# LAND AT TRURO SCHOOL, TRENNICK LANE

# TRURO

## BIODIVERSITY NET GAIN ASSESSMENT

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

Tel: 01872 272711
Email: office@spaldingassociates.co.uk

# Document information

## BIODIVERSITY NET GAIN ASSESSMENT

## TRURO SCHOOL, TRENNICK LANE, TRURO

### Document information

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### Final document internal approval by:

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Signature: [redacted]

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# 1. INTRODUCTION

## 1.1. Background

Spalding Associates (Environmental) Ltd has been commissioned by Truro School to undertake biodiversity metric calculations for land within the grounds of Truro School, Trennick Lane, Truro. The proposal is to extend part of the existing school infrastructure and re-landscape the land at the site entrance.

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 Cornwall[1] provides the following guidance: 'From 1st March 2020 all major developments must demonstrate at least a 10% Net Gain in Biodiversity.'

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

## 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 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.

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. Site assessment

A Preliminary Ecological Appraisal was carried out in February 2023 and habitats were mapped using the Phase 1 methodology (JNCC, 2016)[2] by Spalding Associates in August 2023. The baseline conditions for the biodiversity net gain assessment were based on this report and habitats have been converted for input to the metric which is based on the UK Habitat Classification System[3]. The work and report have been undertaken by Aidan Hulatt BSc (Hons) MSc who is a suitably qualified ecologist and Associate 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. Biodiversity Metric tool version

The updated calculations have been undertaken using the Biodiversity Metric 4.0 calculation tool[4] which was released on the 28th March 2023.

## 3.3. Habitat Areas and Hedge Lengths

The habitats have been assessed for the purposes of this report in accordance with the technical guidance for the Biodiversity Metric 4.0 Calculation Tool User Guide[5]. The approximate area ($m^2$) of habitats on site were calculated by using MapInfo© GIS to form polygons for pre-development. Area measures have been converted to hectares as these are the working units of the calculator. The pre- and post-construction areas have been calculated based upon the latest available site plans, see reference documents below.

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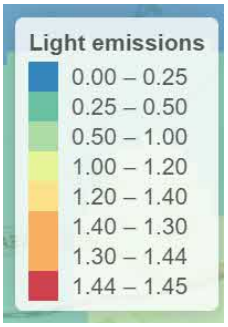
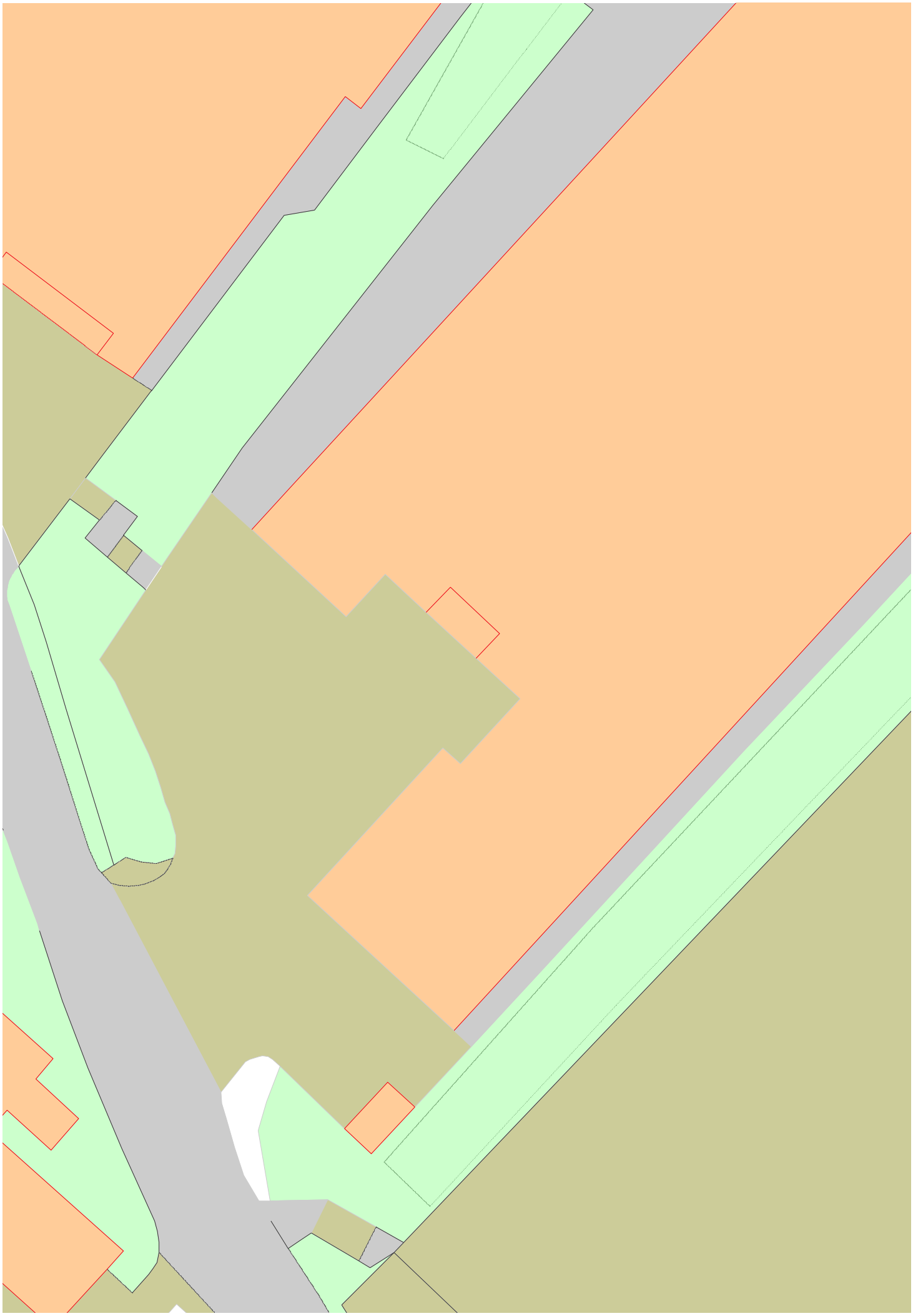
## 3.4. Connectivity to local nature network /opportunity areas

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 on 23rd November 2023. 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.




Light emissions have also been assessed for this site. This map displays the mean radiance (millicandela per $m^2$) across the county with red being the highest and blue being the lowest (extract right).

[2] http://data.jncc.gov.uk/data/9578d07b-e018-4c66-9c1b-47110f14df2a/Handbook-Phase1-HabitatSurvey-Revised-2016.pdf
[3] https://ukhab.org/
[4] http://publications.naturalengland.org.uk/publication/6049804846366720
[5] Biodiversity Metric 4.0 User Guide; section 1.5, page 8



# 4. PRE-DEVELOPMENT (MAP 1)

## 4.1. Baseline site condition

Map 1 indicates the existing on-site habitats as extracted from the Phase 1 survey undertaken in February 2023. The development footprint covers an area of 0.1826 hectares and is located within the grounds of Truro School, north-east of Trennick Lane.

The primary habitat with the proposal site is hardstanding surfaces which are classified as 'Urban – developed land, sealed surface' which account for 0.1259 hectares. There are very limited habitats to support biodiversity within the site with an established non-native ornamental shrub border along the eastern boundary of 'Urban – introduced shrub' accounting for 0.0223 hectares, a grass bank to the west of the site of amenity type 'modified grassland' in poor condition accounting for 0.0263 hectares and along the roadside is a strip of 'Urban – bare ground' resulting from heavy pedestrian use of 0.0071 hectares. In the southern corner is an isolated patch of Hazel and other native woody species of 'Mixed scrub' of 0.001 hectares. There are a number of moderate quality trees within the development footprint.

## 4.2. Connectivity to local nature network /opportunity areas and light spill

The site lies inside of an opportunity nature network area as shown in Figure 1a. To the south-west of the site is an area of woodland corridor and estuary of Truro River. To the south-east are playing fields and agricultural fields that are connected by established Cornish hedges that are tree lined.

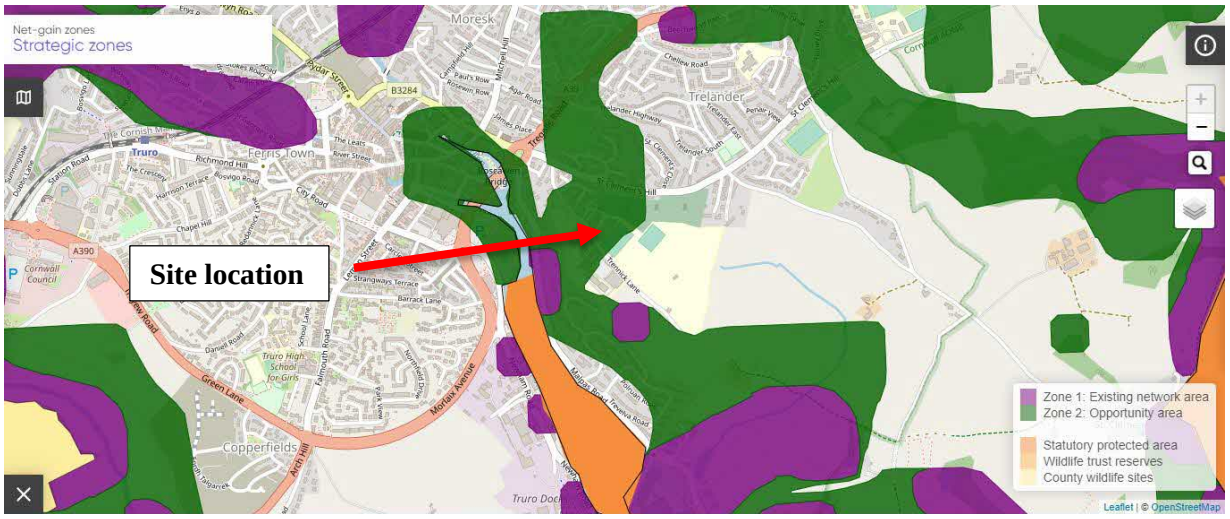



**Figure 1a. Location of the site in relation to existing local nature network and opportunity areas** https://lagas.co.uk/app/product/nature-network. **Accessed 23/11/2023.**

The site is situated in an area of the high level of light emissions due to its location on the edge of urban development in Truro. There are street lights and residential housing, particularly to the north, however, light spill decreases to the east of site into the more rural landscape.

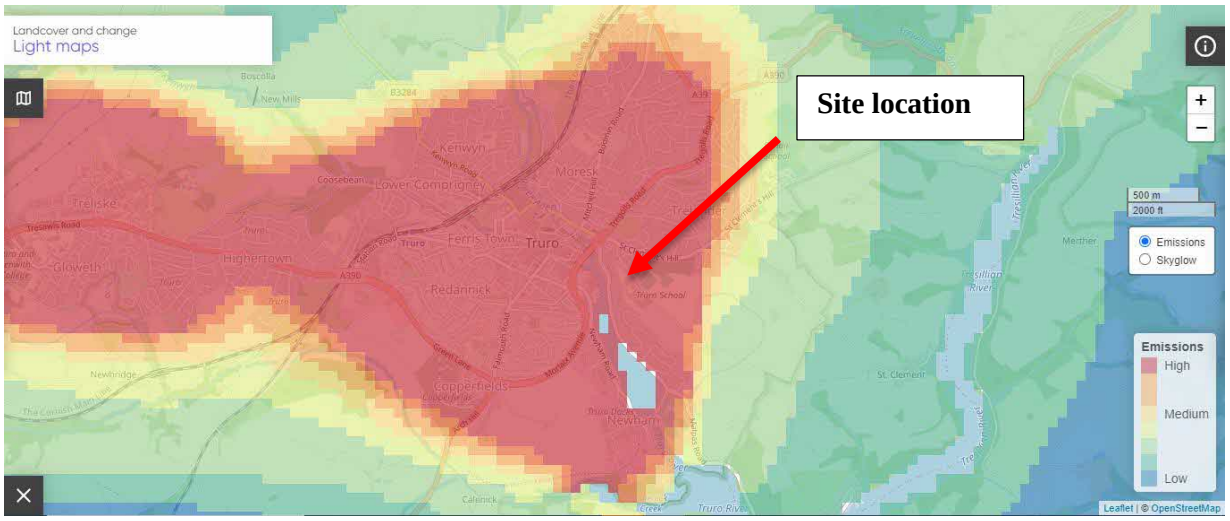
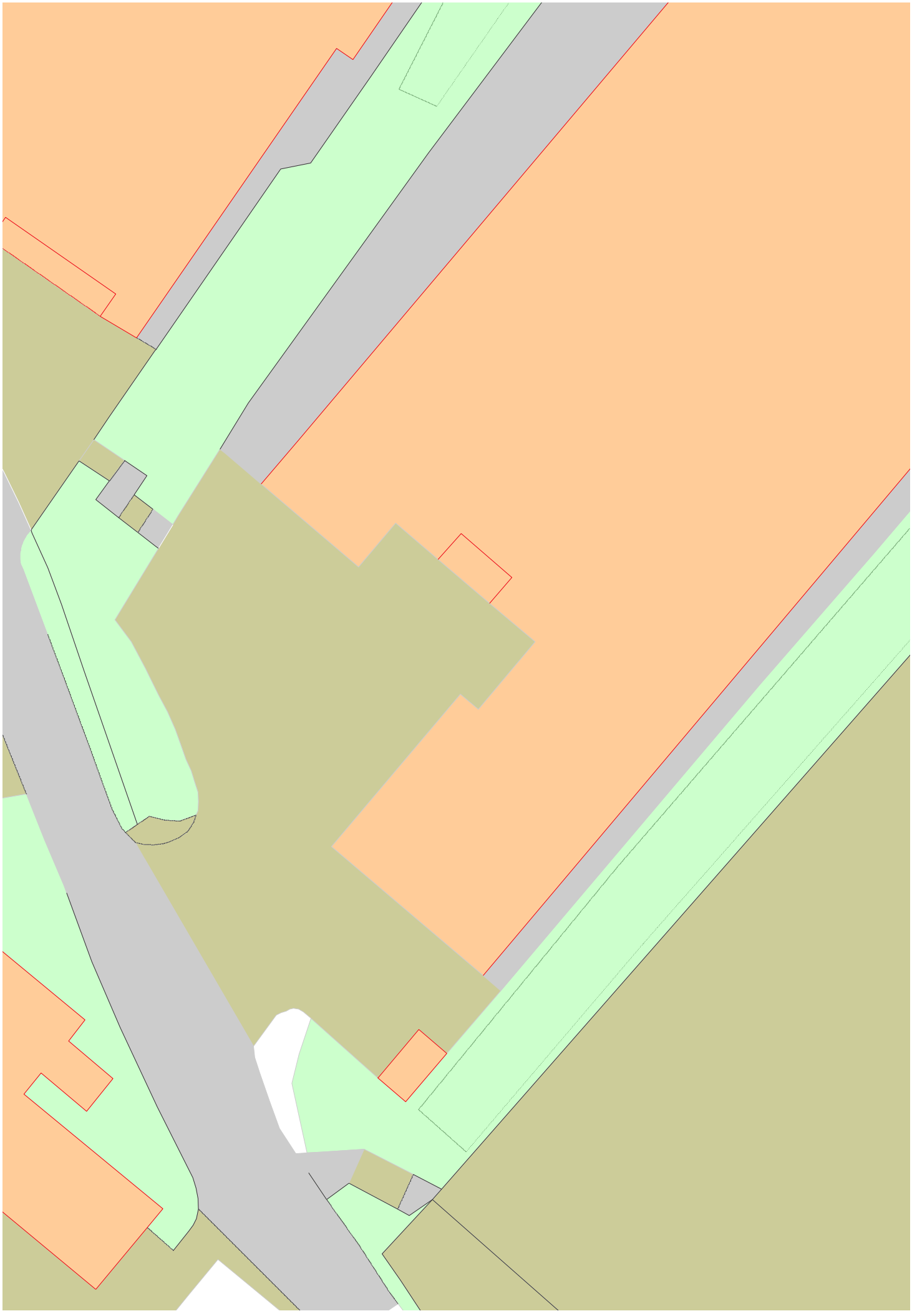



**Figure 1b. Location of the site in relation to local light emissions.**
**https://lagas.co.uk/app/product/light-maps Accessed 15/09/2023**



## 5. POST-DEVELOPMENT (Map 2)

The post-construction habitats are based upon the landscape plans by Mcgregor Coxall. 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.

The areas of ‘Mixed scrub’ and the established ‘Introduced shrub’ border will be retained post construction as will the majority of the trees on-site. An additional 8 new trees will be planted that will contribute towards net gain and canopy cover for the development. Part of the grass bank will be enhanced on the western boundary of approximately 0.0133 hectares.

The area of ‘developed land, sealed surface’ will decrease slightly to 0.1062 hectares with permeable hardstanding being laid of ‘artificial unvegetated, unsealed surfaces’ accounting for 0.0116 hectares.

New areas of ‘introduced shrub’ borders are to be created to break up the hardstanding surfaces and also planted on the bank of the western boundary, 0.0177 ha. To achieve a net gain for the site the area of bare ground should be seeded with a hard wearing amenity grass seed mix of 0.0105 ha.

# 6. METRIC CALCULATION RESULTS AND DISCUSSION

## 6.1. Baseline Habitat Units

The baseline calculation for this site is 0.41 habitat units. There are no linear habitats within the development footprint.

## 6.2. Results

Table 1 displays the metric calculation "headline results" as a representation of the habitats displayed in the landscape plan and supporting documents. Full details of calculations can be found within the filled metric file "Biodiversity Metric 4.0 Truro School".

| | | | |
|---|---|---|---|
| On-site baseline | *Habitat units* | 0.41 | |
| | *Hedgerow units* | 0.00 | |
| | *Watercourse units* | 0.00 | |
| On-site post-intervention (Including habitat retention, creation & enhancement) | *Habitat units* | 0.51 | |
| | *Hedgerow units* | 0.00 | |
| | *Watercourse units* | 0.00 | |
| On-site net change (units & percentage) | *Habitat units* | 0.10 | 24.62% |
| | *Hedgerow units* | 0.00 | 0.00% |
| | *Watercourse units* | 0.00 | 0.00% |

**Table 1. Headline results from metric calculator. File reference: "Biodiversity Metric 4.0 Truro School"**

## 6.3. Discussion of results

If the site is developed with the habitat interventions recommended in this report, and calculated by the latest Defra metric, it has the potential to deliver 0.51 Habitat units on-site which would be total net unit change of 0.10 units. This would represent an 24.62% biodiversity net gain for the development.

The landscaping plan has sought to retain the established habitats with the highest value for wildlife on the site such as trees, grassland and the small area of native mixed scrub. The established ornamental shrub border provides suitable nesting habitat for birds and some connectivity with the playing fields to the east. By incorporating additional tree planting and replacing some of the hardstanding surfaces with high quality shrub borders the site can achieve a net gain in biodiversity.

The production of a Biodiversity Management and Monitoring Plan secured through a planning condition would provide details of how to achieve the post construction net gains proposed in this report.

## 6.4. Further recommendations to enhance the value of the site

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

Native species should be used for planting where possible in the new planted borders

Tree mounted bat boxes on new and established trees would create new roosting opportunities for bats. Also keeping artificial lighting to a minimum by using LEDs on short timers.

New nesting provisions for birds could be provided by mounting nest boxes onto new and retained trees and shrubs.

Habitat piles made from brash from the site could create suitable habitat for a range of species including invertebrates, small mammals and reptiles.

## APPENDIX 1

Table with suggested seed mixes for hard waring grassland areas

**Seed mix appropriate for use in frequently mown areas adjacent to paths and buildings. Eg Emorsgate Flowering Lawn EL1 (https://wildseed.co.uk/mixtures/view/56)**

| | **Scientific Name** | **Common Name** |
|---|---|---|
| Wildflowers (20%) | *Galium verum* | Lady's Bedstraw |
| | *Leontodon hispidus* | Rough Hawkbit |
| | *Leucanthemum vulgare* | Oxeye Daisy |
| | *Lotus corniculatus* | Birdsfoot Trefoil |
| | *Primula veris* | Cowslip |
| | *Prunella vulgaris* | Selfheal |
| | *Ranunculus acris* | Meadow Buttercup |
| | *Trifolium pratense* | Wild Red Clover |
| Grasses (80%) | *Agrostis capillaris* | Common Bent |
| | *Cynosurus cristatus* | Crested Dogstail |
| | *Festuca rubra* | Slender-creeping Red-fescue |
| | *Phleum bertolonii* | Smaller Cat's-tail |

## APPENDIX 2

## Mcgregor Coxall. Material & Finishes Plan LV00, MCGC-LD-04 Rev B