

**MAWGAN PORTH
BEACHFRONT REGENERATION**

Net Gain Report

Issue 1



Spalding Associates (Environmental) Ltd
10 Walsingham Place
Truro
Cornwall
TR1 2RP

Tel: 01872 272711

Email: office@spaldingassociates.co.uk



Document information

MAWGAN PORTH BEACHFRONT REGENERATION

Document information

Report for:	C Jones Holdings Ltd
Location:	SW 850 671

Document revision history

Date completed	Prepared by	Approved by	Revision notes	Digital filename
25-02-2021	A. Horn-Norris	A. Spalding	Issue 1	Net Gain Report for Mawgan Porth Beachfront Regeneration Issue 1x

Final document internal approval by:

Name: Adrian Spalding

Signature:



Position: Director

Date: 25/02/2021

Disclaimer

Items in this document may rely on information and data supplied by or drawn from third party sources; these sources are indicated wherever it is the case and Spalding Associates (Environmental) Ltd accepts no liability for loss or damage that occurs as a result of errors or inaccuracies in the third-party data.

1. INTRODUCTION

1.1. Background

Spalding Associates (Environmental) Ltd has been commissioned to undertake Biodiversity Metric calculations for a small parcel of hardstanding and buildings near to the beach in Mawgan Porth, Cornwall. The site lies adjacent to a road, a short distance from the Mawgan Porth to Newquay County Wildlife Site, beyond which lies a well-used beach and approximately 500 metres away, the sea. The proposal is to rejuvenate the area by developing the site on two levels, commercial properties on the street level and residential units on the upper level. The development will include parking and public amenity space.

The National Planning Policy Framework 2019 and the Cornwall Local Plan Strategic Policies 2010-2030 require development to show Biodiversity Net Gain.

The Cornwall Council Draft Chief Planning Officer's Advice Note: Biodiversity Net Gain in Cornwall¹ provides the following guidance: 'From 1st March 2020 all major developments must demonstrate at least a 10% Net Gain in Biodiversity.'

2. OVERVIEW OF THE DEFRA BIODIVERSITY NET GAIN METRIC CALCULATOR

Cornwall Council, in the Chief Planning Officer's Advice Note: Biodiversity Net Gain in Cornwall, indicates that the council requires that biodiversity is measured, both before and after development, according to the most up to date calculation tool.

The current metric calculation tool at 24th February 2021 is called Biodiversity Metric 2.0; it is a beta test version developed from the older DEFRA metric tool by Natural England (see section 3.3 for detail of calculation tool version).

The metric tool automatically scores different habitat types by predetermined relative biodiversity values referred to as units. The predevelopment site is surveyed and the habitats identified and mapped by a suitably qualified ecologist. The metric tool provides the baseline unit score which is then used in designing the development. The biodiversity net gain is therefore given a score when the number of baseline biodiversity units are subtracted from the number of units that the design is predicted by the ecologist to provide.

¹ <https://www.cornwall.gov.uk/media/43031716/draft-chief-planning-officer-note-biodiversity-net-gain.pdf>

Net results are tabulated as ‘headline results’ within the calculator tool; these have (necessarily) been replicated from the metric tool screen by taking screen shots.

Net gain for hedges is treated separately to other habitat units; net gain is expected for each and not in combination.

3. METHOD

3.1. Baseline site condition

The assessment work and report have been undertaken by Amy Horn Norris who is a suitably qualified ecologist and member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The work has been completed in accordance with the standards expected of a member of CIEEM.

3.2. Habitat Classification

The baseline survey reports were undertaken using the standard Phase One Habitat survey classification (JNCC, 2016)²; these habitat classes have been converted for input to the metric which is based on the UK Habitat Classification System³.

3.3. Biodiversity Metric tool version

The calculations have been undertaken using the December 2019 update of the Beta version of the Biodiversity Metric 2.0 calculation tool⁴ which was released for general use during its consultation period. The final version of the Biodiversity Metric was due to be published in December 2020⁵.

3.4. Baseline and Post-construction Calculations

Calculation of the pre-development biodiversity units has been based on an Extended Phase 1 Habitat Survey “Extended Phase One Habitat Survey of Land Associated With Mawgan Porth Beach Front Regeneration, Mawgan Porth, Newquay, Cornwall”, Melissa Wynn, Spalding Associates February 2021. The habitats have been assessed for the purposes of this report in accordance with the technical guidance for the Biodiversity Metric 2.0 Calculation tool User

² <http://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf>

³ <https://ukhab.org/>

⁴ <http://nepubprod.appspot.com/file/5985083561607168>

⁵ <http://publications.naturalengland.org.uk/publication/5850908674228224>

Guide⁶. Post construction calculations are based on landscaping drawings and visualisations provided by a SUPERSTRUKT Ref: PL12 and PL13.

3.5. Habitat Areas and Hedge Lengths

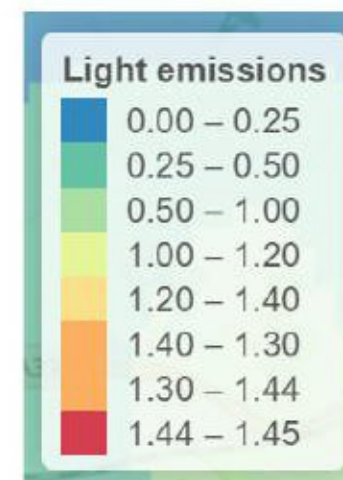
The approximate area (m²) of habitats on site were calculated by using MapInfo© GIS to form polygons for pre-development. Lengths of linear habitats such as hedgebanks have been calculated using MapInfo© GIS to form lines pre-development. In this case no hedges were present.

Area measures have been converted to hectares and lengths have been converted into kilometres; these are the working units of the calculator.

3.6. Connectivity to local nature network /opportunity areas

The site has also been assessed for its proximity to local nature network and opportunity areas as well as light emissions. This has been carried out using the LAGAS Natural Capital Information and Management Hub mapping tool, accessed 23rd February 2021. This tool displays links to the existing Nature Network and opportunities for habitat creation in the categories: Woodland, Wetland, Heathland and Other Corridor Opportunities. This Site has been assessed in relation to these existing areas and opportunities, Appendix 1 a).

Light emissions have also been assessed for this site. This map displays various light levels across the county with red being the highest and blue being the lowest (extract right), Appendix 1 b).



⁶ Biodiversity Metric 2.0 User Guide; section 1.5, page 8

Title: Map 2. BNG Baseline Habitats. Surveyed 16th February 2021
 Project: Mawgan Porth Beachfront Regeneration, Newquay, Cornwall



Drawn by:
MW

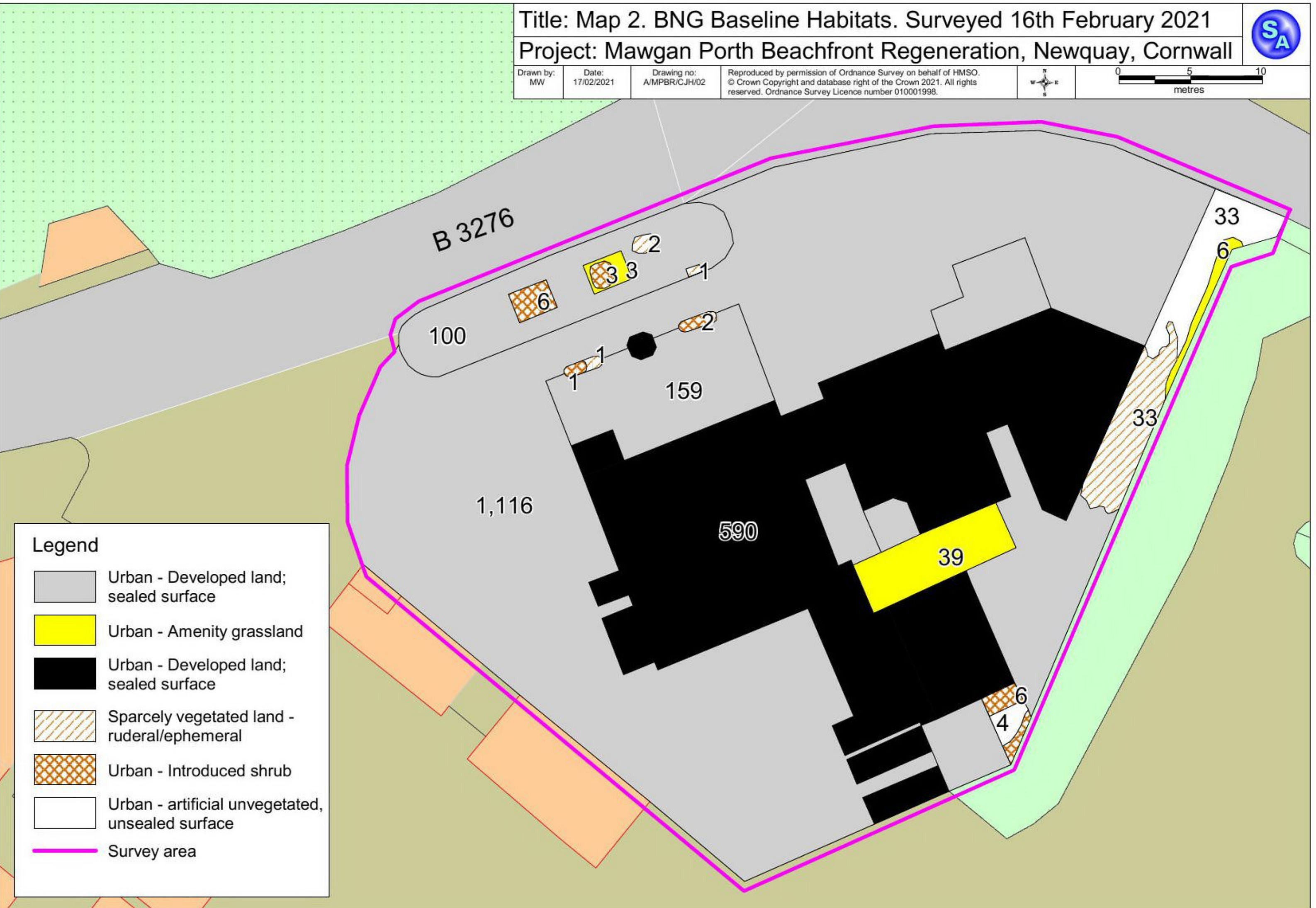
Date:
17/02/2021

Drawing no:
A/MPBR/CJH/02






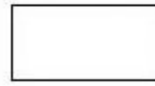

Reproduced by permission of Ordnance Survey on behalf of HMSO.
 © Crown Copyright and database right of the Crown 2021. All rights reserved.
 Ordnance Survey Licence number 010001998.



0 5 10
metres



Legend

-  Urban - Developed land; sealed surface
-  Urban - Amenity grassland
-  Urban - Developed land; sealed surface
-  Sparcely vegetated land - ruderal/ephemeral
-  Urban - Introduced shrub
-  Urban - artificial unvegetated, unsealed surface
-  Survey area

4. PRE-DEVELOPMENT (MAP 1)

4.1. Baseline site condition

Map 1 describes the proposed development area in terms of the pre-construction habitats. The majority of the area is hardstanding and buildings with small areas of grassland and shrub beds in relatively poor condition providing very limited value.

4.2. Connectivity to local nature network /opportunity areas and lightspill

This site qualifies as being within a current nature network area (LAGAS); however, this is likely due to the 100 m² resolution of the current connectivity data as the site lies close to natural habitats within the wider landscape.

In reality connectivity is relatively poor at this site as it is immediately surrounded by a road, hardstanding areas (car parking) and buildings. However, the site is close to the coast, a County Wildlife Site and there is a river 16 metres south and 60 metres west of the site boundary providing some potential opportunities for landscape linkage particularly for aerial species and pollinators.

Lightspill is considered to be mid-range: 0.5 to 1.0, Appendix 1b. The site is located adjacent to areas of dark open landscape but close to densely built areas in the village of Mawgan Porth and associated lit areas as well as the adjacent road.

5. POST-DEVELOPMENT (Figure 1 and 2)

Habitat calculations are based on visualisations and outline landscaping plans by SUPERSTRUKT, Ref: PL12 and PL13. The extent of the areas have been provided by David Billington of SUPERSTRUKT. Post-construction the site will be developed on two levels with public / commercial space with parking on the lower level adjacent to the street (Figure 1) and an upper level, predominantly residential development with communal decking areas and planted beds with hedging.

Habitat creation recommendations are based on the principles of the mitigation hierarchy i.e. habitats should be retained where possible, enhanced where appropriate and any losses mitigated for as a last resort.

It will be relatively simple to achieve the minimum required 10% gain at this site due to the very limited value of the baseline.

Lower level, Figure 1:

There are small areas of planting along the northern site boundary, species selection for these areas would be limited by their northerly aspect as they would be relatively shady; a shade-tolerant wildflower grassland mix such as Emorsgate EH1 could be considered for this area. A Cornish hedgebank has been proposed along the south-east boundary. This would add gain only as there are no baseline hedgerows on site⁷. Planting this hedgebank with a diverse mixture of locally characteristic native woody species (Table 1) would provide habitat value and also a habitat corridor through the site,.



Figure 1. Lower-level post-development, extracted from SUPERSTRUKT PL12

⁷ The current metric has no function to include hedgerow creation if no units existed in the baseline. In order to quantify this important habitat a short section of the grassland verge has been included as a “native hedgerow” within the metric.

Upper level, Figure 2:

The upper level of the development will benefit from greater sun exposure. Although these areas are raised and will likely be amenity in character they have the potential to provide value to pollinators and also perhaps nesting birds within dense hedging. For this to be achieved at least 30% of the plants chosen for these areas should be species with value to pollinators for example native Heathers and Hebes, and hedging should also provide value such as *Escallonia*. RHS has produced a guide: <https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/plants-for-pollinators>



Figure 2. Upper-level post-development, extracted from SUPERSTRUKT PL12

Table 1. Examples of locally characteristic native woody species suitable for Cornish hedgebank planting

Scientific Name	Common Name
<i>Coryllus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Ilex aquifolium</i>	Holly
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Prunus spinosa</i>	Blackthorn
<i>Rosa canina agg.</i>	Dog Rose
<i>Sambucus nigra</i>	Elder
<i>Ulex europaeus</i>	European Gorse

6. METRIC CALCULATION RESULTS AND DISCUSSION

6.1. Baseline Habitat and Hedge Units

The baseline habitat calculation for this site is 0.03. The baseline hedgerow unit calculation for this site is also 0.01 (included only to allow the Cornish hedgebank creation to be incorporated into the current metric).

6.2. Results

Table 2 shows the metric calculation results based on the habitats displayed in Figures 1 and 2. Full details of calculations can be found within the filled metric file “Biodiversity Metric 2.0 Calculation Tool Beta Test - December 2019 Update_Mawgan Porth Beachfront_V3”.

Table 2. Headline results from metric calculator. File reference: “Biodiversity Metric 2.0 Calculation Tool Beta Test - December 2019 Update_Mawgan Porth Beachfront_V3”

On-site baseline	<i>Habitat units</i>	0.03
	<i>Hedgerow units</i>	0.01
	<i>River units</i>	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	0.12
	<i>Hedgerow units</i>	0.42
	<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 & succession)	<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)	<i>Habitat units</i>	0.08
	<i>Hedgerow units</i>	0.40
	<i>River units</i>	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>	232.16%
	<i>Hedgerow units</i>	3199.84%
	<i>River units</i>	0.00%

6.3. Discussion of results

If the site is developed as designed and with the recommended planting this site has the potential to deliver 232.16% gain in habitat units and 3199.84% gain in hedgerow units. This large gain is due to the very limited value of the baseline. Due to the gain being over and above that required, small changes to the site plan would be unlikely to cause significant reductions. Although recommended, it would not be necessary to use native species within the introduced shrub beds to reach these scores. Native species must be included within the hedges on site to provide value under the metric, non-native hedging does not provide value. Due to the current high score for hedge units a shorter length would still provide gain but would have significantly less value as a potential wildlife corridor.

6.4. Further recommendations to enhance value of the site

The metric considers habitats but does not consider the presence of species. Additional enhancements for the site could include:

- New nesting provisions for birds could be provided by providing deep overhanging eaves or open buildings or mounting pre-fabricated nest boxes into/onto the new building or placing them within the newly created hedge along the western boundary. Swallows were noted to be nesting within a building at the site during a visual bat assessment. Other birds which would be likely to benefit from the enhancement of the buildings include House Martin and House Sparrow. Robin and passerines including Blue Tit may use prefabricated boxes mounted within the created Cornish hedgebank along the south-east boundary. Example boxes are listed in Appendix 2.
- Pollinator enhancements such as bee bricks or planters could also be considered. These must be south-facing and in full sun to function.

APPENDIX 1

Context of the site: connectivity opportunities surrounding the site (approximate location of site marked with black arrow)

1 a) Nature network and opportunities



1 b) Light emissions



APPENDIX 2

Bat, Bird and invertebrate recommendations

The supplementary planning document “Cornwall Planning for Biodiversity Guide” was adopted in October 2018 and states:

In order to deliver ecological enhancement across Cornwall all new residential developments are expected to provide either a bat or bird box/tube within the structure of the building at a rate of one box/tube per unit. Consultant ecologists will be able to provide advice on how to group these within developments as it is likely that bat and bird boxes will be grouped on units closest to suitable habitat. For developments of two or more houses every other building needs to have a bee brick built in as well as the bat and bird boxes. At least 75% of bat and bird boxes must be provided built into the dwellings themselves as tree mounted boxes have a limited life span.

All provisions should be long-lasting and hard-wearing Schwegler, Woodstone, Woodcrete or similar – see end of document for examples

Birds

Passerine Nest boxes = Mount on post, face hole between north and east approximately 2-3 m above ground, use hole size 25mm (attractive to Blue Tit and Coal Tit)

House Sparrow Terrace = group together if possible, close to eaves

Swallow nesting cup / House Martin cup = Tuck under eaves (retain access) some examples come pre-covered

Open-fronted nest box = Choose a sheltered spot out of direct sunlight 1-2m off the ground, can be mounted onto a pole or attached to a wall, fence or tree but chosen location must have sufficient vegetation cover such as shrubs and creepers growing around it, allowing cover for visiting birds.

Pollinators

Bee brick or planter = must be in full sun to function.



**Left: Vivara
WoodStone®
Barcelona
Open Nest Box**

**Right: 2H
Schwegler
Robin Box**



**Left:
1 B
Schwegler
Nest Box**



**Left: Schwegler
House Martin Nest**
**Right: Schwegler
No. 10 Swallow
Nesting Cup**



**Left: 1SP
Schwegler
Sparrow Terrace**
**Right:
Woodstone®
Estella House
Sparrow Nest Box**



**Beebrick
GreenandBlue**



**beepot concrete
planter
GreenandBlue**