- 1.7. A number of BICs are currently in circulation, with the original being that produced by the Environment Bank. Since the Environment Bank BIC was produced, several other calculators have been developed by different local authorities, for example in Warwickshire and the Thames Valley. It is understood that the upcoming Environment Bill will encourage / mandate the use of the DEFRA BIC, and accordingly the DEFRA BIC (also known as the DEFRA metric 3.0) has been used in this application, with the results set out in this Technical Note.
- 1.8. The DEFRA metric and its associated guidance documents have been recently finalised, with the 3.0 version released in July 2021.
- 1.9. A limitation of the use of metrics is that they only quantify habitat losses and gains. Therefore, other measures which can deliver biodiversity net gains, such as the delivery of faunal enhancements (such as those proposed as part of this application) or ecosystems services are not taken into account. This is reflected in current guidance for assessment of biodiversity net gains¹, which states that:

“Measures of biodiversity are not absolute values. They are proxies of biodiversity value before and after a development and might not capture all the features affected. For example, Defra’s biodiversity metric calculates biodiversity units, but does not reflect other features such as a vital wildlife corridor within an urban locality. Both quantitative and qualitative assessments should be used when designing, implementing, maintaining and monitoring biodiversity net gains to capture all aspects of biodiversity, and to avoid decisions being based purely on numbers”.
- 1.10. Therefore in accordance with this guidance, this Technical Note carries out an exercise to quantify habitat losses and gains by completion of the DEFRA metric, but also assesses the other qualitative gains that would be delivered as part of the proposals in order to carry out a full and complete assessment of the ability of the proposals to deliver net gains. The assessment is set out below.

2. Biodiversity Impact Assessment – Quantitative – Completion of DEFRA Metric 3.0

Baseline Information

- 2.1. The existing habitats at the site have been identified and quantified based on the results of the update Phase 1 Habitat survey carried out in May 2021. The post-development habitats have used the Illustrative Masterplan² submitted with the application.
- 2.2. 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 BIC. The ‘**Ref no.**’ refers to the ‘Ref’ column of the BIC for ease of reference. For all of the created habitats, the DEFRA 3.0 metric automatically assigns the timeframe associated with achieving the targeted condition, which

¹ CIEEM, IEMA and CIRIA (2019) Biodiversity Net Gains – Good Practice Principles for Development Gain, A Practical Guide

² Fabrik (2021) ‘Land at Ashford Hill – Illustrative Masterplan’

cannot be amended as part of the assessment. A copy of the sections of the metric which were completed for the assessment (blank tabs are not included) is attached below, along with Plan 6210/BIA1 which shows the existing habitats measured for the quantitative assessment and Plan 6210/BIA2 which shows the proposed habitats measured for the quantitative assessment.

On-Site Habitat Baseline

- 2.3. The Phase 1 habitat survey carried out in May 2021 identified that the majority of habitats within the site are of negligible ecological importance, being dominated by arable land with only the hedgerows and tree lines considered to form important ecological features. The recorded habitats within the site, along with their current condition and whether they are to be retained, lost or enhanced under the proposals is detailed below.
- 2.4. **Ref. 1 – ‘Cropland – Cereal Crops Other’ – condition ‘N/A – Agricultural’.** This habitat comprises the arable field which covers the majority of the site. At the time of the survey, the field was dominated by Pineappleweed *Matricaria discoidea*, with other species recorded including Groundsel *Senecio vulgaris* and Scentless Mayweed *Tripleurospermum inodorum*. The condition is auto-populated by the metric to ‘N/A – Agricultural’ condition. The arable field is to be lost under the proposals.
- 2.5. **Ref. 2 – ‘Sparsely Vegetated Land – Ruderal / Ephemeral’ – condition ‘Poor’.** This habitat comprises the tall ruderal vegetation present at the field margins, largely associated with the hedgerows, and is dominated by Common Nettle *Urtica dioica*, Spear Thistle *Cirsium vulgare* and Willowherb *Epilobium* sp., with occasional small pockets of common and widespread species including Yorkshire-fog *Holcus lanatus*, Annual Meadow Grass *Poa annua*, Cleavers *Galium aparine*, Ribwort Plantain *Plantago lanceolata*, Silverweed *Potentilla anserina*, Wood Avens *Geum urbanum*, Thyme-leaved Speedwell *Veronica serpyllifolia*, Dandelion *Taraxacum officinale* agg., Cut-leaved Crane’s-bill *Geranium dissectum*, Bracken *Pteridium aquilinum*, Forget-me-not *Myosotis sylvatica*, White Clover *Trifolium repens*, Solomon’s Seal *Polygonatum multiflorum*, Groundsel, Red-dead Nettle *Lamium purpureum* and Scentless Mayweed. The tall ruderal vegetation does not form an important ecological feature and meets the criteria for ‘Poor’ condition in the Natural England Technical Guidance.
- 2.6. **Ref. 3 – ‘Urban – Vacant / Derelict Land / Bareground’ – condition ‘Poor’.** This habitat comprises the small areas of bare earth within the site which is recorded to support little to no botanical species. As such, the bare ground does not form an important ecological feature and is considered to be of ‘Poor’ condition. This habitat will be lost under the proposals.
- 2.7. **Ref. 4 – ‘Heathland and Shrub – Bramble scrub’ – condition ‘Poor’.** A number of areas of dense scrub are present within the site, dominated by Bramble *Rubus fruticosus* with Ragwort *Senecio jacobaea*, Broad-leaved Dock *Rumex obtusifolius*, Common Nettle and Cut-leaved Crane’s-bill also present at the edges. Due to the limited species present, the scrub habitat is not considered to form an important ecological feature meets the criteria for ‘Poor’ condition in the Natural England Technical Guidance. The scrub habitat within the site will be lost under the proposals.

On-site Hedge Baseline (Pre-development)

- 2.8. **Ref. 1 – 3 – ‘Native Hedgerow’ – condition ‘Moderate’.** This habitat comprises the existing hedgerows, H1 – H3, which form the northern, eastern and western boundaries respectively. Species recorded within H1 include Hawthorn *Crataegus monogyna*, Ash *Fraxinus excelsior*, Oak *Quercus robur*, Blackthorn *Prunus spinosa* and Honeysuckle *Lonicera periclymenum* with

Bramble, Lords-and-Ladies *Arum maculatum*, Cleavers, Common Nettle, Ivy *Hedera helix* and Greater Periwinkle *Vinca major* recorded within the ground flora.

- 2.9. Hedgerow H2 comprises Hawthorn, Privet *Ligustrum vulgare*, Oak, Apple *Malus* sp., Holly *Ilex aquifolium*, Elder *Sambucus nigra*, Goat Willow *Salix caprea*, Rose *Rosa* sp., *Salix* sp., and Blackthorn with an understorey of Yorkshire-fog, Cock's-foot *Dactylis glomerata*, Ivy, Bramble, Cleavers, Red Dead-nettle, Creeping Thistle *Cirsium arvense*, Bracken, Lords-and-Ladies, Field Bindweed *Convolvulus arvensis*, Honeysuckle, Groundsel and Cow Parsley *Anthriscus sylvestris*.
- 2.10. Species recorded within Hedgerow H3 include Hawthorn, Elder, Elm *Ulmus* sp., Field Maple *Acer campestre*, Blackthorn, *Salix* sp. and Sycamore *Acer pseudoplatanus* with an understorey of Ground-ivy *Glechoma hederacea*, Bramble, Ivy, Creeping Thistle, Dandelion, Broad-leaved Dock, Common Nettle, Cleavers, Red Dead-nettle, Lords-and-Ladies, White Dead-nettle *Lamium album*, Wood Avens, Cut-leaved Crane's-bill, Garlic Mustard *Alliaria petiolata*, White Clover, Cow Parsley, Hogweed *Heracleum sphondylium*, Greater Plantain *Plantago major*, Bracken and Groundsel.
- 2.11. On the basis of the above, the hedgerows meet the criteria for 'Moderate' condition under the Natural England Technical Guidance. The hedgerows are to be largely retained, with small sections requiring removal to facilitate vehicular access.

On-site Habitat Creation (Post-development)

- 2.12. The proposed habitats on site are shown on Plan 6210/BIC2 and are described below and have been measured and categorised in the metric using the Illustrative Masterplan submitted with the application.
- 2.13. **'Urban – Developed Land; Sealed Surface' – condition 'N/A – Other'**. This habitat is comprised of the new buildings, areas of hardstanding, paths and the play area proposed within the site. As such, a target condition is not applicable.
- 2.14. **'Urban – Vegetated Garden' – condition 'Poor'**. This habitat comprises the private gardens present throughout the site and will comprise a limited range of common and widespread botanical species and it is therefore considered that targeting a 'Poor' condition is appropriate, which the metric auto-populates as being achievable in 1 year.
- 2.15. **'Heathland and Shrub – Mixed scrub' – condition 'Moderate'**. This habitat has been allocated to areas of native scrub planting proposed within the site, associated with new hedgerow and tree planting. Through the planting of a variety of species and appropriate management, it is considered that a 'Moderate' condition is achievable, which the metric auto-populates as being achievable in 5 years.
- 2.16. **'Urban – Sustainable Urban Drainage Feature' – condition 'Moderate'**. This habitat comprises the new SuDS features proposed within the site, and will comprise a basin and three swales to be sown with a meadow or wetland grassland mix. A 'Moderate' target condition is considered achievable, which the metric auto-populates as being achievable in 3 years.
- 2.17. **'Grassland – Other Neutral Grassland' – condition 'Moderate'**. This habitat has been allocated to areas of new grassland planting not associated with the new residential dwellings, and will comprise areas of wildflower grassland which would be sown with native grass and wildflower mixes suitable for the conditions. These are to be open public spaces, shown as Wildflower, Long-sward Wildflower Grassland and Short-sward Wildflower Grassland on Plan 6210/BIA2.

Therefore a target condition of 'Moderate' is considered appropriate, due to the diverse species mixes that can be used and with ongoing management, which the metric auto-populates as being achievable in 5 years.

- 2.18. **'Grassland – Modified Grassland' – condition 'Poor'**. This habitat comprises the new areas of amenity grassland and will be located within the proposed Village Green. This habitat will comprise a limited range of common and widespread botanical species and it is therefore considered that targeting a 'Poor' condition is appropriate, which the metric auto-populates as being achievable in 1 year.

On-site Hedge Creation (Post-development)

- 2.19. **'Native Hedgerow' – condition 'Poor'**. This habitat would comprise new native hedgerow planting within the site. Native species are proposed, but the sections are likely to be small in length and require regular trimming and as such, a target condition of 'Poor' has been selected. The metric automatically populates this as being achievable in 1 year.

3. Quantitative Assessment – Results and Analysis

Results and Analysis

- 3.1. With the condition of the existing habitats currently present within the site and with the habitats to be created as part of the proposals (as justified above) input into the DEFRA 3.0 metric, the total net percentage change for the proposals is a net gain of 4.09 Habitat Units (a 66.20% increase) and a net gain of 0.47 Hedgerow Units (a 30.81% increase), as shown on the "Headline Results" page of the metric.
- 3.2. Based on the above, it has been demonstrated that the Illustrative Masterplan will deliver a quantifiable biodiversity net gain, and correspondingly this would be achievable at the detailed design stage for a scheme of this size. Both the habitat gain and the hedgerow gain are well in excess of the 10% which is likely to be brought forward in the upcoming Environment Bill.

4. Biodiversity Impact Assessment – Qualitative

- 4.1. In addition to the measurable habitat benefits described above, which are well above 10% in relation to both habitat areas and linear habitats, it is anticipated that development of the site will deliver a number of qualitative benefits as detailed below.

Qualitative – Tangible

- 4.2. Outside of the constraints of the Defra metric, which only takes into account habitat losses and gains, a number of other tangible biodiversity gains can be realised as a result of the proposals, including the following:
- Installation of faunal enhancements targeted to specific species such as bat boxes which would provide new roosting opportunities for a number of both National and Local Priority Species of bats in the area including Soprano Pipistrelle *Pipistrellus pygmaeus* and Brown Long-eared Bat *Plecotus auritus* (as set out in the Ecological Appraisal);
 - The provision of bird nesting boxes which would increase nesting opportunities for birds at the sites including Priority Species such as House Sparrow *Passer domesticus* (as set out in the Ecological Appraisal);

- The provision of Hedgehog nest domes which would increase nesting and hibernation sites for Hedgehog (a Priority Species);
- Introduction of more diverse habitat types, for example by planting a diverse range of native tree and shrub species where currently the site is species-poor;
- Introduce new habitat types (e.g. SuDS feature) which could be designed to be periodically wet at the detailed design stage and will therefore benefit fauna;
- Increase the species diversity of existing habitats with the inclusion of a range of native tree and shrub species in the planting schemes; and
- Bringing the site into long-term active management to benefit biodiversity.

Qualitative – Non-tangible

4.3. Additionally, a number of qualitative, non-tangible biodiversity gains can be achieved. For example, ecosystems, and the biodiversity they contain, provide benefits for people. These are called ecosystems services and broadly comprise:

- Provisioning services e.g. food and water;
- Regulating services e.g. soil formation, climate control, flood regulation and pollination; and
- Supporting services e.g. nutrient cycles and oxygen production.

4.4. The proposals could contribute to all of these ecosystems services.

5. Conclusions

5.1. The Biodiversity Impact Assessment finds that based on the Illustrative Layout, a development of this size on the site is capable of delivering a quantifiable net gain for biodiversity in relation to habitats, which at 66.20% for habitats and 30.81% in relation to linear habitats is significantly in excess of the 10% likely to be brought forward in the future Environment Bill. In addition to these quantifiable net gains, a range of qualitative gains can also be delivered on site, such as the provision of faunal enhancements targeted to national and local Priority Species.

5.2. Accordingly, it is considered the proposals comply with existing and emerging policy (local and national) and legislation. This exercise should be repeated at the detailed design stage to ensure that the final proposals also achieve a net gain – this, along with the delivery of the proposed ecological enhancements set out in the qualitative assessment, can be secured via a planning condition.

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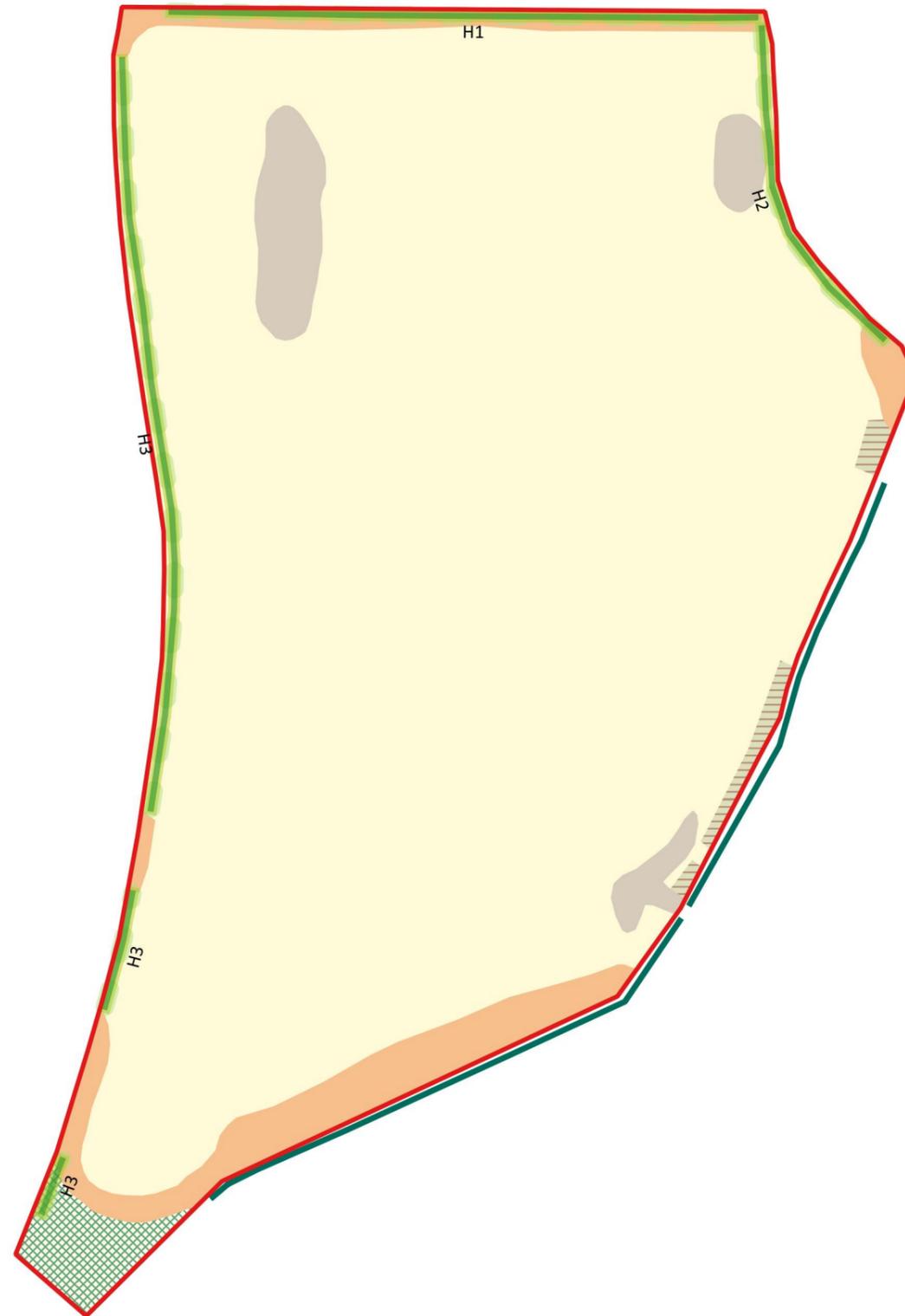
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Key:

-  Site Boundary
-  Arable
-  Deadwood
-  Bare Ground
-  Tall Ruderal
-  Dense Scrub
-  Hedgerow
-  Tree Line



Aspect Ecology Limited - West Court - Hardwick Business Park
 Noral Way - Banbury - Oxfordshire - OX16 2AF
 01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Land South of Holt Cottages,
 Ashford Hill
 Existing Habitats

6210/BIA1

A

August 2021

PROJECT
 TITLE
 DRAWING NO.
 REV
 DATE





Key:

- Site Boundary
- Retained Tree Line
- Retained Hedgerow
- New Native Hedgerow Planting
- Native Scrub Planting
- Wildflower
- Long Sward Wildflower Grassland
- Short Sward Wildflower Grassland
- Private Gardens
- Amenity Grass
- Play Area
- Hardstanding
- Attenuation Feature
- Swale
- Path
- Building



Aspect Ecology Limited - West Court - Hardwick Business Park
 Noral Way - Banbury - Oxfordshire - OX16 2AF
 01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Land South of Holt Cottages,
 Ashford Hill
 Proposed Habitats

6210/BIA2

August 2021

PROJECT	
TITLE	
DRAWING NO.	6210/BIA2
REV	C
DATE	August 2021



On-site baseline	<i>Habitat units</i>	6.18
	<i>Hedgerow units</i>	1.52
	<i>River units</i>	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	10.27
	<i>Hedgerow units</i>	1.98
	<i>River units</i>	0.00
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	66.20%
	<i>Hedgerow units</i>	30.81%
	<i>River units</i>	0.00%

Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00

Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	4.09
	<i>Hedgerow units</i>	0.47
	<i>River units</i>	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	66.20%
	<i>Hedgerow units</i>	30.81%
	<i>River units</i>	0.00%

Trading rules Satisfied?	Yes
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