

13847 – Ennor Farm

Preliminary Cut & Fill Analysis

Revision: P1

Date: 28/03/2022

1.0 INTRODUCTION

1.1. Brief

- 1.1.1. CampbellReith have been commissioned by The Council of the Isles of Scilly (the Client) to perform a preliminary cut and fill analysis for the proposed development of 12 new residential properties at the Land to North of Ennor Farm, Old Town Lane, St Mary's, herein referred to as the 'site'. The National Grid Reference for the site is 091442E and 010457N. The nearest postcode to the site is TR21 0NN.
- 1.1.2. A simplistic model has been created in order to give indication of the likely excavation volumes attributed to the scheme.

1.2. Site Location

- 1.1.3. Located on the Isles of Scilly, the site lies on the northern edge of Old Town immediately north of the Old Town Inn and approximately 300m west of the Isle of Scilly Airport. The site is centred on approximate National Grid Reference 091442 E, 010457 N.

1.3. Proposed Development

- 1.3.1. The Client received Outline Planning Permission (ref: P/21/002/OUT) for the Proposed Development on the 13th April 2021.
- 1.3.2. Measuring approximately 0.5ha the Proposed Development comprises:

Outline planning application for 12 detached and semi-detached self-build homes with appearance as a reserved matter (Major Development)

2.0 CALCULATIONS

- 2.1.1. Proposed levels have been calculated and modelled based on drawing 13847-CRH-XX-XX-DR-C-5000. Due to the simplistic approach to the model at this point in time, no guarantee can be given on actual volumes required/generated as this is affected by numerous factors including foundation designs, trench widths and bulking.
- 2.1.2. A simplistic proposed finished levels model was created using Civil 3D (3D modelling software). Using the topographical information for the existing site and assuming a 200mm topsoil strip, a preliminary analysis of the level differences anticipates the following figures:

| | |
|--------------------|---------------------------|
| Cut | 5 m ³ |
| Fill | 4510 m ³ |
| <u>Nett Volume</u> | <u>4505 m³</u> |

- 2.1.3. These values do not account for volumetric reductions in the fill estimate arising from engineering fill for the proposed carriageways, footways, drainage features, and foundations and re-use of topsoil in soft landscaping areas.
- 2.1.4. Stripping of topsoil by 200mm across the area of the site has been calculated to produce approximately 1008 m³ of cut. It has been assumed that 5% of this volume will be unsuitable for re-use due to vegetation and biodegradable content. It is proposed to re-use, 958 m³ of topsoil within areas of soft landscaping and within gardens.
- 2.1.5. An assessment of the required engineering fill for road and footpath construction has been performed, and will reduce the requirement for imported fill further:

| | |
|----------------|--------------------------|
| S278 Junctions | 42 m ³ |
| S278 Footways | 10 m ³ |
| Internal Roads | 523 m ³ |
| Car Park | 265 m ³ |
| Footpaths | 54 m ³ |
| <u>Total</u> | <u>894 m³</u> |

- 2.1.6. An assessment of the volume occupied by proposed drainage features has also been undertaken, accounting for private soakaways, manholes, gullies, trenches, land drains and pipe bedding. This will reduce the requirement for imported fill by the following volumes:

| | |
|------------------------|--------------------------|
| Soakaways | 118 m ³ |
| Manholes & Gullies | 53 m ³ |
| Trenches & Land Drains | 22 m ³ |
| Pipe Bedding | 241 m ³ |
| <u>Total</u> | <u>434 m³</u> |

- 2.1.7. Development of each individual plot will entail further reductions in the requirement for imported fill due to engineering fill. This will include foundations, voids, private drainage (excluding soakaways), and construction of private footpaths and driveways. An estimated value of 100 m³ of engineering fill has been assumed per plot. For the proposed development of 12 plots, this sums to a total of 1200 m³.

2.1.8. No allowance has been made at this stage for bulking factors.

2.1.9. Considering the estimated volumes described above, the following scenario is anticipated:

| | |
|--------------------------|---------------------------|
| Fill | 4505 m ³ |
| Topsoil Re-Use | -958 m ³ |
| Roads & Footways | -894 m ³ |
| Drainage | -434 m ³ |
| Plot Arisings | -1200 m ³ |
| <u>Estimated Deficit</u> | <u>1019 m³</u> |