WIND TURBINE AT WHEAL MARTYN PIT

TREVERBYN

CORNWALL

Heritage Impact Assessment

South West Archaeology Ltd. report no. 210517

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
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Wind Turbine at Wheal Martyn Pit, Treverbyn, Cornwall

Heritage Impact Assessment

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Work undertaken by SWARCH for CleanEarth Energy Ltd. (The Agent)

SUMMARY

This report presents the results of a heritage impact assessment carried out by South West Archaeology Ltd. (SWARCH) for a proposed turbine at Wheal Martyn Pit, Treverbyn, Cornwall. This work was carried out on behalf CleanEarth Energy Ltd. (The Agent) in advance of a planning application.

The proposed site lies in an area which formed part of the extensive unenclosed upland of Hensbarrow Down, the rights to which were held by the extensive Domesday manor of Treverbyn. This manor had been split in the 15th century into two parts –Treverbyn Courtney and Treverbyn Trevanion – with Treverbyn Courtney being attached to the Duchy of Cornwall in 1540. Any income generated by the 'waste' was divided between the two manorial lords. The enclosed lands adjacent (Gunheath, Yonder Town and Carbean) were owned in 1842 by Sir Joseph Graves-Sawle. The civil parish of Treverbyn was created in 1846, formerly parcel of the ancient ecclesiastical parish of St Austell. Tin mining took place in this area in the medieval and post-medieval periods, but the development and spread of china-clay extraction has obliterated almost all traces of both tin mining and the early china-clay industry.

The proposed turbine would be located within the flat top of a small bench-tip between the Gunheath and Wheal Martyn working clay-pits, on the edge of the scheduled historic Wheal Marty clay-works. The tip developed in the later 19th century and early 20th century and does not appear on the earlier 19th century mapping, it is of low profile, almost recessive compared to some of the larger historic bench tips and sky tips and does not make any significant contribution to the skyline profile. On that basis that the turbine is located on an early 20th century tip, archaeological potential of the site is assessed as low.

*In terms of indirect impacts, most of the designated heritage assets in the wider area are located at such a distance to minimise the impact of the proposed development, or else the contribution of setting to overall significance is less important than other factors. The landscape context of many of these buildings and monuments is such that they would be partly or wholly insulated from the effects of the proposed development by a combination of local blocking from trees, buildings or embankments, or that other modern intrusions have already impinged upon their settings. A small number of the designated heritage assets, of medium value, considered in detail would be affected by the proposed development to a limited but quantifiable degree, such as the assets at Carthew and within the valley adjacent to the turbine (**negligible to negative/moderate**), with a **negligible** impact on the historic landscape, **negligible** aggregate impact, but a **negative/minor** cumulative impact on the basis there are several other operational turbines in close proximity to the proposed. On that basis the impact of the proposed development can be assessed as **negligible** overall.*

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ACKNOWLEDGEMENTS

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1.0 INTRODUCTION

LOCATION: WHEAL MARTYN PIT
PARISH: TREVERBYN
COUNTY: CORNWALL
CENTROID NGR: SW 99935 56269
PLANNING REF: PRE-APPLICATION
SWARCH REF: TWMT21
OASIS REF: SOUTHWES1-421504

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned to undertake a heritage impact assessment for a proposed wind turbine on a tip at Wheal Martyn pit, Treverbyn, Cornwall (NGR: SW 99935 56269). This work was undertaken in accordance with best practice and CIfA guidelines.

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The proposed site is located c.1km to the west of the hamlet of Carthew and c.4.2km north-west of the centre of St Austell, within the historic Wheal Martyn clay pit, the proposed turbine to be located on a historic bench tip. The wider area is of formerly unenclosed upland moorland much altered by the industrial extraction of china clay. The top of the bench tip is flat and the turbine would be at an altitude of c.245m AOD.

The soils of this area are the gritty loamy acid soils with a wet peaty horizon of the Hexworthy Association (SSEW 1983); these overlie the granite of the St Austell Intrusion (BGS 2021).

1.3 HISTORICAL & ARCHAEOLOGICAL BACKGROUND

The area formed part of the extensive unenclosed upland of Hensbarrow Down, the rights to which were held by the extensive Domesday manor of Treverbyn. This manor had been split in the 15th century into two parts –Treverbyn Courtney and Treverbyn Trevanion – with Treverbyn Courtney being attached to the Duchy of Cornwall in 1540. Any income generated by the 'waste' was divided between the two manorial lords. The enclosed lands adjacent (Gunheath, Yonder Town and Carbean) were owned in 1842 by Sir Joseph Graves-Sawle. There are documents in the CRO relating to clay setts in this area dating to the 1860s and 1870s (e.g. CRO: CF/1/3899), and this presumably marks the intensification of extraction evident on the first OS maps. The civil parish of Treverbyn was created in 1846, formerly parcel of the ancient ecclesiastical parish of St Austell.

Tin mining took place in this area in the medieval and post-medieval periods, but the development and spread of china-clay extraction has obliterated almost all traces of both tin mining and the early china-clay industry.

From *c*.1820 china clay extraction became increasingly important, the rate of extraction and dumping accelerating in the later 20th century. The impact of the china-clay industry on the land is immediately apparent: vast clay pits and enormous spoil heaps dominate this strange and desolate landscape. Most of the entries on the Cornwall and Scilly HER in the immediate area relate to features or structures that have been destroyed or buried. Some parts of this area have escaped despoliation, and these areas may contain features and structures relating to earlier china clay and tin exploitation, as well as settlement. Assessment, survey and fieldwork have been carried out by Exeter Archaeology (2002) and CAU (Cole 2004) at Higher Goonamarth, with a possible Bronze Age roundhouse identified in an evaluation trench near Higher Biscovillack. Works in advance of the

turbine at Higher Goonamarth included a geophysical survey, which identified a regular series of parallel linear anomalies arising from medieval ridge-and-furrow cultivation, or perhaps tin streaming (SWARCH 2015).

1.4 METHODOLOGY

The desk-based assessment follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (CIfA 2017) and *Understanding Place: historic area assessments in a planning and development context* (Historic England 2017).

The historic visual impact assessment follows the guidance outlined in: *Conservation Principles: policies and guidance for the sustainable management of the historic environment* (English Heritage 2008), *The Setting of Heritage Assets* (Historic England 2017), *Seeing History in the View* (English Heritage 2011), *Managing Change in the Historic Environment: Setting* (Historic Scotland 2016), and with reference to *Visual Assessment of Wind Farms: Best practice* (University of Newcastle 2002) and *Guidelines for Landscape and Visual Impact Assessment* 3rd edition (Landscape Institute 2013). The site visits were undertaken by E. Wapshott in May 2021. Carthew farm was visited by Dr. S.H. Walls in January 2022.

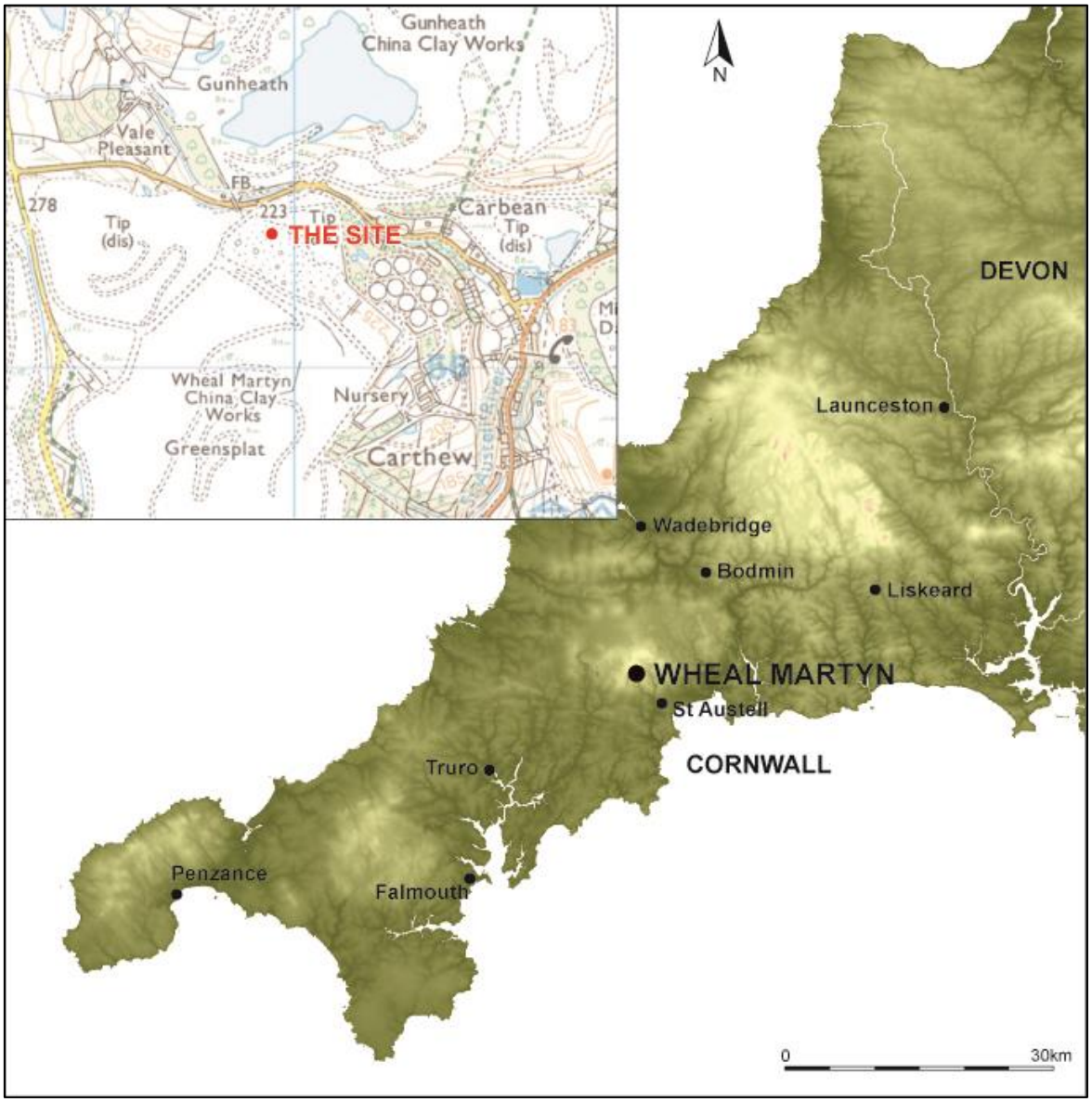

FIGURE 1: SITE LOCATION.

2.0 HERITAGE IMPACT ASSESSMENT

2.1 HERITAGE IMPACT ASSESSMENT - OVERVIEW

The purpose of heritage impact assessment is twofold: Firstly, to understand – insofar as is reasonably practicable and in proportion to the importance of the asset – the significance of a historic building, complex, area, monument or archaeological site (the 'heritage asset'). Secondly, to assess the likely effect of a proposed development on the heritage asset (direct impact) and/or its setting (indirect impact). The methodology employed in this assessment is based on the approach outlined in the relevant DoT guidance (DMRB vol.11; WEBTAG), used in conjunction with the ICOMOS (2011) guidance and the staged approach advocated in *The Setting of Heritage Assets* (GPA3 Historic England 2015). The methodology employed in this assessment can be found in Appendix 3.

2.2 NATIONAL POLICY

General policy and guidance for the conservation of the historic environment are now contained within the *National Planning Policy Framework* (Department for Communities and Local Government 2019). The relevant guidance is reproduced below:

Paragraph 189
In determining applications, local planning authorities should require the applicant to describe the significance of any heritage assets affected, including the contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should be consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which a development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 190
Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

A further key document is the Planning (Listed Buildings and Conservation Areas) Act 1990, in particular section 66(1), which provides *statutory protection* to the setting of Listed buildings:

In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

2.3 LOCAL POLICY

Policy 24: *Historic Environment* in *The Cornwall Local Plan: Strategic Policies 2010-2030* makes the following statement:

All development proposals should be informed by proportionate historic environment assessments and evaluations... identifying the significance of all heritage assets that would be affected by the

proposals and the nature and degree of any affects and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated.

Great weight will be given to the conservation of Cornwall's heritage assets... Any harm to the significance of a designated or non-designated heritage asset must be justified... In those exceptional circumstances where harm to any heritage assets can be fully justified, and the development would result in the partial or total loss of the asset and/or its setting, the applicant will be required to secure a programme of recording and analysis of that asset, and archaeological excavation where relevant, and ensure the publication of that record to an appropriate standard in public archive.

2.4 STRUCTURE OF ASSESSMENT – DIRECT AND INDIRECT IMPACTS

This assessment is broken down into two main sections. Section 3.0 addresses the *direct impact* of the proposed development i.e. the physical effect the development may have on heritage assets within, or immediately adjacent to, the development site. Designated heritage assets on or close to a site are a known quantity, understood and addressed via the *design and access statement* and other planning documents. Robust assessment, however, also requires a clear understanding of the value and significance of the *archaeological* potential of a site. This is achieved via the staged process of archaeological investigation detailed in Section 3.0. Section 4.0 assesses the likely effect of the proposed development on known and quantified designated heritage assets in the local area. In this instance the impact is almost always indirect i.e. the proposed development impinges on the *setting* of the heritage asset in question and does not have a direct physical effect.

3.0 DIRECT IMPACTS

3.1 STRUCTURE OF ASSESSMENT

For the purposes of this assessment, the *direct effect* of a development is taken to be its direct physical effect on the buried archaeological resource. In most instances the effect will be limited to the site itself. However, unlike designated heritage assets (see Section 4.0) the archaeological potential of a site, and the significance of that archaeology, must be quantified by means of a staged programme of archaeological investigation. Sections 3.2-3.5 examine the documentary, cartographic and archaeological background to the site; Section 3.6 summarises this information in order to determine the significance of the archaeology, the potential for harm, and outlines mitigation strategies as appropriate. Appendix 3 details the methodology employed to make this judgement.

3.2 DOCUMENTARY HISTORY

The proposed turbine would be located on the spoil tips of the former Vale Pleasant china clay works. These works can be seen on the 1842 Tithe Map, but were lost in the expansion of the Wheal Martyn works.

The proposed site lies just to the north of Carthew Farm, and to the north-east of Carthew. The settlement was first recorded in 1201 as *'Cartheu'*, which has been interpreted as 'black fort' (Gover, 1948). The place name element '*ker*', which has the meaning of fort, is therefore seen as suggesting a round in this locality. There is a potential site for the round on the tithe map, noted on the HER, but this plot is now buried under spoil heaps.

3.3 CARTOGRAPHIC DEVELOPMENT

The earliest depiction of this area appears in the 1695 Lanhydrock Atlas. This map (not illustrated) shows the long narrow sliver of land held by the Robartes Family extending from Burngullow in the south to the Longstone in the north. The greater part of this area (extending north from Lanjeth) was unenclosed at that date and listed as a common, the *Great Down*.

The next cartographic source is the 1811 Ordnance Survey (OS) surveyor's draft map of 1811. This indicates that a series of intakes had been made on the western side of Alviggan Moor, and a smallholding formed, labelled [H]*alviggan*. Smallholdings and small settlements are depicted to the south and east of the proposed site (Carthew, Gunheath, Yondertown, carbean, etc.). With the caveat that the draft maps are rarely particularly accurate when it comes to field boundaries, the site of the proposed turbine would appear to lie on raised ground between Carthew and Yondertown, in unenclosed land. Most of the area is still shown as unenclosed at this date, and to the north-west a scattering of small circles are indicated; these are likely to represent barrows, with one labelled as Cox barrow, but not all are depicted on later OS maps.

The first detailed cartographic source is the 1838 St Mewan tithe map. This shows the site lying within a large, irregular enclosure, adjacent to fields labelled as '*Coon's Tenement*', likely relating to the Cornish surname '*Coon*' from '*keun',* for *hounds*, a name associated with hunting. The tithe apportionment lists the site as part of the Carthew Estate, owned by Elias Martyn and occupied by John Hancock. The plot was names 'New Parks' and was pasture land at this time. The 1841 census records a number of John Hancocks in this area, including: John Hancock, a 77 year old agricultural labourer living at Lower Carthew with his wife, 70 year old Jane; John Hancock, a 51 year old agricultural labourer living with his 56 year old wife, Jane, living with 12 others, including 13 year old John Hancock (agricultural labourer), 37 year old John Hancock (clay labourer), and 15 year old

John Hancock (No occupation listed). The 1861 and 1901 censuses record the name John Hancock in Carthew in association with clay labouring. Elias Martyn can be found at Carthew in the 1861 census, aged 67 and recoded as a china clay and stone merchant. He lived with his 45 year old wife, Susannah, his 29 year old son, Frederick – also a china clay and stone merchant – and 4 servants.

FIGURE 2: EXTRACT FROM THE 1811 OS SURVEYOR'S DRAFT MAP; THE APPROXIMATE LOCATION OF THE SITE IS INDICATED (BL).

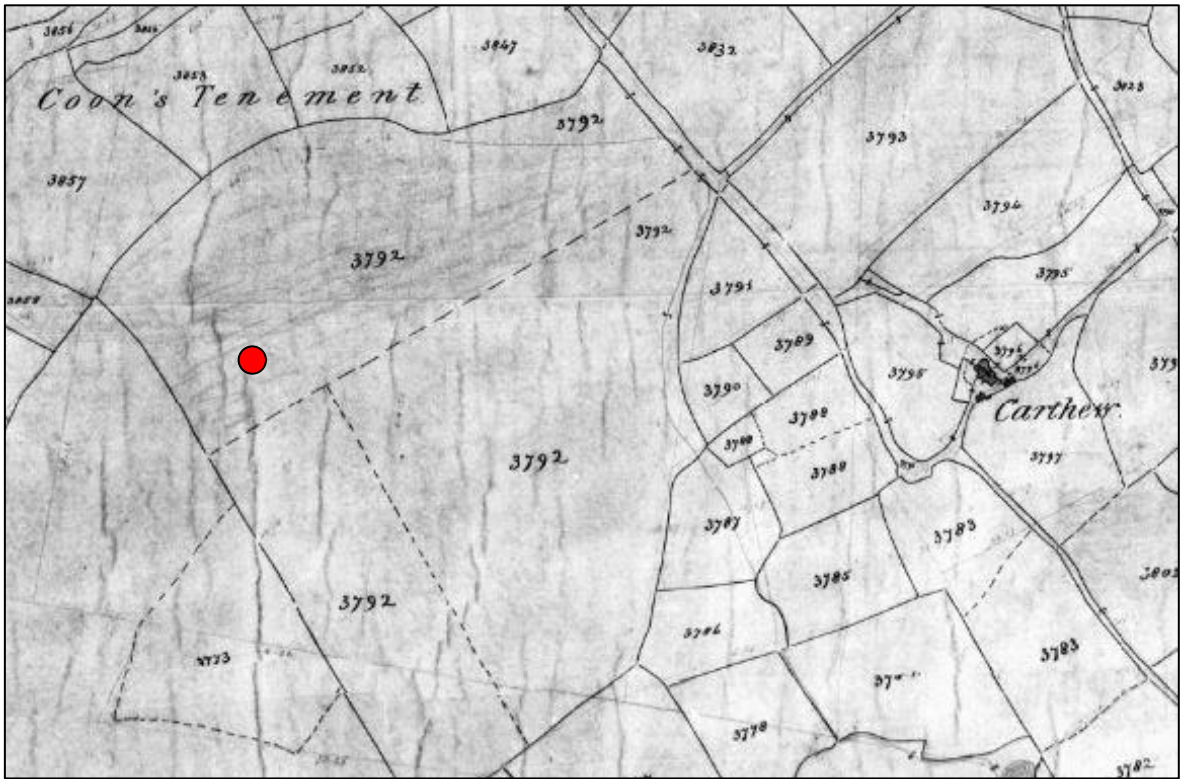

FIGURE 3: EXTRACT FROM THE 1842 ST AUSTELL TITHE MAP; THE APPROXIMATE LOCATION OF THE PROPOSED TURBINE IS INDICATED (GENEALOGIST).

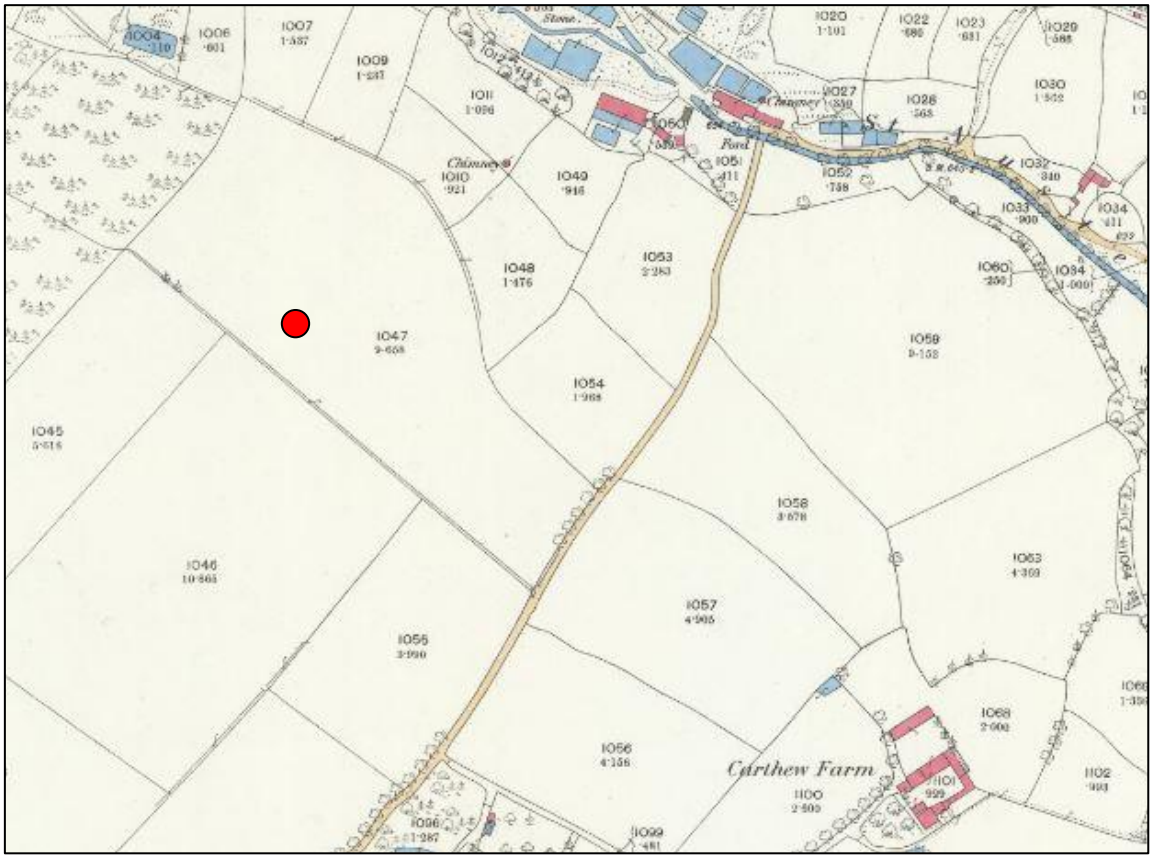

FIGURE 4: EXTRACT FROM THE 1ST EDITION OS 6" MAP (CORNWALL SHEETS L.NE; L.NW; XLI.SW; XLI.SE, SURVEYED 1879-81, PUBLISHED 1888-90); THE APPROXIMATE SITE LOCATION IS INDICATED (NLS).

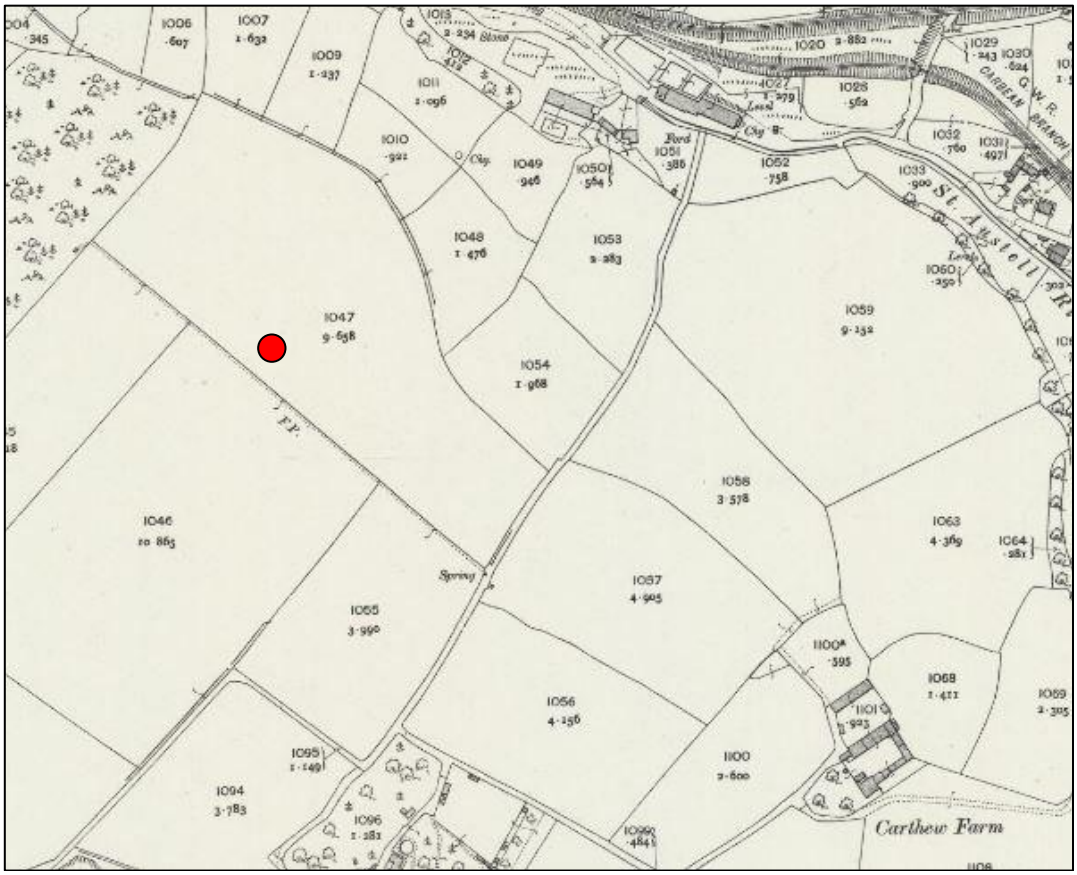

FIGURE 5: EXTRACT FROM THE 2ND EDITION OS 6" MAP (CORNWALL SHEETS L.NE; L.NW; XLI.SW; XLI.SE, SURVEYED 1906, PUBLISHED 1908); THE APPROXIMATE SITE LOCATION IS INDICATED (NLS).

The subsequent OS maps (Figures 4-5) are more detailed but the landscapes of 1879 and 1906 are little different to that of 1838 apart from a few minor changes in field boundaries, the expansion of the buildings at Carthew Farm, and, by the second edition map of 1908, the installation of the railway lines to the north of the site, and the expansion of the clay works.

3.4 ARCHAEOLOGICAL BACKGROUND

Fieldwork in this area has benefitted from the continued expansion of china clay extraction, with several overarching reports (Herring & Smith 1991; Cole 2003; CAU 2005; Smith 2008; Kirkham 2014) issued for the whole area, with a number of surveys undertaken for the neighbouring Higher Goonamarth Farm and Higher Biscovillack Farm (GSB 2004; Cole 2004; EA 2002; Walls & Wapshott 2014; Bampton & Morris 2015). This area of the upper Gover Valley has escaped total devastation, but the proximity of the works has eroded its distinctive historic character. This was once the fringe of an unenclosed granitic upland area and would have contained Prehistoric funerary remains. Barrows have been recorded that now lie beneath the tips on Trenance Downs (MCO3717-9), and the fields below Longstone Downs may contain two barrows (MCO3050, MCO2770). Iron Age and/or Romano-British enclosures are recorded or suspected at Goonamarth (MCO7980) and Higher Biscovillack (MCO45723), indicating the area was inhabited and utilised at that time. Most of the known or recorded features in this landscape relate to the post-medieval china-clay industry; however, a possible Bronze Age roundhouse was identified in an evaluation trench near Higher Biscovillack.

The Cornwall and Scilly HLC characterises the fields here as *Upland Rough Ground*, this particular area falling into the subcategory *divided rough ground* (i.e. it has been subject to some form of enclosure, but current vegetation implies it was never subject to improvement).

3.4.1 PREHISTORIC 4000BC - AD43

It is likely this area was always on the margins of Prehistoric agriculture, and the numerous known or suspected Early Bronze Age barrows in this landscape (MCO2770-71; MCO3049-50; MCO3053; MCO7697) imply it occupied a liminal place in contemporary world views. That said, a possible Middle Bronze Age sunken-featured roundhouse was recorded at Higher Biscovillack Farm (Cole 2004), and the field name *Round Park* at Higher Goonamarth Farm could mark the location of a late Prehistoric and/or Romano-British enclosed settlement (MCO7980) (though the 1757 rental does not list this field name). Tha name Carthew is noted as suggesting the site of a round, but there are no recorded remains (MCO7790).

3.4.2 ROMANO-BRITISH AD43 – AD409

The Romano-British period is unrepresented, but this upland area will have been utilised in some form by people living in the surrounding lowland areas. A pewter or tin cup or probable Romano-British date was, seemingly, found at Halviggan (Todd 1987, 231, source not cited).

3.4.3 MEDIEVAL AD410 – AD1540

The tenurial and ecclesiastical framework of the modern landscape was established during the early medieval period. The high moor would not have been permanently occupied, but would have provided grazing for animals as well as furze, peat and bilberries, for communities living in the valleys and on the lower slopes. The settlement of Carthew is first recorded in 1201, when it is spelt *Cartheu* (MCO13857). Carthew House was lost to the china clay works, although the farm and scattered houses are extant.

3.4.4 POST-MEDIEVAL AND MODERN AD1540 - PRESENT

A number of the buildings at Carthew Farm have post-medieval origins, as do some of the structures in Carthew. The post-medieval settlement of Yondertown (MCO53517), to the east of the site, has been lost to the china clay workings, as has the settlement of Coon (MCO53516). The proposed site lies on the former Vale Pleasant china clay works (MCO46044), with the remains of spoilheaps, settling tanks and a chimney recorded through aerial photography. The site has been subsumed by the Wheal Martyn china clay works. To the east of the site lie modern china clay dries including a late-period pan kiln (MCO6441) and to the north-east lie the dismantled railway and Carbean engine house (MCO31865).

TABLE 1: TABLE OF NEARBY HERITAGE ASSETS (SOURCE: CORNWALL & SCILLY HER).

Mon. ID	Site Name	Record	Notes
MCO14572	Goonamarth – medieval settlement	Documentary	Settlement first recorded 1347
MCO51460	Goonamarth – medieval enclosure, post-medieval farmstead	Extant structure	Goonamarth farmstead, farmhouse, buildings and medieval enclosure
MCO7980	Goonamarth – Iron Age Round, Romano- British Round	Documentary	Field-name *Round Park* suggests a round but there are no remains
MCO41988	Goonamarth – modern building	Extant structure	Small granite-and-brick building under a slate roof
MCO41989	Goonamarth – modern engine house	Extant structure	An engine house and driving chimney stack
MCO10805	Goonamarth – post-medieval china clay dries	Demolished structure	A C19 pan kiln, converted into industrial housing by 1907
MCO12116	Goonamarth – post-medieval mine	Demolished structure	Mine working recorded at Goonamarth on the tithe map but no extant remains
MCO51459	Higher Biscovillack – Bronze Age barrow	Extant structure	Four circular features visible on APs NE of Higher Biscovillack, possibly a barrow group
MCO45723	Higher Biscovillack Farm – Iron Age enclosure, Romano-British enclosure	Cropmark	Sub-circular enclosure visible on APs
MCO51458	Higher Biscovillack – post-medieval agricultural building	Extant structure	Higher Biscovillack shown on the 1840 tithe map
MCO48240	Carancarrow – post-medieval quarry	Extant structure	A quarry is visible on aerial photographs
MCO51313	Higher Biscovillack Farm – post-medieval farmstead	Extant structure	Shown on the tithe map
MCO25271	South Greensplat – post-medieval china clay works	Extant structure	South Greensplat China Clay Works shown at this location on the 1881 OS map
MCO13393	Biscovillack – early medieval settlement	Documentary	Settlement first recorded 1169 as *Botschelvec*
MCO25580	Wheal Jacob – post-medieval china clay works	Extant structure	Wheal Jacob China Clay Works in operation by 1858 and shown on the 1881 OS map
MCO3718	Trenance downs – Bronze Age barrow	Demolished structure	The site of a barrow recorded by Thomas and excavated in 1973 prior to covering by spoil
MCO3719	Trenance Downs – Bronze Age Barrow	Demolished structure	A possible barrow was recorded here in the C19 although the location is uncertain and no remains are visible
MCO3717	Trenance Downs – Bronze Age Barrow	Demolished structure	The site of a barrow excavated in 1973 prior to destruction by spoil heaps
MO50293	Trenance Downs – post-medieval prospecting pit	Extant structure	The remains of prospecting pits visible on APs
MCO51315	Biscovellet – early medieval enclosure	Extant structure	Oval feature visible on APs is also visible on the ground, possibly an enclosure
MCO12996	Wheal Jacob – post-medieval mine	Extant structure	Wheal Jacob is recorded at this location on the 1881 OS maps as 'Tin Disused'
MCO51461	Sunny Corner – post-medieval farmstead	Extant structure	Sunny Corner is shown on the 1881 OS map and as is still occupied
MCO22520	Goonamarth - medieval blowing house	Demolished structure	A blowing house recorded in 1540 no longer survives and the site is heavily overgrown
MCO26866	Penisker – medieval leat, post-medieval leat	Extant structure	A leat at Penisker could be associated with the china clay works or it could be medieval and served a steam works
MCO26840	Gover Valley – post-medieval china clay works	Extant structure	China clay works at Gover Valley were surveyed at 1:2500 by CAU in 1990

MCO25518	South Halviggan – modern china clay works	Extant structure	South Halviggan China Clay Works was in operation by 1858 and closed in 1912; features shown on OS maps suggest some survive
MCO51299	Pensiker – post-medieval ridge and furrow	Crop mark	Traces of ridge and furrow are visible on APs
MCO18641	Goonamarth – post-medieval hut	Extant structure	In 1975 Sheppard reported the site of five huts; however, the huts could be tinners pits
MCO26829	Great Halviggan – modern sky tip	Extant structure	A sky tip at Great Halviggan
MCO26868	Higher Goonamarth – post-medieval stamping mill	Extant structure	The site of a stamping mill at Higher Goonamarth is shown as operational on the tithe map of 1840
MCO25519	Goonamarth – post-medieval stamping mill	Demolished structure	Field-name *Mill Meadow* is recorded on the tithe award which suggests the site of a stamping mill at Goonamarth
MCO25542	Higher Goonamarth – post-medieval counting house	Extant structure	A count house at Higher Goonamarth is reported extant in 1970 and partly demolished in 1980
MCO26828	Great Halviggan – modern sky tip	Extant structure	Two small sky tip dumps
MCO26874	Burngullow Common – medieval leat	Extant structure	A leat on Burngullow Common is visible, the function of the leat in uncertain but it may be associated with streamworks
MCO26872	Burngullow Common – post-medieval reservoir	Extant structure	A reservoir on Burngullow Common is recorded in 1990 but it is unclear what the reservoir was used for
MCO26878	Burngullow Common – post medieval leat	Extant structure	A leat on Burngullow Common is still visible
MCO26873	Burngullow Common – post medieval prospecting pit	Extant structure	Surface mining on Burngullow Common is represented by conjoined sub rectangular prospecting pits with heaps downhill
MCO29764	Great Halviggan – post medieval china clay works	Extant structure	Great Halviggan China Clay Works was established in 1817
MCO25517	Halviggan – post medieval china clay works	Demolished structure	Halviggan china clay works was established in 1817 the site appears to have been destroyed by expansion of the Blackpool China Clay works
MCO12164	Halviggan and Burngullow – post-medieval mine	Extant structure	Halviggan and Burngullow tin mine was in operation in 1822-1847
MCO25585	Noppies – post-medieval china clay works	Demolished structure	Noppies China Clay Works was recorded as due to close in 1942
MCO2771	Halviggan – Bronze Age barrow	Documentary	The site of a barrow recorded by Henderson
MCO3050	Longstone Downs – Bronze Age barrow	Documentary	The site of a barrow recorded by Henderson
MCO2770	Halviggan – Bronze Age barrow	Documentary	The site of a barrow marked on early OS maps and the tithe award
MCO53518	Noppies – post-medieval settlement	Extant structure	All that survives of Noppies settlement are low walls and heaps of rubble with large stones
MCO48241	Carrancarrow – post-medieval streamworks	Extant structure	The remains of tin streaming are visible on APs
MCO7697	Carancarrow – Iron Age Round, Romano-British Round	Documentary	The name Caven Nanskarou is suggested as the site of a round but there are no remains
MCO53519	Carrancarrow – post-medieval settlement	Extant structure	A settlement to the SE of Carrancarrow recorded at this location on the tithe map 1840 appears to be two cottages converted into one house and is still occupied
MCO32995	Greensplat – post-medieval nonconformist chapel	Demolished structure	Methodist chapel and adjoining Sunday school and trap house within boundary wall
MCO25315	Greensplat – post-medieval china clay works	Extant structure	Greensplat China Clay Works is still active
MCO23516	Greensplat – post-medieval chimney	Demolished structure	The engine house at Greensplat was demolished in 2002 and was the subject of a building survey
MCO53520	Carrnacarrow – post-medieval reservoir	Extant structure	Two circular features visible on APs at Carrancarrow are two pits associated with china clay work, possibly reservoirs
MCO25269	Carrancarrow – post-medieval china clay works	Extant structure	Carrancarrow China Clay Works was established in 1819 and had extant remains in 1990

MCO53521	Carrancarrow – post-medieval settlement	Extant structure	the surviving remains of Carrancarrow settlement
MCO34665	Carthew – early medieval field system	Demolished structure	The area of land immediately between the road running through Carthew and Wheal Martyn China Clay works shows evidence for possible fossilized medieval strip fields
MCO57910	Carthew – post-medieval house	Demolished structure	An C18 or early C19 house and ornamental gardens are recorded on the OS 1810-1813 map of Cornwall
MCO25270	Wheal Martyn – post-medieval china clay works	Extant structure	Wheal Martyn china clay works opened in 1869 using steam power, pumps went into liquidation in 1880
MCO42030	Wheal Martyn – post-medieval setting pit	Extant structure	A set of mica drags and setting pits at Wheal Martyn
MCO25359	Gomm – post-medieval china clay works	Extant structure	The site of Gomm China Clay Works
MCO25362	Gomm – post-medieval engine house	Extant structure	An engine house which served the Gomm pit and housed a Cornish beam engine of the rotative type
MCO42029	Wheal Martyn – post-medieval tunnel	Extant structure	A flat rod tunnel at Wheal Martyn
MCO42028	Wheal Martyn – post-medieval water Wheel	Extant structure	An 18 ft water wheel at Wheal Martyn
MCO26779	Lansalson – modern boiler pond	Extant structure	The remains of a small horizontal steam engine winder house of mass concrete construction
MCO48276	Longstone Downs – post-medieval ridge and furrow	Extant structure	Remains of earthwork ridge and furrow are visible on APs
MCO3053	Longstone Downs – Bronze Age barrow	Documentary	A barrow is marked on the 1881 OS map
MCO25309	Longstone – post-medieval china clay works	Extant structure	Longstone China Clay Works was to close in 1942 when owned by ECLP Co. Ltd.
MCO3049	Longstone Downs – Bronze Age barrow	Documentary	The site of a barrow recorded by Thomas in 1851
MCO26908	Longstone Downs – post-medieval extractive pit	Extant structure	Surface mining on Longstone downs was surveyed at 1:2500 by CAU in 1990
MCO53557	Longstone – post-medieval settlement	Extant structure	The settlement at Longstone is recorded on the 1881 OS map and is still occupied
MCO25331	Carrancarrow – post-medieval quarry	Extant structure	A quarry near Carrancarrow is shown at this location on the OS map of 1963

3.5 AERIAL PHOTOGRAPHY AND LIDAR

A review of readily available commercial aerial photographs indicate that the site lies on a large spoil heap, within a landscape of tracks and structures relating to the Wheal Martyn China Clay works. There is no indication of any surviving historic features here, beyond that of the spoil heap from the former Vale Pleasant works.

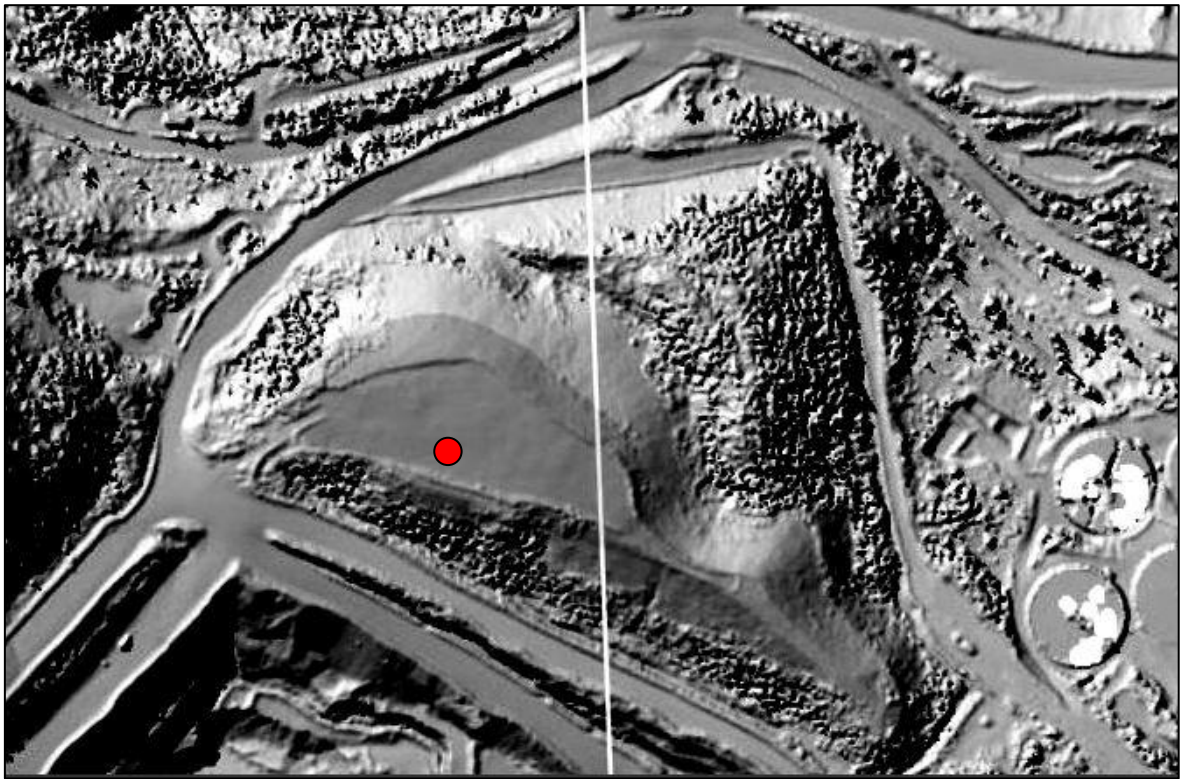

FIGURE 6: HILLSHADE IMAGE USING 2017 ENVIRONMENT AGENCY 1M DSM LIDAR DATA. PROCESSED USING QGIS VER.3.8. CONTAINS DATA USED UNDER THE OPEN GOVERNMENT LICENCE 3.0. THE APPROXIMATE LOCATION OF THE TURBINE IS INDICATED.

3.6 WALKOVER SURVEY

The site was visited by E. Wapshott in May 2021; the weather was bright and breezy in the morning, becoming increasingly overcast, with intermittent hail and rain in the afternoon. The proposed turbine would be located within the flat top of a small bench-tip between the Gunheath and Wheal Martyn working clay-pits. The top of the bench tip is a small wedge-shaped parcel of ground, dominated by gorse and lowland scrub trees with more open patches of heather to the west end, where the turbine is to be located. An overgrown vehicle track accesses the top of the tip from the west end, leading off the main Wheal Martyn access road. The tip is privately owned by Imerys, its scrub covered sides appear to be open to the rest of the site and it has been left for habitat regeneration. The nature of the location means there are 360-degree views from the site but it is blocked within the landscape by the much larger bench tip to the immediate west. Views down towards the historic Wheal Martyn (Wheal Martin) site and adjacent Carthew Farm could not be confirmed from ground level but there would certainly be intervisibility with these assets and the turbine, once built.

FIGURE 7: THE FLAT TOP OF THE CLAY-PIT TIP - SITE OF THE PROPOSED TURBINE; VIEWED FROM THE WSW.

FIGURE 8: VIEW ACROSS THE PROPOSED SITE TO THE EXTANT GUNHEATH TURBINE AND WORKING CLAY-PIT LANDSCAPE; FROM THE SOUTH.

3.7 ARCHAEOLOGICAL POTENTIAL AND IMPACT SUMMARY

The direct *effect* of the development would be the possible disturbance or destruction of archaeological features or deposits present within the footprint of the development; the *impact* of the development would depend on the presence and significance of archaeological features and deposits. Based on the results of the desk-based assessment and walkover survey, the archaeological potential of the site would appear to be negligible, due to the fact that this is a historic clay-tip which doesn't appear on the 19th century mapping so is likely to be early 20th century in date at the earliest.

TABLE 2: SUMMARY OF DIRECT IMPACTS.

Asset	Type	Distance	Value	Magnitude of Impact	Assessment	Overall Assessment
Direct Impacts						
Historic clay-tip	Unknown	Onsite	Low	Minor to Moderate	Negligible	Neutral/Negligible

4.0 INDIRECT IMPACTS

4.1 STRUCTURE OF THE ASSESSMENT

For the purposes of this assessment, the *indirect effect* of a development is taken to be its effect on the wider historic environment. The principal focus of such an assessment falls upon identified designated heritage assets like Listed buildings or Scheduled Monuments. Depending on the nature of the heritage asset concerned, and the size, character and design of a development, its effect – and principally its visual effect – can impact on designated assets up to 20km away.

The methodology adopted in this document is based on that outlined in *The Setting of Heritage Assets* (GPA3 Historic England 2015), with reference to ICOMOS (2011) and DoT (DMRB, WEBTAG) guidance. The assessment of effect at this stage of a development is an essentially subjective one, but one based on the experience and professional judgement of the authors. Appendix 1 details the methodology employed.

This report follows the staged approach to proportionate decision making outlined in *The Setting of Heritage Assets* (Historic England 2017, 6). *Step one* is to identify the designated heritage assets that might be affected by the development. The first stage of that process is to determine an appropriate search radius, and this would vary according to the height, size and/or prominence of the proposed development. For instance, the search radius for a wind turbine, as determined by its height and dynamic character, would be much larger than for a single house plot or small agricultural building. The second stage in the process is to look at the heritage assets within the search radius and assign to one of three categories:

- Category #1 assets: Where proximity to the proposed development, the significance of the heritage asset concerned, or the likely magnitude of impact, demands detailed consideration.
- Category #2 assets: Assets where location and current setting would indicate that the impact of the proposed development is likely to be limited, but some uncertainty remains
- Category #3 assets: Assets where location, current setting, significance would strongly indicate the impact would be no higher than negligible and detailed consideration both unnecessary and disproportionate. These assets are still listed in the impact summary table.

For *Step two* and *Step three*, and with an emphasis on practicality and proportionality (*Setting of Heritage Assets* p15 and p18), this assessment then groups and initially discusses heritage assets by category (e.g. churches, historic settlements, funerary remains etc.) to avoid repetitious narrative; each site is then discussed individually, and the particulars of each site teased out. The initial discussion establishes the baseline sensitivity of a given category of monument or building to the potential effect, the individual entry elaborates on local circumstance and site-specific factors. The individual assessments should be read in conjunction with the overall discussion, as the impact assessment is a reflection of both.

4.2 QUANTIFICATION

The character, size and topographical location of the proposed development would indicate a search radius of 5-10km is sufficient to identify those designated heritage assets where an appreciable effect might be experienced.

With an emphasis on practicality and proportionality (see *Setting of Heritage Assets* p15 and p18), a subset of these assets has been selected for assessment, based on proximity and the ZTV. Most assets that fall within the ZTV within 5km of the proposed site have been considered; almost all

assets within 2.5km have been assessed. The rest of the assets have been scoped out of this assessment.

- Category #1 assets: None.
- Category #2 assets: Crow south-east of Higher Biscovillack Farmhouse (GII); Carthew Farmhouse; Wash House; Bank Barn; Drying Barn; Saw House; Mill; Outbuilding and garden wall (GII Group); Carbean Farmhouse (GII); [Bungullow] Manor Farmhouse (GII); Hembal Manor (GII); Cottage west of Gunheath Farmhouse (GII); Church of St Peter at Stenalees (GII); Church of St Gomonda at Roche (GII*); Roche Rectory and associated assets (GII); Wheal Martyn China Clay Works (SAM); Goonvean China Clay enginehouse with Chimney (GII*/GII); Longstone on Longstone Downs (SAM); Platform cairn 180m NW Hensbarrow Farm (SAM); Round cairn and beacon called Hensbarrow Beacon (SAM); Carthew Mill, Mill Cottage, No. 2 (GII); Carthew Cottage and Wash House (GII group) Menadew and Higher Menadew Farmhouses and associated group (GII Group); Barn at Lavrean Farm (GII); Bilberry Pit Kiln Chimney (GII).
- Category #3 assets: Milestone at Wheal Martyn (GII); Milestone at SX200566 (GII).

4.3 ASSESSMENT OF THE ZTV

The ZTV supplied by the agent, and the ZTVs generated in house, have determined the theoretical bare-earth extent of the viewshed to be very extensive. This is not unexpected, given the height of the proposed turbine and its elevated location, but the actual visual effect of the turbine will be more nuanced than this suggests. The principal effect would be felt to the south and south-south-east, where the full sweep of the blades and the base of the turbine would be visible. For most areas, only the hub and upper sweep of the blades would be visible over the intervening terrain.

In addition, the ZTV takes no account of the screening that may be provided by other structures and, in particular, hedgerows and trees (albeit subject to seasonal variation). The relative value of *aspect* over *prospect* will also vary between different classes of structure or monument.

The distances quoted are predicated on clear visibility, and local weather conditions would have a marked impact on the visibility of any given turbine. Work by Bishop (2002), undertaken with computer simulations and using a turbine 63m to tip, noted the following:

- The most significant drop in recognition rates occurred at 8-12km (clear air) and 7-9km (light haze);
- Visual impact drops rapidly at 4km and is at <10% at 6km in clear air;
- Visual impact drops rapidly at 4km and is at <10% at 5km in light haze;
- Low contrast in light haze reduces the distance threshold by 20%;
- High contrast can dramatically increase the potential impact of white towers;
- Ratings were highly sensitive to changing atmospheric conditions.

On the whole, the ZTV mapping was found to be a fairly accurate representation of the likely intervisibility between the proposed wind turbine and the surrounding landscape out to 5km, with all the heritage assets that landscape encompasses. While it was clear that, for some designated heritage assets, there would be an appreciable visual, for the most part screening from trees, hedgebanks, and other buildings plays an important role.

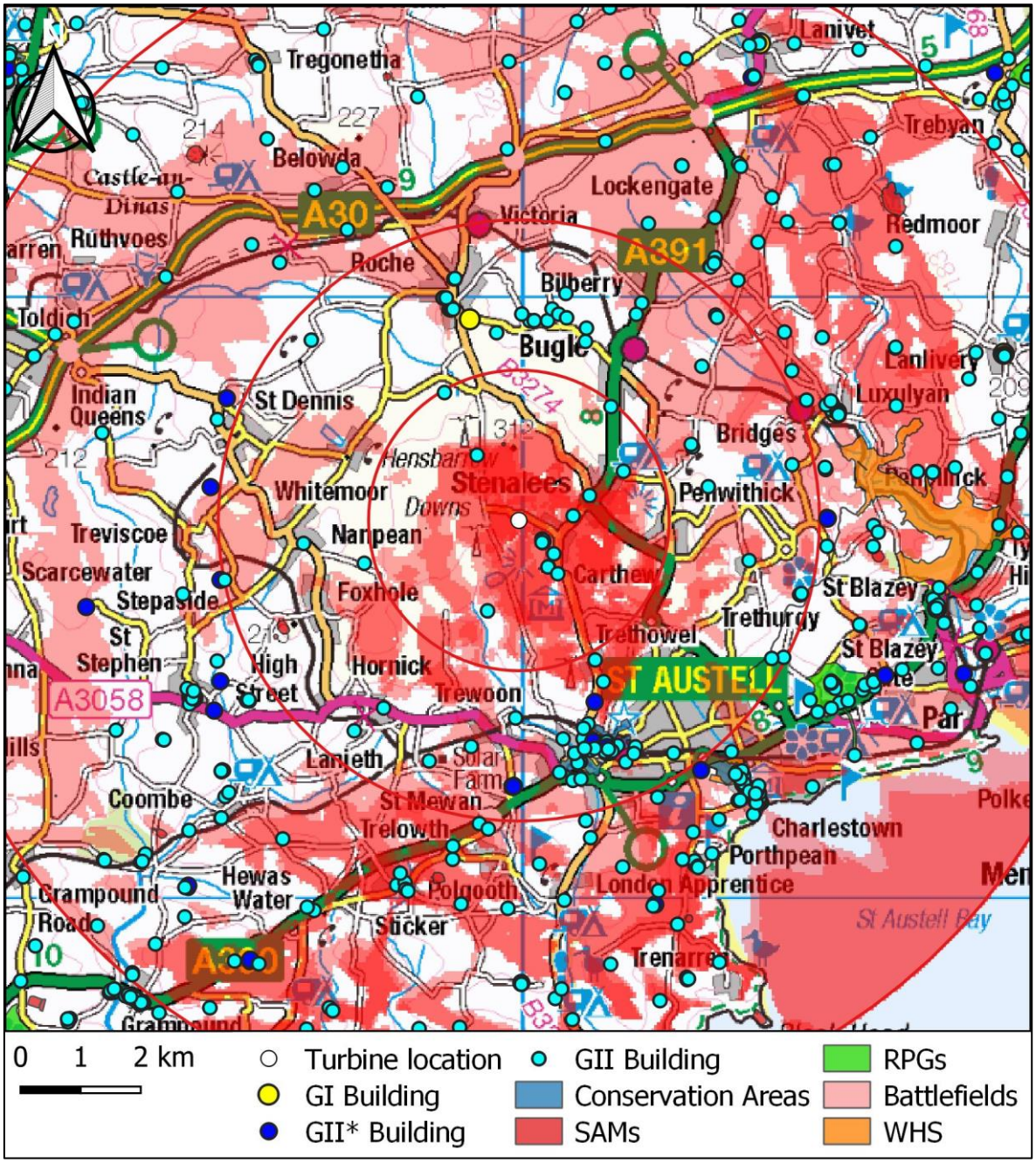

FIGURE 9: 10KM ZTV SHOWING DESIGNATED HERITAGE ASSETS AGAINST THE OS MAP; THE ZTV IS GRADED BY VISIBILITY (BASE - BASE OF BLADE SWEEP – HUB – BLADE TIP I.E. THE DARKER THE COLOUR, THE MORE OF THE TURBINE IS VISIBLE). GENERATED ON QGIS 3.6.3. BASED ON OS PANORAMA OPENDATA; HISTORIC ENGLAND DATA DOWNLOADED ON 120521. CONTAINS INFORMATION USED UNDER THE OPEN GOVERNMENT LICENCE 3.0.

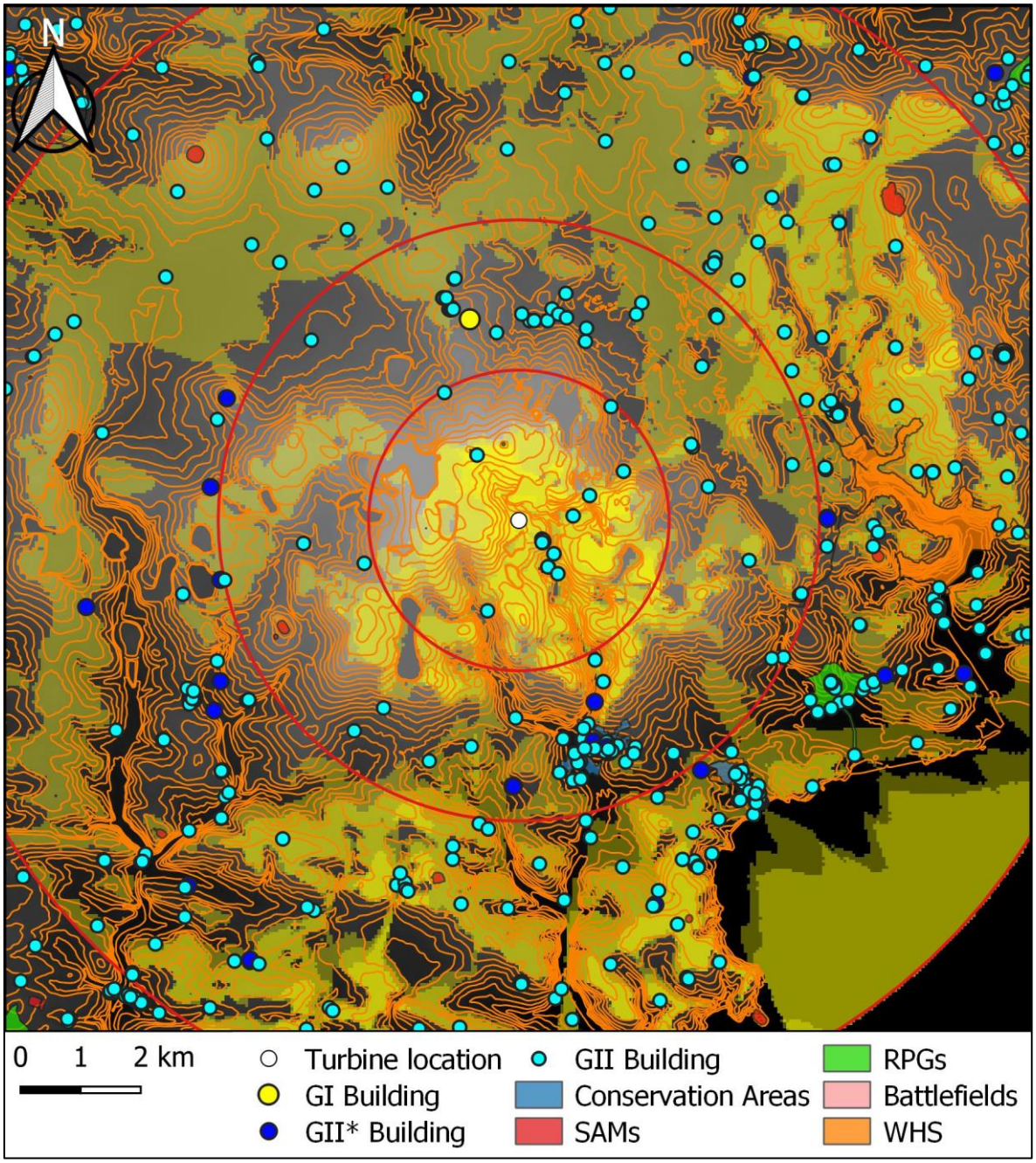

FIGURE 10: 10KM ZTV SHOWING DESIGNATED HERITAGE ASSETS AGAINST A CONTOUR MAP; THE ZTV IS GRADED BY VISIBILITY (BASE - BASE OF BLADE SWEEP – HUB – BLADE TIP I.E. THE DARKER THE COLOUR, THE MORE OF THE TURBINE IS VISIBLE). GENERATED ON QGIS 3.6.3. BASED ON OS PANORAMA OPENDATA; HISTORIC ENGLAND DATA DOWNLOADED ON 12.05.21. CONTAINS INFORMATION USED UNDER THE OPEN GOVERNMENT LICENCE 3.0.

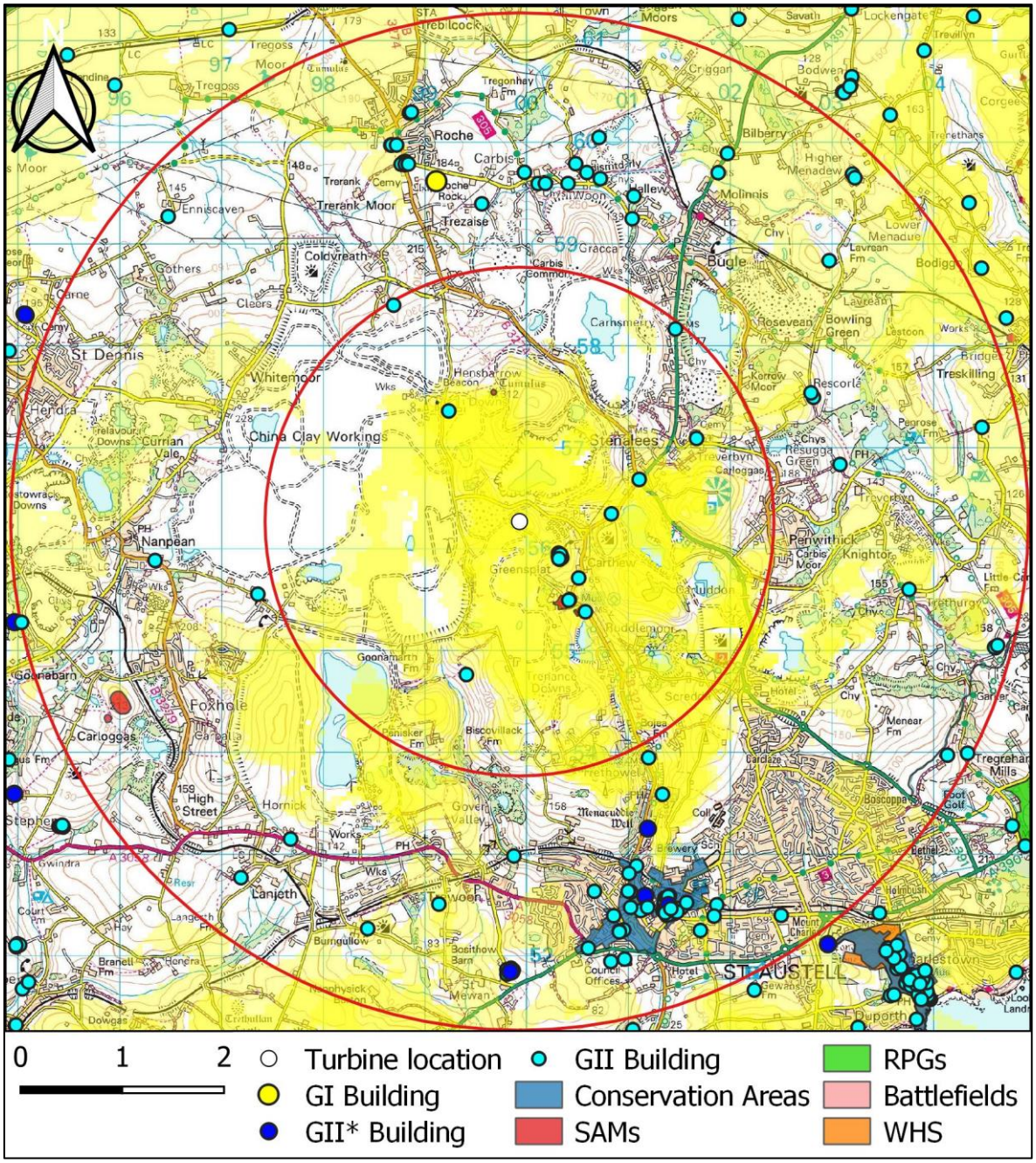

FIGURE 11: 5KM ZTV SHOWING DESIGNATED HERITAGE ASSETS AGAINST THE 1:50,000 SCALE OS LANDRANGER MAP; THE ZTV IS GRADED BY VISIBILITY (BASE - BASE OF BLADE SWEEP – HUB – BLADE TIP I.E. THE DARKER THE COLOUR, THE MORE OF THE TURBINE IS VISIBLE). GENERATED ON QGIS 3.6.3. BASED ON OS PANORAMA OPENDATA; HISTORIC ENGLAND DATA DOWNLOADED ON 12.05.21. CONTAINS INFORMATION USED UNDER THE OPEN GOVERNMENT LICENCE 3.0.

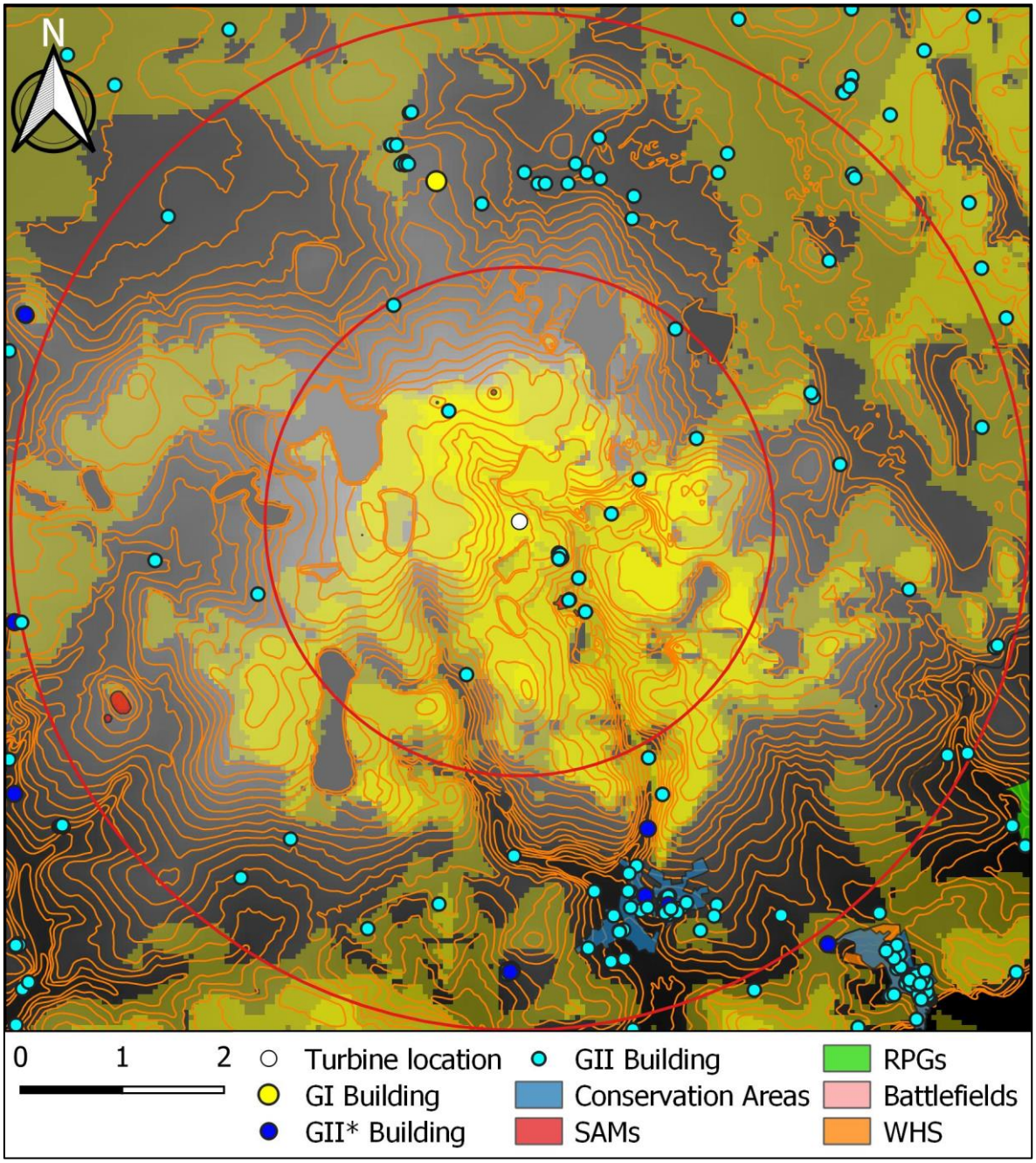

FIGURE 12: 5KM ZTV SHOWING DESIGNATED HERITAGE ASSETS AGAINST A CONTOUR MAP; THE ZTV IS GRADED BY VISIBILITY (BASE - BASE OF BLADE SWEEP – HUB – BLADE TIP I.E. THE DARKER THE COLOUR, THE MORE OF THE TURBINE IS VISIBLE). GENERATED ON QGIS 3.6.3. BASED ON OS PANORAMA OPENDATA; HISTORIC ENGLAND DATA DOWNLOADED ON 12.05.21 CONTAINS INFORMATION USED UNDER THE OPEN GOVERNMENT LICENCE 3.0.

4.4 IMPACT BY CLASS OF MONUMENT OR STRUCTURE

4.4.1 FARMHOUSE AND FARM BUILDINGS

Listed farmhouses with Listed agricultural buildings and/or Curtilage; some may have elements of formal planning/model farm layout

These have been designated for the completeness of the wider group of buildings or the age or survival of historical or architectural features. The significance of all of these buildings lies within the farmyard itself, the former historic function of the buildings and how they relate to each other. For example, the spatial and functional relationships between the stables that housed the cart horses, the linhay in which the carts were stored, the lofts used for hay, the threshing barn to which the horses brought the harvest, or to the roundhouse that would have enclosed a horse engine and powered the threshing machine. Many of these buildings were also used for other mechanical agricultural processes, the structural elements of which are now lost or rare, such as apple pressing for cider or hand threshing, and may hold separate significance for this reason. The farmhouse is often listed for its architectural features, usually displaying a historic vernacular style of value; they may also retain associated buildings linked to the farmyard, such as a dairy or bake house, and their value is taken as being part of the wider group as well as the separate structures.

The setting of the farmhouse is in relation to its buildings or its internal or structural features; farmhouses were rarely built for their views, but were practical places of work, developed when the farm was profitable and neglected when times were hard. In some instances, model farms were designed to be viewed and experienced, and the assessment would reflect this. Historic farm buildings are usually surrounded by modern industrial farm buildings, and if not, have been converted to residential use, affecting the original setting.

What is important and why

Farmhouses and buildings are expressions of the local vernacular (evidential) and working farms retain functional interrelationships (historical/associational). Farms are an important part of the rural landscape and may exhibit levels of formal planning with some designed elements (aesthetic/designed but more often aesthetic/fortuitous). Working farms are rarely aesthetically attractive places, and often resemble little more than small industrial estates. The trend towards the conversion of historic farm buildings and the creation of larger farm units severely impacts on historical/associational value.

Asset Name: **Crow SE of Higher Biscovillack**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: GII	*Value:* Medium
Distance to the turbine: 1.61km	*Condition:* Unknown
Listing: Crow (a probable cool store or perhaps a pigsty). Probably C18. Granite and blue elvan rubble. Chamber built into a rubble-faced bank with blocked doorway to the front. INTERIOR not accessible except to note that the chamber is roofed with granite lintels at least for the first 2 feet or so. This is a very rare surviving example of a primitive building type unique to Cornwall. There are other listed examples in Mabe C.P. and Penwith C.P. in the west of the county; this is one of only 2 known examples in the china clay district of Cornwall. The other example, at Penhale (SX 0172 5592), is either buried under earth or may have been destroyed when the associated farmstead was levelled.	
Supplemental Comments: Located down a long drive, the farmstead sits within a pocket of surviving fields. It can only be viewed from a distance, from the road or footpaths.	
Conservation Value: Evidential value as the structure is sealed, but low aesthetic value as this is a functional structure and largely underground. Historical value is high as this is a rare asset. No known communal value.	
Authenticity and Integrity: The building is recorded as blocked, but its structural integrity may remain quite high.	
Topographical Location & Landscape Context: Set on the middle slopes of a steep-sided combe dropping down to the south into the Gover Valley. The landscape context is therefore the valley landform and surrounding slopes. The proposed turbine would stand on the boundary of this landscape, on the lower slopes of the downs to the north-west and behind the operational Goonamarth turbine. The new turbine would be just outside the landscape context.	

Setting: Set into a bank within the farmyard opposite the main farmhouse. The whole farmstead is set down a long farm track off the Greensplat Road within the combe. Another farmstead is located on the west side of the same valley. There are operational turbines at Goonamarth and one on the skyline to the east.
Principal Views: Views between the structure and the farmhouse/farm buildings. No wider views from the asset itself, which is set at ground level and below ground. There would be general views from the farmstead across its fields and down the steep valley to the south, as well as directly across to Goonamarth Farm, on the west slopes of the same valley.
Landscape Presence: None.
Sensitivity of Asset: The asset is not sensitive to views due to the nature of its subterranean build; however, the farmstead and setting of the asset is affected as there are views to the site of the proposed turbine. The rarity of the asset could be considered to increase its sensitivity to any change either directly or indirectly.
Contribution of Setting to Significance of Asset: Irrelevant. This is a functional store or similar which relates to the use of the site as a historic farm holding. Considerations of setting beyond the limits of its immediate vicinity are irrelevant to its significance.
Magnitude of Effect: The proposed turbine is likely to be visible from the farmyard across other bench tips and will stand in front of the Gunheath turbine which is already visible from this farmstead.
Magnitude of Impact: Medium value + Negligible impact = Neutral/Slight effect
Overall Impact Assessment: **Negligible**

FIGURE 13: CARTHEW FARMHOUSE, VIEWED FROM THE SOUTH-EAST.

Asset Name: **Carthew Farmhouse; Drying Barn; Saw House; Mill; Outbuildings and walls; Wash House; Bank Barn**	
Parish: Treverbyn	*Within the ZTV*: Yes (hub)
Designation: GII	*Value:* Medium
Distance to the turbine: c.570m	*Condition:* Overall Fair/Good
Descriptions: Farmhouse. c1840s. Granite rubble with granite dressings; bitumen-grouted rag slate roof over projecting eaves on shaped brackets; deep dressed granite end stacks. Double-depth plan with 2 rooms to the garden front; central rear entrance and stair hall and further entrance to centre left. EXTERIOR: 2 storeys, plus attic lit from gables; symmetrical3-window front. All openings spanned by flat arches and with C20 horned sashes with glazing bars. Symmetrical 3-window-range rear with central round-arched stair window with fanlight head. End walls have central windows, and the left-hand return has a central doorway. INTERIOR not inspected. Drying Barn. Probable wood-seasoning bank barn, and extension later used as slaughterhouse. Early C19, said to have been built by French prisoners-of-war. Granite rubble with granite dressings; bitumen-grouted rag slate roof. Rectangular plan built into the bank at the rear and extended on the right. EXTERIOR: tall single storey and 2-storey under the same eaves line; l:2-bay front. The original 1-bay front is nearly symmetrical and has 3 tall doorways (with opposing doorways to 1st-floor level opposite). The principal features are the 2 large triangular openings to the bays	

flanking the central doorway with pairs of small ventilators under the eaves above. There is a smaller triangular opening to the left-hand bay and 2 small ventilators on 2 levels above, and there are 3 small ventilators above one another to the right-hand bay. The 2-storey former slaughterhouse on the right has wide doorway on its left with slightly narrower loading doorway above and there are a pair of small ventilators to each floor to the bay on the right. Right-hand return has 2 1st-floor windows with wooden louvres. INTERIOR has original scissor trusses to the right which are charred having survived a fire. The other trusses are later C19 or C20. There are the sawn-off ends of former joists on the flat high up but under the level of the eaves ventilators. These are the remains of a presumed drying floor or rack. There are also some roughly shaped joist holes at 1st-floor level but these may be a later feature. This is a most unusual building, distinguished by its large triangular openings which are probably unique in Cornwall. lt stands with the Saw house (qv) on the north side of a yard, detached from the main group of Farmhouse and buildings to the south.

Saw house. Early or mid C19. Granite rubble with trusses carried on granite monoliths; some concrete block repair; corrugated asbestos slate roof. 'Small rectangular plan plus belt-house lean-to at right-hand end towards rear. Single storey; 3-bay front with 2 window openings, and doorway towards left. There is another opening in the right-hand end left of the belt house. INTERIOR has original roof structure with collar trusses and reset purlins. Architecturally, this building is undistinguished, but it is important for its role in the function of the C19 buildings that relate to it. It was operated by the water-powered mill (qv), which stands in the yard to the south.

Mill, probably a grist mill and also originally or later used as a saw mill, and attached leatwall. 1827 datestone and another stone with initials for S E Martyn for whom it was built; waterwheel by Derry & Sons, founders, St Austell. Granite rubble with Pentewan stone dressings; bitumen grouted rag slate roof. L -shaped plan, built into the bank where it adjoins the later Bank barn (qv) and with a deep wheel pit and water wheel to its other rear elevation. EXTERIOR: 2 storeys; 1-window range fronts on either side of an inner angle. Left-hand front has central doorway and loading/winnowing doorway above flanked by date and name panels; window is towards left and there are ground-floor doorways at far left and right. The openings are spanned by flat arches. The right-hand front has flat arches to doorway at far left and towards left, the other openings are spanned by segmental arches including a wide loading doorway above the doorway 2nd from left and a wide ground-floor doorway right of centre and a narrow doorway at far right. Rear of left-hand part has window on the left and loading/winnowing doorway opposite the front 1st-floor doorway, there are also 3 small openings low down on the left for belt drives, one of which has been cut through later, and there is an opening low down on the right which is spanned by a re-used (17 segmental granite arch stone. The wheel elevation has a central loading/winnowing doorway and a large (about 25 foot) unrestored wheel on the right. The cast-iron and wood wheel appears to have been breast shot but the water landing very near the top. The windows have simple glazing with vertical glazing bars and there are ledged doors. INTERIOR has original roof structure with collar trusses and drive wheels for former sawing activity. SUBSIDIARY FEATURES: attached high rubble wall for leat launder also forming the yard boundary north of the mill. Evidence of original drive belt holes to the bank side of the mill suggest that this building was designed to have a dual function as both a grist and saw mill and as such it is very rare, and the survival of its wheel further enhances its interest. It encloses the north-east side of the farmyard, with the Farmhouse (qv) to the south and the Bank barn (qv) attached to the west gable.

Outbuildings incorporating bee boles, the building probably originally pig sties relating to farmyard and attached garden wall. c1840s. Granite rubble with granite dressings; bitumen-grouted rag slate roof on 3 levels. Overall L-shaped plan. EXTERIOR: single storey; low building with 2 original window and 3 door openings facing NW into the farmyard plus originally an open-fronted (now converted) building next to the farmhouse. There is another doorway, now a window, at far right of main block; the doorway at far left is set back from the front. Shorter elevation returned left of the inner angle has central doorway and a later doorway at far left. Rear elevation of longer range has fine group of bee boles with 7 boles over 6, all with corbelled arched heads. Rear of shorter return block has 2 ventilator openings. INTERIOR not inspected. SUBSIDIARY FEATURES: high rubble retaining wall with 2 embrasures facing north-east enclose east side of yard, with Mill (qv) to north and Farmhouse (qv) on south side of yard to west.

Wash house. Early C19. Granite rubble with granite dressings; corrugated asbestos roof; granite end stack. Small rectangular plan plus projection to rear right-hand corner for copper. Single storey; 2-window front facing rear of farmhouse. 9-pane fixed lights; central doorway with ledged door. INTERIOR not inspected. Included for group value.

Bank barn, probably used as either a granary or as a timber store. c1840s. Granite rubble with granite dressings; bitumen-grouted rag slate roof with later brick end stack on the left. Rectangular plan, built into the bank at the rear. EXTERIOR: 2 storeys; 6-window range. 2nd from left and 5th from left window openings are blocked, the others have simple windows, most with vertical glazing bars. There is a central doorway, a doorway at left and far left and one at far right, all with ledged doors, and there are 3 ground-floor windows plus a small ventilator window. Dove holes arranged in rows and singly, those beneath eaves with ledges. Stone steps to plank door to rear. INTERIOR has original collar trusses and other roof timbers. This building is part of an interesting evolved and planned group with an original mixed use of saw-milling and farming. It stands on the north side of a U-plan farmyard, with the mill (qv) attached to its east side.

Supplemental Comments: The farmhouse and barns are largely in a good condition and the farmhouse has been recently restored, and the outbuilding have benefitted from some essential maintenance works. The buildings are all held in a single ownership, and present as a cohesive group of 19th century buildings, with several large modern additional buildings to the north and east of the historic farm.

Conservation Value: The house and barns have the strong granite vernacular aesthetic typical of the region. They have historical and evidential value, reflecting the agricultural and industrial character of the area. No known communal

value. The group has historical value and has strong associations with Wheal Martyn and the lost Carthew House and the wider valley of china clay workings.
Authenticity and Integrity: The farmhouse is again occupied after a short period of dereliction and the surrounding barns are largely in ongoing use for storage and ancillary functions. They form a fine group of buildings in good condition, with views and spatial relationships between them maintained, and largely historic and of in appearance.
Topographical Location & Landscape Context: Located on the mid to upper slopes of the valley of the St Austell River, on an east-facing slope as it curves south and drops into a steep combe to Carthew. The landscape context is the river valley and wider slopes of the china clay works.
Setting: Located at the end of a long private drive on the very edge of the china clay works. The house is framed by banks of trees to the south and west but is quite open to the north and east. The group of buildings and farmhouse are arranged around two yards, a more traditional farmyard near the house with a more industrial top yard.
Principal Views: The owner kindly provided free access to the farm and house, and it is clear (despite the misty conditions) that there are wide views, primarily to the south and south-east from the farmhouse. Views east across the river valley and to the landscape beyond are possible, but are largely screened by woodlands from around the building group. Views to the west were limited and views out from the yards are limited, although the fir trees located on the skyline to the north-west (and the direction of the proposed turbine) are visible from the southern parts of both yards. Views to the farmstead would be from the adjacent valley slopes, and its former farmland to the south and south-east. The farm is also visible in views from the valley base to the south-east (see Figure 17).
Landscape Presence: The farmstead does enjoy some local landscape presence, set on the mid-to-upper slopes and is visible from the wider landscape. The landscape presence of the house is somewhat limited by the banks of trees but there is a particular view along the B3274 from the south-south-east, up the valley – the house and group of farm buildings stands on the skyline in these views – framed by trees (Figure 18) – it appears to be placed intentionally for this view, as its principle façade is turned to face south-east down the valley.
Sensitivity of Asset: The farmhouse is of agricultural character, but the upper yard includes semi-industrial functions (grist then saw milling and a drying barn). The site was adapted and evolved to fulfil different functions, presumably as part of the Carthew (Martyn) Estate and to help service the clay works. The group appears to have been established perhaps as a model farm for the estate, but there is clear evolution of the buildings over time, as new buildings are added to provide new/alternative working/service spaces. There was a clear intention of the original owner and founder of the farm (Mr. Martyn) to create a modern farmstead in an early 19th century style, it was therefore designed with the intention to impress, but also as functional and practical buildings. Internal views within the group are to some extent screened by the nature of the enclosed courtyard plan of the farmstead, but the turbine will appear in some views between the historic buildings, e.g. from the rear of the farmhouse.
Contribution of Setting to Significance of Asset: Incidental. The site represents both the rural and later industrial periods, as the farm was clearly adapted for mixed use, so relates directly to the complex multi-faceted character of the modern landscape. The farmstead is attractively vernacular, set back among trees, but views within the farmstead are limited by the buildings themselves and by the absence of clear viewpoints within the wider landscape. The scale of the 20th century impacts within this landscape has divorced the farmstead from an intelligible rural context, or the original estate it once served.
Magnitude of Effect: The main elevation of the house faces south-east, away from the turbine. The turbine, however, will be on the high tip just to the north-west of the farmhouse. It will be visible across the extant china clay workings but will be even closer at the assets than the extant Gunheath turbine and, in this case, there will be cumulative impact on this asset. The turbine will also appear prominently in the principle view up the valley to the farmhouse – moving along the B3274, this framing of the farmhouse with moving blades behind of considerable scale will have an inherently negative effect as at present the farmhouse does exert some minor but quantifiable visual presence over the Wheal Martyn valley.
Magnitude of Impact: Medium value + Moderate change = Negative/moderate effect
Overall Impact Assessment: **Negative/moderate**

FIGURE 14: VISUALISATION BY AMALGAM LANDSCAPES FROM THE SOUTHERN FARMYARD.

FIGURE 15: VISUALISATION BY AMALGAM LANDSCAPES FROM THE NORTHERN FARMYARD.

FIGURE 16: VISUALISATION BY CLEAN EARTH ENERGY LTD SHOWING THE POTENTIAL CUMULATIVE VISUAL IMPACT OF THE TURBINE ON CARTHEW FARMHOUSE.

FIGURE 17: CARTHEW FARMHOUSE OVERLOOKING THE WHEAL MARTYN VALLEY; FROM THE SOUTH.

FIGURE 18: VISUALISATION BY CLEAN EARTH ENERGY LTD SHOWING THE POTENTIAL VISUAL IMPACT OF THE TURBINE ON CARTHEW FARMHOUSE.

Asset Name: **Carbean Farmhouse**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: GII	*Value:* Medium
Distance to the turbine: 1.12km	*Condition:* Fair
Description: Farmhouse. C18, incorporating masonry, including 1656 datestone with initials W R, from a C17 house probably on the same site. Granite rubble with granite dressings; dry slate parallel roofs; outbuilt granite end stacks. Originally a 2-room plan, with entrance hall or passage between, then extended with 2-room-plan parallel mid C19 range at rear. EXTERIOR: 2 storeys; nearly symmetrical 2-window front. C20 windows in original openings, the ground-floor front openings spanned by C17 chamfered granite lintels. Central porch has asymmetrical gable which sweeps lower to the left over a small window; the doorway is spanned by a C17 granite basket-arched stone with a thin roll moulding. Rear openings are spanned by segmental brick arches. Right-hand return has small1st-floor window opening right of the chimney breast. INTERIOR not inspected. A good example of a standard vernacular plan (with central entry and end stacks to heated rooms either side) which appeared in Cornwall from the later C17.	
Supplemental Comments: A good vernacular building. Once a working agricultural farmstead, it now appears of more residential character.	
Conservation Value: The house is of aesthetic, historical and evidential value. No known communal value.	
Authenticity and Integrity: Still occupied but it does not appear to be a working farmhouse; it retains its historic character and appearance and looks to be in good condition.	
Topographical Location & Landscape Context: It stands on a gentle south-east facing slope. A slight shallow combe runs down to the south-west, along which runs the B3274, dropping into the steep-sided valley of the St Austell River. The landscape context of the farmhouse is the shallow slope and valley landform, as well as the east-facing slopes of the china clay works.	
Setting: Located on a small, wooded plot on the very edge of a large clay works south of Stenalees on the B3274. The house stands within a walled garden enclosure with two other stone outbuildings on a gently sloping plot; the hillside rises steeply beyond to the north-west. Banks of trees and scrub partially enclose the house to the north and south.	
Principal Views: There are open views to the road to the east, some more limited views down the shallow valley to the south-west and some limited views up the slope to the north-east. The house is hemmed in by banks of trees. Its views are also partly blocked by its outbuildings.	
Landscape Presence: The house has no wider landscape presence.	
Sensitivity of Asset: The farmhouse is Listed primarily for the survival of 17th century stonework elements from an earlier building and as an example of a vernacular building in a specific local style. Its environment has changed over the course of the 18th-21st centuries, through the development of the china clay works, and it relates to a relict farming landscape. Local screening from trees insulates the house from outward views so it is largely unaffected by wider landscape change. The cultural value of the asset as part of a historic farmstead would not be affected.	
Contribution of Setting to Significance of Asset: Incidental. The house was constructed within a working agricultural landscape which is now relict and largely swept away, fragmentary at best. The house sits within a landscape of historic china clay tips. Its immediate setting and outbuildings are important and allows for the correct interpretation of this older asset in a much-changed setting.	
Magnitude of Effect: The turbine will be very visible down the valley directly to the south-west, drawing the eye away from the farmhouse – as one approaches along the road. The trees and farm buildings would insulate the farmhouse from direct outward views to a greater extent, particularly as it faces away from the turbine on its principle side, although general views from the farmyard and fields would obviously include the turbine, which will visually dominate the wider setting.	
Magnitude of Impact: Medium value + Moderate = Negative/moderate	
Overall Impact Assessment: ***Negative/moderate***	

FIGURE 19: VISUALISATION BY CLEAN EARTH ENERGY LTD, SHOWING THE POTENTIAL VISUAL IMPACT OF THE TURBINE ON CARBEAN FARMHOUSE.

Asset Name: **Higher Menadew Farmhouse/Menadew Farmhouse**	
Parish: Luxulyan	*Within the ZTV*: Yes
Designation: Both GII(s)	*Value:* Medium
Distance to the turbine: c.4.66km	*Condition:* Fair/Good overall
Description: Farmhouse. Circa 1840, with addition of mid-late C19 to right; incorporating earlier materials from a former farmhouse on or near the site, with later alterations and additions. Granite rubble, painted and partly rendered. Slate roof with ridge tiles and gable ends. Gable end brick stacks. Plan : Original house of double depth plan, with central entrance, larger room to front left, probably a parlour, and smaller room to front right; kitchen to rear left, stair boxed in to rear of entrance passage with unheated dairy and scullery to rear right. The front rooms and the kitchen heated by gable end stacks. Addition to right of one room plan and 2 storeys, heated by gable end stack to right. 2 storeys symmetrical 3-window front, first floor has three 12-pane sashes with external shutters, ground floor has central 4-panelled and glazed door with porch with 2 granite piers to front and hipped roof, 16-pane sash to left and right, all windows of C19 except, sash to ground floor left, a replacement of C20. Set back to right, at lower roof level and rendered, the addition of 2 storeys and 2 windows, first floor has two 12-pane sashes, ground floor has two 2-light casements. The left side has 4-pane light at first floor left; right gable end rendered, with 2-light casement at ground floor, partly for ventilation to scullery. Rear of addition has 2 doors and 12-pane sash at first floor left. The rear of the main house has three 12- pane sashes at first floor; 20-pane sash at ground floor right. Attached to rear of scullery, a single storey lean-to, probably of circa 1850, with slate roof and C20 window to rear; door at left side has re-used jamb from a C17 doorway, in wood, with heart and roundel stop and mouldings, set upside down. Inside the lean-to, 2-light casement to scullery and rear door to kitchen. Interior Front rooms have panelled shutters to window, C20 fireplaces, straight stair of mid C19 boxed in to rear of entrance passage. Farmhouse house garden walls attached to front and rear. Circa 1830. Granite ashlar front, granite rubble. Slate roof with crested ridge tiles and gable ends with ashlar gable end stacks with cornices. Plan : Double depth plan with central entrance and principal rooms of equal size of front left and right, each room heated by gable end stack. 2-storey outshut for rear service rooms to right, including unheated dairy; the outshut encloses the rear door. The walls enclose the garden to the front of the house and the yard to the rear. 2 storeys and symmetrical 3-window front, with C19 windows remaining, all 4-pane sashes with cambered heads and keystones, central gabled porch on Tuscan columns, inner half-glazed door with overlight with decorative glazing bars. Boxed eaves. Left side has wide external stack. Rear has 2-storey outshut with door to right side and 4-pane sash at first floor above; rear of vain range to right has 4-pane sash at ground and first floor. The front garden is enclosed by rubble walls, ramped up to the house to left; the rear wall encloses the rear yard to rear left of the house. Interior Not inspected.	

Supplemental Comments: A good pair of vernacular farmhouses within a farmstead-hamlet. Once a working agricultural farmstead, it now appears of more residential or agricultural-tourism character as lots of the barns appear to have been converted into dwellings. There are also stables and other equestrian character elements.
Conservation Value: The houses are of aesthetic, historical and evidential value. No known communal value.
Authenticity and Integrity: Both farmhouses are still occupied but do not appear to be working farmhouses anymore; both retain historic character and appearance and look to be in fair/good condition.
Topographical Location & Landscape Context: The farmstead stands on a level area just above a steep break of slope down to the south-south-west. Below is a wide valley running north-west to south-east and at the south edge of the valley is the railway line. To the south-west is the historic mining settlement of Bugle. The landscape context is the wide valley and shallow downs north of clay-country but within a historic mining area, with lots of 18th and 19th century engine houses. The landscape context of the farmhouse is the valley landform.
Setting: Located out on a rocky open ground above a steep break of slope to the south. The site is very exposed with vast views. The farmstead is accessed via a short driveway, enclosed by fields on all sides. Further small cottages possibly for workers are built along the road to the east. The two farmhouses and lots of barns and buildings, both historic and modern, are clustered in a hamlet setting where they all provide each other with a cohesive setting.
Principal Views: There are vast open views to the road to the south-east, south and south-west and west. Views to the north are more limited as the ground rises behind the farmstead slightly. The ground falls away to the east but further small 19th century cottages and trees, hedges screen views.
Landscape Presence: The house has no wider landscape presence.
Sensitivity of Asset: The farmhouses are Listed primarily for the pre-1840s dates and the inclusion of elements of earlier buildings and as an example of a vernacular building in a specific local style. Its environment has changed over the course of the 19th-21st centuries, through the development of the china clay works, and it relates to a relict farming landscape. The cultural value of the asset as part of a historic farmstead would not be affected. The farmstead does sit in an exposed location with vast 180-200 degree views to the south-east, south and south-west, making the changes to the wider landscape more visually prominent and obvious, even in farmyard and views from the surrounding fields.
Contribution of Setting to Significance of Asset: Incidental. The houses were constructed within a working agricultural landscape which is now relict and largely swept away, fragmentary at best. The houses now sit within a landscape of historic china clay tips. Its immediate setting and outbuildings are important and allows for the correct interpretation of these older assets in a much-changed setting.
Magnitude of Effect: There will be direct long-distance views to the proposed turbine. The turbine, if built, would stand in a landscape of many extant turbines adding to a dynamic skyline profile over the sky tips of the historic clay working landscape to the south. There would be a potential, slight cumulative impact of increasing numbers of turbines but the watershed for impact may well already have been crossed in these vast wider landscape views, which bear no relevance to earlier rural assets.
Magnitude of Impact: Medium value assets + Negligible = Neutral/Slight effect
Overall Impact Assessment: ***Negligible***

FIGURE 20: THE FARMSTEAD WITH TWO FARMHOUSES AT MENADEW; FROM THE NORTH.

Asset Name: **[Bungullow] Manor Farmhouse**	
Parish: St Mewan	*Within the ZTV*: Yes
Designation: GII	*Value:* Medium
Distance to the turbine: c.4.38km	*Condition:* Fair/Good
Listing: Farmhouse. Possibly mid C18; refronted and with additions of circa mid C19, with C20 alterations. Stone rubble; the front in squared granite rubble with the top storey in rendered brick. Partly rendered. Hipped slate roof with ridge tiles. Stacks with brick shafts at the right and left sides. The rear slope of the roof is in asbestos slate. Plan: Double depth plan; central entrance with principal room of equal size to front left and right. The service rooms are to rear in an outshut of one storey with loft over. The kitchen is to rear left, heated from a stack to rear and there is an unheated dairy to rear right. At the right end there is a later C19 unheated lean- to, and a later C19 kitchen wing to rear left, heated from a stack at the right side. Exterior: 3 storeys, symmetrical 3-window front. Central C19 6-panelled door with C20 hood on wooden posts. C19 16-pane sash with sidelights and granite lintels to right and left. At first floor there are two similar C19 sashes with sidelights; the window to left has been replaced with a C20 plastic window. At attic level there are 3 C20 plastic windows. The right end is rendered, with a single storey rubble lean-to with C19 3-light 6-pane casement, and C20 half-glazed door to rear. The left end of the front range is blind. There is a straight joint to left to the service range, with C19 9-pane window and C19 12-pane sash at ground floor; first floor has C19 12-pane sash. The second kitchen addition to left has C19 12-pane sash and 9- pane window. At the rear, the two bays to left have 12-pane C19 window at ground floor and two C20 windows at first floor. There is a single storey lean-to of C19 to centre with C20 porch set in the angle to left. The rear of the later lean-to to right has C20 door. Interior: Not inspected.	
Supplemental Comments: This is a quality, small, gentry farmhouse, having received a phase of aggrandisement in the 1800s. It now stands in a small park-like garden setting but retains a busy working modern farmstead immediately to the south, enclosing the house but divided from it by the local parish road. A large solar farm has been built in the fields to the north-east, north, and north-west.	
Conservation Value: The building is of interesting aesthetics reflecting a phase of aggrandisement. It will have high evidential value as the interior was not inspected during the Listing and fine details may survive. It will have historical value as an example of its type. No known communal value.	
Authenticity and Integrity: This farmhouse is still part of a working farmstead and is of historic character; it appears to be in good condition, excepting the inevitable internal modernisations.	
Topographical Location & Landscape Context: Set on a slight ridge between a wide shallow combe to the east and a steeper combe that drops down to a small river valley to the south-west. Located on the upper south-west facing slopes. The landscape context is these valley landforms.	
Setting: Located off a lane and just south of the railway line. The asset stands in a walled garden, north-east of the stone farm building and a large farmyard of modern buildings. The house is completely enclosed by mature trees and hedgebanks on the north side, screening the solar farm from the house. There is a plantation of deciduous trees to the east. Blackpool drying works lies just to the north-east. Another large solar farm abuts the farmstead to the east.	
Principal Views: Views down the valley to the south-west. Some views north-east to the Blackpool china clay tips from the gardens. The modern drying and clay works block all views further north from the asset. Views mostly screened by trees or farm buildings. Views within farmyard are achieved from the rear of the farmhouse. An operational turbine stands directly to the south of this asset.	
Landscape Presence: Limited. Visible along the approach from the east along the road, and the farmstead formed a component within landscape views, but its presence is significantly minimised due to it being enclosed by trees.	
Contribution of Setting to Significance of Asset: Important. The pocket polite landscape within which the farmhouse now stands clearly separates it from its working surroundings, associating it with the phase of later aggrandisement. This is significant as its farmhouse status and setting in relation to the historic and modern yards and its fine gardens reflects both sides of its narrative.	
Sensitivity of Asset: Its lack of outward views means it is not as sensitive to change as it could be. The asset is of rural character and the landscape here has already been distinctly altered. A solar farm directly abuts this asset.	
Magnitude of Effect: Intervisibility with the proposed turbine is not anticipated but glimpses could be gained from the farmyard looking past the house and over the solar farm. Visual links to significant modern impacts already compromise the setting of this asset and views to a distant turbine, amongst others on the skyline, is unlikely to have any appreciable further effect.	
Magnitude of Impact: Medium value + Negligible change = Neutral/Slight effect	
Overall Impact Assessment: **Negligible**	

FIGURE 21: THE VIEW FROM BUNGULLOW FARMHOUSE UP ACROSS THE SOLAR FARM TO THE CLAY-COUNTRY BEYOND; FROM THE SOUTH-WEST.

4.4.2 GENTRY BUILDINGS

Older houses with an element of formal planning; may survive as farmhouses

These structures have much in common with the greater houses but are more usually Grade II Listed structures. There were many more minor landed gentry and thus a great number of minor houses. Not all landed families prospered; for those that did, they built houses with architectural pretensions with elements of formal planning. The sensitivity of those structures to the visual impact of a solar PV park would be commeasurable to those of the great houses, albeit on a more restricted scale. For those families that did not prosper, or those who owned multiple gentry residences, their former gentry seat may survive as farmhouse within a curtilage of later farm buildings. In these instances, traces of former grandeur may be in evidence, as may be elements of landscape planning; however, subsequent developments will often have concealed or removed most of the evidence. Therefore, the sensitivity of these sites to the visual impact of a modern development is less pronounced.

What is important and why

The lesser houses are examples of regional or national architectural trends, as realised through the local vernacular (evidential value); this value can vary with the state of preservation. They were typically built by gentry or prosperous merchants, could stage historically important events, and could be depicted in art and painting; they are typically associated with a range of other ancillary structures and gardens/parks (historical/associational). However, the lesser status of these dwellings means the likelihood of important historical links is much reduced. They are examples of designed structures, often within a designed landscape (aesthetic/design); however, the financial limitation of gentry or merchant families means that design and extent is usually less ambitious than for the great houses. Survival may also be patchy, and smaller dwellings are more vulnerable to piecemeal development or subdivision. The ‘patina of age’ can improve such a dwelling, but usually degrades it, sometimes to the point of destruction. There is limited communal value, unless the modern use extends to a nursing home etc.

Asset Name: **Hembal Manor**	
Parish: St Mewan	*Within the ZTV*: Yes (hub)
Designation: GII	*Value:* Medium
Distance to the turbine: 3.95km	*Condition:* Fair/Good
Listing: House. Mid - late C19, with some later C19 additions and C20 alterations. Slatestone rubble with granite dressings. Slate roof with ridge tiles and gable ends. Gable end and axial stacks with stone shafts. Plan: Asymmetrical double depth plan. The entrance front has a central wing containing the porch, with principal room to front right and left, of equal size; there is another principal room to rear right, and a service wing to rear right, which is returned by a range of outhouses to rear, enclosing a small service courtyard at the left side to the rear. Exterior: The entrance front is 2-storey, a symmetrical front with band course and quoins, 1:1:1 bays with a central gabled wing. All windows are C19 plate-glass sashes. The central wing has 2-light window with round arches and keystones; at first floor a gabled wooden oriel with plate-glass windows and breather above. The right side of the wing has 2-panelled door with overlight. The bay to right has 2- light round-arched window at ground floor and 2-light window with segmental arch and first floor, all with keystones. The bay to left has 3-light round-arched window at ground floor and 3-light window with segmental arch at first floor. The right gable end has a square gabled bay at ground floor with three round-arched lights; 2 segmental-arched lights at first floor and breather above. Set back to right there is a 12-pane sash with sidelights and segmental arch at ground floor, 2-light segmental-arched window at first floor. Set back to right is the lower 2-storey service wing with band course and axial stack. The rear gable end of the wing has 16- pane sash and 4-pane casement at ground floor, C20 window at attic level. The left end of the main range has external stack, the band course continued. C20 12-pane window at first floor to left. To left there is a gable over the service range with C20 porch and C19 12-pane sash at ground floor, late C19 4-pane sash at first floor and 4-pane sash at first floor. At the rear there is a single storey outshut enclosing the service yard with casements and C20 door. The inner side of the service wing has gabled brick porch with inner plank door and two 2-light C19 casements at first floor. The rear of the main range has C20 porch and 2 small gables, the gable to right with C19 16-pane sash. Interior: Not inspected.	
Supplemental Comments: Not accessed; set down a short, wooded driveway off the parish road and standing within wooded grounds.	
Conservation Value: Expected to be of aesthetic interest with inherent evidential value as the interior was not inspected during the Listing. Historical value as an example of its type, and probably associated with a local nouveau riche. No known communal value.	
Authenticity and Integrity: Unknown, appear to remain as a private house.	
Topographical Location & Landscape Context: Located high on a west- and south-facing slope, on the eastern side of a shallow valley. The ground rises to a low summit in the fields immediately to the north-west and falls again to another shallow valley beyond Hembal Lane to the east. The ground drops away to the south, down Hembal Lane to the farming hamlet of Bosithow.	
Setting: Located down a private drive off Hembal Lane, its entrance is framed by stone-faced banks with stone gate piers. It stands within an enclosure formed by mature hedgebanks and plantations of deciduous trees. To the west and north-west is part of the Blackpool drying works; to the west is a large solar farm.	
Principal Views: Views were assessed from Hembal Lane. Views across the fields and to the west to the drying tips, views south and south-west down and across the valley to the fields and to Bosithow. Views are limited from the asset itself by the trees that surround it.	
Landscape Presence: No real landscape presence beyond its enclosure and the surrounding fields.	
Sensitivity of Asset: Outward views are now limited by the screening provided by trees and hedgebanks. The house, built in the 19th century, would have been positioned to take advantage of the views down the valley.	
Contribution of Setting to Significance of Asset: Important. Built as a gentleman's residence, the house would have been carefully located on a new plot of land for views down the valley. The wider setting is now very industrial as active extraction and processing sites have spread down from the adjacent St Austell downs. As the house is dated to the late 1800s, that extractive landscape would already have been in existence, albeit less pronounced. The relevance of its surviving wooded gardens is important as it allows us to understand this as a minor gentry residence, not as an established farm holding.	
Magnitude of Effect: While the proposed turbine would be located on high ground and on the skyline, the screening from the wooded grounds is anticipated to limit the effect on any views. The house is secluded, and key views are south outwards down the valley.	
Magnitude of Impact: Medium value + Negligible change = Neutral/Slight effect	
Overall Impact Assessment: **Negligible**	

4.4.3 LISTED COTTAGES AND STRUCTURES WITHIN HISTORIC SETTLEMENTS

Clusters of Listed Buildings within villages or hamlets; Conservation Areas

The context of the (usually) Grade II Listed buildings within settlement is defined by their setting within the village settlement. Their significance is determined by their architectural features, historical interiors or role/function in relation to the other buildings. The significance of their setting to the experience of these heritage assets is of key importance and for this reason the curtilage of

a property and any small associated buildings or features are often included in the Listing and any changes must be scrutinised under relevant planning law.

Most village settlements have expanded significantly during the 20th century, with rows of cottages and modern houses and bungalows being built around and between the older 'core' Listed structures. The character of the settlement and setting of the heritage assets within it are continually changing and developing, as houses have been built or farm buildings have been converted to residential properties. The setting of these heritage assets within the village are rarely influenced the erection of wind turbines, unless they are located in close proximity to the settlement. The relationships between the houses, church and other Listed structures will not be altered, and it is these relationships that define their context and setting in which they are primarily to be experienced.

The larger settlements and urban centres usually contain a large number of domestic and commercial buildings, only a very small proportion of which may be Listed or protected in any way. The setting of these buildings lies within the townscape, and the significance of these buildings, and the contribution of their setting to that significance, can be linked to the growth and development of the individual town and any associated industries. The original context of any churches may have changed significantly since construction, but it usually remains at the heart of its settlement. Given the clustering of numerous individual buildings, and the local blocking this inevitably provides, a distant turbine will not prove particularly intrusive.

What is important and why

Historic settlements constitute an integral and important part of the historic landscape, whether they are hamlets, villages, towns or cities. The physical remains of previous occupation may survive beneath the ground, and the built environment contains a range of vernacular and national styles (evidential value). Settlements may be archetypal, but development over the course of the 20th century has homogenised most, with streets of terraced and semi-detached houses and bungaloid growths arranged around the medieval core (limited historical/illustrative value). As dynamic communities, there will be multiple historical/associational values relating to individuals, families, occupations, industry, retail etc. in proportion to the size and age of the settlement (historical/associational). Settlements that grew in an organic fashion developed fortuitously into a pleasing urban environment (e.g. Totnes), indistinguishable suburbia, or degenerate urban/industrial wasteland (aesthetic/fortuitous). Some settlements were laid out quickly or subject to the attention of a limited number of patrons or architects (e.g. late 19th century Redruth and the architect James Hicks, or Charlestown and the Rashleigh family), and thus strong elements of design and planning may be evident which contribute in a meaningful way to the experience of the place (aesthetic/design). Component buildings may have strong social value, with multiple public houses, clubs, libraries (communal/social), chapels and churches (communal/spiritual). Individual structures may be commemorative, and whole settlements may become symbolic, although not always in a positive fashion (e.g. Redruth-Camborne-Pool for post-industrial decline) (communal/symbolic). Settlements are complex and heterogeneous built environments filled with meaning and value; however, beyond a certain size threshold distant sight-lines become difficult and local blocking more important.

Asset Name: **Cottage West of Gunheath Farmhouse (farmhouse not included)**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: GII	*Value:* Medium
Distance to the turbine: 1.31km	*Condition:* Poor
Listing: Clay worker's or miner's cottage. Probably early C19 (shown on 1842 tithe map). Granite rubble with granite dressings, rendered at the front; rag slate roof and outbuilt rubble and dressed granite stack at the left-hand end. 1-room plan plus C20 lean-to porch at the front and C20 lean-to on the right. 2 storeys; low 1-window-range front. Late C19 4-pane sash to 1st floor; 4-pane window below; ledged door to porch. INTERIOR not accessible at time of survey. This is a rare surviving example of this type of small industrial worker's dwelling.	

Supplemental Comments: A very small vernacular cottage of rural character, likely earlier than the Listing states and therefore any link with historic china clay workings is likely to be secondary. It stands in rough grassland just west of the small farmstead, framed on all sides by the modern working china clay pits. Boarded and abandoned, it does not look to be in good condition.
Conservation Value: It has high aesthetic value for its granite vernacular appearance and will undoubtedly contain high evidential value, presumed older than the Listing suggests. It may have some local historical significance if it is a rare rural and isolated worker's cottage, set away from the usual roadside settlement pattern. No known communal value.
Authenticity and Integrity: It appears to be authentic in the sense that it has been boarded up and left for many decades, structurally intact; its dereliction and lack of maintenance can only end in the loss of historic fabric.
Topographical Location & Landscape Context: The cottage sits just below the crest of a very shallow south-facing slope, on an east-west alignment, dug back into the rising ground to the north.
Setting: The cottage is located on rough open upland grassland, within the historic and modern china clay district. The large Gunheath pit lies to the south-east. The main Littlejohns site lies immediately to the west, across a narrow road. The building lies within a small area of unmolested land.
Principal Views: There are wide views across the main clay works and pits, to the south, east and west. The ground rises behind the cottage and it is set slightly into the slope.
Landscape Presence: The landscape here is empty of buildings apart from the cottage and Gunheath Farmhouse. The man-made and barren industrial landscape is dominant but the buildings, despite their relatively small size, are more visible as they stand out within the otherwise open upland grassland.
Sensitivity of Asset: The asset is not particularly sensitive, Listed due to rarity and age but views are not a significance consideration. The landscape they were originally associated with has been all but destroyed.
Contribution of Setting to Significance of Asset: Irrelevant. If genuinely associated with the historic china clay workings as a worker's dwelling, the current landscape is of some relevance to the cottage. However, that use is more likely to relate to a subsequent function of the cottage, which survives from a pre-industrial phase.
Magnitude of Effect: The proposed turbine would be located to the south-east, visible between several of the iconic spoil tips and will be visually dominant in views across and from the cottage. The landscape around the cottage has been dramatically altered and there are several visible operational turbines at some distance.
Magnitude of Impact: Medium value + Negligible change = Neutral/Slight effect
Overall Impact Assessment: **Negligible**

FIGURE 22: THE COTTAGE AT GUNHEATH, LOOKING ACROSS TO THE WHEAL MARTYN PIT; FROM THE NORTH-WEST.

Asset Name: **Carthew Mill, Mill Cottage, No.2 and associated assets**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: GII (all individually listed)	*Value:* Medium (High as a group)

Distance to the turbine: c.850m	*Condition:* Fair/Good overall
Description: Mill, now converted to a house, and attached cottages. 1831 for Elizabeth Martin, 1837 datestone with millstone carving and initials I L, probably the date of heightening and remodelling. Granite rubble with some granite dressings; dry slate hipped roof to mill; grouted scantle slate roof to cottage adjoining mill and asbestos slate to other cottage; brick end stacks. Shallow-depth plan; large diameter overshot wheel to left of mill. EXTERIOR: Mill is 3-storeys; cottages are 2 storeys; overall 3:2:3-window range. Mill has casement windows and evidence in masonry of heightening and old alteration; doorway right of centre with C20 stable-type door. Centre cottage has C20 windows and door in original openings. Right-hand cottage has late C19 or C20 16-pane horned sashes and central doorway with C20 door. INTERIOR not inspected.	
Supplemental Comments: A good vernacular building. Once a working mill and workers cottages, it now all appears of more residential character, converted to housing.	
Conservation Value: Historically important to the local area. Aesthetically pleasing, evidential value is expected in all buildings, which were not accessed. No communal value.	
Authenticity and Integrity: Authentic/historic in appearance but with some expected integrity loss from conversion of the mill and modernisation of the houses.	
Topographical Location & Landscape Context: Located in the narrow steep-sided St Austell River valley. With rocky slopes rising up from the buildings, the B3274 frames the buildings to the east. The valley widens and becomes shallower at Carthew, opening up slightly as it curves to the south-west. The landscape context is the river valley.	
Setting: Set in the rocky enclosed river valley of the St Austell River, the mill is within the small settlement of Carthew, primarily of workers cottages. The slopes to the west are heavily wooded, more open to the east with sloping fields. A further row of cottages lies to the north and detached houses stand just to the south. There is considerable group value in the historic stone cottages which line the valley and they are accessed via a stone slab bridge across the river, with narrow continuous gravelled yard to the front.	
Principal Views: Views are achieved up and down the river valley and across between the trees of hedge banks to the fields to the east. More limited views to the west up the slopes, to some cleared garden areas and the dense tree coverage. No views out of the valley context, except views down the valley to the south. Important views between and across the group of buildings.	
Landscape Presence: The buildings, especially the mill, are dominant within this portion of the valley but have no wider landscape presence outside of their immediate setting.	
Sensitivity of Asset: The turbine will not intrude on the setting of these assets. Natural topographical protection is emphasised by the tree coverage to the western slopes of the valley, reducing views other than to the top of the turbine. The turbine is expected to be visible up the valley to the north and will tower over the area generally. There would be no direct inter-visibility with the proposed turbine but views down the valley, looking towards Wheal Martyn, would include the turbine and the mill and the rest of Carthew settlement. At this proximity, the turbine will dominate the southern visual element of the valley. The cultural value of the group would not be affected by a change in views.	
Contribution of Setting to Significance of Asset: The specific functional nature and industrial heritage of the building makes it less sensitive to change, as it is the internal fixtures of the building that are of importance. The significant modern impacts within its immediate setting have already affected the value of this building.	
Magnitude of Effect: The wind turbine would be relatively close, although partly screened by the hill and tips between. It would stand within all views south, east and south-east.	
Magnitude of Impact: Medium value + Negligible = Neutral/Slight effect	
Overall Impact Assessment: Negligible	

FIGURE 23: VIEW TOWARDS THE BARN AT LAVREAN FARM, INDICATED.

Asset Name: **Barn east of Lavrean Farm**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: GII	*Value:* Medium
Distance to the turbine: 4.45km	*Condition:* Unknown
Description: Threshing barn, remodelled from possible farmhouse. Probably Medieval or C16 in origin from which the ground floor of the rear wall, the right-hand end, and the lower part of the front wall survives, otherwise rebuilt as a barn c1800 and the left-hand end rebuilt mid-late C19. Granite rubble with granite dressings including some C17 or earlier dressed granite fragments; rag slate roof. Rectangular plan with parts of the walls about a metre thick, built against a bank on the right; threshing floor towards right and loading doorway from bank at right-hand end. EXTERIOR: 2 storeys; 1 window to left of 1st floor and ventilator on right. Ground floor has doorway on the left and 4 irregularly disposed ventilator openings. Rear has 2 doorways, the central doorway cut through later, and small opening right of doorway spanned by a near round-arched dressed C17 or earlier fragment. INTERIOR has old floor structure and c1800 roof structure with pegged collar trusses except where replaced at the right-hand end when this was rebuilt. There are 2 upright pieces of granite set into the rear wall towards right which may be the jambs of a former fireplace, now blocked with rubble.	
Supplemental Comments: Unknown, the farmstead is set up a steep drive. The farm looks to still be of working rural character.	
Conservation Value: No known communal value.	
Authenticity and Integrity: The farmstead appears to be a working farm business and authentic. The barn could not be inspected for condition or integrity.	
Topographical Location & Landscape Context: The farm sits on a ridge north of the valley which contains Bugle settlement. Below, to the south, runs the railway line. The context is the small pocket of working green agricultural land which surrounds the farm.	
Setting: The farm sits in a block of agricultural land which survives between Bowling Green, Bugle and Bodwen. It is located away from the road, ring fenced by its land, framed by green fields with mature hedges.	
Principal Views: The farmstead itself is likely screened by trees and its buildings from views but generally there are wide views south and south-west.	
Landscape Presence: The barn has no wider landscape presence.	
Sensitivity of Asset: The barn is Listed primarily for the survival of stonework elements from an earlier building and as an example of a vernacular building in a specific local style. Its environment has changed over the course of the 18th-21st centuries, through the development of the china clay works, and it relates to a relict farming landscape. Local screening from trees and other farm buildings insulates the barn from outward views within its immediate setting but it will stand in wider views with the turbine on the skyline to the south, amongst other turbines. The cultural value of the asset as part of a historic farmstead would not be affected.	

Contribution of Setting to Significance of Asset: Incidental. The barn was constructed within a working agricultural landscape which is now relict and largely swept away, fragmentary at best. The barn now sits within a landscape of historic china clay tips. Its immediate setting and the other farm buildings and even the farmhouse are important and allows for the correct interpretation of this older asset in a much-changed setting.
Magnitude of Effect: Although technically visible, the trees and other farm buildings would insulate the asset from outward views to a greater extent, although there is a chance of some views across the valley towards the turbine and in wider views from behind Lavrean. It stands on a ridge with a skyline of sky tips behind and the dynamic profile of turning blades of turbines.
Magnitude of Impact: Medium value + Negligible = Neutral/Slight effect
Overall Impact Assessment: Negligible

4.4.4 CHURCHES AND PRE-REFORMATION CHAPELS

Church of England parish churches and chapels; current and former places of worship

Most parish churches tend to be associated with a settlement (village or hamlet), and therefore their immediate context lies within the setting of the village (see elsewhere). Church buildings are usually Grade II* or Grade I Listed structures, on the basis they are often the only surviving medieval buildings in a parish, and their nature places of religious worship.

In more recent centuries the church building and associated structures functioned as *the* focus for religious devotion in a parish. At the same time, they were also theatres of social interaction, where parishioners of differing social backgrounds came together and renegotiated their social contract.

In terms of setting, most churches are still surrounded by their churchtowns. Viewed within the context of the settlement itself, churches are unlikely to be affected by the construction of a wind turbine unless it is to be located in close proximity. The location of the church within its settlement, and its relationship with these buildings, would remain unchanged: the church often being the visual focus on the main village street.

This is not the case for the church tower. While these structures are rarely open to the public, in rural communities they are frequently the most prominent visual feature in the landscape, especially where the church is itself located in a topographically prominent location. The towers of these structures were clearly *meant* to be highly visible, ostentatious reminders of the presence of the established church with its message of religious dominance/assurance. However, churches were often built and largely maintained by their laity, and as such were a focus for the *local* expression of religious devotion. It was this local devotion that led to the adornment of their interiors and the elaboration of their exteriors, including the tower.

As the parishes in Devon and Cornwall can be relatively small (certainly in comparison with the multi-township parishes of northern Britain) the tower would be visible to the residents of multiple parishes. This would have been a clear expression of the religious devotion – or rather, the competitive piety – of a particular social group. This competitive piety that led to the building of these towers had a very local focus, and very much reflected the aspirations of the local gentry. If the proposed turbine is located within the landscape in such a way to interrupt line-of-sight between towers, or compete with the tower from certain vantages, then it would very definitely impact on the setting of these monuments.

As the guidance on setting makes clear, views from or to the tower are less important than the contribution of the setting to the significance of the heritage asset itself. The higher assessment for the tower addresses the concern it will be affected by a new and intrusive vertical element in this landscape. However, if the turbine is located at some distance from the church tower, it will only compete for attention on the skyline from certain angles and locations.

Churchyards often contained Listed gravestones or box tombs, and associated yard walls and lychgates are usually also Listed. The setting of all of these assets is usually extremely local in character, and local blocking, whether from the body of the church, church walls, shrubs and trees, and/or other buildings, always plays an important role. As such, the construction of a wind turbine is unlikely to have a negative impact.

What is important and why

Churches are often the only substantial medieval buildings in a parish, and reflect local aspirations, prosperity, local and regional architectural trends; they usually stand within graveyards, and these may have pre-Christian origins (evidential value). They are highly visible structures, identified with particular geographical areas and settlements, and can be viewed as a quintessential part of the English landscape (historical/illustrative). They can be associated with notable local families, usually survive as places of worship, and are sometimes the subject of paintings. Comprehensive restoration in the later 19th century means many local medieval churches are associated with notable ecclesiastical architects (historical/associational). They are often attractive buildings that straddle the distinction between holistic design and piecemeal/incremental development, all overlain and blurred with the 'patina of age' (aesthetic/design and aesthetic/fortuitous). They have great communal value, perhaps more in the past than in the present day, with strong commemorative, symbolic, spiritual and social value. In general terms, the evidential, historical and communal value of a church would not be particularly affected by individual wind turbine developments; however, the aesthetic of the tower and its role as a visible symbol of Christian worship in the landscape/soundscape could be.

Asset Name: **Church of St Peter**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: GII	*Value:* Medium
Distance to the turbine: 1.82km	*Condition:* Fair
Listing: Anglican church. 1848-50 by G E Street. Local rubble with Pentewan stone dressings; steep rag slate roofs; bellcote over W gable. STYLE: Middle Pointed. PLAN: nave, lower chancel, baptistry at Wend, S porch and small N vestry transept. EXTERIOR: buttresses dividing 3:2 bays to nave and chancel; 2-light cusped and traceried windows except for 3-light E window and square-headed single-light and 2-light windows to flat-roofed baptistry with canted corners. Porch has quatrefoil over moulded 2-centred arched doorway with C20 copy planked doors; another pointed doorway to vestry. Old chamfered granite wheelhead cross on moulded base under E window. INTERIOR: not inspected but described in Pevsner as having a great barn-like roof; memorial windows to Gill. A very early work by Street, which like St Mary at Par (qv) again expresses the simplicity of design characteristic of the early Ecclesiological movement.	
Supplemental Comments: A small gothic church in wooded churchyard. Forms part of a group of community institutions, with the village hall opposite and the school adjacent to the east.	
Conservation Value: Low evidential value as a single phase and late build, although the interior was not inspected, so may have some good fittings. High aesthetic value, decorative gothic design. High communal value as the parish church. Some limited historical value as designed/built by architect G.E. Street.	
Authenticity and Integrity: Very authentic as a Victorian church and in active use. Appears to be well maintained and in good condition.	
Topographical Location & Landscape Context: Located on a gentle north-facing slope.	
Setting: The church is located within a small churchtown settlement, within a formalised sub-square enclosure lined by mature trees and stone-faced banks. A small village hall stands on higher ground across the road to the south-west. The former school, a 19th century stone building, stands to the east and other houses lie to the south across the road.	
Principal Views: Views are quite enclosed due to the strong churchyard boundary, restricted by the trees even in winter. There are glimpses to the school and village hall and some views north to the lower ground.	
Landscape Presence: The church has no landscape presence outside of its immediate setting.	
Sensitivity of Asset: The asset has no dominant visual element such as a church tower which could be challenged by the proposed turbine. The church has no real recourse to wide views, being very enclosed within its own yard. It is significantly less sensitive to change in the landscape than other ecclesiastical buildings.	
Contribution of Setting to Significance of Asset: Incidental. One of several community buildings, with village hall and school, that form a cohesive group. The date and overarching aesthetic speak of a boom period for the settlement, connected to the china clay works and mining. The strong boundary of stone walls and thickly planted mature trees provide near comprehensive screening to the church.	

Magnitude of Effect: Some limited views to the proposed turbine might be possible but there is significant screening. Views across the landscape which include both the church and the turbine looking south from Bugle would be possible, but the church would be a highly recessive feature in those views.
Magnitude of Impact: Medium value + Negligible change = Neutral/Slight effect
Overall Impact Assessment: **Negligible**

FIGURE 24: THE CHURCH OF ST PETER; FROM THE SOUTH-EAST.

Asset Name: **Church of St Gomonda**	
Parish: Roche	*Within the ZTV*: Yes
Designation: GII*	*Value:* High
Distance to the turbine: 4.16km	*Condition:* Fair/Good
Description: Parish church. C14, largely rebuilt mid C15; in 1822 substantially altered for the Rev. Thomas Fisher, later alterations, probably to the south porch, and restoration of 1890 by J. D. Sedding. Tower in squared granite, granite rubble, with granite dressings. Polyphant arcade. Slate roofs with ridge coping tiles, raised coped verges to the north transept. Plan West tower, nave and south aisle, north transept, chancel and south porch. The north transept is said to be on Norman foundations, largely rebuilt in the C14. The tower is of C15. In 1822, the nave, chancel and south aisle were rebuilt, the south arcade removed and the east front formed as one gable end. At some time after this, the south porch was probably rebuilt. In 1890, J.D. Sedding carried out a restoration, which re-instated the arcade between the south aisle and the nave, and renewed the roofs. There was a further proposal in 1900 for a vestry, which was not built, only the doorway through the east wall of the transept. Perpendicular style. 3-stage tower on moulded plinth, with set-back weathered buttresses rising to embattled parapet with polygonal corners, each supported by a carved figure or mask; no pinnacles. String courses to each stage. The west doorway has a 4-centred arch with roll-mouldings and recessed spandrels, square head with hood mould and square stops; plain C19 door. 4-light C15 Perpendicular window above, with Y tracery and cusped lights, hood mould and relieving arch. The top stage has 3-light bell-opening to each side, with 4-centred arch, cusped lights and upper tracery, slate louvres and hood mould. Clock at 2nd stage to east and north. 3-bay nave without plinth, has 2 north windows of 1822, with 4-centred arch an intersecting tracery. The north transept is of a single bay with gable end to north with cross finial, one similar early C19 window in north gable end stair descending to cellar to west, to a 4-centred arched doorway hollow-chamfered, with studded door. C19 east doorway with pointed arch. The south aisle is of 6 bays, with raised coped verges and cross finial. Windows of 1822, with intersecting tracery, porch in 2nd bay from west. The east gable end has a window of 1890, a copy of the tower west window, of 4-lights, with cusped lights and Y tracery, with hood mould. Gabled south porch has raised coped verges and cross finial, on plinth. 4-centred arched outer doorway, chamfered, with cast iron gates with diamond finials. Inner doorway is a tall 4-centred arch with roll-moulding and hood mould, much rebuilt, with C19 studded double doors. Granite floor and C19 arched-brace roof. The chancel has large east window of 1890, as at east end of aisle, of 6 lights, with cusped lights, Y tracery and hood mould with angel stops. Cross finial.	

Interior Tall 4-centred arch to tower; tower has north west door to stair, hollow- chamfered, with C19 studded door. Stone newel stair. The tower arch has triple shafts to sides with a concave moulding between each shaft, 3 orders of mouldings to arch, convex and concave. Nave and chancel in one, with wagon roof of 1890, ceiled over the chancel; similar roof to south aisle. The south arcade is of 6 bays, in polyhant, with standard A-type piers and lightly Tudor arched heads. Plain 4-centred chamfered arch to north transept, and at upper level to the east of the arch, the rood stair door, hollow-chamfered, with 4-centred arch and step stops. 2 steps remain at upper level on the north transept side. North transept also has C19 roof. Fittings: Fine late C12 Bodmin-type font in south aisle, in Pentewan stone; a large bowl on central stem with 4 corner shafts with bases. The shafts end in carved angels' heads, much restored and With one angel replaced. The bowl has interlaced snakes under chevron rim. In the nave, a pulpit, probably by Sedding, in Polyphant, on plinth with flight of steps. Royal arms over the south door, oil on canvas, probably circa 1800. Slate monument in the north transept, with incised nowy head, central cherub's head with wings, crossed bones to left and skull to right. Latin inscription and English verses, to Richard Treweeke, rector of the parish, 1732. The dedication is also referred to as St Gonandus, or St Gomond.
Supplemental Comments: A very fine medieval church with tall tower located within a walled churchyard but at a busy road junction, so there is considerable aural intrusion. Open on the east side to the road and modernised village, more enclosed to the west side with trees and historic cottages. The setting to one side being very authentic, the other much more modern with more obviously intrusive modern elements. The church feels caught between the modern world and its heritage, somewhat adrift from its wider setting. The village hall, social club and sports fields have complicated the important views between the church and Roche Rock and its hermitage chapel; these buildings would have been linked in the historic landscape.
Conservation Value: High aesthetic value, decorated medieval church; high evidential value, with evidence of ancient origins and churchyard high cross. High communal value as parish church; local historical value to the community and as an ancient ecclesiastical site.
Authenticity and Integrity: Very authentic as a working parish church. Looks well maintained and largely unaltered since its last Victorian restoration.
Topographical Location & Landscape Context: The village is located on a high, slightly undulating plateau, which runs out to Victoria to the north, rising south of the village to Roche Rock, then again to the Carbis Common, now a china clay works. The village therefore lies on a slight north- and east-facing slope, the ground rising to a low summit just north-west and south of the village. The landscape context of the asset is this wide undulating plateau and the north-facing slopes of Carbis Common.
Setting: Located in the small village of Roche within a walled churchyard. The church stands in a small churchtown with the stone school building to the east, both buildings lie to the south of the modern settlement. The churchyard is very wooded to the south and west, more open to the north and east. Houses and gardens lie to the north and south, the road to the east and fields to the west.
Principal Views: The main views are to the village to the north, to the east across the road to the school and south-east to Roche Rock and the Grade I Listed Chapel. Views to the south and west are very much restricted by the deciduous trees along the boundaries in these directions and scattered within the churchyard.
Landscape Presence: This is a highly visible asset, both within the village and further afield. However, it retains only a local landscape presence, as its tower is subservient to Roche Rock and the clay tips behind.
Sensitivity of Asset: The body of the church and the churchyard are quite enclosed, especially to the south and west, but it is open to the east and south-east facing the road. There are views directly up onto clay country from the churchyard. The tower has wide views over the fields and surrounding landscape; it was intended to be a feature visible on a landscape level, but it has been subsumed by the modern settlement.
Contribution of Setting to Significance of Asset: Important. The enclosed part of the churchyard, which is bounded by mature trees, facilitates the experience of this structure as a rural village church. To the east, the edge of the modern settlement with its busy roads and intrusive road furniture, detracts from the experience of the church.
Magnitude of Effect: It is anticipated that the Gunheath tips will screen most views but the blades may be visible, amongst other turbines on the skyline amongst the clay-country downs. The effect of the turbine is unlikely to be pronounced, but there would be a small cumulative effect on the wider setting.
Magnitude of Impact: High value + Negligible Change = Slight effect
Overall Impact Assessment: **Negligible**

FIGURE 25: THE CHURCH OF ST GOMONDA IN ROCHE; FROM THE SOUTH-EAST.

4.4.5 INDUSTRIAL BUILDINGS AND INFRASTRUCTURE

A range of industrial and extractive structures, often exhibiting elements of formal planning, rarely with a view to aesthetics

A whole range of structures relating to a whole range of industries falls under this broad category, and include ruined, standing and functioning buildings. This might include: bridges, canals, capstans, clay-drying facilities, engine houses, fish cellars, gunpowder mills, railways, warehouses and so forth. However, in most instances industrial buildings were not built with aesthetics in mind, despite the elements of formal planning that would often be present. The sensitivity of these structures to the visual intrusion of a wind turbine depends on type, age and location.

It is usually the abandoned and ruined structures, now overgrown and 'wild', that are most sensitive to intrusive new visual elements; in particular, wind turbines would compete for attention with the taller ruined structures (engine houses with chimneys, pit heads). The impact on these buildings could be significant. Where they occur in clusters – as they often do – the impact of an isolated wind turbine is lessened, but the group value of the heritage asset is enhanced.

What is important and why

This is a very heterogeneous group, though all buildings and associated structures retain some evidential value, which ranges with the degree of preservation. Some structures are iconic (e.g. Luxulyan viaduct) and quite often others are, due to the rapid intensification of industry in the 18th and 19th centuries, innovative in both design and application (historical/illustrative). Some may survive as working examples – in which case the associational value is maintained – but many are ruinous or converted (historical/associational). All were designed, and many conform to a particular template (e.g. engine houses) although incremental development through use-life and subsequent decrepitude may conceal this. Fortuitous development may then lead to ruinous or deserted structures or building complexes taking on the air of a romantic ruin (e.g. Kennall Vale gunpowder

works), imagery quite at odds with the bustle and industry of their former function. Some of the more spectacular or well-preserved structures may become symbolic (e.g. South Crofty Mine), but communal value tends to be low, especially where public access is not possible.

Asset Name: **Part of the china clay works at Wheal Martyn**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: SAM (in two parts)	*Value:* High
Distance to the turbine: 883m	*Condition:* Excellent
SAM Text: The monument, which falls into two areas of protection, includes part of a china clay works situated in the Ruddle Valley by the St Austell River at Carthew. The surviving clay works includes a water engine for pumping slurry from the clay pits by vertical rods and a balance bob connected to a working over-shot water wheel, a second waterwheel which worked flat rods to the clay pit, an engine house, a series of mica and sand drags, settling tanks, the blueing house, workers shelter or crib hut, the linhay or drying area and the coal fired furnace. Most of the structures are complete and the machinery in working order and form the core of exhibits in a museum. Further remains to the south including three oval settling tanks survive but are not on display. The Wheal Martyn works were established in the 1820's by Elias Martyn and were one of the major producers of china clay until his death in 1872. After a period of partial closure, the works were re-opened by John Lovering who developed the works and introduced new techniques to maximise production. In 1931 the clay pit closed following a slump in demand but the dry remained in use working lower grade clay from other pits in the area and finally closed in 1966. By 1971 the works were again operational and by 1975 much of the processing facilities were opened to the public as a museum. The surviving equipment generally dates to the period when Lovering took over production.	
Supplemental Comments: Well conserved buildings, now a museum environment with car parks and signage etc.	
Conservation Value: Aesthetically pleasing heritage museum buildings, restored and, to an extent, repurposed, but built for functionality. High evidential value generally onsite. Local historical importance. High communal value for the growth of the settlements of the region and the mining industry, and also as a museum and current employer and community hub.	
Authenticity and Integrity: The site is well maintained, and most of the buildings are in good order. As a museum it will have lost its authenticity as a functional working site.	
Topographical Location & Landscape Context: The monuments lie within a narrow valley. Where a narrow combe drops down to the St Austell River the valley widens out and the buildings occupy the gently sloping west banks of the river. The ground rises steeply behind the buildings to the west and north-west.	
Setting: The buildings stand in the Ruddle valley within the larger St Austell River valley, just south of Carthew. Most of the structures are complete and the machinery in working order and form the core of exhibits in a museum and country park. The surrounding slopes are wooded/scrubby and include vegetated tips.	
Principal Views: Views are down the valley from Ruddle to St Austell and up and down the main river valley. There are some more open views to the south and south-west from the lower southern part of the site, but the area occupied by the building is quite enclosed and there are many scattered deciduous trees which further screen views between buildings and across the site.	
Landscape Presence: Within the valley, in its immediate setting, the clay works is wholly dominant, especially the former engine house and chimney. The assets have no wider landscape presence.	
Sensitivity of Asset: The assets are retained within an operational china clay-working landscape. This is a modern, evolving, but appropriate setting for these historic assets. These former works are a group of exceptional value. The creation of a country park around them may be considered to change their intended setting from industrial to aesthetically 'enhanced'. This is technically and historically inappropriate, but it allows the building to survive and remain the focus of the valley and not be subsumed by a modern development. It also emphasises the communal value of the local heritage and allows it to be accessed by the local population and wider public alike.	
Contribution of Setting to Significance of Asset: Incidental. The complex lies on the edge of a working extractive landscapes (which is part of the visitor attraction) but the tips/quarries around the museum are now reverting to nature, with trees and scrub reclaiming the former workings. This divorces the structures from their original context but adds the patina of age to what could be a more romantic ruin. The latter is, however, at odds with its status as a maintained visitor attraction, with the associated use of materials, signage, car parking etc. The latter detracts from the former realities of the site.	
Magnitude of Effect: The turbine will stand on the downs immediately to the west of the clay pits standing south of the already visible Gunheath turbine. The industrial assets at Wheal Martyn are part of an ongoing process of resource extraction across the landscape, the wind energy features are part of a cultural continuation.	
Magnitude of Impact: High value + Negligible change = Negligible/slight effect.	
Overall Impact Assessment: **Neutral**	

FIGURE 26: THE WHEAL MARTYN HISTORIC CLAY-WORKS AND CARTHEW COTTAGE; FROM THE SOUTH-EAST.

FIGURE 27: VISUALISATION BY CLEAN EARTH ENERGY LTD, SHOWING THE POTENTIAL VISUAL IMPACT OF THE TURBINE ON WHEAL MARTYN.

Asset Name: **Goonvean China Clay Works, Engine House, Boiler Room, Chimney; Engine House with Detached Chimney at SE950502**	
Parish: St Stephen-in-Brannel	*Within the ZTV*: Yes (hub)
Designation: GII*	*Value:* High
Distance to the turbine: 3.3-3.4km	*Condition:* Unknown – on private clay works site
Listing: Engine house with detached chimney; housing a pumping engine. Dated 1910. Granite rubble with brick dressings. Slate roof with crested ridge tiles and gable ends. Chimney in granite rubble with stone dressings. Plan: Rectangular plan pumping engine house with detached chimney about 10 metres to east. Formerly used for pumping the china clay pits. Exterior: The engine house is 3-storey, with symmetrical front gable end to east; central plank door with sidelights and round-arched fanlight with radial glazing bars and four courses of brickwork round the arch, datestone set as a keystone. First and second floors have central round-arched 12-pane sash with brick arches. Later additions at the left sides. The right side has similar round-arched sash at first floor, ground floor window blocked. The left side has a large lean-to which is the boiler-house and similar sash at second floor. At the rear, there is a doorway at upper ground floor level with round brick arch and keystone, 4-panelled door, formerly leading to a platform. Rectangular bob opening above, weatherboarded at the top of the gable, and with cast iron beam housing. The chimney is of circular plan, tapered, with a bull-nose moulding at the top as a cornice. Interior: The beam engine survives inside. It was built in the 1860s by Harveys of Hayle and originally situated in an engine house in St Agnes. The engine was moved here from Goon Innis mine, St Agnes in 1910. The existing beam was cast in 1928 to replace one that broke. The new (1928) beam was cast by Holmans of Cambourne and it is reputedly the last in the world to be cast. The boilers have been removed. Only 6 Cornish beam engines survive and a few more exist outside the country. This is a rare early example. Engine house with detached chimney. Circa late C19. Granite rubble and brick. Roofless. Plan: Rectangular plan engine house with the front gable end to north and the bob wall at the south gable end. The chimney is detached, about 20 metres to north west. Exterior: The engine house is 3-storey; the front gable end wall has doorway at ground floor and window opening at first and second floors. Bob opening at the rear. The chimney is of circular plan, tapered, with the top section in brick, with cornice at the base of the brickwork.	
Supplemental Comments: Public access was not possible; the buildings are located on private land and a working china clay site. Aerial photographs indicate they lie within regenerating scrub close to a haul road, with some active use for low-intensity dumping.	
Conservation Value: Expected high evidential value and general historical value as part of the china clay industry. Limited aesthetic value as examples of industrial buildings. No known communal value.	
Authenticity and Integrity: Integrity may have been affected by continuation on a working site, together with a lack of maintenance, but they lie within an authentic setting and are likely to survive in authentic (redundant) condition.	
Topographical Location & Landscape Context: Set on the middle slopes of a former high down and immediately to the east of a large redundant china clay pit. The natural topography has been completely altered here, forming a lunar landscape of peaks and troughs of tips and quarries.	
Setting: Located on a working china clay works, within an active industrial landscape. They have been incorporated into the wider modern china clay works.	
Principal Views: Access was not possible, but views to and from the structures from across the china clay pit to the west would be possible.	
Landscape Presence: In another context either structure could have a wider landscape presence; here, on the edge of a massive quarry, the scale of the man-made features dwarfs these buildings.	
Sensitivity of Asset: Low. These are industrial buildings within an evolving and regenerating industrial wasteland.	
Contribution of Setting to Significance of Asset: Incidental. The assets are located close to a quarry because of the china clay extractive industry. While they may acquire a post-industrial patina of age, they are functional buildings within a highly modified landscape.	
Magnitude of Effect: The proposed turbine would be located beyond the Blackpool bench tip and the wooded and/or scrubby tips immediately to the east of the assets. Intervisibility is not anticipated.	
Magnitude of Impact: Medium value + No Change = Neutral effect	
Overall Impact Assessment: **Neutral**	

FIGURE 28: VIEW TOWARDS BILBERRY PIT KILN CHIMNEY, INDICATED; FROM THE WEST.

Asset Name: **Bilberry Pit Kiln Chimney**	
Parish: Bugle	*Within the ZTV*: Yes
Designation: GII	*Value:* Medium
Distance to the turbine: 4.3km	*Condition:* Unknown – on private land
Listing: Kiln chimney from china clay dry. Late C19. Granite rubble and brick. Circular plan chimney about 4 metres diameter at base. Tapered circular chimney, in granite at lower stage with cast iron banding, lower collar in brick upper stage with cornice. The rest of the dry no longer exists.	
Supplemental Comments: Public access was not possible; the building is located on private land, the industrial site now converted into a dwelling. Its condition from a distance looks good/well maintained.	
Conservation Value: Expected high evidential value and general historical value as part of the local industrial landscape. Limited aesthetic value as examples of industrial buildings. No known communal value.	
Authenticity and Integrity: Integrity may have been affected by sites overall conversion to a dwelling, for example the rest of the clay dry no longer exists but the chimney itself is expected to have been left intact. It now lies within a relict part of the industrial landscape. Authentic (redundant) condition.	
Topographical Location & Landscape Context: Located on undulating ground on a south-west very shallow slope above a shallow valley and the settlement of Bugle. The landscape context is the relict industrial landscape.	
Setting: Located on a wooded and overgrown site, behind other industrial building converted into a dwelling with landscaped gardens. The wider area is now residential the industrial landscape of relict character.	
Principal Views: Access was not possible, but views to and from the structure from across the china clay relict working landscape to the west, south-west and south to the working china clay landscape would be possible.	
Landscape Presence: In another context the structure could have a wider landscape presence; here, in a complex redeveloped residential landscape, it is certainly prominent but set away from the road and somewhat screened by trees. It is slowly becoming more recessive with time.	
Sensitivity of Asset: Low. This is an industrial building within an evolving and regenerating industrial and mixed character landscape.	
Contribution of Setting to Significance of Asset: Incidental. While they may acquire a post-industrial patina of age, they are functional buildings within a highly modified landscape.	
Magnitude of Effect: The proposed turbine would be located beyond the Gunheath turbine within a landscape of extant turbines. Inter-visibility may be possible but at a distance and across a radically altered landscape.	
Magnitude of Impact: Medium value + Negligible/slight = Neutral effect	
Overall Impact Assessment: **Neutral**	

4.4.6 PREHISTORIC RITUAL/FUNERARY MONUMENTS

Stone circles, stone rows, barrows and barrow cemeteries

These monuments undoubtedly played an important role in the social and religious life of past societies, and it is clear they were constructed in locations invested with considerable religious/ritual significance. In most instances, these locations were also visually prominent, or else referred to prominent visual actors, e.g. hilltops, tors, sea stacks, rivers, or other visually prominent monuments. The importance of intervisibility between barrows, for instance, is a noted phenomenon. As such, these classes of monument are unusually sensitive to intrusive and/or disruptive modern elements within the landscape. This is based on the presumption these monuments were built in a largely open landscape with clear lines of sight; in many cases these monuments are now to be found within enclosed farmland, and in varying condition. Sensitivity to turbines is lessened where tall hedgebanks restrict line-of-sight.

What is important and why

Prehistoric ritual sites preserve information on the spiritual beliefs of early peoples, and archaeological data relating to construction and use (evidential). The better examples may bear names and have folkloric aspects (historical/illustrative) and others have been discussed and illustrated in historical and antiquarian works since the medieval period (historical/associational). It is clear they would have possessed design value, although our ability to discern that value is limited; they often survive within landscape palimpsests and subject to the 'patina of age', so that fortuitous development is more appropriate. They almost certainly once possessed considerable communal value, but in the modern age their symbolic and spiritual significance is imagined or attributed rather than authentic. Nonetheless, the location of these sites in the historic landscape has a strong bearing on the overall contribution of setting to significance: those sites located in 'wild' or 'untouched' places – even if those qualities are relatively recent – have a stronger spiritual resonance and illustrative value than those located within enclosed farmland or forestry plantations.

Asset Name: **Longstone on Longstone Down**	
Parish: St Mewan/St Stephen-in-Brannel	*Within the ZTV*: Yes (hub)
Designation: SAM	*Value:* High
Distance to the turbine: 2km	*Condition:* Destroyed
Description: The site of a former standing stone, set high on Longstone Downs; the stone was removed in the 1970s prior to the expansion of the clay pit.	
Supplemental Comments: No longer *in situ*, removed for clay workings.	
Conservation Value: The ground around the stone would have held high evidential value.	
Authenticity and Integrity: No longer *in situ*, destroyed/removed.	
Topographical Location & Landscape Context: The stone stood on a north-facing slope; the site has now been completed transformed by china clay extraction and spoil tips.	
Setting: The setting is now completely altered, within the large clay works, surrounded by clay pits and the large conical tips.	
Principal Views: There are wide views north across the Littlejohns clay works.	
Landscape Presence: The monument no longer exists.	
Sensitivity of Asset: The asset would have been sensitive to landscape change, but it no longer exists.	
Contribution of Setting to Significance of Asset: No longer applicable.	
Magnitude of Effect: The site has already been destroyed.	
Magnitude of Impact: High value + No Change = Neutral effect	
Overall Impact Assessment: **Neutral**	

Asset Name: **Platform Cairn 180m NW of Hensbarrow Farm**	
Parish: Roche	*Within the ZTV*: Yes
Designation: SAM	*Value:* High
Distance to the turbine: 1.5km	*Condition:* Good
SAM Text: The monument includes a platform cairn, situated on the upper south west facing slopes of Hensbarrow Beacon, and between the extensive china clay works of Goonbarrow, Gunheath and Littlejohn's. The cairn survives as a low, flat-	

topped circular platform of stones and earth measuring approximately 22m in diameter with a peripheral rim bank on the platform of up to 0.5m high and 1.5m wide. There are three early excavation hollows in the centre, east and west of varying size. The cairn was first described by R Thomas in around 1850.
Supplemental Comments: The monument could not be located. Rough ground and bunds associated with a haul road obscured the terrain.
Conservation Value: A surviving monument of this type will have high evidential value and moderate historical value. No communal or aesthetic value.
Authenticity and Integrity: The monument is likely to be/have been an authentic example of Bronze Age burial practice, albeit one compromised by the modern and 19th century extractive industry. Its current integrity cannot be determined.
Topographical Location & Landscape Context: The monument stands/stood on a patch of formerly unenclosed land, once a hilltop, now almost surrounded by a working china clay landscape.
Setting: An open exposed hilltop, covered with scrubby vegetation, now criss-crossed with white china clay haul roads. A low bench tip to the north, settling tanks to the west, compound to the south, and a radio mast and associated structures to the south-east.
Principal Views: Extensive landscape views were clearly intended but these are now restricted and transformed by the china clay works. The feature itself is dwarfed and dominated by the china clay infrastructure, if it survives at all.
Landscape Presence: None. The monument has no wider landscape presence and is no longer visible.
Sensitivity of Asset: This asset would have been sensitive to change within its visual environment, but the impact of the china clay industry has utterly transformed its immediate and wider landscape.
Contribution of Setting to Significance of Asset: Paramount, but its immediate setting is so changed as to render that meaningless.
Magnitude of Effect: The extent and proximity of modern impacts within the immediate setting of this monument are so pronounced, and on such a massive scale, that even the kinetic visual impact of the proposed turbine can have little further effect.
Magnitude of Impact: High value + Negligible change = Slight
Overall Impact Assessment: **Negligible**

Asset Name: **Round cairn with beacon called Hensbarrow**	
Parish: Treverbyn	*Within the ZTV*: Yes
Designation: SAM	*Value:* High
Distance to the turbine: 1.79km	*Condition:* Good
SAM Text: The monument includes a round cairn, later re-used as a beacon, situated at the summit of an extremely prominent hill known as Hensbarrow Beacon. The cairn survives as a circular stony mound with a bell-shaped profile of up to 45m in diameter and 5.4m high. Known locally as 'Hainsborough' or 'Hensborough' and documented in 1310 as 'Hynesbergh', it was described by Carew in the 16th - 17th centuries as the site of the 'arch-beacon' of Cornwall, commanding an extensive view. A triangulation pillar and parish boundary marker stone have been built into the summit.	
Supplemental Comments: Large stony mound surmounted by a painted triangulation pillar. Accessed via a footpath through semi-enclosed fenced grazing on restored parts of the china clay landscape.	
Conservation Value: Evidential value will still be high, aesthetic value is limited but it is instantly recognisable as a cairn. No communal value. High historical value as a beacon and with medieval documentation of its reuse as such.	
Authenticity and Integrity: Very authentic as a beacon and recognisable as an ancient cairn, reused in the landscape. It still stands in a fairly open setting despite the china clay tips. It appears in good condition and is a large example of its type. There are no obvious signs of antiquarian excavation.	
Topographical Location & Landscape Context: The monument is located on the summit of Hensbarrow, formerly a prominent hill, rising up within the granitic uplands. The cairn is located slightly to the north of the summit, on level ground. The landscape context of the monument is the high downs, which also includes the adjacent china clay works and tips.	
Setting: Located within semi-enclosed rough upland grassland, on restored ground now used for grazing. A large bench tip wraps around the site to the north-east, east and south-east. Another tip is located *c.*500m to the west.	
Principal Views: There would have been 360° views across the granitic uplands; views north towards Roche survive, but views to the east are blocked by a bench tip, and views to the west overlook a vast extractive landscape.	
Landscape Presence: The monument is visible on the summit of the hill but is dwarfed by the adjacent spoil tip; it has no wider landscape presence.	
Sensitivity of Asset: The asset is technically sensitive to changes in its views and any landscape changes that affect its landscape presence and visibility. However, the significant effects of 19th/20th century and ongoing china clay extraction have already affected the setting and landscape context to such an extent the sensitivity is almost negated to further changes. The intervening tips are likely to provide screening.	
Contribution of Setting to Significance of Asset: Paramount. Its elevated position was key in both its use as a memorial and as a beacon. The scrap of surviving open ground to the north allows us to imagine its original setting, and this is	

of great benefit to interpretation. Generally, the landscape is so altered as to almost wholly divorce the monument from its intended setting.
Magnitude of Effect: The proposed turbine would be largely screened behind the Gunheath tip but the blades might be visible around the western side of the mound. However, meaningful views from the monument are now restricted to the north, and the turbine would not affect those.
Magnitude of Impact: High value + Negligible change = Slight effect
Overall Impact Assessment: **Negligible**

FIGURE 29: HENSBARROW BEACON AND MOUND; FROM THE WEST.

4.4.7 INDUSTRIAL LANDSCAPES

The China Clay District

The china-clay industry has had an indelible and dramatic impact on the granitic uplands of the St Austell area. Large areas have been lost to extraction or spoil tipping, leaving the remaining pockets of agricultural land or rough ground isolated amid a strange, manufactured moonscape of pits, tips and haul roads. This industrial landscape has itself been remade several times over the last 200 years: early extraction was marked by shallow and limited surface works associated with tips and small-scale settling and drying areas. These were superseded by larger and deeper pits associated with the tall conical sky tips, the first examples of which appeared in the early 1900s. There may have been as many as 200 sky tips by the middle of the 20th century, the number and density of which led to the label *the Cornish Alps*. During the latter part of the 20th century, with respect to the Aberfan Colliery disaster but also responding to changing haulage systems, the sky tips were phased out and replaced by extensive bench tips. In the recent past, the bench tips began to be re-profiled to look less obviously artificial, creating a new kind of rounded profile more akin to the chalk hills of southern England. The scale of intervention matches size of the china-clay companies: in the 19th century there were multiple small companies operating in the St Austell district, today, the single operator is the company Imerys. Much of the evidence for early exploitation, as well as the distinctive lines of sky tips, has been lost; yet this extensive industrial landscape retains a slightly otherworldly feel, enhanced by the obvious poverty of much of the surrounding area.

What is important and why

The surviving elements of this landscape have *evidential value* in terms of their morphology and the possibility that earlier features and structures may yet survive adjacent or – more probably – beneath the tips. There is some *communal value*, in that the local population identifies with the more iconic elements within the landscape (i.e. the sky tips). Lastly, there is aesthetic value to these landscapes: while not pleasing in any standard way, the scale of human intervention invokes awe and a sense of otherworldliness. The remaining sky tips are more readily-appreciable and discrete 'monuments', many of which are highly visible and some which are regarded as *iconic*.

Asset Name: **The China Clay District**	
Parish: Treverbyn/St Stephen-in-Brannel	*Within the ZTV*: Yes
Designation: Locally significant landscape	*Value:* Medium
Distance to the turbine: 0.5-7km	*Condition:* Variable, Poor to Good
Description: The 19th and early 20th century historic clay works dominate the landscape across the former downs north of St Austell. The area remains in continuous use. There are Grade II* listed buildings at Goonvean, Wheal Martyn is a Scheduled Monument, and there are numerous Grade II Listed buildings in the St Austell River valley and further north around Carbis. The vast clay pits are a key component of the landscape but are essentially only visible from within the landscape; the features that define this area in the wider landscape are the spoil tips – the massive bench tips and the distinctive conical sky tips. The sky tips were a ubiquitous feature of the 'Cornish Alps' but now only a few remains. Those few are visually arresting and symbolic of the china clay industry, being of regular and uniform shape, unlike the undulating natural downs. Several of these, such as the one south of Stenalees and visible from the A391, may be described as being of *iconic* status within this landscape.	
Supplemental Comments: Whilst of obvious historic importance to Cornwall's wider socio-economic narrative this is also a busy working landscape, with dusty roads of thundering heavy plant and HGV lorries and the constant noise of working machinery. Lots of modern safety signage, lights, height barriers and telecoms infrastructure litter the landscape. This is far from pristine but is of continuing character and ongoing function, giving the visitor an idea of how stark and different the original workings must have seemed to a largely pastoral community.	
Conservation Value: Historic value and arguably a communal value, as this landscape is now tied to the identity of thousands of current and past workers and their families many who may have migrated to Cornwall for the work. The aesthetic value of the conical sky tips is high, with several being iconic to this region. The unused, restored areas are reworked for wildlife reserves, with scrub allowed to grow back and the flooded pits take on a bucolic wild beauty that is photogenic, even if the turquoise waters are lethal in reality. Aesthetically, the working areas are pale scars on the landscape, stark and shocking to the eye. Evidential value is low across the site as the workings strip away history to expose the china stone.	
Authenticity and Integrity: The landscape is very authentic and still in ongoing industrial quarrying use. The completeness of the historic landscape is very low as historic workings have been reworked, and ancient landscapes on the downs lost through the continual quarrying.	
Topographical Location & Landscape Context: Within the Gover Valley there are three sky tips: at Goonamarth, Fforest and Biscovellet. The Goonamarth tip is relatively large and distinctive and is located immediately adjacent to the historic Blackpool clay pit. The tip lies on the north-west edge of a naturally prominent high hill, with a narrow combe to the north which joins a steep-sided river valley to the east which then runs south. The sky tip lies on the mid-upper north-west facing slopes, just west of the summit. Fforest lies down in the base of the valley and is wholly vegetated. Biscovellet is a small conical tip on the eastern flanks of the valley.	
Setting: These sky tips are set within and around the Gover Valley and associated with a series of current and former clay works.	
Principal Views: These vary; Goonamarth tip has 360° views, with views to the south the most open and distant. Views from Fforest are more restricted given it is located in the base of the valley. Views from Biscovellet tip are also fairly restricted. Views to the monuments are more important. Biscovellet is small enough to be indistinguishable from its background are any distance. Fforest, and particularly Goonamarth, are much more visible.	

Landscape Presence: Within this confluence of valleys, gentle slopes and inverted pits the uniform conical mound is entirely dominant and draws the eye, forming a distinct skyline profile. Both Goonamarth and Fforest are local *landmark assets*.
Sensitivity of Asset: These assets are sensitive to any changes in the landscape that affect the skyline profile and its locally important/iconic status within the wider china clay working landscape.
Contribution of Setting to Significance of Asset: The china clay landscape is defined by geology; the setting is therefore the very reason for its existence. The surviving fragments of earlier historic landscapes within the current and 19th century china clay district lend an important chronological 'sense of place' within the wider narrative of Cornwall.
Magnitude of Effect: The proposed turbine would be located north-west of the Goonamarth sky-tip, on higher ground behind the existing turbine, enhancing the visual impact of the existing turbine by providing a second set of moving blades behind the sky tip, as visible from some points in the wider landscape. It also would introduce a second tall vertical feature into this landscape to compete with the conical sky tip. This would have an appreciable effect on a skyline of the southern part of the china clay landscape. The other two sky tips would not have this relationship but would still be affected more generally by the slight cumulative increase in modern features in this landscape.
Magnitude of Impact: High value + Minor change = Moderate/Slight effect
Overall Impact Assessment: **Negative/Minor**

FIGURE 30: THE WHEAL MARTYN CHINA CLAY PIT AND LANDSCAPE; FROM THE WEST.

4.4.8 HISTORIC LANDSCAPE

General Landscape Character

The landscape of the British Isles is highly variable, both in terms of topography and historical biology. Natural England has divided the British Isles into numerous 'character areas' based on topography, biodiversity, geodiversity and cultural and economic activity. The County Councils and AONBs have undertaken similar exercises, as well as Historic Landscape Characterisation.

Some character areas are better able to withstand the visual impact of development than others. Rolling countryside with wooded valleys and restricted views can withstand a larger number of sites than an open and largely flat landscape overlooked by higher ground. The English landscape is

already populated by a large and diverse number of intrusive modern elements, e.g. electricity pylons, factories, modern housing estates, quarries, and turbines, but the question of cumulative impact must be considered. The aesthetics of individual developments is open to question, and site specific, but as intrusive new visual elements within the landscape, they tend to be **negative**.

The proposed site would be constructed within the *St Austell or Hensbarrow China Clay* Landscape Character Area (LCA CA17). It is described as:

A very varied, dramatic landscape of china clay waste tips and areas of rough vegetation, characterised by open pit mining. The mix of active and disused sites creates a dramatic 'lunar' landscape of huge, light-coloured waste tips and settling ponds within a relic pastoral farming landscape. A rugged area of great variation and drama. Dominant visual elements include the large white spoil heaps, either conical or flat-topped in form, aqua-blue pools, areas of rough ground and natural and naturally regenerated scrub and heath, as well as large quarry pits. The scale of these features contrasts dramatically with the small-scale field patterns. The fluctuating and changing condition and relationship of elements in this landscape, and the natural regeneration of heathland, new woodland planting and rough ground provides a vivid and dynamic visual landscape character quite unlike surrounding LCAs

This character area is characterised as a visually dynamic landscape of vast pits, spoil tips and vivid settling lakes that strongly contrast with the remnants of the small-scale agricultural landscape that preceded it. From a historic landscape perspective, the proposed turbine would clearly be an intrusive new element in this landscape, but it is not unprecedented. The scale and extent of modern intervention in this landscape means even the larger turbines are dwarfed by the size but particularly by the mass of the spoil tips. The kinetic quality of the turbines would introduce a new sense of movement into this landscape. The overall sensitivity of this LCAs to wind turbine developments is assessed as *moderate*, with the caveat that the granite outcrops of St Dennis and Roche are more sensitive (Cornwall Council).

The biggest issue, in a landscape sense, is clearly that of cumulative impact. There are operational turbines at Higher Goonamarth, on Trenance Down spoil tip, at Gunheath Quarry, and a smaller turbine at Mount Stamper. In other LCAs turbines serve to erode their relative distinctiveness; in this case, the pale spoil tips and vast pits have no parallel. Where the turbines encroach on the skyline above St Austell there is room for concern, as this skyline is currently marked by the surviving sky tips and massive bench tips. The fact that the proposed turbine would match those of Goonamarth and Gunheath lends visual congruence to the group, although its proximity to the Gunheath turbine could generate visually clutter. However, it also provides a precedent. On that basis, the overall impact on the historic environment is assessed as **negative/minor**.

As it the turbine has an operational life of approximately 35 years it is possible it can be removed, and any negative visual effects revered. Thus, its impact is technically **temporary/reversible**.

4.4.9 AGGREGATE IMPACT

The aggregate impact of a proposed development is an assessment of the overall effect of a single development on multiple heritage assets. This differs from cumulative impact (below), which is an assessment of multiple developments on a single heritage asset. Aggregate impact is particularly difficult to quantify, as the threshold of acceptability will vary according to the type, quality, number and location of heritage assets, and the individual impact assessments themselves.

Based on the restricted number of assets where any appreciable effect is likely, the aggregate impact of this development is **negligible**.

4.4.10 CUMULATIVE IMPACT

Cumulative impacts affecting the setting of a heritage asset can derive from the combination of different environmental impacts (such as visual intrusion, noise, dust and vibration) arising from a single development or from the overall effect of a series of discrete developments. In the latter case, the cumulative visual impact may be the result of different developments within a single view, the effect of developments seen when looking in different directions from a single viewpoint, of the sequential viewing of several developments when moving through the setting of one or more heritage assets.
The Setting of Heritage Assets 2011a, 25

*The key for all cumulative impact assessments is to focus on the **likely significant** effects and in particular those likely to influence decision-making.*
GLVIA 2013, 123

An assessment of cumulative impact is, however, very difficult to gauge, as it must take into account existing, consented and proposed developments. The threshold of acceptability has not, however, been established, and landscape capacity would inevitability vary according to landscape character. The proposed development introduces another turbine into this landscape, and thus the cumulative effect will be enhanced. However, the number of designated heritage assets in this area where an appreciable effect is likely is fairly low. Therefore, and on balance, an assessment of **negative/minor** is appropriate.

TABLE 3: SUMMARY OF IMPACTS.

Asset	Type	Distance	Value	Magnitude of Impact	Assessment	Overall Assessment
Category #2 Assets						
Crow at Higher Biscovillack	GII	1.61km	Medium	Negligible	Neutral/Slight	Negligible
Carthew Farmhouse +6 others	GIIs	c.570m	Medium	Moderate	Moderate	Negative/Moderate
Carbean Farmhouse	GII	1.12km	Medium	Moderate	Moderate	Negative/Moderate
[Bungullow] Manor House	GII	4.38km	Medium	Negligible	Neutral/Slight	Negligible
Hembal Manor	GII	3.95km	Medium	Negligible	Neutral/Slight	Negligible
Cottage West of Gunheath	GII	1.31km	Medium	Negligible	Neutral/Slight	Negligible
Church of St Peter, Stenalees	GII	1.82km	Medium	Negligible	Neutral/Slight	Negligible
Church of St Gomonda, Roche	GII*	4.16km	High	Negligible	Slight	Negligible
Roche Rectory and associated assets	GII	4.2km	Medium	Negligible	Neutral/Slight	Negligible
Wheal Martyn China Clay Works	SAM	c.883m	High	Slight	Neutral	Negligible
Goonvean Enginehouses	GII* GII	4.9km	High	No Change	Neutral	Neutral
Longstone	SAM	2km	High	No Change	Neutral	Neutral
Platform Cairn, Hensbarrow Fm	SAM	1.5km	High	Negligible	Slight	Negligible
Cairn and Beacon at Hensbarrow	SAM	1.79km	High	Negligible	Slight	Negligible
Carthew Mill, Mill Cottage, No.2	GII	c.850m	Medium	Negligible	Neutral/slight	Negligible
Carthew Cottage; Wash House	GIIs	c.883m	Medium	Negligible	Neutral/slight	Negligible
Menadew and Higher Menadew Farmhouses and associated assets	GIIs	4.66km	Medium	Negligible	Neutral/Slight	Negligible
Barn at Lavrean Farm	GII	4.45km	Medium	Negligible	Neutral/Slight	Negligible
Bilberry Pit Kiln chimney	GII	4.3km	Medium	Negligible	Neutral/Slight	Neutral
Category #3 Assets						
Milestone at Wheal Martyn	GII	2.2km	Medium	No Change	Neutral	Neutral
Milestone at SX200566	GII	3.1km	Medium	Negligible	Neutral/Slight	Negligible
Historic Landscape						Negligible
China Clay District						Negative/Minor
Aggregate Impact						Negligible
Cumulative Impact						Negative/Minor

5.0 CONCLUSION

The proposed site lies in an area which formed part of the extensive unenclosed upland of Hensbarrow Down, the rights to which were held by the extensive Domesday manor of Treverbyn. This manor had been split in the 15th century into two parts –Treverbyn Courtney and Treverbyn Trevanion – with Treverbyn Courtney being attached to the Duchy of Cornwall in 1540. Any income generated by the 'waste' was divided between the two manorial lords. The enclosed lands adjacent (Gunheath, Yonder Town and Carbean) were owned in 1842 by Sir Joseph Graves-Sawle. The civil parish of Treverbyn was created in 1846, formerly parcel of the ancient ecclesiastical parish of St Austell. Tin mining took place in this area in the medieval and post-medieval periods, but the development and spread of china-clay extraction has obliterated almost all traces of both tin mining and the early china-clay industry.

The proposed turbine would be located within the flat top of a small bench-tip between the Gunheath and Wheal Martyn working clay-pits, on the edge of the scheduled historic Wheal Martyn clay-works. The tip developed in the later 19th century and early 20th century and does not appear on the earlier 19th century mapping, it is of low profile, almost recessive compared to some of the larger historic bench tips and sky tips and does not make any significant contribution to the skyline profile. On that basis that the turbine is located on an early 20th century tip, archaeological potential of the site is assessed as *low*. The impact of the proposed development on any hypothetical buried archaeological resource would be **permanent** and **irreversible** but is irrelevant in this case.

In terms of indirect impacts, most of the designated heritage assets in the wider area are located at such a distance to minimise the impact of the proposed development, or else the contribution of setting to overall significance is less important than other factors. The landscape context of many of these buildings and monuments is such that they would be partly or wholly insulated from the effects of the proposed development by a combination of local blocking from trees, buildings or embankments, or that other modern intrusions have already impinged upon their settings. A small number of the designated heritage assets, of medium value, considered in detail would be affected by the proposed development to a limited but quantifiable degree, such as the assets at Carthew and Carbean within the valley adjacent to the turbine (**negligible to negative/moderate**), with a **negligible** impact on the historic landscape, **negligible** aggregate impact, but a **negative/minor** cumulative impact on the basis there are several other operational turbines in close proximity. On that basis the impact of the proposed development can be assessed as **negligible** overall.

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APPENDIX 1: IMPACT ASSESSMENT METHODOLOGY

Heritage Impact Assessment - Overview

The purpose of heritage impact assessment is twofold: Firstly, to understand – insofar as is reasonable practicable and in proportion to the importance of the asset – the significance of a historic building, complex, area or archaeological monument (the 'heritage asset'). Secondly, to assess the likely effect of a proposed development on the heritage asset (direct impact) and its setting (indirect impact). This methodology employed in this assessment is based on the staged approach advocated in *The Setting of Heritage Assets* (GPA3 Historic England 2015), used in conjunction with the ICOMOS (2011) and DoT (DMRB vol.11; WEBTAG) guidance. This Appendix contains details of the methodology used in this report.

National Policy

General policy and guidance for the conservation of the historic environment are now contained within the *National Planning Policy Framework* (Department for Communities and Local Government 2012). The relevant guidance is reproduced below:

Paragraph 189

In determining applications, local planning authorities should require the applicant to describe the significance of any heritage assets affected, including the contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should be consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which a development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 190

Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

A further key document is the Planning (Listed Buildings and Conservation Areas) Act 1990, in particular section 66(1), which provides *statutory protection* to the setting of Listed buildings:

In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

Cultural Value – Designated Heritage Assets

The majority of the most important ('nationally important') heritage assets are protected through *designation*, with varying levels of statutory protection. These assets fall into one of six categories, although designations often overlap, so a Listed early medieval cross may also be Scheduled, lie within the curtilage of Listed church, inside a Conservation Area, and on the edge of a Registered Park and Garden that falls within a world Heritage Site.

Listed Buildings

A Listed building is an occupied dwelling or standing structure which is of special architectural or historical interest. These structures are found on the *Statutory List of Buildings of Special Architectural or Historic Interest.* The status of Listed buildings is applied to 300,000-400,000 buildings across the United Kingdom. Recognition of the need to protect historic buildings began after the Second World War, where significant numbers of buildings had been damaged in the county towns and capitals of the United Kingdom. Buildings that were considered to be of 'architectural merit' were included. The Inspectorate of Ancient Monuments supervised the collation of the list, drawn up by members of two societies: The Royal Institute of British Architects and the Society for the Protection of Ancient Buildings. Initially the lists were only used to assess which buildings should receive government grants to be repaired and conserved if damaged by bombing. The *Town and Country Planning Act 1947* formalised the process within England and Wales, Scotland and Ireland following different procedures. Under the 1979 *Ancient Monuments and Archaeological Areas Act* a structure cannot be considered a Scheduled Monument if it is occupied as a dwelling,

making a clear distinction in the treatment of the two forms of heritage asset. Any alterations or works intended to a Listed Building must first acquire Listed Building Consent, as well as planning permission. Further phases of 'listing' were rolled out in the 1960s, 1980s and 2000s; English Heritage advise on the listing process and administer the procedure, in England, as with the Scheduled Monuments.

Some exemption is given to buildings used for worship where institutions or religious organisations (such as the Church of England) have their own permissions and regulatory procedures. Some structures, such as bridges, monuments, military structures and some ancient structures may also be Scheduled as well as Listed. War memorials, milestones and other structures are included in the list, and more modern structures are increasingly being included for their architectural or social value.

Buildings are split into various levels of significance: Grade I (2.5% of the total) representing buildings of exceptional (international) interest; Grade II* (5.5% of the total) representing buildings of particular (national) importance; Grade II (92%) buildings are of merit and are by far the most widespread. Inevitably, accuracy of the Listing for individual structures varies, particularly for Grade II structures; for instance, it is not always clear why some 19th century farmhouses are Listed while others are not, and differences may only reflect local government boundaries, policies and individuals.

Other buildings that fall within the curtilage of a Listed building are afforded some protection as they form part of the essential setting of the designated structure, e.g. a farmyard of barns, complexes of historic industrial buildings, service buildings to stately homes etc. These can be described as having *group value*.

Conservation Areas
Local authorities are obliged to identify and delineate areas of special architectural or historic interest as Conservation Areas, which introduces additional controls and protection over change within those places. Usually, but not exclusively, they relate to historic settlements, and there are c.7000 Conservation Areas in England.

Scheduled Monuments
In the United Kingdom, a Scheduled Monument is considered an historic building, structure (ruin) or archaeological site of **'national importance'**. Various pieces of legislation, under planning, conservation, etc., are used for legally protecting heritage assets given this title from damage and destruction; such legislation is grouped together under the term 'designation', that is, having statutory protection under the *Ancient Monuments and Archaeological Areas Act 1979*. A heritage asset is a part of the historic environment that is valued because of its historic, archaeological, architectural or artistic interest; those of national importance have extra legal protection through designation. Important sites have been recognised as requiring protection since the late 19th century, when the first 'schedule' or list of monuments was compiled in 1882. The conservation and preservation of these monuments was given statutory priority over other land uses under this first schedule. County Lists of the monuments are kept and updated by the Department for Culture, Media and Sport. In the later 20th century sites are identified by English Heritage (one of the Government's advisory bodies) of being of national importance and included in the schedule. Under the current statutory protection any works required on or to a designated monument can only be undertaken with a successful application for Scheduled Monument Consent. There are 19,000-20,000 Scheduled Monuments in England.

Registered Parks and Gardens
Culturally and historically important 'man-made' or 'designed' landscapes, such as parks and gardens are currently "listed" on a non-statutory basis, included on the 'Register of Historic Parks and Gardens of special historic interest in England' which was established in 1983 and is, like Listed Buildings and Scheduled Monuments, administered by Historic England. Sites included on this register are of **national importance** and there are currently 1,600 sites on the list, many associated with stately homes of Grade II* or Grade I status. Emphasis is laid on 'designed' landscapes, not the value of botanical planting. Sites can include town squares and private gardens, city parks, cemeteries and gardens around institutions such as hospitals and government buildings. Planned elements and changing fashions in landscaping and forms are a main focus of the assessment.

Registered Battlefields
Battles are dramatic and often pivotal events in the history of any people or nation. Since 1995 Historic England maintains a register of 46 battlefields in order to afford them a measure of protection through the planning system. The key requirements for registration are battles of national significance, a securely identified location, and its topographical integrity – the ability to 'read' the battle on the ground.

World Heritage Sites

Arising from the UNESCO World Heritage Convention in 1972, Article 1 of the Operational Guidelines (2015, no.49) states: 'Outstanding Universal Value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity'. These sites are recognised at an international level for their intrinsic importance to the story of humanity, and should be accorded the highest level of protection within the planning system.

Value and Importance

While every heritage asset, designated or otherwise, has some intrinsic merit, the act of designation creates a hierarchy of importance that is reflected by the weight afforded to their preservation and enhancement within the planning system. The system is far from perfect, impaired by an imperfect understanding of individual heritage assets, but the value system that has evolved does provide a useful guide to the *relative* importance of heritage assets. Provision is also made for heritage assets where value is not recognised through designation (e.g. undesignated 'monuments of Schedulable quality and importance' should be regarded as being of *high* value); equally, there are designated monuments and structures of *low* relative merit.

TABLE 4: THE HIERARCHY OF VALUE/IMPORTANCE (BASED ON THE DMRB VOL.11 TABLES 5.1, 6.1 & 7.1).

Hierarchy of Value/Importance	
Very High	Structures inscribed as of universal importance as World Heritage Sites; Other buildings of recognised international importance; World Heritage Sites (including nominated sites) with archaeological remains; Archaeological assets of acknowledged international importance; Archaeological assets that can contribute significantly to international research objectives; World Heritage Sites inscribed for their historic landscape qualities; Historic landscapes of international value, whether designated or not; Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).
High	Scheduled Monuments with standing remains; Grade I and Grade II* (Scotland: Category A) Listed Buildings; Other Listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the Listing grade; Conservation Areas containing very important buildings; Undesignated structures of clear national importance; Undesignated assets of Schedulable quality and importance; Assets that can contribute significantly to national research objectives. Designated historic landscapes of outstanding interest; Undesignated landscapes of outstanding interest; Undesignated landscapes of high quality and importance, demonstrable national value; Well-preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s).
Medium	Grade II (Scotland: Category B) Listed Buildings; Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations; Conservation Areas containing buildings that contribute significantly to its historic character; Historic Townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures); Designated or undesignated archaeological assets that contribute to regional research objectives; Designated special historic landscapes; Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value; Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s).
Low	Locally Listed buildings (Scotland Category C(S) Listed Buildings); Historic (unlisted) buildings of modest quality in their fabric or historical association; Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures); Designated and undesignated archaeological assets of local importance;

Hierarchy of Value/Importance	
	Archaeological assets compromised by poor preservation and/or poor survival of contextual associations; Archaeological assets of limited value, but with potential to contribute to local research objectives; Robust undesignated historic landscapes; Historic landscapes with importance to local interest groups; Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.
Negligible	Buildings of no architectural or historical note; buildings of an intrusive character; Assets with very little or no surviving archaeological interest; Landscapes with little or no significant historical interest.
Unknown	Buildings with some hidden (i.e. inaccessible) potential for historic significance; The importance of the archaeological resource has not been ascertained.

Concepts – Conservation Principles
In making an assessment, this document adopts the conservation values (*evidential*, *historical*, *aesthetic* and *communal*) laid out in *Conservation Principles* (English Heritage 2008), and the concepts of *authenticity* and *integrity* as laid out in the guidance on assessing World Heritage Sites (ICOMOS 2011). This is in order to determine the relative importance of *setting* to the significance of a given heritage asset.

Evidential Value
Evidential value (or research potential) is derived from the potential of a structure or site to provide physical evidence about past human activity, and may not be readily recognised or even visible. This is the primary form of data for periods without adequate written documentation. This is the least equivocal value: evidential value is absolute; all other ascribed values (see below) are subjective. However,

Historical Value
Historical value (narrative) is derived from the ways in which past people, events and aspects of life can be connected via a place to the present; it can be *illustrative* or *associative*.

Illustrative value is the visible expression of evidential value; it has the power to aid interpretation of the past through making connections with, and providing insights into, past communities and their activities through a shared experience of place. Illustrative value tends to be greater if a place features the first or only surviving example of a particular innovation of design or technology.

Associative value arises from a connection to a notable person, family, event or historical movement. It can intensify understanding by linking the historical past to the physical present, always assuming the place bears any resemblance to its appearance at the time. Associational value can also be derived from known or suspected links with other monuments (e.g. barrow cemeteries, church towers) or cultural affiliations (e.g. Methodism).

Buildings and landscapes can also be associated with literature, art, music or film, and this association can inform and guide responses to those places.

Historical value depends on sound identification and the direct experience of physical remains or landscapes. Authenticity can be strengthened by change, being a living building or landscape, and historical values are harmed only where adaptation obliterates or conceals them. The appropriate use of a place – e.g. a working mill, or a church for worship – illustrates the relationship between design and function and may make a major contribution to historical value. Conversely, cessation of that activity – e.g. conversion of farm buildings to holiday homes – may essentially destroy it.

Aesthetic Value
Aesthetic value (emotion) is derived from the way in which people draw sensory and intellectual stimulation from a place or landscape. Value can be the result of *conscious design*, or the *fortuitous outcome* of landscape evolution; many places combine both aspects, often enhanced by the passage of time.

Design value relates primarily to the aesthetic qualities generated by the conscious design of a building, structure or landscape; it incorporates composition, materials, philosophy and the role of patronage. It may have associational

value, if undertaken by a known architect or landscape gardener, and its importance is enhanced if it is seen as innovative, influential or a good surviving example. Landscape parks, country houses and model farms all have design value. The landscape is not static, and a designed feature can develop and mature, resulting in the 'patina of age'.

Some aesthetic value developed *fortuitously* over time as the result of a succession of responses within a particular cultural framework e.g. the seemingly organic form of an urban or rural landscape or the relationship of vernacular buildings and their materials to the landscape. Aesthetic values are where a proposed development usually has their most pronounced impact: the indirect effects of most developments are predominantly visual or aural, and can extent many kilometres from the site itself. In many instances the impact of a development is incongruous, but that is itself an aesthetic response, conditioned by prevailing cultural attitudes to what the historic landscape should look like.

Communal Value
Communal value (togetherness) is derived from the meaning a place holds for people, and may be closely bound up with historical/associative and aesthetic values; it can be *commemorative, symbolic*, *social* or *spiritual*.

Commemorative and symbolic value reflects the meanings of a place to those who draw part of their identity from it, or who have emotional links to it e.g. war memorials. Some buildings or places (e.g. the Palace of Westminster) can symbolise wider values. Other places (e.g. Porton Down Chemical Testing Facility) have negative or uncomfortable associations that nonetheless have meaning and significance to some and should not be forgotten. *Social value* need not have any relationship to surviving fabric, as it is the continuity of function that is important. *Spiritual value* is attached to places and can arise from the beliefs of a particular religion or past or contemporary perceptions of the spirit of place. Spiritual value can be ascribed to places sanctified by hundreds of years of veneration or worship, or wild places with few signs of modern life. Value is dependent on the perceived survival of historic fabric or character, and can be very sensitive to change. The key aspect of communal value is that it brings specific groups of people together in a meaningful way.

Authenticity
Authenticity, as defined by UNESCO (2015, no.80), is the ability of a property to convey the attributes of the outstanding universal value of the property. 'The ability to understand the value attributed to the heritage depends on the degree to which information sources about this value may be understood as credible or truthful'. Outside of a World Heritage Site, authenticity may usefully be employed to convey the sense a place or structure is a truthful representation of the thing it purports to portray. Converted farm buildings, for instance, survive in good condition, but are drained of the authenticity of a working farm environment.

Integrity
Integrity, as defined by UNESCO (2015, no.88), is the measure of wholeness or intactness of the cultural heritage ad its attributes. Outside of a World Heritage Site, integrity can be taken to represent the survival and condition of a structure, monument or landscape. The intrinsic value of those examples that survive in good condition is undoubtedly greater than those where survival is partial, and condition poor.

Summary
As indicated, individual developments have a minimal or tangential effect on most of the heritage values outlined above, largely because almost all effects are indirect. The principle values in contention are aesthetic/designed and, to a lesser degree aesthetic/fortuitous. There are also clear implications for other value elements (particularly historical and associational, communal and spiritual), where views or sensory experience is important. As ever, however, the key element here is not the intrinsic value of the heritage asset, nor the impact on setting, but the relative contribution of setting to the value of the asset.

Setting – The Setting of Heritage Assets
The principle guidance on this topic is contained within two publications: *The Setting of Heritage Assets* (Historic England 2015) and *Seeing History in the View* (English Heritage 2011). While interlinked and complementary, it is useful to consider heritage assets in terms of their *setting* i.e. their immediate landscape context and the environment within which they are seen and experienced, and their *views* i.e. designed or fortuitous vistas experienced by the visitor when at the heritage asset itself, or those that include the heritage asset. This corresponds to the experience of its wider landscape setting.

Where the impact of a proposed development is largely indirect, *setting* is the primary consideration of any HIA. It is a somewhat nebulous and subjective assessment of what does, should, could or did constitute the lived experience of a monument or structure. The following extracts are from the Historic England publication *The Setting of Heritage Assets* (2015, 2 & 4):

The NPPF makes it clear that the setting of a heritage asset is the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve.

Setting is not a heritage asset, nor a heritage designation. Its importance lies in what it contributes to the significance of the heritage asset. This depends on a wide range of physical elements within, as well as perceptual and associational attributes, pertaining to the heritage asset's surroundings.

While setting can be mapped in the context of an individual application or proposal, it does not have a fixed boundary and cannot be definitively and permanently described for all time as a spatially bounded area or as lying within a set distance of a heritage asset because what comprises a heritage asset's setting may change as the asset and its surroundings evolve or as the asset becomes better understood or due to the varying impacts of different proposals.

The HIA below sets out to determine the magnitude of the effect and the sensitivity of the heritage asset to that effect. The fundamental issue is that proximity and visual and/or aural relationships may affect the experience of a heritage asset, but if setting is tangential to the significance of that monument or structure, then the impact assessment will reflect this. This is explored in more detail below.

Landscape Context

The determination of *landscape context* is an important part of the assessment process. This is the physical space within which any given heritage asset is perceived and experienced. The experience of this physical space is related to the scale of the landform, and modified by cultural and biological factors like field boundaries, settlements, trees and woodland. Together, these determine the character and extent of the setting.

Landscape context is based on topography, and can vary in scale from the very small – e.g. a narrow valley where views and vistas are restricted – to the very large – e.g. wide valleys or extensive upland moors with 360° views. Where very large landforms are concerned, a distinction can be drawn between the immediate context of an asset (this can be limited to a few hundred metres or less, where cultural and biological factors impede visibility and/or experience), and the wider context (i.e. the wider landscape within which the asset sits).

When new developments are introduced into a landscape, proximity alone is not a guide to magnitude of effect. Dependant on the nature and sensitivity of the heritage asset, the magnitude of effect is potentially much greater where the proposed development is to be located within the landscape context of a given heritage asset. Likewise, where the proposed development would be located outside the landscape context of a given heritage asset, the magnitude of effect would usually be lower. Each case is judged on its individual merits, and in some instances the significance of an asset is actually greater outside of its immediate landscape context, for example, where church towers function as landmarks in the wider landscape.

Views

Historic and significant views are the associated and complementary element to setting, but can be considered separately as developments may appear in a designed view without necessarily falling within the setting of a heritage asset *per se*. As such, significant views fall within the aesthetic value of a heritage asset, and may be *designed* (i.e. deliberately conceived and arranged, such as within parkland or an urban environment) or *fortuitous* (i.e. the graduated development of a landscape 'naturally' brings forth something considered aesthetically pleasing, or at least impressive, as with particular rural landscapes or seascapes), or a combination of both (i.e. the *patina of age*, see below). The following extract is from the English Heritage publication *Seeing History in the View* (2011, 3):

Views play an important part in shaping our appreciation and understanding of England's historic environment, whether in towns or cities or in the countryside. Some of those views were deliberately designed to be seen as a unity. Much more commonly, a significant view is a historical composite, the cumulative result of a long process of development.

The Setting of Heritage Assets (2015, 3) lists a number of instances where views contribute to the particular significance of a heritage asset:

- Views where relationships between the asset and other historic assets or places or natural features are particularly relevant;
- Views with historical associations, including viewing points and the topography of battlefields;
- Views where the composition within the view was a fundamental aspect of the design or function of the heritage asset;
- Views between heritage assets and natural or topographic features, or phenomena such as solar and lunar events;
- Views between heritage assets which were intended to be seen from one another for aesthetic, functional, ceremonial or religious reasons, such as military or defensive sites, telegraphs or beacons, Prehistoric funerary and ceremonial sites.

On a landscape scale, views, taken in the broadest sense, are possible from anywhere to anything, and each may be accorded an aesthetic value according to subjective taste. Given that terrain, the biological and built environment, and public access restrict our theoretical ability to see anything from anywhere, in this assessment the term *principal view* is employed to denote both the deliberate views created within designed landscapes, and those fortuitous views that may be considered of aesthetic value and worth preserving. It should be noted, however, that there are distance thresholds beyond which perception and recognition fail, and this is directly related to the scale, height, massing and nature of the heritage asset in question. For instance, beyond 2km the Grade II cottage comprises a single indistinct component within the wider historic landscape, whereas at 5km or even 10km a large stately home or castle may still be recognisable. By extension, where assets cannot be seen or recognised i.e. entirely concealed within woodland, or too distant to be distinguished, then visual harm to setting is moot. To reflect this emphasis on recognition, the term *landmark asset* is employed to denote those sites where the structure (e.g. church tower), remains (e.g. earthwork ramparts) or – in some instances – the physical character of the immediate landscape (e.g. a distinctive landform like a tall domed hill) make them visible on a landscape scale. In some cases, these landmark assets may exert landscape *primacy*, where they are the tallest or most obvious man-made structure within line-of-sight. However, this is not always the case, typically where there are numerous similar monuments (multiple engine houses in mining areas, for instance) or where modern developments have overtaken the heritage asset in height and/or massing.

Yet visibility alone is not a clear guide to visual impact. People perceive size, shape and distance using many cues, so context is critically important. For instance, research on electricity pylons (Hull & Bishop 1988) has indicated scenic impact is influenced by landscape complexity: the visual impact of pylons is less pronounced within complex scenes, especially at longer distances, presumably because they are less of a focal point and the attention of the observer is diverted. There are many qualifiers that serve to increase or decrease the visual impact of a proposed development (see Table 6), some of which are seasonal or weather-related.

Thus the principal consideration of assessment of indirect effects cannot be visual impact *per se*. It is an assessment of the likely magnitude of effect, the importance of setting to the significance of the heritage asset, and the sensitivity of that setting to the visual or aural intrusion of the proposed development. The schema used to guide assessments is shown in Table 6 (below).

Type and Scale of Impact

The effect of a proposed development on a heritage asset can be direct (i.e. the designated structure itself is being modified or demolished, the archaeological monument will be built over), or indirect (e.g. a housing estate built in the fields next to a Listed farmhouse, and wind turbine erected near a hillfort etc.); in the latter instance the principal effect is on the setting of the heritage asset. A distinction can be made between construction and operational phase effects. Individual developments can affect multiple heritage assets (aggregate impact), and contribute to overall change within the historic environment (cumulative impact).

Construction phase: construction works have direct, physical effects on the buried archaeology of a site, and a pronounced but indirect effect on neighbouring properties. Direct effects may extend beyond the nominal footprint of a site e.g. where related works or site compounds are located off-site. Indirect effects are both visual and aural, and may also affect air quality, water flow and traffic in the local area.

Operational phase: the operational phase of a development is either temporary (e.g. wind turbine or mobile phone mast) or effectively permanent (housing development or road scheme). The effects at this stage are largely indirect, and can be partly mitigated over time through provision of screening. Large development would have an effect on historic landscape character, as they transform areas from one character type (e.g. agricultural farmland) into another (e.g. suburban).

Cumulative Impact: a single development will have a physical and a visual impact, but a second and a third site in the same area will have a synergistic and cumulative impact above and beyond that of a single site. The cumulative impact of a proposed development is particularly difficult to estimate, given the assessment must take into consideration operational, consented and proposals in planning.

Aggregate Impact: a single development will usually affect multiple individual heritage assets. In this assessment, the term aggregate impact is used to distinguish this from cumulative impact. In essence, this is the impact on the designated parts of the historic environment as a whole.

Scale of Impact

The effect of development and associated infrastructure on the historic environment can include positive as well as negative outcomes. However, all development changes the character of a local environment, and alters the character of a building, or the setting within which it is experienced. change is invariably viewed as negative, particularly within respect to larger developments; thus while there can be beneficial outcomes (e.g. positive/moderate), there is a presumption here that, as large and inescapably modern intrusive visual actors in the historic landscape, the impact of a development will almost always be **neutral** (i.e. no impact) or **negative** i.e. it will have a **detrimental impact** on the setting of ancient monuments and protected historic buildings. This assessment incorporates the systematic approach outlined in the ICOMOS and DoT guidance (see Tables 5-7), used to complement and support the more narrative but subjective approach advocated by Historic England (see Table 8). This provides a useful balance between rigid logic and nebulous subjectivity (e.g. the significance of effect on a Grade II Listed building can never be greater than moderate/large; an impact of negative/substantial is almost never achieved). This is in adherence with GPA3 (2015, 7).

TABLE 5: MAGNITUDE OF IMPACT (BASED ON DMRB VOL.11 TABLES 5.3, 6.3 AND 7.3).

Factors in the Assessment of Magnitude of Impact – Buildings and Archaeology	
Major	Change to key historic building elements, such that the resource is totally altered; Change to most or all key archaeological materials, so that the resource is totally altered; Comprehensive changes to the setting.
Moderate	Change to many key historic building elements, the resource is significantly modified; Changes to many key archaeological materials, so that the resource is clearly modified; Changes to the setting of an historic building or asset, such that it is significantly modified.
Minor	Change to key historic building elements, such that the asset is slightly different; Changes to key archaeological materials, such that the asset is slightly altered; Change to setting of an historic building, such that it is noticeably changed.
Negligible	Slight changes to elements of a heritage asset or setting that hardly affects it.
No Change	No change to fabric or setting.
Factors in the Assessment of Magnitude of Impact – Historic Landscapes	
Major	Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit.
Moderate	Changes to many key historic landscape elements or components, visual change to many key aspects of the historic landscape, noticeable differences in noise quality, considerable changes to use or access; resulting in moderate changes to historic landscape character.
Minor	Changes to few key historic landscape elements, or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in minor changes to historic landscape character.
Negligible	Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.
No Change	No change to elements, parcels or components; no visual or audible changes; no changes arising from in amenity or community factors.

TABLE 6: SIGNIFICANCE OF EFFECTS MATRIX (BASED ON DRMB VOL.11 TABLES 5.4, 6.4 AND 7.4; ICOMOS 2011, 9-10).

Value of Assets	Magnitude of Impact (positive or negative)				
	No Change	Negligible	Minor	Moderate	Major
Very High	Neutral	Slight	Moderate/Large	Large/Very Large	Very Large
High	Neutral	Slight	Moderate/Slight	Moderate/Large	Large/Very Large

Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/Large
Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/Moderate
Negligible	Neutral	Neutral	Neutral/Slight	Neutral/Slight	Slight

TABLE 7: SCALE OF IMPACT.

Scale of Impact	
Neutral	No impact on the heritage asset.
Negligible	Where the developments may be visible or audible, but would not affect the heritage asset or its setting, due to the nature of the asset, distance, topography, or local blocking.
Negative/minor	Where the development would have an effect on the heritage asset or its setting, but that effect is restricted due to the nature of the asset, distance, or screening from other buildings or vegetation.
Negative/moderate	Where the development would have a pronounced impact on the heritage asset or its setting, due to the sensitivity of the asset and/or proximity. The effect may be ameliorated by screening or mitigation.
Negative/substantial	Where the development would have a severe and unavoidable effect on the heritage asset or its setting, due to the particular sensitivity of the asset and/or close physical proximity. Screening or mitigation could not ameliorate the effect of the development in these instances.

TABLE 8: IMPORTANCE OF SETTING TO INTRINSIC SIGNIFICANCE.

Importance of Setting to the Significance of the Asset	
Paramount	Examples: Round barrow; follies, eye-catchers, stone circles
Integral	Examples: Hillfort; country houses
Important	Examples: Prominent church towers; war memorials
Incidental	Examples: Thatched cottages
Irrelevant	Examples: Milestones

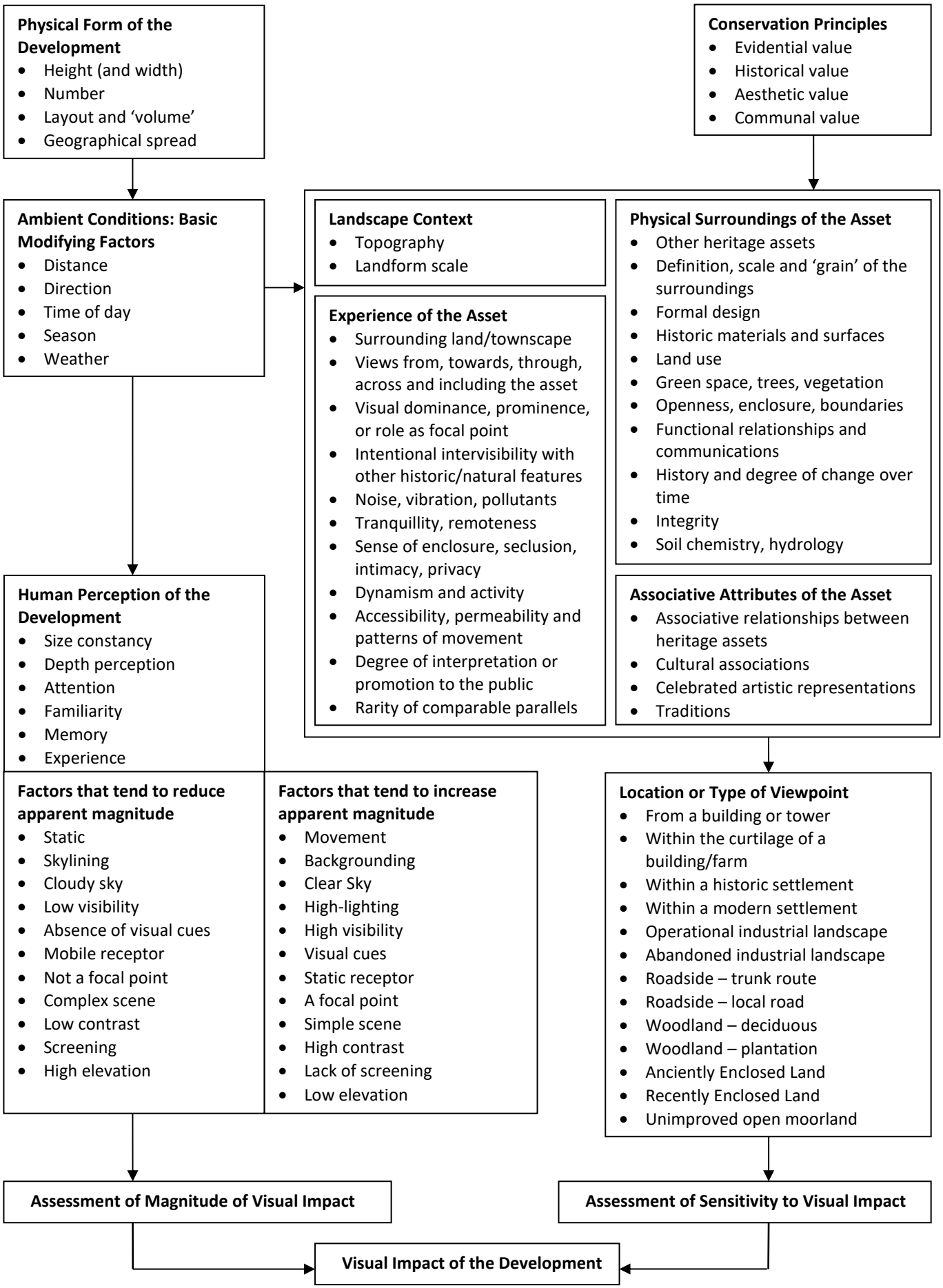

TABLE 9: THE CONCEPTUAL MODEL FOR VISUAL IMPACT ASSESSMENT PROPOSED BY THE UNIVERSITY OF NEWCASTLE (2002, 63), MODIFIED TO INCLUDE ELEMENTS OF *ASSESSMENT STEP 2* FROM THE SETTING OF HERITAGE ASSETS (HISTORIC ENGLAND 2015, 9).

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