



LAND AT ST GEORGE'S ROAD, PENPOL, HAYLE

Environmental Statement Volume 1 – Written Statement

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Preface

This Environmental Statement (ES) reports the outcome of a formal Environmental Impact Assessment (EIA) of a proposed residential development on land at St George's Road, Penpol, Hayle. It has been prepared to accompany a full planning application submitted to Cornwall Council by Linden Homes SW Ltd. The approximate centre of the site lies at Grid Reference SW 56085 36835 (Ordnance Survey Easting 156085, Northing 036835).

The EIA has been undertaken by WYG Planning & Environment. Further specialist input has been provided from Heritage Places, Ecology Solutions, Hydrock and Lavigne Lonsdale.

The ES comprises three separately bound parts:

1. Non-technical summary – summarising the findings of the EIA in non-technical language.
2. Volume 1: Written Statement – reporting the findings of the EIA.
3. Volume 2: Appendices – technical material to support the main text presented in Volume 1.

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Certificates and Notices



1.0 Introduction

1.1.1 The Environmental Statement (ES) and its associated Non-Technical Summary have been prepared by WYG on behalf of Linden homes (SW) Ltd (hereafter termed the Clients). This ES accompanies a suite of documents that together form a single planning application that was submitted to Cornwall Council (CC) on 30th September 2014 for the Proposed Development on Land at St George's Road, Penpol, Hayle that is now subject to an appeal (submitted 4th March 2015).

1.2 Introduction to the Site

1.2.1 The Proposed Development Site covers an area of 11.14 hectares (ha) and is located on the eastern edge of Hayle. The proposals are subject to an appeal (ref: APP/D0840/W/15/3006077) which was made following the non-determination of application ref: PA14/09315. The appeal site and its red line boundary are shown on Figure

1.1 below. The approximate centre of the site lies at Grid Reference SW 56085 36835 (Ordnance Survey Easting 156085, Northing 036835):

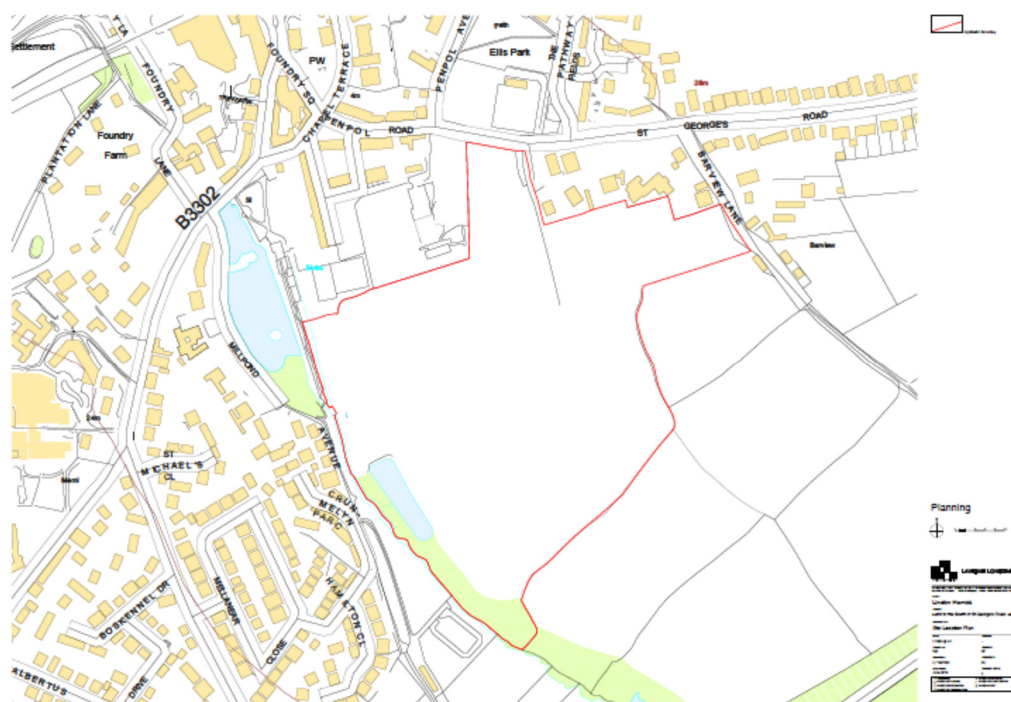


Figure 1.1 Redline Boundary of the site.

1.3 Legal Framework for the Environmental Statement

- 1.3.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015) (hereafter termed the 'EIA Regulations'), require that, before consent is granted for certain types of development an EIA must be undertaken. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other developments, which will only require assessment if they give rise to potentially significant environmental effects (Schedule 2 developments).
- 1.3.2 A Screening Opinion Request (**Appendix 1.1**) was submitted to Cornwall Council on 13th November 2013. A Screening Opinion (to determine whether a particular development requires an EIA), was provided by Cornwall Council dated 6th December 2013 (**Appendix 1.2**) which confirmed that an EIA was not required. The Opinion concluded that "Taking into account the type and scale of development and the potential impacts, including the cumulative impacts the proposal will not have result in environmental impacts of such significance, complexity or magnitude as to justify the need for an environmental impact assessment". The assessment was based on a site area of approximately 7.5 ha. The



current proposals relate to a site area of 11.14 ha. The Committee Report (**Appendix 1.3**) confirms that the Council remain of the view that no EIA is required.

- 1.3.3 Following the submission of the appeal to the Planning Inspectorate, a duplicate application for the same development was submitted to Cornwall Council on 23rd March 2015. The Screening Opinion confirming that no EIA is required is attached at **Appendix 1.4**.
- 1.3.4 A positive Screening Direction was issued by the Secretary of State on 8th October 2015 which states that the Secretary of State considers the proposal to be 'Schedule 2 development' within the meaning of the 2011 Regulations and hereby directs that the development is EIA development.
- 1.3.5 The Direction confirms that the Secretary of State considers the development would have likely significant effects on the environment in terms of cultural heritage, ecology, and visual impact. A copy of the Direction is provided at **Appendix 1.5**.
- 1.3.6 Given the stage of the development proposals, the majority of work required for the EIA had already been undertaken as part of the planning application stage. The overall process that has been followed in undertaking this EIA is detailed below:

- Collating existing baseline data for the development site and the surrounding area.
- Undertaking environmental surveys to supplement existing baseline data.
- Identifying features of the existing environment likely to be affected by the proposed development.
- Undertaking a consultation process.
- Identifying the environmental impacts of the proposed development.
- Substantiation of the environmental impacts and effects arising from the proposed development.
- Identifying mitigation and enhancement measures.
- Production of the ES to support the planning appeal.

1.4 Structure of the Environmental Statement

1.4.1 The structure of this ES follows the provisions of Schedule 4 of the EIA Regulations and other relevant good practice guidance including the Department of the Environment, and includes

- A description of the development
- An outline of the main alternatives studied and reasons for the choice of the development site, taking into account environmental effects
- A description of the aspects of the environment with the potential to be affected significantly by the development
- A description of the potential significant effects of the development on the environment
- A description of the measures envisaged to prevent, reduce and where possible offset any significant effects on the environment
- A non-technical summary of the information provided above
- An indication of any difficulties encountered by the applicant in making the assessment of environmental effects

1.4.2 This ES contains the findings and the information of the full EIA, together with the information and data collected during the assessment. The ES comprises the following three volumes:

Non-Technical Summary

This is a summary of the ES in a non-technical language; it presents the existing site conditions, provides a description of the scheme and details the predicted environmental effects of the proposals.

Volume 1: Environmental Statement Main Text

This comprises the introduction, description of the development, main alternatives considered and policy context, followed by a discrete chapter for each environmental issue examined, and a summary, based on the findings of the technical reports.

Volume 2: Appendices

This comprises the specialists' technical reports (as appropriate), and provides supportive background and technical information for the chapters in Volume 1.

1.4.3 The format of this ES (Volume 1) is as follows:

Chapter 1: Introduction

Presents the background to the development and provides an overview of the assessment process.

Describes the approach followed in undertaking the EIA for the application site, including an outline of the approach followed in undertaking the assessments and details of the consultation process.

Chapter 2: EIA Approach

Sets out the scope of work, the assessment criteria and the process for determining the effects and the appropriate mitigation required.

Chapter 3: Development Description

Outlines the main characteristics of the proposed development that have been assessed as part of the EIA, covering both the construction and operational phases of the development.

Chapter 4: Scheme Development & Alternatives

Outlines the main phases in the evolution of the scheme proposals as well as the consideration of alternatives.

Chapter 5: Planning Policy Context

Outlines the main planning policy drivers and context for the development.

Chapters 6-8: Impact Assessment and Mitigation

Describes the baseline conditions for various environmental topics and provides an assessment of significant environmental effects taking into account mitigation measures to be implemented. The following topics have been assessed:

- Chapter 6: Heritage Impact
- Chapter 7: Ecology
- Chapter 8: Landscape and Visual Impact

1.5 The Project Team

The EIA project team has been led by consultants WYG, with input from other specialists within the company and other external consultants, the input into the ES from the project team is set out below:

Table 1.1 ES Project Team

Role/Topic	Author
ES Management and Co-ordination	Catherine Knee, WYG
Cultural Heritage	Stephen Bond, Heritage Places
Ecology & Nature Conservation	Tim Goodwin, Ecology Solutions & Eleanor Dale, Hydrock
Landscape & Visual Impact	Martin Lonsdale, Lavigne Lonsdale
Cumulative Impact	Erin Banks, WYG

1.6 Publicity

- 1.6.1 A site notice has been displayed at the site (**Appendix 1.6**) and a notice has been published in the local newspaper (**Appendix 1.7**) advertising that the Environmental Statement will be submitted to the Secretary of State.

1.7 References

1. Department of the Environment Transport and the Regions (DETR), 2000. Environmental Impact Assessment: A Guide to the Procedures (DETR).
2. Her Majesty's Stationery Office (HMSO), 2011. The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015).

2.0 Environmental Impact Assessment Approach

2.1 Objectives

2.1.1 The overall aim of the ES is to provide an objective and systematic account of the significant environmental effects of the development and to assess the ability of the development site and the surrounding area to accept those impacts.

2.1.2 The immediate objectives of EIA are (IEMA, 2004):

- Improve the environmental design of the proposal
- Check the environmental acceptability of the proposal in relation to the capacity of the site and the receiving environment
- Ensure resources are used appropriately and efficiently
- Identify appropriate measures for mitigation the potential effects of the proposal
- Facilitate informed decision making, including setting the environmental terms and conditions for implementing the proposal.

2.2 Scope of Work

Geographic Scope

2.2.1 The EIA directly covers the physical extent of the site as shown in the site boundary plan at **Figure 1.1**. It is defined by the area of land to be used, the nature of the current environmental conditions and the manner in which impacts are likely to be generated. It is important to note however that the influence of many predicted impacts can extend beyond the immediate site boundary. For example, effects may arise on some species that are primarily located off-site but which use the site for foraging. Where identified and relevant, these impacts have also been assessed as part of the EIA.

2.2.2 The geographical extent of the EIA also considers the potential implications of related and un-related development activities. The potential cumulative effects of the development in association with other development both during construction and on completion are included within relevant chapters as required by Schedule 4, Part 1, Paragraph 4 of the EIA Regulations (HMSO, 2011).

Temporal Scope

2.2.3 There will not be any phasing with the 222 unit scheme. Development will commence at the north of the site to form a suitable sales and selling area and then progress



southwards. It is anticipated that dwellings will be completed at 1 unit/week and it will take 4.5 years to complete the scheme from commencement.

2.2.4 The assessments presented herein are largely based on a comparison of expected impacts against current baseline environmental conditions. These approaches are explained in further detail in the relevant chapters concerned.

Technical Scope

2.2.5 In order to ascertain the likely scope of the EIA, the scoping process involved the following steps:

- Identification of the planning application boundary;
- Identification of the key characteristics of the development Site and the establishment of the environmental baseline through a series of desk and field studies;
- Identification of gaps in the baseline and the further survey work required to address these shortfalls;
- Initial consideration of the potential sources and nature of environmental impacts through assessment against the environmental baseline; and
- Definition of impact assessment methodologies to be utilised.

2.2.6 In addition the following key documents are available as separate reports prepared as part of the wider planning application package:

- Landscape & Visual Impact Assessment
- Archaeological Impact Assessment
- Design & Access Statement
- Flood Risk Assessment and Drainage Strategy
- Construction Traffic Management Plan
- Transport Assessment
- Non-Motorised User Audit
- Site Wide Travel Plan
- Stage 1 Road Safety Audit
- Statement of Community involvement
- Tree Survey and Constraints Plan
- Arboricultural Impact Assessment
- Planning Statement
- Full suite of plans.

2.2.7 The scope of the EIA has been determined by the input provided as part of the Screening Direction from the Secretary of State, and in turn has been supported by the evidence gathered as part of the work undertaken for the wider planning application.

2.2.8 The scope of the EIA is set out in the Screening Direction as follows:

Cultural Heritage Impacts

2.2.9 Adjacent to the boundary of the site is the Cornwall and West Devon Mining Landscape World Heritage Site, within this and in close proximity to the site lie the remains of a mill complex, rope works and water management system formerly associated with Harvey's Foundry and designated Scheduled Ancient Monuments. The proposed development may give rise to an adverse impact on the setting of heritage assets by blurring the distinctive separation of two historic foundry towns, Copperhouse and Harvey's Foundry, causing further merging of these historic areas of settlement, and harm to the significance of highly graded heritage assets.

Ecological impact

2.2.10 The site is within 650m of the Hayle Estuary and Carrack Gladdens SSSI and there is the potential for the proposal to cause increased nutrient input to the estuary and to cause an increase in recreational disturbance.

Visual impact

2.2.11 The submitted landscape and visual assessment states that there would be some residual visual impacts with an assessed significance of severe / major adverse.

Topics scoped into the ES

2.2.12 As per the Secretary of State's Screening Direction dated 8th October 2015 the following topics are addressed as part of this ES are listed below:

- Chapter 6: Cultural Heritage
- Chapter 7: Landscape and Visual Impact
- Chapter 8: Ecology and Nature Conservation

2.2.13 The specific focus of the above assessments is detailed within each chapter.

Topics not considered further in the ES

2.2.14 Issues which have been assessed as unlikely to give rise to significant environmental effects have been omitted (also termed as 'scoped out') from the EIA and are detailed below with reasons provided as to why they are not considered to give rise to significant environmental effects:

Flood Risk & Drainage

2.2.15 The potential for flooding from the Penpol Stream has been assessed and found not to present a risk. A sustainable urban drainage scheme is proposed alongside the use of soakaways for houses and highway drainage.

- 2.2.16 Where soakaways are not viable attenuation tanks would be installed. Overall the surface water drainage management will prevent any significant increase in flood risk off-site. The Environment Agency have raised no concerns and have required a planning condition with respect to a detailed final surface water management scheme.

Ground Conditions

- 2.2.17 The site has evidence of hydrocarbon contamination related to a fuel storage tank associated with agricultural activity, arsenic and lead are present as a result of previous mining activity which has also resulted in an area of made ground which is likely to contain contaminants. The Ground Investigation confirms that contamination on site is not considered to be a significant constraint on development.

Traffic & Transport

- 2.2.18 There is sufficient capacity for 222 dwellings at the site. The access arrangements will provide improvements to the junction between Foundry Square and Foundry Hill to improve emerging visibility. The proposals have been subject to a Road Safety Audit and approved by the Highway Authority.
- 2.2.19 There are numerous facilities (shops, schools, health care services) within 800m walking distance of the site. The site will be permeated by pedestrian and cycle links which will link with the bridleways to the east and west of the site.
- 2.2.20 It is proposed that 404 standard parking spaces will be provided which equates to 1.8 spaces per dwelling. This level is sufficient given the proximity to the town centre and public transport. Cycle parking will be provided in locations convenient for users throughout the site.

Air Quality

- 2.2.21 A Planning Performance Agreement at (**Appendix 2.1**) was agreed with the Council that included agreement to the validation requirements for the planning application. It was agreed with Cornwall Council that an Air Quality Management Assessment was not required given the scale of the development and that the site is not within an Air Quality Management Area.

Loss of Agricultural Land

- 2.2.22 The site comprises Grade 3a agricultural land. As stated in the Council's Screening Opinion, the loss of agricultural land is not a significant impact in regard to complexity and magnitude.

Noise

- 2.2.23 The development will generate construction noise, vibration and dust, however these impacts are not considered to be complex or of a great magnitude. Construction impacts will be addressed via a Construction Environment Management Plan dealt with via a planning condition.
- 2.2.24 The Council's Screening Opinion states that noise from the development during and post construction and will have limited effect on residents and affects a limited number of dwellings. Construction effects would not be complex and no EIA is required to understand the potential impacts. Occupation phase noise which proves to be a nuisance is unlikely to be frequent or beyond that normally associated with a residential area.

Below Ground Archaeology

- 2.2.25 The proposed development would be located in an area which the desk based assessment and walkover survey suggests that there is strong potential for mining related remains within the proposal area. In addition as an area of Anciently Enclosed Land, and given the various findspots nearby there is also a high potential for Prehistoric and or Romano-British remains within the proposal area; although these may have been severely truncated by later activities.
- 2.2.26 A scheme of archaeological investigation will be agreed with the County Archaeologist will be undertaken prior to commencement of development to record any features of archaeology that may be revealed during the course of preliminary investigations and survey work.

Cumulative Assessment

- 2.2.27 The Cumulative Assessment is set out in Chapter 9. The site is part of a wider development area between the southern urban edge of Hayle and the A30 which has been identified by Cornwall Council as appropriate for future development to meet the emerging Local Plan requirements in the Hayle Town Framework. This is detailed in Chapter 5.
- 2.2.28 The Council's Screening Opinion (**Appendix 1.2**) identified that the proposal would have a cumulative effect in regard to the consented mixed-use redevelopment at Hayle Harbour (granted planning permission in 2008) which includes approximately 750 houses. The majority of the site is mostly brownfield land which has been associated with the industrial harbour, the impact of any future development is therefore considered in this context. Part of the site is already constructed, including the Asda supermarket, and as such should be considered part of the baseline. WYG has contacted the Council to ascertain when the remaining element of the development is expected to be delivered. It is unclear precisely when the remaining site will come forward, although planning permission is in place. As planning consent is granted for a 3 year period, it is expected to be delivered within this

timeframe. The Screening Opinion makes specific reference to the impact upon the local road network and on the A30 trunk road. However it is concluded that the impacts on the affected roads can be readily identified and quantified and do not present a complex interaction. This is further supported by the Transport Assessment and the agreement of the local highways authority that there is sufficient capacity for 222 houses at the site.

2.3 Assessment Criteria

Overview

- 2.3.1 The assessments presented in this ES have considered the potential for significant environmental effects to affect the baseline conditions as a direct/indirect result of the proposed development. The baseline conditions are defined as the existing state of the environment and how it may develop in the future in the absence of the proposals. This is a requirement of the EIA Regulations which in Schedule 4, Part 1, Paragraph 3 require a description of the aspects of the environment likely to be significantly affected by the development (HMSO, 2011).
- 2.3.2 Predictions are necessary when forecasting future impacts. The EIA Regulations in Schedule 4, Part 1, Paragraph 4 require a description by the applicant of the forecasting methods used to assess the effects on the environment (HMSO, 2011). Assessments have been undertaken in accordance with best practice guidelines published by the relevant professional bodies. Industry standard approaches, for example, the Institute of Ecology and Environmental (IEEM) Guidelines for Ecological Impact Assessment in the United Kingdom (IEEM, 2006) and the Landscape Institute / Institute of Environmental Management and the Countryside Agency's Guidelines for Landscape and Visual Impact Assessment Third Edition (LI/IEEMA et al, 2013), have been used in undertaking the impact assessments. Each chapter's methodology section provides details of the assessment criteria and terminology in the context of that technical discipline.

Receptor Sensitivity

- 2.3.3 The sensitivity of a receptor refers to its importance, i.e. its environmental value/attributes. This may include a feature's level of statutory designation, for example if a site has a European designation (e.g. Special Area of Conservation) it will generally be regarded as more important/sensitive than another site with a national or local designation (e.g. Local Nature Reserve). The terminology defining sensitivity can vary according to discipline or

the methodology being used. However, within this ES sensitivity is generally determined as Very High, High, Medium or Low.

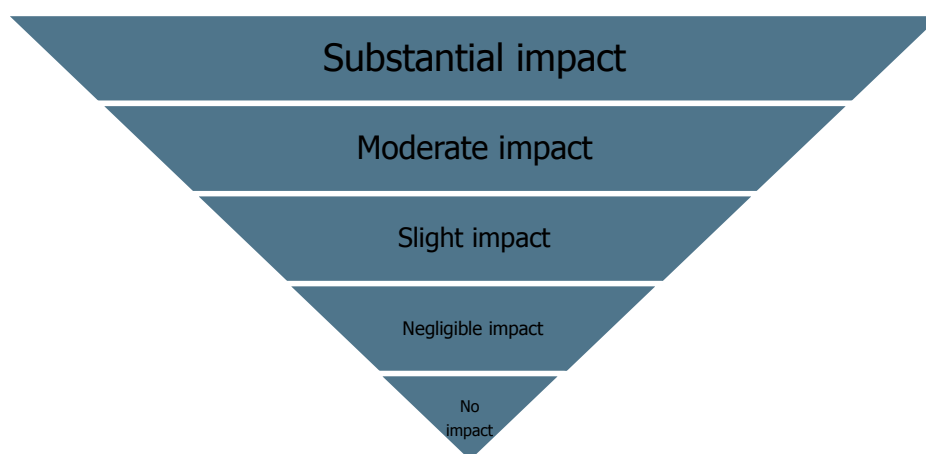
- 2.3.4 Each individual chapter within this ES considers the attributes of specific receptors in more detail.

Determining Impact Magnitude

- 2.3.5 Magnitude is determined by predicting the scale of any potential change in the baseline conditions. Where possible, magnitude has been quantified; however where this has not been possible a fully defined qualitative assessment has been undertaken. The assessment of magnitude is carried out considering any 'design mitigation', i.e. relevant design features, in the proposal forming part of the development description. This may result in the need for 'additional mitigation' i.e. that which results from the EIA process, to reduce impacts further. Therefore, the magnitude of impacts both before and after 'additional mitigation' has been stated.

- 2.3.6 Magnitude will be defined within each chapter along a sliding scale. Typical terms that can be used are shown in Diagram 1. Reducing impacts are lower down the pyramid.

Diagram 1 Pyramid depicting the relative scale of impact magnitude terminology



- 2.3.7 As shown in Diagram 1; an impact of substantial magnitude is far worse than an impact of negligible magnitude or no impact.

Determining the Significance and Nature of Effects



Diagram 2 Significance of effects process equation

- 2.3.8 To determine the significance of effect the assessor combines the predicted magnitude of impact (change) with the assigned sensitivity (value) of the receptor. This is shown as an equation in Diagram 2.
- 2.3.9 Table 2.2 shows how the interaction of magnitude and sensitivity can be combined to determine the significance of an environmental effect on a scale (note this does not define whether an impact is significant or not, see below). Deviation from the terminology may occur in cases where an established methodology requires this, which will be explained in relevant chapters.
- 2.3.10 The definition of at what level of significance a significant impact arises is provided within the topic method section of each chapter of the ES. This is important in the context of the EIA Regulations which in Schedule 4, Part 1, Paragraph 4 require a description of the likely significant effects of the development (HMSO, 2011) which should cover the direct effects and any indirect, secondary, cumulative, short medium and long-term, permanent and

temporary, positive and negative effects of the development. Therefore, environmental effects are described as:

- Adverse or beneficial
- Direct or indirect
- Temporary or permanent
- Short, medium or long term
- Reversible or irreversible
- Cumulative.

2.3.11 Adverse describes effects which are undesirable and beneficial describes effects which are desirable, and are used to describe effects resulting from impact magnitudes which are either negative or positive.

2.3.12 Each effect will have a source originating from the development, a pathway and a receptor. Effects which operate this direct way are regarded as direct effects. Effects on other receptors via subsequent pathways are regarded as indirect effects.

2.3.13 Each individual chapter within this ES considers the nature of effects and significance of effects and their definitions in more detail as required.

Table 2.1 Example Significance of Effects Matrix

Sensitivity of Receptor	Magnitude of Impact			
	Substantial magnitude	Moderate magnitude	Slight magnitude	Negligible magnitude
Very High	Major	Major – Intermediate	Intermediate	Minor
High	Major-intermediate	Intermediate	Intermediate – Minor	Neutral
Medium	Intermediate	Intermediate	Minor	Neutral
Low	Intermediate – Minor	Minor	Minor – Neutral	Neutral

EIA Assumptions and Limitations

2.3.14 The following key assumptions have been made in preparing the ES:

- All legislative requirements will be met.
- The pre-additional mitigation effects assessment reported within this ES assumes the project will be constructed in accordance with industry standard techniques and currently enforced mandatory minimum standards, and assumes suitably experienced contractors will be appointed to design, construct and commission the development.
- The potential environmental effects of the construction phase will be controlled through a Code of Construction Practice. A Construction Environmental Management Plan (CEMP) would be prepared prior to commencement of construction and would contain all the design and additional mitigation as identified and reported within this ES and any subsequently agreed requirements, expected to be enforced by planning conditions. The details of these documents would be agreed with the Council prior to construction commencing.

2.3.15 Where further assumptions have been made for individual topic assessments these will be identified within the relevant topic chapters.

2.3.16 Any limitations or uncertainties associated with impact prediction or the sensitivity of receptors due to the absence of data or other factors will give rise to uncertainty in the assessment. Schedule 4, Part 1, Paragraph 7 of the EIA Regulations requires that an ES state whether any "difficulties (technical deficiencies or lack of know-how) encountered by the Applicant in compiling the required information." (HMSO, 2011). In this case any limitations in the assessments are referred to in the relevant chapter of this ES.

Mitigation Measures

2.3.17 A description of the mitigation measures is one of the requirements of the EIA Regulations. Schedule 4, Part 1, Paragraph 5 of the EIA Regulations sets out the information that must be included in an ES and this includes "a description of the measures envisaged preventing, reducing and where possible, offsetting any significant adverse effects on the environment." (HMSO, 2011).

2.3.18 In order to reduce the magnitude of the impact and therefore the significance of the environmental effect, where possible, mitigation measures have been identified. The

following hierarchy, and terminology, has been used when determining mitigation measures:

- Prevent – to avoid adverse effects as far as possible by designing out (design mitigation) or using preventative measures (additional mitigation) during the construction/operation process resulting in neutral effects
- Reduce – to minimise adverse effects as far as possible by improvements to the design (design mitigation) or using reductive (but not necessarily fully preventative measures due to technical infeasibility without excessive cost) during the construction/operation process (additional mitigation) resulting in neutral effects
- Offset – to offset or compensate for adverse effects where it is not possible to avoid effects or where the effect has already been reduced (minimised) as far as technically feasible (without excessive cost). With offsetting and compensation, effects may not be fully neutralised.
- Enhance – to identify opportunities where enhancement can be incorporated into the scheme where effects have been neutralised.

2.3.19 When describing mitigation measures, they generally fall under two headings, 'design mitigation' and 'additional mitigation'.

2.3.20 Design mitigation is where the design of the site has been altered to take into account a particular issue or accommodate an important feature. This will generally be part of the project description and incorporated into the scheme. The strategic development of the Masterplan for the land has involved the consideration of potential effects of alternative designs and layouts of the site. This is described in chapter 4 of this ES

2.3.21 Additional mitigation is all other mitigation that has been identified as a result of the impact assessment that has been undertaken on the fixed design scheme. Clear details of when and how the mitigation measures identified in the chapter will be implemented, have been given. An assessment of 'residual' magnitude is conducted following the determination of suitable additional mitigation measures. The subsequent assessment of residual significance identifies the residual environmental effects, these being the final



outcome of the EIA process. Statements are made of whether residual effects are significant or not.

2.4 References

1. Her Majesty's Stationery Office (HMSO), 2011. The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015).
2. Institute of Ecology and Environmental Management [IEEM], 2006. Guidelines for Ecological Impact Assessment in the United Kingdom.
3. Institute of Environmental Management and Assessment [IEMA] (2004). Guidelines for Environmental Impact Assessment. IEMA Perspectives.
4. Rudland, D J et al (2001) Contaminated Land Risk Assessment: A Guide to Good Practice, CIRIA C552
5. The Landscape Institute / Institute of Environmental Management and the Countryside Agency, 2013. Guidelines for Landscape and Visual Impact Assessment. Third Edition.
6. Wood G., 2008. Thresholds and criteria for evaluating and communicating impact significance in environmental statements: 'See no evil, hear no evil, speak no evil'? Environmental Impact Assessment Review. Volume 28. 22-38.

3.0 Description of the Proposed Development

3.1 Introduction

- 3.1.1 This chapter outlines the main characteristics of the proposed development that has been assessed as part of the EIA, covering both the construction and operational phases. It sets the proposals in context beginning with a description of the existing site and local geographical and spatial context.

3.2 The Site and Local Context

Site Location & Description

- 3.2.1 The site which comprises open agricultural fields, extends to 11.14 hectares (**Figure 1.1**). The approximate centre of the site lies at National Grid Reference Easting 156085 / Northing 036835.
- 3.2.2 The site is on the eastern slope of a valley which generally slopes down from east to the Penpol Stream in the west and down from the south east to north-west and Penpol Road.

Site Surroundings

- 3.2.3 The site is currently accessed via a field gate at the northern boundary with Penpol Road. Immediately adjacent to this access to the west is Penpol primary school. The northern site boundary wraps around the school playing field to the west and at its western extent borders the Millpond which is a scheduled monument. The western boundary adjoins the

Penpol Stream, within the site at the west boundary are other ponds which are fed by the stream.

- 3.2.4 Beyond the southern boundary is agricultural land which borders the A30 trunk road. Beyond the stream the land rises to modern residential development accessed from Foundry Hill.
- 3.2.5 To the east of the entrance from Penpol Road are three Grade II listed buildings. The Hayle Conservation Area borders the northern part of the site at the boundary with the listed buildings and primary school and where the site adjoins Penpol Road.
- 3.2.6 The Cornwall and West Devon Mining Landscape World Heritage Site (WHS) is to the north and west of the application site but only abuts the application site for part of the west boundary at the Millpond.
- 3.2.7 There are no landscape designations affecting the site. The Hayle Estuary and Carrack Gladden SSSI is to the north and separated from the site.
- 3.2.8 The A30 (T) provides a strategic highway link to Penzance in the west and the M5 at Exeter to the east and Penzance in the west.
- 3.2.9 Hayle town centre is located in close proximity to the site. Hayle railway station, a post office, a number of shops, hospital, dental practice and doctors surgery are all within 800 metres walking distance of the site.

Site History

- 3.2.10 The site is currently used for farming and has only been used in recent times for this purpose.

3.3 Overview of the Proposed Development

- 3.3.1 Following comprehensive technical and environmental investigations and after extensive consultation, the planning application was been prepared. The proposals comprise

residential development of 222 dwellings together the provision of land to facilitate the expansion of Penpol Primary School.

Development Proposals

- 3.3.2 The scheme will provide 222 including 30% affordable units. The range of housing types include 1 & 2 bed apartments, 2 & 3 bed terraced and semi-detached housing and 3 & 4 Bed detached housing.
- 3.3.3 The average density in the scheme is circa 27 units/ha. Which ranges throughout the scheme to reflect the various site conditions i.e. lower density on the edges and on the higher ground and higher density along the main street and mews streets. The maximum storey height is 3 storey and this only occurs on the apartment buildings at the entrance to the site nearest to the school. Figure 27 of the Design & Access Statement (**Appendix 3.1**) shows the housing mix across the site.
- 3.3.4 The building design reflects the modest style of dwellings in Hayle with a mix of render, stone cladding and horizontal weatherboarding to elevations, with slate roofs. Garden sizes range from 24 square metres for flats over garages to 250 square metres for the larger detached properties. Two and three bedroom dwellings have garden areas in excess of 50 square metres.
- 3.3.1 408 allocated parking spaces and 42 visitor spaces will be provided within the site. Vehicular access will be provided from Saint George Road. The proposal also includes the provision of land to facilitate the expansion of Penpol Primary School. Pedestrian and cycle linkages to the Foundry Square and wider area will be provided (to the west and east onto existing public footpaths and bridleways).
- 3.3.2 A play area is proposed to be located at the eastern boundary at the higher part of the site. At the lower part of the site adjacent to the wetland, public open space is to be provided which provides a landscape buffer to the existing stream corridor and flood plain. An additional landscape woodland buffer has been included to the north of the site adjacent to the existing listed buildings in order to provide a reinforced landscape setting to the buildings. Landscaping will include new stone hedges and the retention and reinforcement of perimeter hedges. The area of scrub marking a historic mineshaft within the site would be cleared and the mature tree retained with a small public space around the tree. The retention of the majority of mature trees and planting of new trees within the streets, rear gardens and within the open space areas will help to create a green setting for the development. Flood attenuation ponds on the lower slopes of the site are set within

a landscape buffer to existing wetland areas which also help in creating additional biodiversity across the site.

- 3.3.3 Land to the north west is to be kept free for the expansion of the tennis club which would be separate to the current proposals.
- 3.3.4 The Masterplan in **Appendix 3.2** below shows the arrangement of the development.
- 3.3.5 The site red line boundary is at **Figure 1.1** which shows a total site area of 11.14ha.
- 3.3.6 The schedule of development is provided in **Table 3.1** below and set out in **Figure 3.1**.

Table 3.1 Schedule of Development

Development Type	Area (ha)
Residential	5.164
Public Open Space	1.146
Land for Primary School	0.833
Estate Roads	1.983
Existing Wetland Buffer	1.55
Proposed Woodland Buffer	0.132
Pumping Station	0.039
Potential land for tennis club	0.021
Land retained for Future Development	0.15
Highway Junction Land	0.082
Total	11.1

Figure 3.1 Area Measurements

Phasing

- 3.3.7 There will not be any phasing with the 222 unit scheme. Development will commence at the north of the site to form a suitable sales and selling area and then progress

southwards. It is anticipated that dwellings will be completed at 1 unit/week and it will take 4.5 years to complete the scheme from commencement.

3.4 Sustainability in Location and Design

3.4.1 The proposals include the following sustainable elements and design mitigation features;

- Provide the potential for bus access through the site along the main street which is designed as a 6.1m road width.
- Ecological enhancements.
- Provide a setting and infrastructure to encourage walking and cycling to local facilities and healthy living.
- Provide solar gain to gardens and houses where the street system allows
- To accommodate water attenuation features (ponds) and swales as part of the Sustainable Urban Drainage System.
- Provide standards to the construction and specification of the houses which will include;
 - i) Insulation standards to all plots in accordance with current building regulations
 - ii) Install toilets with a 6/4 litre cistern to all plots
 - iii) Each dwelling is to be provided with a 200 litre water storage butt
 - iv) Aerated taps to every plot to reduce water consumption
 - v) Installation of energy efficient light fittings within all plots
 - vi) All white goods, where fitted, are "A" rated under the EU Energy Efficiency Labelling scheme
 - vii) Sort and re-use/recycle construction wastes wherever possible
 - viii) Monitor the generation of construction waste and the proportion sent to land-fill.
 - ix) Install low NO_x omitting boilers in all plots
 - x) Ensure contractors adopt best practice methods to minimize dust and air pollutants arising from construction activities.

Construction

3.4.2 Construction of the Proposed Development will involve the following activities:

- Enabling works (earthworks);
- Landscape and ground profiling;
- Installation of drainage;
- Construction of foundations;
- Construction of dwellings;
- Installation of services and commissioning; and
- Construction of on-site highways;
- Construction of off-site highway improvements.

3.4.3 No main contractor has yet been appointed and therefore fully detailed construction processes have not been developed at this stage. Where no detail currently exists regarding the construction process assumptions have been made, based on expert judgement and experience on similar projects from within the project team.

3.4.4 The selected main contractor will be required to prepare a detailed construction and procurement programme identifying key tasks and milestones to ensure that enhancement of the project is properly resourced and sequenced in accordance with the overall project duration.

3.4.5 The main contractor will be encouraged to use local labour, sub-contractors and suppliers during the construction process; however, specialist work portions may have to be sourced from wherever the appropriate skill base resides.

Construction Activities

3.4.6 A number of assumptions have been made in terms of the construction processes and activities to be undertaken as part of the Proposed Development. The methods of construction are assumed to be typical masonry and steel and timber framed buildings and there is the potential for a small amount of on-site piling. It is assumed that there is no sandblasting, mobile crushing equipment on site and a limited amount of concrete batching. It is assumed that in terms of concrete batching equipment / plant, all mortar and concrete will be delivered to Site.

3.4.7 In order to assess the worst case scenario as part of the ES, assumptions have been made in terms of the procedure for construction, which have been broken down as follows:

Table 3.1 Typical Plant List

Phase Description	Activity
Groundworks and Site Establishment	Wheeled Mobile Crane
	Delivery Wagons
	Generator
	Tracked Excavators
	Hand Tools
	Dump Trucks
	Dozer (Towing Roller)
Construction of Proposed Development (including all ancillary works)	Dump Trucks
	Tracked Excavators
	Concrete mixer truck and pump
	Delivery Wagons
	Small cement mixer
	Wheeled mobile telescopic crane
	Lifting platform
	Telescopic handler
	Compressor for power tools
	Generator for Lighting
	Hand Tools
	Circular saw
	Road Planer
	Tipper lorry
	Asphalt paver
	Vibratory roller and plate

Predicted traffic movements during construction

3.4.8 The main deliveries and Site traffic will be related to the following:

- Daily site staff and labour;
- Movements arising from the demolition of existing buildings and structures;
- Aggregate and concrete deliveries for early activities;
- Deliveries of building components and services equipment;
- Periodic inspections, visitors and inspectors; and
- Disposal of waste material.

3.4.9 The Site benefits from excellent access to a number of main roads and aerial roads into the site including the A30.

3.4.10 Construction traffic will be managed to minimise impact upon the network AM and PM traffic peaks, and deliveries staggered so as to avoid obstruction of the public highway. These details will form part of a Construction Traffic Management Plan (CTMP).

- 3.4.11 The main contractor will be required to develop a Travel Plan to ensure that staff travel to and from the Site does not result in adverse traffic impacts during the demolition and construction phases of development.
- 3.4.12 It is proposed that the construction traffic will be managed to minimise peak hour congestion where possible and a clear road signage strategy will be provided to minimise the impact on the existing surrounding community.

Working Practices

- 3.4.13 Prior to the commencement of construction an adequately developed principal contractor's 'Construction Phase Plan' will be prepared including:
- Pre-construction Health and Safety Information as required by the CDM Regulations 2015;
 - Pre-construction Site Waste Management Plan and Site Waste Management Plan (SWMP); and
 - Construction Environmental Management Plan (CEMP).
- 3.4.14 In addition, the following document will be prepared/revised as necessary by the CDM Co-ordinator:
- Construction Phase CDM Health and Safety Plan as required by the CDM Regulations 2015.
- 3.4.15 The construction works will be monitored by an Employers Agent, who will also liaise with the various environmental and other advisers who will have input into the project.
- 3.4.16 The base environmental effects assessment reported within this ES assumes the project will be constructed in accordance with industry standard techniques and mandatory minimum standards, and assumes suitably experienced contractors will be appointed to design, construct and commission the development. A non-exhaustive list of key standard working techniques/practices taken into account in the base assessment is provided in the following sub-sections.

Construction works times

- 3.4.17 Construction activities on the Site will normally be carried out between 08.00 hours to 18.00 hours Monday to Friday and 08.00 hours to 13.00 hours on Saturdays, with no such activities on a Sunday or a Public or Bank Holiday. Any works required to take place outside of these periods will be agreed in advance with Cornwall Council.

Construction landscape and visual impact

- 3.4.18 Prior to commencement of the construction works, the main contractor will be required to erect temporary protective fencing around Tree Protection Zones in accordance with the

approved Tree Protection Plan. Construction works in the vicinity of retained trees within the Site and on adjacent land shall be carried out in accordance with recommendations in 'BS5837:2012 Trees in relation to design, demolition and construction' and approved Arboricultural Method Statement to safeguard trees and hedges. Landscape planting and topsoiling works within retained tree root protection areas shall be carried out in accordance with 'BS3998:2010 Recommendations for tree work' and generally.

- 3.4.19 All boundaries of the Site will be secured by means of temporary fencing and / or hoarding for safety and security reasons and to reduce the visual impact of the Site during the construction period.
- 3.4.20 Working hours are intended to be standard site working hours as set out above. There will be a requirement for temporary lighting to be provided to illuminate temporary car parking areas, site roads and the contractor's storage compound; and working areas for the late afternoons during the winter months only. The temporary lighting will be specific to the areas that require illumination during the night-time period to ensure both on site safety and security. All lighting for construction activities will be directed downwards and away from any residential areas to avoid light pollution as well as to reduce the detrimental effects on ecological receptors.

Construction Materials

- 3.4.21 No materials will be used in the Proposed Development that by their nature or application or use contravene any British Standard or Code of Practice, or which contravenes the recommendations of Good Practice in the Selection of Construction Materials (Ove Arup and Partners, 1997).

Construction Water Supply and Use

- 3.4.22 Water usage during construction will be used for the purposes listed below and will utilise where possible, local grid connections. If this is not possible, water will be supplied by bowser.
- 3.4.23 Water is expected to be used during construction in the following activities:
- Dust suppression;
 - Cleaning of ready mix concrete wagons (not occurring on the Site, but third party wagon delivery chutes will require cleaning on-site);
 - High pressure cleaning (of machinery and constructed surfaces);
 - Wheel wash (expected to be required – additional mitigation to control deposition of mud on local roads);

- Water use in welfare facilities; and
- Commissioning / testing of operational water supply structures and services.

Construction compound

- 3.4.1 A contractors working area will be made available, and the location will be clearly delineated on the Site and agreed with CC to ensure that no unnecessary disturbance is caused to any sensitive areas, and is located at least 25m from any surface water feature. The Site compound and maintenance compound (fuel storage and filling area) will be set behind 2.4m high hoardings and be monitored by a 24 hour on site security team.

Safe Storage of Fuel/Oil

- 3.4.2 Particular attention will be given to the storage and use of fuels for the plant on Site. Drainage within the temporary, secure, Site compound, where construction vehicles will park and where any diesel fuel will be stored, will be directed to an oil interceptor to prevent pollution if any spillage occurs. Diesel storage and refuelling will be within a designated area or self-bunded tank in accordance with the Environment Agency's Pollution Prevention Guidelines (PPG), as listed below:
- PPG 2 Above Ground Oil Storage Tanks; and
 - PPG 8 Safe Storage and Disposal of Used Oils.
- 3.4.3 This is regarded by WYG as industry standard practice and also includes mandatory legal requirements which are considered as integral to the development being assessed in this ES.

Construction Drainage

- 3.4.4 These potential pollution events will be managed by the principal contractor through the adoption of a Construction Drainage Management Plan, to be approved by the Environment Agency. This may include monitoring of identified watercourses and installation of containment features, including; bunds, ditches, booms and lagoons.

Construction Waste

- 3.4.5 The Proposed Development will actively seek to reduce the amount of waste sent to landfill during the construction phase through sustainable design and procurement together with the reuse or recycling of materials, wherever possible.
- 3.4.6 Waste will be managed in accordance with the Waste Hierarchy, and as such waste minimisation will be given the highest priority. The reuse and recovery of waste will be encouraged by proactively identifying opportunities for the on-site reuse of materials (for

example in landscape contouring), and by appointing a waste contractor who can demonstrate high levels of recycling. Energy recovery will be the preferred option for managing residual waste from construction works and only residual waste which has no potential for energy recovery will be sent for landfill disposal. All reasonable measures will be taken to ensure that levels of residual waste sent to landfill are kept to a minimum.

- 3.4.7 It is an ambition to use resources which have been sourced locally, where these are available, and also to use sustainable means of transport (such as rail), where possible. Construction materials will be procured which have a high proportion of recycled material, where this is practicable and does not adversely affect the integrity and durability of the materials.
- 3.4.8 Modern methods of design and construction using pre-fabricated units will help keep waste arisings to a minimum. The frames and envelopes will be pre-fabricated with formwork remaining on site. All construction waste produced during the site preparation works that cannot be re-used on site will be segregated and recycled. Efficient building forms and services will be used that will minimise the volumes and numbers of on-site manufactured components required to reduce the potential for waste generation. Scaffolding, hoarding and shuttering will be disassembled and used on other phases of the project and then removed from site for use on subsequent construction projects.
- 3.4.9 Construction sites will be laid out to ensure that there is sufficient space for waste from the construction phase to be segregated into separate containers and stored prior to removal and off-site management. However, the regular removal of waste and recycling will minimise the amount of external space required for waste storage both in the construction and operational phases of the developments.
- 3.4.10 Under the Duty of Care Regulations producers of waste have a legal obligation to ensure wastes are handled responsibly and in line with relevant legislation and guidance. The strict management of waste during the construction phase of each development by site operatives Training sessions for relevant construction staff.

Construction Noise and Vibration

- 3.4.11 The main contractor will refer to the guidance provided within BS5228:2009+A1:2014 in order to minimise disruption during construction. Additionally, the principal form of noise control will comprise site working hours according to any conditions within the planning consent and avoiding unsocial working hours where possible. If there is the requirement to undertake 'noisy' work outside of the agreed hours, further consultation would be undertaken with CC to obtain prior agreement that the proposed works would be acceptable.

- 3.4.12 The Local Authority is provided with powers under the Control of Pollution Act 1974 to control noise and vibration from construction sites including, if necessary, serving notices under the Section 60 to specify working practices.

Construction Air Quality and Dust

- 3.4.13 Particular care will be taken regarding dust emissions so that they are kept to a practicable minimum, especially when working in the vicinity of residential or commercial properties in the vicinity of the Site. Suppression and mitigation will be required during dry conditions with the following dust reduction measures being employed:
- Sheeting of vehicles transporting materials to and from Site;
 - Limiting the speed of general vehicles within the Site;
 - Temporary surfacing to haul roads where possible within the programme;
 - Haul roads to be regularly cleaned;
 - Provision of wheel washing facilities at access points onto local roads; and
 - Drop heights minimised and all skips enclosed where possible.
- 3.4.14 No materials arising from the demolition of existing structures on-site, the construction of the road or any material from incidental works will be burnt on the Site.
- 3.4.15 The main contractor will comply with the BRE Code of Practice to control dust from construction and demolition activities, unless agreed otherwise with the LPA. The requirements of the code will apply to all work at the Site, access roads and adjacent roads.

Construction Ecological Mitigation

- 3.4.16 Ecological tool box talks will be given to all construction staff prior to any works being undertaken on the site. These may initially take the form of an overview of the site and the potential ecological constraints that may be encountered during the construction operation. This will also provide the protocol in the event that a protected species is found, i.e. stop works, report incident and seek advice from an ecologist. Subsequently there may be specific tool box talks for specific operations such as works on or adjacent to water bodies or known bat roosts.
- 3.4.17 Ecological clerk of works will be available to assist site works where this is necessary, when the works involve a protected species where a license has been granted by Natural England. This will help to ensure that all works are undertaken in accordance with the license and enable any unforeseen circumstances to be assessed and dealt with appropriately.



Health and Safety

- 3.4.18 All work will be undertaken to relevant Health and Safety legislation. The project will be supervised in accordance with the revised Construction Design and Management Regulations 2015 (CDM). Risk Assessment will be undertaken for each work package prior to activities taking place. A CDM Health and Safety File will be prepared and, after completion of the construction works, will be handed over to the applicant.

3.5 References

1. Department of the Environment Transport and the Regions (DETR), 2000.
Environmental Impact Assessment: A Guide to the Procedures (DETR).
2. Design & Access Statement, Lavigne Lonsdale September 2014

4.0 Consideration of Alternatives

4.1 Site Feasibility and Identification

- 4.1.1 Cornwall Council has carried out a site availability assessment in Hayle as part of the Town Framework Process. All sites considered were subjected to a screening process for constraints and development suitability. The purpose of this exercise was to ascertain appropriate land that was available for development to meet the housing requirement for Hayle to inform the emerging Local Plan process. The Town framework identified two strategic allocations in and around the town, part of which includes the site subject to this Environmental Statement. As all known available sites in Hayle were considered as part of the Town Framework exercise, no further assessment and clarification was needed.

4.2 Consideration of Alternatives

- 4.2.1 In accordance with Schedule 4, Part 1, Paragraph 2 of the EIA Regulations (HMSO, 2011) the ES is required to include an outline of the main alternatives considered in development of the proposal and the reasons for the choice to be taken forward. In this, consideration is given below to the potential firstly for an alternative site and secondly for alternative development proposals.

Alternative Sites

- 4.2.2 The context for the consideration of alternative sites is the local and national planning context concerning housing delivery. A detailed assessment and analysis of the relevant planning policy context is provided within the following chapter.
- 4.2.3 The site forms part of the Council's preferred site HUE2 urban extension site in the emerging Hayle Town Framework at **Appendix 4.1**. The assessment has been subject to a Sustainability Appraisal which agreed with the sites identified within the Framework. Whilst this does not form part of the Development Plan, it is clear evidence that the Council considers the principle of the development to be acceptable. The identification of the wider HUE2 area for growth was further supported by Cornwall Council's "Hayle Town Framework Urban Extension Assessment" document (December 2011). Page 11 of the Assessment document states that Cell 10 (which the appeal site forms part of) is *'well related to the town in terms of proximity to services and facilities and route connectivity, and they are of a scale that would potentially enable the creation of a new neighbourhood*

or the expansion of the existing neighbourhood by providing supporting community facilities'.

4.2.4 'Cell 10' was identified as an area that *'may enable either an expansion of an existing neighbourhood or the creation of a new neighbourhood, with good opportunity for connections and ease of movement to the existing built area'.*

4.2.5 No other sites identified within the Hayle Town Framework are subject to planning applications at this time. If the wider HEU2 site is developed, it would not be logical for the appeal site to remain undeveloped given its proximity to the existing built area. The appeal site also provides land for the adjacent primary school to expand that is currently at or near capacity. Without delivery of the appeal site and the additional school land, and in the absence of a confirmed Compulsory Purchase Order, there would be insufficient primary school places needed to serve the wider HEU2 urban extension.

4.2.6 In addition to the site's allocation for development, the emerging Local Plan sets out the housing delivery target for Hayle in the period up to 2030. The evidence provided in connection with the emerging Cornwall Local Plan demonstrates that there is a historic record of under delivery throughout Cornwall. Paragraph 49 of the Framework states that:

"Housing applications should be considered in the context of the presumption in favour of sustainable development. Relevant policies for the supply of housing should not be considered up-to-date if the local planning authority cannot demonstrate a five-year supply of deliverable housing sites."

4.2.7 Cornwall Council is at present, as confirmed by recent appeal decisions (see following chapter), unable to demonstrate a 5 year deliverable supply of housing. As such the Council's Development Plan policies relevant to the supply of housing are given reduced weight and the presumption in favour of sustainable development is engaged (under paragraph 14 of the NPPF).

4.2.8 Significant weight should therefore be given to the provision of new housing and the relevant policy test is whether any adverse impacts of the proposed development would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF as a whole.

4.3 Alternative Development Scenarios

4.3.1 Consideration has been given, during the preparation of the Masterplan which underpins the planning application proposals, to alternative development scenarios in respect of how

the site should be developed. The objectives that have guided the shape of the Masterplan are explained within the Design & Access Statement (**Appendix 3.1**).

- 4.3.2 The proposals have been the subject of community consultation which has influenced the way in which it is proposed to develop the site, as has detailed consultation with Cornwall Council officers and other statutory and non-statutory bodies. As set out in further detail in section 4.5.

4.4 Design History

- 4.4.1 Numerous baseline studies and surveys have been undertaken on the site, the results of which are referenced within the respective chapters of this ES and the technical information submitted in support of the planning application. The results of these studies were used to refine the concept to a form of development that could then be worked up in more detail for further analysis and consultation.
- 4.4.2 The resulting Masterplan shown in **Appendix 3.2** was also informed by pre-application consultation detailed in Section 4.5 below.

4.5 Approach to Consultation

- 4.5.1 Linden Homes (SW) Ltd and its consultants have undertaken extensive discussion with statutory and non-statutory consultees, the local community and the landowner(s) with the accumulated findings having an influence over the evolution of the design and scope of the EIA. Consultation began at the earliest stage of development to establish feasibility and has progressed right through to application.
- 4.5.2 The design team have been working on the project for over a year and have had numerous presentations to various stakeholders as part of the Planning Performance Agreement (**Appendix 2.1**). This included presentations to;
- Hayle Town Council
 - Cornwall Design Review Panel
 - Cornwall Council Planning Liaison Group
 - 2 Public Exhibitions
 - 1 to 1 meetings with local residents
 - Meetings with Councillors
 - Various meetings with the head teacher at Penpol School, the Education Authority and the Highways Authority.

4.5.3 As a result, the scheme evolved in the following ways;

- The entrance to the site was changed significantly to allow for an expanded school boundary which resulted in the removal of any development from the first section of access road into the site. This provided better school frontage, less overlooking from future houses, better pedestrian and public realm opportunities, better drop off facilities.
- Increased listed building off setts and inclusion of woodland zones to the rear of the existing Listed Buildings were included in the Masterplan.
- (public consultation) Allowance for the tennis club to potentially expand and the inclusion of a pumping station.
- (Design Review Panel comments) The DRP panel realised that this was the first phase of a larger Cornwall Council Town framework Plan allocation and that the scheme allowed for future linkages. However, they felt that as an interim, a 'square' should be included at the end of the main street into the development in order to get some sense of 'arrival' for this initial phase.

4.5.4 As the scheme has progressed into detail, other changes have included;

- Removal of frontage development onto some of the existing hedgerows to ensure that they are kept as dark corridors for wildlife movements.
- Removal of some vehicular links due to the steepness of the topography and the limits on the adoption criteria for gradients on roads.
- Removal of large parking courts and long stretches of rear parking.

4.6 References

1. Her Majesty's Stationary Office (HMSO), 2011. The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015)
2. Hayle Town Framework, 2011
3. Emerging Cornwall Local Plan, January 2016
4. Design & Access Statement, Lavigne Lonsdale, September 2014
5. Statement of Community Consultation, Remarkable, June 2014

5.0 Planning Policy Overview

5.1 Introduction

- 5.1.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 states that, if regard is to be had to the development plan for the purpose of any determination to be made under the Planning Acts the determination must be made in accordance with the plan unless material considerations indicative otherwise.
- 5.1.2 The site falls within the jurisdiction of Cornwall Council and is covered by policies contained within the statutory Development Plan, which as far as the application site is concerned comprises the Penwith District Local Plan (adopted February 2004).
- 5.1.3 The National Planning Policy Framework (the Framework) sets out the Government are planning policy objectives and, along with its accompanying Planning Practice Guidance, is an important material consideration relevant to the determination of this appeal.

5.2 Development Plan

- 5.2.1 The Penwith District Local Plan covered the period 1991-2011 and so therefore time expired in 2011. Consequently, only limited weight can be attached to its policies, according to their degree of consistency with the Framework (Para 215). The relevant policies are referred to in more detail in the Planning Statement.

5.3 Material Considerations

Emerging Local Plan

- 5.3.1 The draft Cornwall Local Plan (CLP): Strategic Policies, was submitted to the Secretary of State on 9th February 2015 and hearings took place in May 2015. The submitted Plan is made up of the 'Proposed Submission Local Plan – Strategic Policies' published in March 2014 together with a series of amendments due to be published on 25th January 2016 for a 6 week consultation.
- 5.3.2 The Local Plan Inspector's Preliminary Report, May 2015 found that the draft CLP is unsound in its current form, and suggested a number of areas which required further investigation. As a result a number of changes have been made including an increase to the housing requirement in Hayle to 1,600 and the reduction in the affordable housing target from 40% to 30%. Other significant changes include the increase to the overall housing requirement and distribution across Cornwall following a reassessment of the Fully Objectively Assessed Need for Cornwall, revisions to affordable housing targets, and

deletion of the Community Network Area section policy wording and incorporation policy intentions within the main policies.

- 5.3.3 The relevant draft Local Plan Policies considered relevant in respect of the appeal are set out in the Planning Statement.

Allocations DPD

- 5.3.4 Cornwall Council intends to produce an Allocations Development Plan Document (DPD) to sit alongside the Local Plan Strategic Policies document. The DPD will look to allocate strategically important sites development. The Allocations DPD will be prepared following the adoption of the Local Plan: Strategic Policies document. These allocations would be informed by a refresh of the current Town Frameworks. It is anticipated that some allocations will be informed by the Neighbourhood Plans process.

The Hayle Town Framework

- 5.3.5 As explained in Chapter 4, the appeal site forms part of the HUE2 urban extension site in the emerging Hayle Town Framework. Whilst this does not form part of the Development Plan, it is clear evidence that the Council considers the principle of the development to be acceptable. The identification of the wider HUE2 area for growth was further supported by Cornwall Council's Hayle Town Framework Urban Extension Assessment document (December 2011) which suggests that the HUE2 area was an appropriate site for future sustainable development.
- 5.3.6 The identification of the wider HUE2 area for growth in the Urban Extension Assessment was supported by the Council and suggests that the HUE2 area was an appropriate site for future sustainable development. Page 11 of the Assessment document states that Cell 10 (which the site forms part of) is *'well related to the town in terms of proximity to services and facilities and route connectivity, and they are of a scale that would potentially enable the creation of a new neighbourhood or the expansion of the existing neighbourhood by providing supporting community facilities'*.
- 5.3.7 *'Cell 10' was identified as an area that 'may enable either an expansion of an existing neighbourhood or the creation of a new neighbourhood, with good opportunity for connections and ease of movement to the existing built area'.*
- 5.3.8 Cornwall Council Strategic Transport commented that the area was a good option due to its close proximity existing services and facilities in order to create walkable neighbourhoods and discourage car use. The western area of the site was identified as containing significant heritage assets and archaeological potential however, the

assessment concluded that Site HEU2 should be included as an urban extension site, along with three other sites in Hayle. In my view any heritage impact was therefore considered to be acceptable.

- 5.3.9 The Town Framework formed part of the evidence base for the emerging Local Plan that was presented to the Inspector at the Examination in Public held in June 2015. The development of the appeal site therefore formed part of the Council's case in demonstrating that sufficient housing land had been identified to meet the housing requirement for Hayle. The inspector did not raise any particular issue with the Council's approach to the delivery of housing in Hayle.

Neighbourhood Plan

- 5.3.10 The Hayle Neighbourhood Plan is currently being prepared by the Town Council. It is in its early stages of preparation and consultation on the first draft has not yet commenced.

National Planning Policy Framework

- 5.3.11 Central Government policy is provided in the form of The Framework was published on 27 March 2012. Its policies are material considerations which local planning authorities should take into account from the day of its publication. It replaces all previous Planning Policy Statements and Guidance Notes.
- 5.3.12 At the heart of the Framework is a presumption in favour of sustainable development. The Framework describes a sustainable development as having three dimensions: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles:
- An economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;
 - A social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and
 - An environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural

resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

- 5.3.13 At the heart of the Framework is a presumption in favour of sustainable development. For decision taking, this means approving development proposals that accord with the development plan without delay and where the development plan is or relevant policies are out of date, granting permission unless:

"any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the Framework taken as a whole; or specific policies in this Framework indicate development should be restricted" (Paragraph 14).

- 5.3.14 Paragraph 19 states,

"The Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Planning should operate to encourage and not act as an impediment to sustainable growth."

- 5.3.15 Paragraph 47 advises that *"to boost significantly the supply of housing"* local planning authorities should plan for meeting the full and objectively assessed needs for market and affordable housing in its housing market area, including identifying key sites which are critical to the delivery of the housing strategy over the plan period. They should also identify and update annually a supply of specific deliverable sites sufficient to provide five years worth of housing against their housing requirements with an additional buffer of 5% (moved forward from later in the plan period) or, where there has been a record of persistent under delivery of housing, 20%. This is required to provide a realistic prospect of achieving the planned supply and to ensure choice and competition in the market for land.

- 5.3.16 Paragraph 214 advises that for 12 months from the day of publication, i.e. until March 2013, full weight can continue to given to Development Plan policies adopted since 2004 and in accordance with the Planning and Compulsory Purchase Act 2004 even if there is a

limited degree of conflict with the Framework. Following this date, the Framework advises that the following is of relevance:

"due weight should be given to relevant policies in existing plans according to their degree of consistency with this framework (the closer the policies in the plan to the policies in the framework the greater weight that they may be given)."

5.4 Other Policy Considerations

Cornwall Green Infrastructure Study

- 5.4.1 The Green Infrastructure Strategy (2013) sets out the requirements for the delivery of site wide green infrastructure such as public open space, sustainable drainage systems and street design.

Cornwall Design Guide (2013)

- 5.4.2 The Cornwall Design Guide was adopted by the Council in March 2013. It is proposed that the Guide will eventually be published as a Supplementary Planning Document to support the design policies in the Local Plan following its adoption. It provides guidance on the quality of development.

Affordable Housing SPD (2014)

- 5.4.3 The Cornwall Affordable Housing Supplementary Planning Document (SPD) Consultation Draft was issued for consultation in January 2014. The document will form part of the Local Development Framework and provide detailed guidance on how Local Plan policies will be implemented. The documents sets out the information the Council would require for viability assessments in situations where affordable housing provision is to be negotiated below the policy target level.

Summary

- 5.4.4 Cornwall Council cannot currently demonstrate a 5 year housing land supply and therefore planning decisions should be made in the context of the National Planning Policy Framework which supports development that provides housing unless it can be



demonstrated that any adverse impacts of doing so would significantly and demonstrably outweigh the benefits.

- 5.4.5 Notwithstanding the current position, the emerging Cornwall Local Plan refers to the Hayle Town Framework which clearly identifies the site as suitable for future development.

5.5 References

1. Penwith Local Plan, 2004
2. Cornwall Local Plan 2010-2030: Strategic Policies, January 2016
3. Hayle Town Framework, 2011
4. Cornwall Green Infrastructure Study, 2013
5. Cornwall Design Guide, 2013
6. Affordable Housing SPD, January 2014

6.0 Cultural Heritage

6.1 Introduction

- 6.1.1 This chapter considers the local historic environment surrounding and including the Penpol site. This chapter represents the culmination of a protracted and detailed set of specialist studies and surveys by South West Archaeology and more latterly Heritage Places.
- 6.1.2 The primary objectives of the assessment are as follows:
- To identify statutory and non-statutory historic environment and cultural heritage constraints (including planning constraints) within and in the wider environs of the site;
 - To gather information on the previously recorded heritage assets; and,
 - To bring together additional information from evaluation of the site and its environs.
- 6.1.3 These objectives provide an assessment of baseline conditions for the site. This data is then used to:
- Assess the heritage value or significance of designated and non-designated heritage assets (to use NPPF terminology) in the locality;
 - Identify impacts resulting from the application proposals and to quantify their magnitude and significance;
 - Identify appropriate mitigation measures for any significant adverse effects on these heritage assets; and
 - Predict residual impacts of the proposed development on heritage assets in the locality of the site, taking into account proposed mitigation, and to assess the significance of the effects.

6.2 Methodology and scope

International legislation and policy

- 6.2.1 At an international level there are two principal agreements concerning cultural heritage: UNESCO's Convention Concerning the Protection of World Cultural and Natural Heritage (1973) and the European Convention on the Protection of the Archaeological Heritage

(1992). The latter, commonly referred to as the Valetta Convention applies on land and underwater to the 12 mile limit.

6.2.2 As Historic England's website notes:

'The UK Government is signatory to the World Heritage Convention which was established in 1972 by UNESCO. The Convention initiated a list of World Heritage Sites.

World Heritage Sites are sites, places, monuments or buildings of "Outstanding Universal Value" to all humanity - today and in future generations. The World Heritage List includes a wide variety of exceptional cultural and natural sites, such as landscapes, cities, monuments, technological sites and modern buildings.

There are 28 World Heritage Sites in the UK in 2011 including Stonehenge, Canterbury Cathedral, Saltaire, Hadrian's Wall and the whole of the City of Bath.

The protection of a World Heritage Site is the responsibility of national governments. Signature of the Convention is a commitment by that government to identify, protect and conserve their World Heritage Sites for future generations.

It is UK Government policy that each nomination of a new site to UNESCO must be accompanied by a World Heritage Site management plan to ensure that sites are managed in a sustainable way. All UK sites have management plans in place, which are regularly reviewed.

Designation of a World Heritage Site by UNESCO brings no additional statutory controls, but protection is afforded through the planning system as well as through the other designations (listed buildings, scheduled monuments etc) that cover elements, if not the whole, of the site. The heritage significance of a World Heritage Site (its Outstanding Universal Value) will inevitably be reflected, at least in part, in the significance of any listed building, scheduled monument etc that forms part of it. The planning controls that apply to any such elements within a World Heritage Site will be an important part of the recognition and protection of the Outstanding Universal Value of the World Heritage Site.

[In England] the National Planning Policy Framework defines a World Heritage Site as a designated heritage asset. Accordingly, great weight should be given to its conservation and

substantial harm to a World Heritage Site's significance (the heritage aspects of its Outstanding Universal Value) or total loss of the site should be wholly exceptional.'

National legislation

- 6.2.3 The cultural heritage content of this Environmental Statement has been prepared in accordance with current legislation as well as national, regional and local plans and policies. In brief, the national legislative background includes:
- the Ancient Monuments and Archaeological Areas Act 1979, as amended;
 - the Town and Country Planning Act 1990;
 - the Planning (Listed Buildings and Conservation Areas) Act 1990, as amended; and
 - the various Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations that remain in force.
- 6.2.4 At a national level, the principal legislation governing the protection and enhancement of heritage assets in England, which needs to be referred to in this context, is (i) the Ancient Monuments and Archaeological Areas Act 1979 and (ii) the Planning (Listed Buildings and Conservation Areas) Act 1990.
- 6.2.5 The 1979 Act relates to and provides protection for scheduled monuments. The consent of the Secretary of State for Culture, Media and Sport is required for works of demolition, destruction to or damage to a scheduled monument. This includes works of repair, flooding or tipping. The 1979 Act does not provide statutory protection of the setting of Scheduled Ancient Monuments.
- 6.2.6 The 1990 Act provides protection for listed buildings (which are defined as having special architectural or historic interest) and their settings. It is a criminal offence to carry out works to a listed building without prior consent. Works which are likely to affect materially the listed building's architectural or historic interest require consent. The 1990 Act also

provides for the designation and protection of conservation areas where demolition is strictly controlled.

National policy background

6.2.7 In England, Government policy is framed around the principle that the care and conservation of individual heritage assets and the wider historic environment must involve:

'Managing change...in ways that will best sustain...heritage values, while recognising opportunities to reveal or reinforce those values for present and future generations' [English Heritage (2008) Conservation Principles].

6.2.8 Accordingly, in the Ministerial Foreword of the National Planning Policy Framework [NPPF], which became Government policy in March 2012, the Government has stated that:

'Sustainable development is about change for the better, and not only in our built environment. Our historic environment – buildings, landscapes, towns and villages – can better be cherished if their spirit of place thrives, rather than withers.'

6.2.9 The crucial point that is made forcefully in the NPPF is that, to be sustainable, development must consider and involve the protection and enhancement of our natural, built and historic environment. Its paragraphs 6 and 7 conclude:

'The purpose of the planning system is to contribute to the achievement of sustainable development. The policies in [the NPPF], taken as a whole, constitute the Government's view of what sustainable development in England means in practice for the planning system.... Pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life...'

6.2.10 Of particular significance are Government policies for the historic environment set out in paragraphs 131-5 and 137-8 of the NPPF which variously require the local planning authority in determining applications for development to consider:

- 'The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- The positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and,
- The desirability of new development making a positive contribution to local character and distinctiveness [paragraph 131];

6.2.11 These key cultural heritage policies dictate that:

- When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed

or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional. [paragraph 132];

- Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss [paragraph 133];
- Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use [paragraph 134];
- The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgment will be required having regard to the scale of any harm or loss and the significance of the heritage asset [paragraph 135];
- Local planning authorities should look for opportunities for new development within Conservation Areas...and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably [paragraph 137];
- Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 133 or less than substantial harm under paragraph 134, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole [paragraph 138];
- Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets' [paragraph 139].

Local policy background

6.2.12 In Cornwall, the main planning policy document is the emerging Cornwall Local Plan, which aims to control and influence the use of land in the public interest by identifying areas where development can and cannot take place. Sitting underneath the Cornwall Local Plan are area-based policies for the larger settlements, reflecting the specific character and needs of each place. These are referred to as either Town Frameworks or Neighbourhood

Plans. Specific policies have also been defined for intended adoption for the Cornwall and West Devon Mining Landscape WHS in the WHS management plan - these are discussed in chapter 6.3.33 below.

6.2.13 Under the heading 'Interim and adopted planning policy', the Council's website indicates that until a Local Development Framework for the planning authority is prepared, the planning policy that was in use within each District and the County Council as at the 31st March 2009 continues 'to have some weight'.

6.2.14 The saved County structure and Penwith District local plan policies that, in part or whole, are of relevance to the development and the circumstances of the site in terms of the historic environment are:

'County Structure Plan - saved policy 1: Development should bring about a long term and sustainable improvement to Cornwall's economic, social and environmental circumstances without harming future opportunity. Development should be compatible with:

- *The conservation and enhancement of Cornwall's character and distinctiveness;*
- *The prudent use of resources and the conservation of natural and historic assets;*
- *[...].*

'County Structure Plan - saved policy 2: The quality, character, diversity and local distinctiveness of the natural and built environment of Cornwall will be protected and enhanced. Throughout Cornwall, development must respect local character and:

- *Retain important elements of the local landscape, including natural and semi-natural habitats, hedges, trees, and other natural and historic features that add to its distinctiveness;*
- *Contribute to the regeneration, restoration, enhancement or conservation of the area;*
- *Positively relate to townscape and landscape character through siting, design, use of local materials and landscaping;*
- *Create safe, aesthetically pleasing and understandable places;*
- *[...].*

6.2.15 Among the saved Penwith District local plan policies of relevance are:

- *CC1: Protection of landscape character etc.*
- *CC2: Proposals involving interpretation of landscape character etc.*
- *CC4: Conservation and enhancement of Heritage Coast*
- *CC5: Protection of Areas of Great Landscape Value*

- *CC15: Protection of Scheduled Ancient Monuments and other nationally important archaeological remains*
- *CC16: Protection of areas of great historic value/archaeological remains of county importance*
- *CC17: Protection of Historic parks and Gardens*

Scoping assessment stage

6.2.16 Cultural heritage within the local historic environment that may be influenced by the development proposals for the site includes:

- The Cornwall and West Devon Mining Landscape World Heritage Site [WHS];
- Hayle Conservation Area [CA] and part of its setting;
- The Downes registered park and garden;
- Carnsew Hillfort, a scheduled monument;
- The Foundry mill complex, a scheduled monument; and,
- Neighbouring listed and non-designated buildings and non-designated mining and other heritage assets and their settings within the wider vicinity of the site.

Assessment methodology

6.2.17 As noted above, this chapter of the Environmental Statement provides:

- An assessment of the significance of each of these potential receptor assets and the contribution made to that significance by setting; and
- An assessment of the likely impact of the development on these heritage assets that lie within the zone of influence of the proposals, including the impact of the loss and gain of built form and spaces involved in the proposals, as well as reflections on the community value of such buildings and spaces.

6.2.18 Archaeological and historic environment issues are dealt with in this chapter. SWARCH has been responsible for the assessment of archaeology, listed buildings, scheduled monuments, the one registered park and garden of historic interest and non-designated heritage assets. Heritage places undertook the analysis of World Heritage Site issues and

Hayle Conservation Area. However, these assessments have adopted the same methodology (with the exception of WHS impact assessment which utilised a different (but very similar) methodology outlined in guidance prepared by the International Council on Monuments and Sites) and should be regarded as a single composite analysis.

- 6.2.19 The combined archaeological and historic environment assessment has been guided inter alia by: the NPPF; Appendix 10 of the Good Practice Guide for the preparation of Environmental Statements issued by the former Department of the Environment (DoE 1995); Environmental Impact Assessment: a Guide to Procedures issued by the former DETR and the National Assembly for Wales (2000); and best practice conservation, settings and archaeological guidance. The assessment of effects has followed the methodology set out below. Archaeological assessment followed the recommendations set out by the Institute of Field Archaeologists in Standards and Guidance for Archaeological Desk-Based Assessments and utilised existing information in order to establish, as far as possible, the archaeological potential of the site. This information was used to make informed decisions regarding the potential impact of the development of the site on the archaeological resource and mitigation strategies were formulated and fed into the design process to reduce any impacts wherever possible.
- 6.2.20 Heritage assets are defined in the NPPF as being a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage assets are a valued component of the historic environment. They include designated heritage assets and non-designated assets which may be identified by the local planning authority during the process of decision-making or through the plan making process (including local listing). The significance of a heritage asset is defined as the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
- 6.2.21 The assessments of significance and impact assessments contained in this chapter have relied upon:
- Site visits made between April and July 2014;
 - Various published and unpublished evaluations of the area and its historic environment, including WHS and conservation area documentation;
 - Various original and modern documentary sources available for inspection in county record office, the local library, and as data from the Historic Environment Record [HER];



- Historical maps and plans of the area;
- Historical documents available on line;
- 19th century census returns through www.findmypast.com;
- Other website information, including the National Heritage List for England and sources available through for example www.heritagegateway.org.uk; and
- The cultural heritage assessment criteria set out in (i) the Design Manual for Roads and Bridges jointly published the Highways Agency, Transport Scotland, the Welsh Assembly Government, and the Department for Regional Development Northern Ireland in 2013, and (ii) that published by ICOMOS in 2011 as 'Guidance on Heritage Impact Assessments for Cultural World Heritage Properties'.

6.2.22 The value of identified receptors of impacts throughout this chapter of the Environmental Statement will be described using the terminology:

- **Very high** sensitivity / importance
- **High** sensitivity / importance
- **Medium** sensitivity / importance
- **Low** sensitivity / importance
- **Negligible** sensitivity / importance



6.2.23 However, the level of significance, magnitude of impacts and significance of effects for World Heritage property and physical attributes will be quantified differently from those for all other heritage assets.

For all heritage assets excluding World Heritage property and attributes

6.2.24 Excluding World Heritage property and its physical attributes of Outstanding Universal Value [OUV], for built heritage within the historic environment, this hierarchy of value can be further defined as:

Value of Receptor Asset	Description
Very high	See below
High	<p>Scheduled Monuments and non-designated assets of Schedulable quality and importance;</p> <p>Grade I and II* listed buildings;</p> <p>Other listed buildings that can be shown to have exceptional qualities in their fabric or associations not adequately reflected in their listing grade;</p> <p>Conservation Areas containing very important buildings;</p> <p>Non-designated structures of clear national importance;</p> <p>Designated and non-designated historic landscapes of outstanding historic interest (including Grade I and Grade II* Registered Parks and Gardens); non-designated landscapes of high quality and importance of demonstrable national value; and well preserved historic landscapes exhibiting considerable coherence, time depth or other critical factor(s);</p> <p>Assets that can contribute significantly to acknowledged national research objectives.</p>
Medium	<p>Designated or non-designated assets that contribute to regional research objectives;</p> <p>Grade II listed buildings;</p> <p>Non-designated buildings that can be shown to have exceptional qualities in their fabric or historical association;</p> <p>Conservation Areas containing important buildings that contribute significantly to their historic character;</p> <p>Historic townscapes or built up areas with important historic integrity in their buildings, or built settings (for example including street furniture or other structures);</p> <p>Designated landscapes of special historic interest (including Grade II Registered Parks and Gardens); non-designated landscapes that would justify such a designation; averagely well preserved historic landscapes with reasonable coherence, time depth or other critical factor(s);</p> <p>landscapes of regional value.</p>
Low	<p>Designated and non-designated assets of local importance including those compromised by poor preservation and/or poor survival of contextual associations;</p> <p>Assets of limited value, but with potential to contribute to local research objectives;</p> <p>Locally listed buildings and non-designated buildings of modest quality in their fabric or historical association;</p> <p>Historic townscape or built-up areas of limited historic integrity in their buildings or built settings (for example including street furniture or other structures);</p> <p>Robust non-designated historic landscapes; historic landscapes with importance to local interest groups; and historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.</p>
Negligible	<p>Assets with very little or no surviving archaeological interest;</p> <p>Buildings of little architectural or historical note;</p> <p>Landscapes with little significant historical interest.</p>

6.2.25 In defining the methodology to be adopted in this Chapter where World Heritage property is not involved, the magnitude of impacts on receptor heritage assets will be assessed against the following scale:

Major	Considerable impact (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.
Moderate	Limited impact (by extent, duration or magnitude) which may nonetheless be considered significant in the context of the site and / or surrounding area.
Minor	Slight, very short term or highly localised impact of no significant consequence.
Negligible	An impact on a resource / receptor of insufficient magnitude to affect the use / integrity.

6.2.26 In respect to the built heritage within the historic environment, such magnitudes of impact can be further defined as:

Major	Change to key built elements or fabric, such that the asset is totally altered Comprehensive change to the setting of the asset
Moderate	Change to many key built elements or fabric, such that the asset is significantly modified Changes to the setting of the asset, such that it is significantly modified
Minor	Changes to some key built elements or fabric, such that the asset is slightly different Changes to the setting of the asset, such that it is noticeably different
Negligible	Slight changes to built elements or fabric and/ or the setting of the asset, which hardly affect it

6.2.27 Where significant adverse effects are predicted, mitigation measures have been identified for incorporation into the proposal for development. The impact assessments presented in this chapter have been made against a 'mitigated' scheme (i.e. taking the proposed mitigation measures into account). The following matrix will be used to determine the

significance level of the environmental effect except where World Heritage property is involved:

		Importance of the Resource			
		High	Medium	Low	Negligible
Magnitude of Impact	Major adverse	Major significant effect	Moderate significant effect	Minor significant effect	Minor significant effect
	Moderate adverse	Moderate significant effect	Moderate significant effect	Minor significant effect	No significant effect
	Minor adverse	Minor significant effect	Minor significant effect	No significant effect	No significant effect
	Negligible	No significant effect	No significant effect	No significant effect	No significant effect
	Minor beneficial	Minor significant effect	Minor significant effect	No significant effect	No significant effect
	Moderate beneficial	Moderate significant effect	Moderate significant effect	Minor significant effect	No significant effect
	Major beneficial	Major significant effect	Moderate significant effect	Minor significant effect	Minor significant effect

For World Heritage property and related assets

6.2.28 Where WH property and related assets are involved, the following hierarchy of value recommended by ICOMOS in its 2011 publication as 'Guidance on Heritage Impact Assessments for Cultural World Heritage Properties' is adopted (this compares with the hierarchy for non-WHS assets set out above in chapter 6.2.21).



Grading	Archaeology	Built heritage or Historic Urban Landscape	Historic landscape	Intangible Cultural Heritage or Associations
Very High	<p>Sites of acknowledged international importance inscribed as WH property.</p> <p>Individual attributes that convey OUV of the WH property.</p> <p>Assets that can contribute significantly to acknowledged international research objectives.</p>	<p>Sites or structures of acknowledged international importance inscribed as of universal importance as WH property.</p> <p>Individual attributes that convey OUV of the WH property.</p> <p>Other buildings or urban landscapes of recognised international importance.</p>	<p>Landscapes of acknowledged international importance inscribed as WH property.</p> <p>Individual attributes that convey OUV of the WH property.</p> <p>Historic landscapes of international value, whether designated or not.</p> <p>Extremely well-preserved historic landscapes with exceptional coherence, time-depth, or other critical factors.</p>	<p>Areas associated with Intangible Cultural heritage activities as evidenced by the national register.</p> <p>Associations with particular innovations, technical or scientific developments or movements of global significance.</p> <p>Associations with particular individuals of global importance</p>
High	<p>Nationally-designated Archaeological Monuments protected by the State Party's laws</p> <p>Undesignated sites of the quality and importance to be designated.</p> <p>Assets that can contribute significantly to acknowledged national research objectives.</p>	<p>Nationally-designated structures with standing remains.</p> <p>Other buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade.</p> <p>Conservation Areas containing very Important buildings.</p> <p>Undesignated structures of clear national importance.</p>	<p>Nationally-designated historic landscape of outstanding interest.</p> <p>Undesignated landscapes of outstanding interest.</p> <p>Undesignated landscapes of high quality and importance, and of demonstrable national value.</p> <p>Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factors.</p>	<p>Nationally-designated areas or activities associated with globally-important Intangible Cultural Heritage activities .</p> <p>Associations with particular innovations, technical or scientific developments or movements of national significance</p> <p>Associations with particular individuals of national importance</p>

Table AII.1: ICOMOS HIA Guidance – hierarchy of significance (2 pages) (©ICOMOS 2011)

Medium	Designated or undesignated assets that can contribute significantly to regional research objectives.	Designated buildings. Historic (unlisted) buildings that can be shown to have exceptional qualities or historical associations.	Designated special historic landscapes. Undesignated historic landscapes that would justify special historic landscape designation.	Areas associated with Intangible Cultural heritage activities as evidenced by local registers.
		Conservation Areas containing buildings that contribute significantly to its historic character.	Landscapes of regional value.	Associations with particular innovations or developments of regional or local significance.
		Historic townscapes or built-up areas with important historic integrity in their buildings, or built settings.	Averagely well preserved historic landscapes with reasonable coherence, time-depth or other critical factors.	Associations with particular individuals of regional importance
Low	Designated or undesignated assets of local importance.	"Locally Listed" buildings.	Robust undesignated historic landscapes.	Intangible Cultural heritage activities of local significance
	Assets compromised by poor preservation and/or poor survival of contextual associations.	Historic (unlisted) buildings of modest quality in their fabric or historical associations.	Historic landscapes with importance to local interest groups.	Associations with particular individuals of local importance
	Assets of limited value, but with potential to contribute to local research objectives.	Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings.	Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.	Poor survival of physical areas in which activities occur or are associated
Negligible	Assets with little or no surviving archaeological interest.	Buildings or urban landscapes of no architectural or historical merit; buildings of an intrusive character.	Landscapes little or no significant historical interest.	Few associations or ICH vestiges surviving

Table AII.1: ICOMOS HIA Guidance – hierarchy of significance (page 2) (©ICOMOS 2011)



6.2.29 Where WH property and related assets are involved, the following quantification of magnitude of impacts will be used, again as recommended by ICOMOS in its 2011 publication as 'Guidance on Heritage Impact Assessments for Cultural World Heritage

Properties' is adopted (this compares with the table of magnitudes of impact for non-WHS assets set out above in chapter 6.2.22).

Impact Grading	Archaeological attributes	Built heritage or Historic Urban Landscape attributes	Historic landscape attributes	Intangible Cultural Heritage attributes or Associations
Major	<p>Changes to attributes that convey OUV of WH properties</p> <p>Most or all key archaeological materials, including those that contribute to OUV such that the resource is totally altered.</p> <p>Comprehensive changes to setting.</p>	<p>Change to key historic building elements that contribute to OUV, such that the resource is totally altered.</p> <p>Comprehensive changes to the setting.</p>	<p>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 and loss of OUV.</p>	<p>Major changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>
Moderate	<p>Changes to many key archaeological materials, such that the resource is clearly modified.</p> <p>Considerable changes to setting that affect the character of the asset.</p>	<p>Changes to many key historic building elements, such that the resource is significantly modified.</p> <p>Changes to the setting of an historic building, such that it is significantly modified.</p>	<p>Change to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape; noticeable differences in noise or sound quality; considerable changes to use or access; resulting in moderate changes to historic landscape character.</p>	<p>Considerable changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>
Minor	<p>Changes to key archaeological materials, such that the resource is slightly altered.</p> <p>Slight changes to setting.</p>	<p>Change to key historic building elements, such that the asset is slightly different.</p> <p>Change to setting of an historic building, such that it is noticeably changed.</p>	<p>Change to few key historic landscape elements, parcels 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 limited change to historic landscape character.</p>	<p>Changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>

Table AII.2: ICOMOS HIA Guidance – magnitudes of impact (2 pages) (©ICOMOS 2011)

Negligible	Very minor changes to key archaeological materials, or setting.	Slight changes to historic building elements or setting that hardly affect it.	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.	Very minor changes to area that affect the ICH activities or associations or visual links and cultural appreciation.
No change	No change.	No change to fabric or setting.	No change to elements, parcels or components; no visual or audible changes; no changes in amenity or community factors.	No change

Table AII.2: ICOMOS HIA Guidance – magnitudes of impact (page 2) (©ICOMOS 2011)

6.2.30 Where WH property and related assets are involved, the following quantification of significance of effects will be used, again as recommended by ICOMOS in its 2011 publication as 'Guidance on Heritage Impact Assessments for Cultural World Heritage

Properties' is adopted (this compares with the matrix for non-WHS assets set out above in chapter 6.2.23).

VALUE OF HERITAGE ASSET	SCALE & SEVERITY OF CHANGE/IMPACT				
	No Change	Negligible change	Minor change	Moderate change	Major change
For WH properties Very High – attributes which convey OUV	SIGNIFICANCE OF EFFECT OR OVERALL IMPACT (EITHER ADVERSE OR BENEFICIAL)				
	Neutral	Slight	Moderate/Large	Large/very Large	Very Large

For other heritage assets or attributes	SIGNIFICANCE OF IMPACT (EITHER ADVERSE OR BENEFICIAL)				
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 AII.3: ICOMOS HIA Guidance – significance of effects (©ICOMOS 2011)

Anomalies with impact assessment methodologies

Introduction

6.2.31 Before making an assessment of impacts on the two designated assets covered by this addendum, two potential issues/anomalies with the ICOMOS, DMRB and all similar impact assessment methodologies need to be considered.

The magnitude of impact as a direct function of the degree of change

6.2.32 As has already been described, impact methodologies of this kind use significance as a sensitivity weighting to convert the magnitude of impact of a proposal into an overall significance of effect. A three step process is involved. Firstly, the level of significance of the asset needs to be determined. Secondly, the proposals must be examined for impacts

on the asset, so that the degree of change to the 'fabric' and its setting can be gauged. Finally, using a pre-defined matrix, the significance-weighted magnitude of impact can be read off as a cumulatively positive or negative effect of the development proposals on the asset's significance.

- 6.2.33 The crux of the problem – the cause of the anomaly – is that the methodology gauges magnitude of impact as a measure of the degree of change that will occur to the fabric and/or setting of the asset. So far, so good, but the methodology then assumes that the degree of change in an asset's key historic elements or its setting will equate to a proportionately positive or negative effect on the asset. This does not necessarily follow. At the most extreme, a major change may occur to the key elements or to the setting of an asset that has very little or no positive or negative overall effect on the asset's significance. Sometimes, change does not bring any positive benefits or negative effects; in other cases of a complex nature, extensive change may bring a mix of some positive and some negative results, so that the overall positive or negative effect is nowhere near proportionate to the degree of change that has occurred in the setting of the asset. These impact methodologies neither recognise these eventualities nor permit such alternative outcomes from the assessment process.
- 6.2.34 This anomaly has to be recognised and understood for what it is. It does not render the use of these methodologies invalid. But, where it does occur, professional judgement has to be applied to determine the true effect on the asset's significance from the planning submission. In reality, that adjudged effect on significance may be found to lie at one of the extremes or somewhere in between, once the matters discussed as part of the impact assessment have been taken into account.

The comparative weighting between direct and indirect impacts

- 6.2.35 Again, there is commonality between these methodologies in that they are predicated as a default on direct change to an asset's physical fabric and indirect impacts on its setting resulting in equal degrees of effect on its significance - that is, a direct impact on fabric or a comparable magnitude of impact on setting are assumed to be of equal 1:1 weight and effect. Thus, for instance, in DMRB Table 2 set out in section 5.3 above, a moderate magnitude of change is defined as being either 'Change to many key historic building elements, such as the asset is significantly modified' or 'Changes to setting of an historic building, such that it is significantly modified'. That assumes that, in every instance, the setting of an asset contributes as much to significance as the physical fabric itself. If that were not the case and, say, the built fabric of an asset was deemed to be intrinsically more important to significance than the setting, the magnitude of change to the setting

necessary to have the same end effect on significance as (to use the same example) significant modification of the built elements would have to be proportionately greater. These methodologies (which otherwise do have their strengths) cannot cope with this readily within a set tabular form and, accordingly, professional judgement again needs to be applied openly and objectively to determine a correct weighting for the balance between direct impacts on fabric and indirect impacts on setting.

Implications for this environmental statement

- 6.2.36 Both issues/anomalies could potentially introduce some distortion into the impact assessment in this instance and one example of such potential distortion in particular needs to be explored further at this stage, as it is contentious, at risk of misrepresentation, and of some import to the following heritage impact assessment. It involves the second anomaly discussed above.
- 6.2.37 It could be argued for the WHS in particular that, if the setting of Area A2 is as important to OUV as the area within the WHS boundary, it should and would have been incorporated as part of the WHS at the time of nomination and inscription. If that argument were to be accepted (and, as has already been noted, the Management Plan 2013-18 states categorically that 'the WHS boundaries were identified as a result of applying historic landscape characterisation. This has resulted in generously defined Areas within which the significant historic features can be viewed in context...These represent the most authentic surviving mining landscapes from our period of interest.'), it would seem inappropriate that Area A2's setting should be given equal weighting in terms of impacts and their effects to those arising from development within the WHS boundaries. The quote from the Management Plan and the sentence that follows it expressly define the area within the WHS boundary as being 'the most authentic surviving mining landscapes from our period of interest' in contrast to the land which lies immediately outside the boundary, which as the setting to the WHS provides 'additional historical context'. The latter undoubtedly contributes substantively to the WHS's OUV, but is patently not in the same league in terms of heritage value. Physical attributes of OUV within the WHS are of paramount value and importance to the OUV of the entire serial WHS; by definition, physical attributes

of OUV in the setting are of somewhat lesser importance, being adjudged to provide 'additional historical context' only.

6.2.38 The foregoing is a vital distinction. Referring to another development within WHS Area A2, a joint ICOMOS/ICCROM reactive monitoring mission [RMM] undertaken on behalf of UNESCO World Heritage Centre in January 2015 reported on impacts on OUV as follows:

6.2.39 'When dealing with heritage related issues, it is not a question of quantities of attributes affected, but rather the quality of proposed interventions and their impact on understanding of the OUV as a whole. Taken to an extreme, one could ask how many attributes of OUV is it OK to negatively impact? 10? 50? 100? When it requests an inscription on the World Heritage List, a State Party recognizes that all of the attributes of OUV are important for our understanding of the overall OUV. The State Party further pledges to safeguard these attributes which contribute to the OUV. It cannot then pick and choose which attributes to protect and which not to protect based on a mathematical formula.

6.2.40 The [WHS Partnership] Board's statement that the development "only affects 3% of Hayle and 0.00016% of the Site, a proportionally minute change to the current overall visual landscape character of the ten areas of the CMWHS" undervalues the unique nature of the Port of Hayle as a component of the World Heritage property. It also suggests a lack of appreciation for the cultural landscape of Hayle as the impact on the OUV through the integrity and authenticity is much greater than as a proportion of the physical area. The mission reiterates that all component areas of the serial listing are essential to understanding of the OUV, and that the diminishment of one component results in negative impacts on the whole site's OUV. This point can't be emphasised strongly enough. The fact that there are 10 areas in this World Heritage property does not make the negative impact of development in the Port of Hayle of any less consequence to the OUV of the whole property.'

6.2.41 This argument, as set out in the ICOMOS/ICCROM RMM report, should not be confused with the one being made in this subsection of the addendum about the comparative weighting between impacts affecting key WHS attributes of OUV within the WHS and those affecting additional attributes of OUV within its setting. The RMM argument expresses the current international perspective that, where development is likely to have a negative effect on one Area of a serial WHS, this should be seen as affecting the OUV of the whole WHS, so that the degree of negative effect on OUV cannot be claimed to be lessened simply because (in this instance) it only relates to one Area out of ten. This has no bearing on the very different argument that an impact on physical attributes within the

setting may carry a different weighting in an impact assessment process to that within the WHS itself.

- 6.2.42 On this basis, the automatic application of equal weightings to direct and indirect impacts and their effects would seem inappropriate and likely to have the potential to lead to a skewed assessment of impact/significance of effect. Again, this does not invalidate the use of these methodologies, but it does mean that professional judgement has to be applied to determine the true effect on the asset's significance from the planning submission.
- 6.2.43 Notwithstanding the foregoing conclusion, one note of caution should be sounded. The point being made here is about the need to apply professional judgement rather than allowing automatic assumptions of weighting to apply. That cuts both ways. There may be situations where development in a WHS setting affects not merely an attribute providing additional historical context to the WHS and its OUV, but some inter-relationship between the WHS and its setting that is of a rather different level of significance. Different conclusions may possibly be reached from the application of professional judgement in such circumstances.

6.3 Baseline Environment

Existing baseline

Historical development within the locality

- 6.3.1 The site lies near the southern edge of the parish of Phillack (now Hayle parish); this parish lies in the Hundred and Deanery of Penwith. Penpol(l) is first recorded in 1259 and its name means head of the pool (Gover 1948; Padel 1985). It is likely that Penpol was one of a series of bartons, most likely established by the Arundells in the 13th century for their various descendants within the once sizeable Manor of Conerton. The manor of Conarditone is listed in Domesday and is a large and powerful estate which included the entire parish of Phillack and much of the surrounding area. The manor was centred on Churchtown, Gwithian and had passed to the Arundells through marriage to the Lanherne's. The rest of the Conerton manor, excluding Penpol and the other annexed bartons, was purchased in the 18th century by Sir Christopher Hawkins, a partner in the Cornish Copper Company (based on Lysons and Lysons 1814).
- 6.3.2 Much of the area around the development area is classified as medieval farmland on the Cornwall and Scilly Historic Landscape Characterisation; this forms part of the designation Anciently Enclosed Land (AEL). These areas are the core agricultural heartlands of

Cornwall, with a high probability of Prehistoric and Romano-British remains. The site itself is classified as a mixture of AEL and recreational.

- 6.3.3 Phillack and the area around the Hayle estuary has been an important site for settlement, trade and industry since prehistoric times, evidenced by the the Iron Age hillfort overlooking the estuary at Carnsew, the presence of several Iron Age/ Romano-British rounds and findspots in the locality and a potential former Roman fort may be outlined by the graveyard of the parish church of Lelant (CHES 2005, CAU, 2000).
- 6.3.4 Penpol or Penpoll, Phillack was one of the most important estates within the parish, and there are documentary records of its ownership being part of the Godolphin family estate in the 16th century, before being sold and passing into the ownership of Rt. Hon Henry Robartes, Earl of Radnor, who leased the holding in 1732 to John 'Merchant' Curnow for 99 years. Curnow's daughter had married Richard Oke Millett, a partner in the Cornish Copper Company, and the Millet's continued to reside at Penpoll and subsequently purchase the estate in 1788. It remained in the ownership of the Millett's until the late 19th century, subsequently being purchased by Colonel John Ellis in the early 20th century.
- 6.3.5 The earliest map available to this study is an 1809 map of the Land's End area by John Hewitt. This depicts the developing industrial landscape around Penpol in the early 19th century. Copper House had already been established as an industrial centre by this date, and to the south and east of the proposal site are the extant mining setts of Wheal Ann and Wheal Alfred. There is no apparent trace of mining related activity within the immediate vicinity of the proposal site.
- 6.3.6 The Phillack tithe map of 1842 shows the proposed development site and its immediate surroundings as still relatively free of development, with little domestic or industrial activity nearby. The noted exceptions are the house and gardens (The Beeches) shown outside the proposal boundary in the north-east corner, and a further house to the east of the road bordering this part of the site. There are however three round markings within the proposal area in the western part of the site (Nos. 1424 & 1430) which are not clearly identified, and are seemingly listed as waste within the accompanying apportionment. The fact many of the fields include 'waste' within them suggests that they may have been partially despoiled by earlier mining activity. This is perhaps to be expected given that the majority of these lands are owned by the Millets of Penpol, who for several generations were partners within the Cornish Copper Company.
- 6.3.7 The Ordnance Survey 1st and 2nd Edition Maps demonstrate that the landscape of the site changed little between 1840 and 1908. A number of field boundaries did disappear

however, and this process has continued during the 20th century with the town to the north and west growing increasingly developed and built up.

Description of the application site today

- 6.3.8 The development site at Hayle covers a number of former agricultural fields. The site lies between Millpond Avenue and Barview Lane and runs down to the A30 road to the south. The site is on a west-facing slope, dropping to the shallow valley to the west. The western side of the site is very overgrown and contains a number of water features which are associated with the water management for the former mill and ropeworks site to the north-west, which is now a scheduled monument. There appear to be a number of leats and possible structures within this overgrown area and these would actively benefit from some attention if cleared and tidied as an added benefit of any development. The development plans show a buffer zone of green space would be created along the length of this scheduled area in order to protect the industrial archaeology.
- 6.3.9 The proposal site is accessed via a wooden five-bar gate in a hedgebank to the north and a track runs through the first narrow field into the more regular field pattern to the south. The track terminates in an area of former cinder and concrete block buildings, which have been built up against the former hedgebank. The buildings may be associated with an undesignated mining heritage asset, which takes the form of a long mound and is marked in the HER (53602) as a postmedieval shaft. The buildings are modern or appear to be so, having formerly had timber structures and corrugated iron roofs, however this is not to say that they were not associated with or replacing earlier mine buildings related to this asset; although they are not shown on any historic maps. The buildings are very overgrown, delapidated and structurally unsound. These buildings are set in the largest field within the proposed development, which is L-shape in plan and was formerly divided into three fields. There are surviving earthworks suggestive of hedgebanks running south from the derelict building complex to the southern boundary and another running from the building complex to the west, creating two smaller fields to the western side.
- 6.3.10 A very good quality stone-faced bank topped with a hedge runs to the east away from the track and buildings and encloses a heavily overgrown area to the north located immediately behind the buildings on St George's Road. This area appears to conform to two narrow plots which roughly match the boundaries between Netherleigh and Trepenpol and between Trepenepol and The Beeches. These large 19th century houses were built in the c1850s by the Harvey and Co. Corporation and have direct association with the industrial history of Hayle. The stone-faced hedgebank to the south of these houses which encloses the overgrown area is punctuated with gateways framed by granite and stone

gateposts matching those on St George's Road which serve the three houses. There are a number of very overgrown, now wild decorative shrubs within these overgrown plots and more than one 19th century specimen tree, including a Laburnum. The plot to the east, has a building in its south-east corner and appears to possibly have another structure to its northern end. The plot to the west is too overgrown to gain any details other than the entrance, which links with a straight drive direct to St George's Road and has curving flanking walls which match, gatepiers which match and a further entrance into the plot of ground to the east, inside the gates. The boundaries of these plots match those of the houses, stone-faced banks with herringbone detail and the decorative use of quartz stones.

- 6.3.11 To the east of these two overgrown plots another entrance leads into a small field behind the Beeches. This field is accessed through a wide gateway which also has a large stone gate pier, although in bad condition. The hedgebank to the east of this entrance has been moved and relieved in a curve to allow maximum room for swing into the gate and this appears to possibly have been a rear drive to the main house. Built along the boundary to the west of this field are a number of ruined outbuildings. These appear to comprise animal housing, possibly a linhay or open cartshed and another small building. They are built of brick and possibly rubble stone, with timber roof structures and corrugated iron roofs. Timber stalls survive in the largest building to the south, which has a loft over. There is a large stone garden wall which encloses The Beeches and its gardens. There are some breaks in this wall however, with disturbance to the east and west ends of the main run. It appears that the grounds of The Beeches ran all the way east to Barview Lane and ran south into this field, although there is now 20th century housing on the eastern edge of the plot, inserted in the 1960s or 70s. There is a large service wing which runs back from the main house to the south-west which almost abuts the stone garden wall. This tall garden wall is of stone and appears to be of some age (it is seemingly shown on the tithe map), and it runs very tight to the back of the house, which appears unusual considering that these were purpose built houses which could easily have been positioned centrally within the plot. This wall effectively cuts the house off from part of its former amenity land to the south.
- 6.3.12 The fields to the south, south-east and south-west which run out to the A30 are fairly regular in shape, all bounded by stone-faced banks, in good condition topped with hedges, with straight sides and these appear to be the typical square or rectangular fields of late enclosure or rationalisation. The hedgebanks all conform to the same style, with herringbone stonework. Several of these are going to be removed as part of the development, but the majority will be retained. The fields are currently all arable, either

ploughed or being used to grow daffodils. Gates are all positioned at the ends of sides of the fields and often in corners, relating to each other, showing the fields are all part of a contemporary and intentionally laid out landscape associated with a single holding which has been little altered. The four fields to the south will all remain as agricultural fields retaining the field buffer between the town and the countryside beyond the A30. Since the fields were ploughed and planted with crop a brief field walking exercise was undertaken in the largest of the fields, the L-shaped plot which wraps around the primary school. Lots of 19th century pottery was collected, including stonewares, white refined earthenwares and redwares. A single flint was also recovered, which tentatively hints at the potential for archaeological deposits or features from a much earlier period.

- 6.3.13 The fields are fairly level, sloping to the west, and apart from the usual geological undulations within the slope no other indicative earthworks or obvious below ground archaeological features were noted. There is potential for 19th century below ground features within the overgrown plots and where tractor tracks had cut deep groves in the track which runs behind the overgrown area a possible cobbled or stone track surface was viewed which may again suggest there was more activity associated with rear entrances or service areas to the rear of these grand 19th century villas.
- 6.3.14 Views were confirmed from the site out to the Hayle estuary and across to Lelant, to the tall hospital buildings to the west and the overgrown wooded site of the scheduled industrial monuments also to the west. Views to the houses along St George's Road were obviously confirmed, but views to the undesignated mining assets in the valley to the west, along Millpond Avenue, were not confirmed due to local blocking from the trees and overgrowth around the ponds and reservoir. Views to the east were more restricted as the land continues to rise, and the A30 heavily distracts from any views to the south.

Archaeological background

- 6.3.15 Very little archaeological fieldwork has taken place in the immediate area of the application site, but the Hayle Historical Assessment (2000) by Cornwall Archaeological Unit (CAU) and the Hayle Historic Characterisation for Regeneration (2005) by the Cornwall Historic Environment Service (CHES) outline the high archaeological potential for the town. There have been a high number of stray finds, particularly of Roman Coins, but also flints and other prehistoric finds. In addition there are significant post-medieval mining works and features identified within the immediate proximity of the proposed development.
- 6.3.16 Notwithstanding the lack of previous archaeological fieldwork in the immediate area, it is evident that there are a high number of non-designated and designated assets within close proximity to the site. These include two non-designated assets contained within the site, a

findspot of a Roman coin (HER No.139301) and a post-medieval mining shaft (HER No.53602). The boundaries of the Hayle Conservation Area and the Cornwall and West Devon Mining Landscape World Heritage Site, Area 2: The port of Hayle run up to and marginally overlap the north and eastern edges of the site.

Heritage assets

- 6.3.17 Once its definitions are drawn together, the NPPF identifies heritage assets as being components of the historic environment that can be positively identified as having a degree of archaeological, architectural, artistic or historic interest meriting consideration in planning decisions. Simply being old, being part of an ensemble or area that is - as an assemblage - recognisable as a heritage asset, having a history of use, bearing a similarity to components in the locality that are heritage assets, or conversely being physically distinctive within its setting or wider context does not per se transform a built (or other ordinary) asset into a heritage asset. Building on the definition of 'heritage' set out in English Heritage's 'Conservation Principles' (2008) (being 'all inherited resources which people value for reasons beyond mere utility'), heritage assets can be distinguished from other components of the environment by the meaning for society that a heritage asset holds over and above its functional utility. So to be regarded as a heritage asset, a building, structure, archaeological resource or topographical area must have some meaningful archaeological, architectural, artistic or historical interest that gives it a value to society transcending its functional utility.
- 6.3.18 From a heritage perspective, assets within the environment are either heritage assets or ordinary assets. Those that are classified as heritage assets may be designated (for example, a listed building or conservation area) or non-designated. Like Planning Policy Statement 5 (PPS5) before it, the National Planning Policy Framework (NPPF) defines 'designated' heritage assets (being World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Registered Parks and Gardens, Registered Battlefields or Conservation Areas), but not non-designated heritage assets. However, in defining the term 'heritage asset', it does by implication determine that those assets which are non-designated are 'assets identified by the local planning authority (including local listing)'. Previously these have been further identified as follows:

'Some non-designated assets, such as buildings of good local character or sites of archaeological interest, are of heritage significance but not at a level that would pass the threshold for national designation. Such assets can, singularly and collectively, make an important, positive contribution to the environment. The

desirability of conserving them and the contribution their setting may make to their significance is a material consideration, but individually less of a priority than for designated assets or their equivalents’.

Designated ensemble, group and/or large area-defined heritage assets

i. Cornwall and West Devon Mining Landscape World Heritage Site

6.3.19 The Cornwall and West Devon Mining Landscape World Heritage Site was inscribed on the World Heritage List in 2006 and comprises a series of 10 distinct areas that together form a coherent and distinctive cultural landscape created by the industrialisation of hard rock mining processes in the period 1700 to 1914. Of these ten areas, the Port of Hayle is the WHS’s Area A2. The Cornwall and West Devon Mining Landscape World Heritage Site Management Plan 2013-2018, approved by UNESCO in 2013, describes the Port as ‘the most westerly mining port in the [WHS] and the most important 19th century mining port and steam engine manufacturing centre in the world’.

6.3.20 The WHS Management Plan contains a map defining the boundaries of Area A2 [Figure 1]; the inter-relationship between Area A2 and the site is shown on Figure 2. Topographically, the WHS to a very large extent occupies the low ground formed by Hayle’s estuary and its principal valley bottoms. However, as Figure 3 reveals, the red line boundary of the site partly overlaps and partly abuts a short section of Area A2’s WHS boundary. Accordingly, the WHS is a designated heritage asset that is partly included within the site.

6.3.21 In nominating the Cornwall and West Devon Mining Landscape for inscription by UNESCO, the UK Government signified per se that it recognised this landscape to be of outstanding universal value [OUV], a key World Heritage concept defined by UNESCO in its Operational Guidelines (at paragraph 49 in the current version published in 2012) as:

‘Cultural...significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole’.

6.3.22 Until 2010, the OUV of the WHS was not defined in any official documentation in the public domain. A Statement of Outstanding Universal Value [SOUV] for the Cornwall and West Devon Mining Landscape WHS was approved by UNESCO in that year. This defined the OUV of the WHS as follows:

‘The landscapes of Cornwall and west Devon were radically reshaped during the eighteenth and nineteenth centuries by deep mining for predominantly copper and tin. The remains of mines, engine houses, smallholdings, ports, harbours, canals, railways, tramroads, and industries allied to mining, along with new towns and villages reflect an extended period of industrial expansion and

prolific innovation. Together these are testimony, in an inter-linked and highly legible way, to the sophistication and success of early, large-scale, industrialised nonferrous hard-rock mining. The technology and infrastructure developed at Cornish and west Devon mines enabled these to dominate copper, tin and later arsenic production worldwide, and to greatly influence nineteenth century mining practice internationally.

'The extensive Site comprises the most authentic and historically important components of the Cornwall and west Devon mining landscape dating principally from 1700 to 1914, the period during which the most significant industrial and social impacts occurred. The ten areas of the Site together form a unified, coherent cultural landscape and share a common identity as part of the overall exploitation of metalliferous minerals here from the eighteenth to twentieth centuries. Copper and tin particularly were required in increasing quantities through the growing needs of British industry and commerce. Copper was used to protect the hulls of ocean-going timber ships, for domestic ware, and as a major constituent of important alloys such as brass, and with tin, bronze. The usage of tin was increasing greatly through the requirements of the tin plate industry, for use in the canning of foods and in communications. The substantial remains within the Site are a prominent reminder of the contribution Cornwall and west Devon made to the Industrial Revolution in Britain and to the fundamental influence the area asserted on the development of mining globally. Innovative Cornish technology embodied in high-pressure steam engines and other mining equipment was exported around the world, concurrent with the movement of mineworkers migrating to live and work in mining communities based in many instances on Cornish traditions. The transfer of mining technology and related culture led to a replication of readily discernable landscapes overseas, and numerous migrant-descended communities prosper around the globe as confirmation of the scale of this influence.'

6.3.23 As its agreed OUV, this statement (retrospectively) formed the fundamental condition for inscription of the WHS on the World Heritage List. UNESCO's Operational Guidelines make clear (paragraph 51) that, for all World Heritage property, the SOUV constitutes 'the key reference for the future effective protection and management of the property'.

6.3.24 WHS Area A2's key physical attributes contributing to the WHS's overall OUV are defined in the Appendix 8.1 of the WHS's Management Plan 2013-18 as being:

- Cornwall's principal mining port which exported copper ore to the South Wales smelters, importing much of the Welsh coal which fuelled the Cornish steam revolution and was the means by which many of its beam engines were shipped to the far corners of the World.
- The location of two (of three) of Cornwall's principal iron foundries creating the greatest steam engine manufacturing centre in the C19th world.

- The location of Cornwall's only major copper smelter.
- An unique example of twin 'company' industrial 'new towns' of Foundry and Copperhouse, these being wholly the product of their industrial past and maritime location, fringing the southern edge of the Hayle estuary in a distinctly linear character.
- The massive, landform-scale, maritime infrastructure of extensive quays, wharves and massive sluicing ponds.
- The terminus of one of the most important of Cornwall's early railways (the Hayle Railway, 1834) serving a hinterland stretching eastwards as far as Redruth and Camborne, with their huge market for coal, timber and other materials.
- Within Copperhouse, the use of copper slag blocks for construction adds a distinctive 'vernacular' character to houses, boundary walls, bridges and other structures.

6.3.25 The concepts of 'integrity' and 'authenticity' are of critical importance to World Heritage properties. Integrity is defined in the Operational Guidelines (paragraph 88) as 'a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes'. The degrees of integrity and authenticity of a potential WHS are considered during the nomination process and thereafter remain vital goals of ongoing protective management processes, for the Operational Guidelines also state (paragraph 89), 'relationships and dynamic functions present in cultural landscapes, historic towns or other living properties essential to their distinctive character should...be maintained'.

6.3.26 In 2010, UNESCO agreed Statements of Integrity and Authenticity for the Cornwall and West Devon Mining Landscape WHS at the same time that it approved its SOUV. The Statement of Integrity reads:

'The areas enclosed within the property satisfactorily reflect the way prosperity derived from mining transformed the landscape both in urban and rural areas, and encapsulates the extent of those changes. Some of the mining landscapes and towns within the property are within development zones and may be vulnerable to the possibility of incompatible development.'

6.3.27 The Statement of Authenticity reads:

'The property as a whole has high authenticity in terms of form, design and materials and, in general, the location and setting of the surviving features. The mines, engine houses, associated buildings and other features have either been consolidated or await work. In the villages and towns there has been some loss of architectural detail, particularly in the terraced housing, but it is considered that this is reversible.'

'The ability of features within the property to continue to express its Outstanding Universal Value may be reduced, however, if developments were to be permitted without sufficient regard to their

historic character as constituent parts of the Site. The spatial arrangements of areas such as Hayle Harbour and the settings of Redruth and Camborne are of particular concern and these may be vulnerable unless planning policies and guidance are rigorously and consistently applied.'

6.3.28 Alongside the definition of Area A2's key attributes of OUV, Appendix 8.1 of the WHS Management Plan 2013-2018 provides supporting discussion and character statements, which pertain to its continued integrity and authenticity. Of these, the most relevant to the application site are:

- Geography and landscape – *'The Hayle estuary, the dunes that enclose it and St Ives Bay are the principal components of this landscape, so this Area is underwritten by drift geology, by alluvium, though the Penwith moors loom to the West. Locally, the landscape is dominated by massive sluice ponds, quays, wharfs and mudflats, fringed to the north by stable sand dunes. Most of the landscape is low-lying, so skies are big. The settlement is ribbon-like, clustered into the twin settlements of Foundry and Copperhouse, fringing the estuary, mostly only a little above the water level.'*
- Views – *'Within the Area, views tend to be urban and quite closed in. Within the twin settlements the views tend to exclude the nearby landscape.'*
- Settlement – *'The urban area shows evidence for planning, for ordered worker housing and for considerable wealth in places. The settlements hug the water's edge on which they depended and are distinctly ribbon-like in character.'*
- Landscape character assessment – *'The character of the twin settlements of Foundry and Copperhouse derives entirely from their industrial past and maritime location. Initially small-scale industrial enterprises established here by Harvey and the Cornish Copper Company/Sandys, Carne & Vivian grew at a prodigious rate: a copper smelter, a shipyard, coal and timber-importing businesses and, most particularly, two of Cornwall's principal iron foundries soon followed, whilst the formerly quiet estuary soon became the principal route for the export of hundreds of thousands of tonnes of Cornish copper ore to the South Wales smelters, a principal route for the import of the Welsh coal which fuelled the Cornish steam revolution, and the means by which its beam engines were shipped to the far corners of the World. Imports of timber and coal were also extremely important, and were transported overland to the mining districts of west Cornwall. 'Extensive quays were constructed to handle this trade, whilst massive sluicing ponds were required to keep the harbour mouth from silting up. Following the construction of the Hayle Railway in 1834, Hayle could serve a hinterland stretching eastwards as far as Redruth and Camborne, with their huge market for coal, timber and other materials. Throughout the 19th century, however, the twin settlements were very much company towns and the rivalry between Harveys and the Copperhouse Foundry was fierce and prolonged, moulding the urban development of the associated settlements. 'The importance of maritime trade to the development of Foundry and Copperhouse dictated their layout fringing the southern edge of the Hayle Estuary, with the result that these settlements*

have a distinctly linear character. Industrial and commercial buildings near the water's edge were backed by dense blocks of terraced worker housing, the villas and embellished town houses of the managers being set a little apart from all of the hustle and bustle, particularly in Foundry. Within Copperhouse, the use of copper slag blocks for construction adds distinctive character to some houses and boundary walls and to the Scheduled 'Black Bridge' on Sea Lane. To the north of both settlements, quays front muddy estuary shores and stretch out towards the harbour entrance and St Ives Bay. Over 4km of wharfage were eventually constructed.

'However an economy based almost entirely on engine founding and mining proved vulnerable to the eventual catastrophic collapse of the Cornish mining industry, and though Hayle remained a major coal importing port through the middle decades of the 20th century, the fortunes of the harbour and the towns inevitably went into terminal decline. Over time, the quays were cleared of their structures and the foundry buildings became increasingly dilapidated. More recent development within Hayle and Copperhouse has seen both settlements extend inland and upslope to the south. To date, little new building has taken place on the water frontage, the principal exceptions being the CRS retail outlet, Library and Day Centre, together with a scatter of motor retailers and commercial outlets at Copperhouse and new housing and a commercial building on Carnsew Quay.

'Though the assets provided by the extensive water frontage attracted potential developers during the later 20th century, Hayle suffered repeated disappointments as their schemes were repeatedly abandoned. The outcome of a wide-ranging proposal to redevelop the quays and reinvigorate the town is currently under discussion and work has begun on the rehabilitation of the foundry buildings, conservation being matched with adaptive new use.

'The settlements are busy, and although currently rather shabby in places, have coherent historic characters, possess a number of structures of considerable architectural and historic interest and have not on the whole been subject to inappropriate new development. Where historic buildings have been rehabilitated, this has generally been to a high standard, though modern industrial and commercial sites to the north of the Copperhouse road have gradually tended to close off views across Copperhouse Pool towards Phillack and the harbour entrance. The surrounding landscape is open, with extensive views towards Phillack and Lelant Towans, to the estuary entrance and to the West Penwith Moors not far away, these being important assets which currently appear to be under-recognised.

'Hayle and Copperhouse are close to a crossroads in their development, having marked time for many decades. The scale of the change is likely to be considerable and, if well managed, could bring many beneficial effects to the Area. There is no doubt, however, that the historic character of the settlement will be changed – developments on Hayle's quays will move the centre of focus of the settlement, will greatly enlarge it, will tend to close off views from Foundry to the north and may well affect the local marine environment. Hayle will become a busier place. It is important

that any positive effects of the redevelopment of the quays spread to the existing inhabitants and businesses in Foundry and Copperhouse as well.'

6.3.29 Section 5.2 of WHS Management Plan outlines the planning regime that it is intended will protect the WHS and its setting in compliance with the stipulation in UNESCO's Operational Guidelines (paragraphs 96 and 98) that:

'Protection and management of World Heritage properties should ensure that their Outstanding Universal Value, including the conditions of integrity and/or authenticity at the time of inscription, are sustained or enhanced over time.

[...]

Legislative and regulatory measures at national and local levels should assure the survival of the property and its protection against development and change that might negatively impact the Outstanding Universal Value, or the integrity and/or authenticity of the property.'

6.3.30 The WHS is relatively unusual as an inscribed World Heritage property for having no protective buffer zone. This is justified within the 2013 Management Plan (section 5.2.4) as follows:

'In considering how to protect the setting it was necessary to establish

- *Nature of the risks to the Site*
- *Extent of the setting within which these risks may exert an adverse impact.*

Risk assessment - *the varied nature and extensive geographical scope of the Site required that a high level overview approach to identifying the likely risks needed to be taken. These risks differ depending on the nature of the landscape, but the primary potential risks to setting were identified as*

- *Wind turbines*
- *Industrial estates/business parks*
- *New trunk roads*
- *Substantial housing developments.*

Assessment of threat to the OUV must take into account the industrial values of this WHS – it could be argued that new business parks or energy sources are consistent with the Cornish Mining WHS landscape and its significance in industrialisation and innovation in power supply. In this instance, it would be issues such as quality of design, or the effect of the scale and mass of the

new development on the appreciation of the historic elements of the landscape, that would be crucial – not the nature of the development itself.

Defining the setting - the visual effect of these potential risks varies. Given the geomorphology of the Site, dominated by the granite intrusions that form the ‘spine’ of Cornwall, the majority of Areas are intervisible. Particularly for structures such as wind turbines, for much of the Site it was not possible to define a line between Areas outside which there would not be a visual impact from points within the boundaries. Also, the WHS boundaries were identified as a result of applying historic landscape characterisation. This has resulted in generously defined Areas within which the significant historic features can be viewed in context, (as at Blaenavon WHS). These represent the most authentic surviving mining landscapes from our period of interest. However, beyond the WHS boundaries there are many individual monuments and other areas of mining landscape which have not been included, but which provide additional historical context. The setting of the WHS was interpreted as including these.

Given the above conclusions in respect of:

- *The nature, size, and complexity of the Site and its setting*
- *The need to apply a range of tests in assessing risk*
- *The pattern and extent of existing protective designations*

It was agreed that taking a case by case approach to all development proposals within the whole of Cornwall and west Devon was the only strategy guaranteed to minimise risk to the setting - visual, spatial or historical - of the WHS. This approach ensures more consistency than relying on buffer zones with limited status under current planning law (unless co-terminous with the boundaries of existing statutory protection regimes). A more piecemeal approach was considered, where a few isolated buffer zones - for example around more tightly defined urban areas – were drawn, but it was concluded that this would risk undermining the credibility of the setting policy to be applied to other Areas, by implying that these need less protection.’

6.3.31 As sections 3.4.1, 5.2.1 and 6.1 of the Management Plan make clear, in the absence of a defined buffer zone, the settings of the individual parts of the inscribed WHS, including Area A2 at Hayle, fall to be protected as the setting of a designated heritage asset (that is, the World Heritage Site) under heritage policies contained in the National Planning Policy

Framework [NPPF] and by local strategic policies, including specific WHS policies incorporated into local strategic planning documents.

6.3.32 The NPPF defines the setting of a heritage asset as:

‘The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.’

6.3.33 The WHS management plan incorporates a range of policies covering management issues that include the WHS’s protection (section 6.1) and its conservation and enhancement (section 6.2). Although the Management Plan mentions the development of a Supplementary Planning Document built around these policies, that has yet to be finalised and adopted by Cornwall Council. The Management Plan policies that are especially relevant to the application site are:

- Policy P3: Planning authorities will ensure that new development protects, conserves and enhances the Site and its setting.
- Policy P8: Developments outside the Site that will adversely affect its Outstanding Universal Value will be resisted.
- Policy C2: New development will add to the quality and distinctiveness of the Site by being of high quality design and respectful of setting.
- Policy C7: The historic character and distinctiveness of the Cornwall and West Devon mining landscape will be maintained.

6.3.34 While the WHS has no defined buffer zone, there can be no doubt that the application site lies within the setting of the WHS’s Area A2, although a narrow slither along its western perimeter actually lies within the WHS. The WHS Management Plan 2013-2018 says of its setting (section 3.4.1):

‘Identification of the setting can include the area within which developments would have a visual influence upon the OUV, and existing physical assets that are linked to it, historically or spatially. The setting of this Site therefore includes those sites, monuments, buildings and landscape components which provide additional historical or visual context.’

6.3.35 In the form of a post-medieval mining shaft (HER No.53602), the site contains one of the ‘many individual monuments and other areas of mining landscape which have not been included [within the WHS boundary], but which provide additional historical context’, referred to in section 5.2.4 of the 2013 WHS Management Plan, and therefore, by these

definitions, the site lies within the setting of the WHS. As can be seen from Figure 2, in the immediate vicinity of the application site, the WHS's setting must also include a neighbouring part of the Hayle Conservation Area.

6.3.36 The immediate setting of WHS Area A2 in the vicinity of the application site therefore includes:

- The open agricultural fields, stone-faced banks, and hedges that populate and characterise the west facing slope above the flat valley floor where Harvey's Foundry and related businesses were located.
- 19th century villas known as Netherleigh, Trepennol and the Beeches, and their gardens and mature tree screens, along St George's Road, which formed part of a group of substantial houses built for the senior officers and family members involved in Harvey's Foundry and its related businesses. These villas are referred to in the WHS Management Plan's review of Area A2 (section 3.3), with their juxta-positioning to the miners' terraced housing in the valley bottom at Tremeadow Terrace (just within the WHS boundary) providing 'good examples of housing that reflect the social divide of industrial labour. High-density terraced housing of the work-force contrasts with the villas and mansions of the managerial class'.
- Various valley bottom non-designated mining-related built heritage assets, along with water features associated with the water management for the former now-scheduled mill and ropeworks site to the north-west.
- The previously mentioned post-medieval mining shaft (HER No.53602) within the application site, which is a mound and disused shaft in the vicinity of a group of former semi-industrial or agricultural buildings.
- Penpol Primary School and its grounds.
- The non-designated late 18th or early 19th century Barview Farmhouse (HER No. 140811) immediately to the east of the application, which sits within a projecting spur of Hayle Conservation Area's boundary.

6.3.37 From this list defining the constituent elements of Area A2's setting in the immediate vicinity of the application site, it is evident that the only post-1900 component is the primary school. Otherwise, the historic inter-relationship between the Foundry (WHS) in the valley and the adjoining landscape remains legible and essentially unmodified. There was and remains a clear and distinct boundary/transition between the historic valley-based industry and the open land used for a combination of agriculture and industry on the overlooking hill slope and eventual plateau to the east.

6.3.38 The ICOMOS hierarchy of significance for World Heritage assets is provided at 6.2.27. Using this table, the Cornwall and West Devon Mining Landscape WHS, including its Area

A2, is deemed to be a designated heritage asset of **very high significance**, falling within the definition of 'Sites or structures of acknowledged international importance inscribed as of universal importance as WH property'.

6.3.39 The key physical attributes within Area A2 that contribute to the WHS's overall OUV, as set out in 6.3.25 above, are deemed to be of **very high significance**, falling within the definition of 'Individual attributes that convey OUV of the WH property'. Although not forming part of the hierarchy of significance, the principal enduring characteristics which define the setting of WHS Area A2 must be regarded as making a major contribution to the OUV of the WHS as a whole.

ii. Hayle Conservation Area

6.3.40 Hayle Conservation Area [CA] is large, being a consolidation and extension of formerly separate areas 'based upon the premise that the town, and the industries and harbour that created Hayle, are so integrally linked that all relevant elements where they survive should be included' ('Hayle Historical Assessment'; CAU, 2000).

6.3.41 The CA boundary to the west of the application site is partly coincident with that of the WHS, so that here the redline boundary of the site partly overlaps and partly abuts the CA. As Cornwall Council's plan [reproduced at Figure 3] shows, along the northern perimeter of the application site the boundary of the latter overlaps that of the CA in two places, while abutting it elsewhere and again the two boundaries abut on the short easternmost projection of the application site along Barview Lane.

6.3.42 The foregoing means that, as already identified, that part of the CA in the immediate vicinity of the site either lies within the WHS itself or within its setting as described in section 2.4 above. Just as with the WHS and indeed all heritage assets within the historic environment, the CA has its own setting. The site (or, at very least, the greater part of it) lies within that setting where it does not actually fall within the CA itself.

6.3.43 At present, there appears to be no conservation area appraisal and/or management plan for Hayle Conservation Area within the public domain. A draft appraisal has been prepared, it is believed, but this seems not to be publicly available at the time of writing. However, the character of the Area is covered (non-specifically) within two studies (CISI/CAU (2001) and CSUS (2005)), which also discuss certain Conservation Area related issues.

6.3.44 The character of the CA in the immediate vicinity of the application site has in effect already been described in assessing the nature of the setting of the WHS (see 6.3.32). Along the north side of the application site (ignoring Penpol Primary School), the built form

within the CA reflects the social hierarchy of the Foundry settlement with considerable clarity. The character of Tremeadow Terrace, Penpol Road and St George's Road vary accordingly, with the imposing greening of the latter by mature trees along the frontages of the listed Trepenpol and the Beeches and the more recessed Netherleigh serving to reflect the relative magnificence of these villas, built for senior management from Harvey's and associated businesses. A narrow buffer in the form of a field with gated access from St George's Road separates the villas from the later school and the workers' housing in the historic settlement to its west. Although the three villas were built in a privileged and elevated hillside position, a distinct characteristic of this neighbourhood was that the housing of all tiers of society, as well as part of the infrastructure of the Foundry settlement itself, had a direct physical relationship with the open land on this hill slope. This open land forms the rural setting to the CA and incorporates the application site. Along the western side of the application site, the conservation area is made up of the late 18th and early 19th century mill complex, including the ropeworks and associated mill ponds and other water management features. The ruined buildings, woodland and ponds form an important interpretative and recreational resource for the town and its visitors.

- 6.3.45 The hierarchy of significance for assets other than WHSs is set out in 6.2.24. Applying this (or indeed the ICOMOS hierarchy), the CA can be seen to be a designated heritage asset of **medium significance**. Given the nature of the CA, its setting in the immediate vicinity of the application site must be regarded as making a major contribution to that assessed significance.

Individual designated heritage assets within the site

- 6.3.46 There are no other designated heritage assets within or coincident with the boundaries of the site.

Individual non-designated heritage assets within the site

- 6.3.47 As noted already [see 6.3.16], there are two non-designated assets within the site: the findspot of a Roman coin (HER No.139301) and a post-medieval mining shaft (HER No.53602).

iii. Findspot of a Roman coin (HER no.139301)

6.3.48 Roman coins are recorded as having been discovered at approximately this location (Hayle and Camel estuaries, Historic Audit Draft report, Wessex Archaeology, 1997, Appendix 1, No. 1214). They were unattached finds (RCM 1825.2).

6.3.49 The hierarchy of significance for assets other than WHSs is set out in 6.2.24. Applying this, the findspot is considered to be a non-designated heritage asset of **negligible significance**.

iv. Post-medieval mining shaft (HER No.53602)

6.3.50 An oblong mound, 30m x 12m, is visible on air photographs. A disused shaft is shown at this location on the 1963 6 inch OS map and the mound is likely to be the remains of this shaft.

6.3.51 The hierarchy of significance for assets other than WHSs is set out in 6.2.24. Applying this, the mining shaft is considered to be a non-designated heritage asset of **low significance**.

Individual designated heritage assets in the wider environs of the site

v. Late C18-C19 mill complex, ropeworks and associated water management system immediately east of Millpond Avenue, Foundry (scheduled monument – ref.1402648)

6.3.52 This former industrial complex which includes earthworks, standing and buried remains of hammer mills, a grist mill, ropeworks, store, reservoir and leat is a scheduled monument, lying just west of the site and for a short distance jointly sharing a boundary. It was established in the late 18th century, and was expanded and altered in the 19th century as an industrial focus growing from the establishment of John Harvey's iron foundry at the head of Penpol Creek in 1779. The site is situated in a slight valley extending south from Penpol Creek, and to the east of Millpond Avenue.

6.3.53 The site finally ceased operation in the early 20th century, having spanned the full duration of Harvey's engineering production. Part of the original water management at the site includes a leat that possibly originally powered a metalboring mill in the north-east part of the site which was later replaced by or converted to a grist (corn) mill; and a reservoir or millpond which John Harvey gained permission to impound in 1780 and which powered hammer mills at the site. The leat allowed the Penpol Stream to bypass the millpond or reservoir as required; it was recut to its present course in 1795 following a dispute over rights to the land it originally crossed. The earliest mill at the site may have originally been a boring mill but by at least 1827 it was grinding corn, which was in demand to feed the many horses that provided Harvey's land transport needs. Milling was one of the major

industries in Hayle from the early 19th century due to the demand for supplying horses and men with feed. It expanded into a major commercial concern, with flour production and export, baking and retailing all becoming more important throughout the 19th century and into the mid-20th century. In 1851, in a division of Harvey's property, the grist mill complex was sold to J H Trevithick & Son. It was extended during the C19. Milling ceased in the 1890s when a mint humbug factory took over part of the building. A ropery was established at the site in 1796. Rope making was one of the first of Harvey's diversified activities after establishing his foundry and especially used in mines and for ships' rigging and cordage. The ropeworks closed in 1916, demand for its products having declined.

6.3.54 The late C18-C19 mill complex, ropeworks and associated water management system are scheduled for the following principal reasons:

- Survival: the upstanding remains of the various mills and ropery survive well as consolidated ruins and clearly show the sequence and differences in character of the various components of this industrial complex;
- Potential: significant buried remains will survive relating to the range of technological processes that occurred at the site and to the operation of the related water management system;
- Group value: they represent one of the most coherent surviving groups of industrial structures associated with the internationally-renowned Harvey's Foundry, retaining elements that date to the initial establishment of the company.

6.3.55 This asset is a physical attribute of the WHS as well as being a scheduled monument. Whether applying the hierarchy of significance set out in 6.2.24 or that for World Heritage in 6.2.27, the mill complex, ropeworks and associated water management system are together considered to be a designated heritage asset of **high significance**.

vi. *Small multivallate hillfort, early Christian memorial stone and C19 landscaped paths at Carnsew (scheduled monument - ref. 1006720)*

6.3.56 The small, later prehistoric hillfort occupying the crest and slope of a prominent hill at Carnsew is a scheduled monument, lying approximately 250 metres north west of the site. It overlooks the Hayle estuary.

6.3.57 In the mid-1840s, a network of paths was laid out on part of the hillfort. At the foot of the hill is an early Christian memorial stone (listed at Grade II) known as the Cunaide Stone,

which was re-located to its present position following its discovery close by in 1843. The scheduling is divided into two separate areas of protection.

- 6.3.58 The hillfort occupies a strategically significant controlling position on a low, but prominent, small hill at the north east end of a broad ridge overlooking the Hayle Estuary from the south. The hill dips gently south west to the spine of the ridge, but the slope steepens considerably around the north and north east sides, descending to what was the estuary's southern shoreline in the later prehistoric landscape, though large areas of reclaimed land now surround the foot of the slope. The hillfort's defences extend around those steeper slopes, from the north west around the north east to the south east sides, defining a sub-rectangular internal area, with no evidence for completion of the defensive circuit on the south west side.
- 6.3.59 The interior and defences of the hillfort are crossed south east of centre by a deep railway cutting, up to 25m wide, which explains the division of the scheduling into two areas.
- 6.3.60 The defences include two lines of rampart beyond which a slight scarp follows the foot of the northern slope, beyond the outer rampart. The outer rampart runs straight along the contour of the hill's north western mid-slope then curves around the north east to be crossed by one of Harvey's downslope paths and then partly modified by another above it, as it approaches the railway cutting. South east of the cutting, its line can no longer be perceived due to major post-medieval development. The inner rampart follows the slope crest, its line on the north west preserved in a hedge bank from which it emerges as a distinct earthwork around the north and north east, interrupted by the railway cutting, but re-appearing to curve around the south east of the hillfort. The size of the ramparts varies but where least modified by later activity they appear broadly 8m-9m wide and up to 2.25m high. Some variation is attributable to Harvey's landscaping, his paths crossing ramparts in some places and revetting their edges in others. Material from his path levelling is also considered to have been dumped onto portions of the ramparts to create some anomalous accretions, notably a ramped mound forming the present highest point of the inner rampart on the north side.
- 6.3.61 The Cunaide Stone is set upright, embedded in a wall revetting Harvey's path against the outer edge of the inner rampart to the north of the hillfort. The stone, as now visible, measures 1.32m high by up to 0.31m wide, almost parallel sided with a roughly rounded upper end. Centred within the top of the exposed face are two natural mineral veins forming a natural 'cross', their position on the finished stone considered to have been deliberately contrived in the selection and shaping of the piece. The exposed face bears a shallow inscription in ten lines of capital letters across the width of the stone, the lettering

still surviving though faint, giving a reading currently translated as 'here in peace lately went to rest Cunaide. Here in this grave she lies. She lived 33 years'.

6.3.62 The mid-19th century landscaping undertaken by Henry Harvey takes the form of levelled, revetted paths around the northern half of the hillfort. Paths are cut along the foot of each rampart, converging gradually down the long gradient to the west of the hillfort, beyond the scheduled area. The path below the upper rampart has a return which ascends the ramped mound on the north of that rampart. A further path links those below the ramparts then runs over steps directly down the hillslope; as this path cuts through the outer rampart, it passes beneath a formal arch which serves as a memorial to his efforts. The arch is listed at Grade II and is not included in the scheduling.

6.3.63 The multivallate hillfort, the Cunaide Stone and mid-19th century landscaping are scheduled for the following principal reasons:

- Rarity/period: the hillfort and the Cunaide Stone provide strong indications that this was a high-status, prominent site which continued to be an important centre long after the Iron Age;
- Survival: despite some cutting of the ramparts to create ornamental paths, this small multivallate hillfort survives comparatively well and is particularly valuable for studies of later prehistoric defensive activity given its strategic setting overlooking the Hayle estuary;
- Potential: as the site remains unexcavated there is considerable potential for research and discovery. It will retain deposits that are very likely to add to our knowledge of the material culture of the hillfort's inhabitants and the wider physical environment;
- Association: the later landscaping adds a further layer of interest since it reflects the prominence of the site into the 19th century and is associated with a prominent local family.

6.3.64 The DMRB hierarchy of significance is set out in 6.2.24. Applying this, the hillfort, Cunaide Stone and landscaping are together considered to be a designated heritage asset of **high significance**.

vii. Late C19 gardens laid out by John Dando Sedding to surround The Downes

6.3.65 The garden at the Downes is a Grade II registered park and garden, lying approximately 300 metres west of the site.

6.3.66 The Downes was built c 1880 on a previously undeveloped site for William John Rawlings, an antiquarian, to designs by Edmund H Sedding; John Dando Sedding FRIBA (1838-91) was responsible for the design of the gardens. J D Sedding was the author of the highly influential *Garden-Craft Old and New*, published posthumously in 1891, which included a perspective view of The Downes. The house and garden were described in *The British*

Architect (1887) in an article which stressed the integral link between the house and garden:

'The most noticeable fact about 'Downes' is that you may consider the house and gardens as parts of one whole scheme of design. This is not one of those houses dropped down from the clouds into an ill-considered spot, and with no architecture or design outside the house except the garden gate. This site it is evident at the very first glance was selected for a house and then prepared for it'.

6.3.67 The gardens were also described in the Gardeners' Chronicle (1898), which commented:

'The Downes is nearly perfect ... the place will appeal as a fine example of formal gardening, which has been pursued without altogether forgetting the beauty of hardy plants naturally grouped, and of unbroken greensward'.

6.3.68 The garden lies in an urban setting on the hill slope opposite the site.

6.3.69 Using the table of receptor values set out in chapter 6.2.24 above, the garden at The Downes is assessed as being a designated heritage asset of **medium significance**. Its setting makes a reasonably valuable contribution to that significance.

viii. The Downes (Roman Catholic Convent, Part Of St Michaels Hospital)

6.3.70 The Downes (sometimes The Downs or simply Downs or Downes – for consistency and clarity all subsequent references have been altered to read 'The Downes') is a Grade II* listed building, lying approximately 300 metres west of the site.

6.3.71 The list description identifies the building as:

'Small country house, now used as a nursing convent, including front courtyard walls gate piers and gates. Circa 1880 extended in 1902 and again early C20. Built for Mr Rawlings and designed by E. and J.D. Sedding. Rock-faced elvan brough to course and granite dressings. Steep dry Delabole slate roofs with projecting eaves rafters and granite coped gable ends. Crested clay ridge tiles. External stone lateral stacks with shaped tops and one stack has blind battlements. Gable end stack to kitchen wing.

Plan: Irregular plan with 4 principal rooms, each with a gable-ended front, ranged around a central T-shaped on-plan entrance hall and stair hall. The short axis of the entrance hall is approached by a porch in the front (east) angle ; this leads to a vestibule and then to a 2-storey axial-entrance hall and stair hall with another entrance and porch in the angle behind the principal right-hand wing. A lower service wing adjoins the left-hand side of the front. Extended circa early C20 with

2-storey wing at rear left and single-storey infill wing between this and original service wing. Slightly later single-storey wing (with memorial plaque to Lizzie S. Brooke) adjoins at right angles to the front, left of the porch ; and a church built 1927 (not included) adjoins at the rear left side. Tudor Gothic style.

Exterior: 2 storeys. Similarly detailed fronts have plinths, moulded strings under first floor sills, hoodmoulds, and relieving arches over ground floor windows and all gable end windows. Most windows have transoms ; the principal windows have cusped-headed lights and most of these have foiled tracery. All the windows have their original leaded glazing. Louvred ventilators to the gables. Principal 1:1:1 bay east entrance front has original gable end projecting forward on the left and side wall of principal wing on the right. Integral hipped lean-to porch in the angle with 4-light timber-framed gabled bay window over. Porch has 4-centred arched doorway on the right and 2 light traceried window on the left. The bay window, has pargetted plasterwork in the panels between the braced framing, moulded sill, trefoil-headed lights, quarterfoil tracery and arch-braced king post on corbel to a gable with a brattished barge board with central pendant. Lower central panel under window has a later crucifix of the Daughters of The Cross of Liege. Original wing on left has 3 light window to middle of first floor ; ground floor has circa early C20 gable ended wing in front. Far left is original lower service wing with 4-centred arched doorway. Right of the porch is 2-light window to first floor and further right a lateral stack offset at first floor level and partly carried on moulded corbels. North garden front has gable end of principal wing on the left, side wall of one of 2 parallel gable-ended wings set back on the right and gable-ended porch in the angle. Principal gable has 2-storey gabled bay window with 4 lights to the front and 2-light sidelights to the 1st floor window. All have cinquefoil-headed lights and quatrefoil tracery. Porch has bracket-arched window to the front and ornate framed gable end with central bell-cote. Over the porch is a 3-light window lighting the stair landing, and on the right a 3-stage lateral stack lateral stack surmounted by pair of square shafts linked by a recessed half-column. Right-hand return wall of principal wing has 4-light window with cinquefoil headed lights to ground floor; former doorway over, originally leading to a balcony, and single-light window, far right. Principal 3-light stair window is in the south wall of the house and has trefoil headed lights and tracery.

Interior: has wealth of Tudor Gothic detail and is virtually unaltered since built. Stair hall has dog-leg stair with closed string, square-on-plan column balusters and fluted newels with ball finials and moulded pendants. A timber framed oriel (now a cupboard) carried on corbels overlooks the stair. Principal parlour has fluted panelling, fine Gothic style ceiling and 4-centred arched chimney piece. Throughout the house are original panelled doors (some with 4-centred arches, some with architraves), plaster ceiling cornices and old or original fittings. Slate-coped courtyard walls at the

front are pierced by wide gateway, right of middle and ogee-headed doorway through the right-hand wall into the gardens. Original gate is panelled and has pierced arches. The Downes was bought by Miss Francis E. Ellis in 1901 and extended by her in 1902 so that the extension and part of the house could be used as a convent named St Theresa's convent who founded St. Michael's Hospital on land bought by Miss Ellis in 1904. A memorial statue of St. Michael was erected to her memory in 1933.'

6.3.72 The Downes lies in an urban setting on the hill slope opposite the site.

6.3.73 Using the table of receptor values set out in chapter 6.2.24 above, The Downes is assessed as being a designated heritage asset of **high significance**. Its setting makes a reasonably positive contribution to that significance.

ix. Terrace walls immediately north of The Downes

6.3.74 The terrace walls north of The Downes constitute a separate Grade II* listed building, lying approximately 300 metres west of the site.

6.3.75 The list description identifies the structure as:

'Terrace walls to planned garden. Circa 1880. Built for Mr. Rawlings and designed by E. and J.D. Sedding. Granite and elvan rubble with granite dressings.

Plan: Walls at front and rear of a rectangular terrace immediately north of The Downes. Aligned with the north doorway of the house are 2 flights of steps: a short flight through the rear terrace wall and a flight of 8 steps down to the next level from the front wall; at the west end of the terrace are 2 more flights of steps. The main flight of steps has a plain stone balustrade at either side with projecting chamfered copings; the ashlar square-on-plan terminal piers or newel posts have moulded caps. Front wall of the terrace is pierced at intervals by a balustrade of trefoil-headed 4-centred arches. Chamfered copings.'

6.3.76 Using the table of receptor values set out in chapter 6.2.24 above, the terraced wall structure north of The Downes is assessed as being a designated heritage asset of **high significance**. The retained juxtaposition of the walls with the main house is the most important part of the contribution of its setting to significance. The wider setting is of less importance.

x. Summerhouse at approximately 20 metres north east of The Downes

6.3.77 The summerhouse north east of The Downes is a separate Grade II* listed building, lying approximately 325 metres west of the site.

6.3.78 The list description identifies the building as:

'Summerhouse in planned garden. Circa 1880. Built for Mr Rawlings and designed by E. and J.D. Sedding. Granite rubble with granite dressings. Half-hipped dry Delabole slate roof with projecting eaves rafters. Crested clay ridge tiles.

Plan: Single-cell plan with oriel window projecting from the left-hand (north) side. Tudor Gothic style details.

Exterior: Single storey. Symmetrical 2 window west front with central doorway approached by wide flight of 7 stone steps with plain stone balustrades. Original doors and windows. 4-centred arched doorway with double doors with lozenges to bottom panels and glazed top panels. 3-light windows with transoms to the narrower sidelights and cusped and traceried heads. A 5-light timber framed gabled window with round-headed lights projects from the left-hand (north) wall. The oriel is carried on the rear stone wall of the summerhouse on one side and a stanchion at the other corner. All the windows have their original leaded glazing.

Interior: not inspected.'

6.3.79 Using the table of receptor values set out in chapter 6.2.24 above, the summerhouse north east of The Downes is assessed as being a designated heritage asset of **high significance**. The retained juxtaposition of the summerhouse with the main house is the most important part of the contribution of its setting to significance. The wider setting is of less importance.

xi. Netherleigh, 14 and 16, St Georges Road

6.3.80 Netherleigh is a Grade II listed building, lying immediately north of the site.

6.3.81 The list description identifies the building as:

'House. Circa 1850. Stuccoed walls. Hipped grouted scantle slate roof with projecting eaves. Rendered brick chimneys over sides walls.

Plan: Double depth plan with 2 equal sized reception rooms at the garden front; entrance hall behind right-hand room leading to stair hall; another reception room or former study behind the entrance hall and probably kitchen at rear left. Extended C20 at rear and at left-hand side.

Exterior: 2-storeys. Plinth rusticated stucco quoins clasping the corners and moulded cornices under wide eaves soffits. Symmetrical 3 window north garden front with central half-domed niche with moulded architrave. Ground floor window openings at left and right have flanking pilasters carrying hoods on

consoles. First floor openings have moulded architraves. Original 12-pane hornless sashes (also to entrance front). 3 window west entrance front has doorway, right of middle and window over; window right of doorway with window over and another window at first floor left. Original 4-panel door and overlight with marginal panes. In front of the doorway is a probably slightly later C19 conservatory with marginal panes to fixed lights (4 at the front, 2 at the right-hand side) and consoles over pilaster mullions supporting an eaves cornice surmounted by cast-iron cresting. The door (left-hand side) has coloured marginal panes and similarly detailed opening overlight.'

6.3.82 The residential setting of Netherleigh has developed since it was built. Its inter-relationship with Trepnopol and The Beeches as a group and with the open land of the site are important contributory elements as setting to the asset's significance.

6.3.83 Using the table of receptor values set out in chapter 6.2.24 above, Netherleigh is assessed as being a designated heritage asset of **medium significance**.

xii. Trepnopol, 20, St Georges Road

6.3.84 Trepnopol is a Grade II listed building, lying immediately north of the site.

6.3.85 The list description identifies the building as:

'House. Circa 1850. Built for Harvey and Co. Stuccoed walls. Hipped 'L'-shaped concrete tile roof with projecting eaves. Paired octagonal stuccoed chimney shafts over left-hand side.

Plan: 'L'-shaped plan plus single storey lean-to in rear angle. 2 rooms in garden front with larger principal reception room on the left. Entrance hall behind right hand room leading to stair hall at rear middle and another reception room or study behind the entrance hall. Present kitchen is in the lean-to at rear left, possibly original.

Exterior: 2-storeys. Stuccoed plinth, rusticated quoins and stucco architraves. Symmetrical 3 window north garden front with larger windows and rusticated surrounds to the 3 ground floor openings. First floor openings (and those to the entrance front) have plain stucco surrounds. Original 12-pane hornless sashes. Symmetrical 3 window west entrance front (window at ground floor left is later insertion) with central doorway. Original 4-panel doorway and overlight with marginal panes. There is evidence for a former (probably glazed) porch and a later large conservatory. Original sashes except to later opening.

Interior: Virtually complete interior with its original partitions; open well stair with open string; ceiling cornices with carved trailing bands ; panelled doors and window shutters.'

- 6.3.86 The residential setting of Trepnopol has developed since it was built. Its inter-relationship with Netherleigh and The Beeches as a group and with the open land of the site are important contributory elements as setting to the asset's significance.
- 6.3.87 Using the table of receptor values set out in chapter 6. 6.2.24 above, Trepnopol is assessed as being a designated heritage asset of **medium significance**.

xiii. The Beeches, 22, St Georges Road

- 6.3.88 The Beeches is a Grade II listed building, lying immediately north of the site.
- 6.3.89 The list description identifies the building as:

'House. Circa 1850's. Stuccoed walls. Hipped gouted scantle slate roof with projecting eaves. Brick chimneys over the side walls. Cast-iron ogee gutters.

Plan: Overall irregular 'L'-shaped plan: 2 reception rooms in the garden front; axial entrance hall behind the left-hand room leading to stair hall; 1-room plan wing (with pedimented gable) projecting on the left behind a later C19 entrance porch; deep service wing at right angles to rear behind entrance hall and stair hall and large later C19 conservatory at the right of the garden front. Classical style details.

Exterior: 2-storeys. Symmetrical 3 window north garden front has: plinth, clasping 2-tier corner pilasters fluted to lower half of first tier, moulded architraves to ground floor openings with moulded hoods over (segmental pediment over central window); first floor sill band with brackets under and eared architraves to windows above. Original 12-pane hornless sashes. On the right of the garden front is a fine C19 conservatory with central canted bay. Transomed lights with 16-pane fixed lights and overlights with coloured glass. The roof has a full length lantern ridge with coloured glass to the sides. East entrance front has recessed entrance with brackets resembling machicolations over. Original panelled door and overlight. In front of the doorway is a C19 entrance porch with panelled plinth and transomed lights. Projecting on the left of the entrance is a 2-storey pedimented gable end. Plinth and strings form a simple ground floor classical order with more complex first floor order surmounted by entablature with brackets to the cornice. The lower cornice of the pediment is round-arched to the middle and the cornice returns as a parapet cornice to either side. C20 windows to possibly altered openings.

Interior: Not inspected.'

6.3.90 The residential setting of The Beeches has developed since it was built. Its inter-relationship with Trepennol and Netherleigh as a group and with the open land of the site are important contributory elements as setting to the asset's significance.

6.3.91 Using the table of receptor values set out in chapter 6.2.24 above, The Beeches is assessed as being a designated heritage asset of **medium significance**.

xiv. Gate-Piers, Gates and Flanking Walls Approximately 60 Metres North of The Beeches

6.3.92 The gate piers, gates and walls north of The Beeches constitute a separate Grade II listed building, lying immediately north of the site.

6.3.93 The list description identifies the structure as:

'Gate piers, gates and flanking walls at road entrance to The Beeches q.v. Granite ashlar gate piers, stuccoed walls with dressed granite copings and wrought-iron gates. Ogee-on-plan entrance with central gateway flanked by square-on plan piers. Gate-piers have plinths and square edged strings under pyramidal caps. Walls have stuccoed plinths and cambered copings. Gates have scrolled detail and the name of the house within a central arched panel to each gate.'

6.3.94 Using the table of receptor values set out in chapter 6.2.24 above, the piers, gates and walls north of The Beeches together are assessed as being a designated heritage asset of **medium significance**. The retained juxtaposition of the gates and walls with the main house is the most important part of the contribution of its setting to significance. The wider setting is of less importance.

xv. Statue of St Michael Approximately 100 Metres East of The Downes

6.3.95 The statue is a Grade II listed structure, lying approximately 270 metres west of the site on the opposing hill.

6.3.96 The list description identifies it as:

'Statue of St Michael over a tall base. Erected 1934 in memory of Miss Frances E Ellis. Freestone statue over a tall tapered dressed granite base. Memorial inscription to front (north side) of base. The statue of St Michael is depicted as an angel warrior-standing sword in hand over a slain beast.
Miss Ellis was a great benefactress who was dedicated to helping orphans and the sick. In 1902 she extended her house (The Downes) so that it could be used as a convent. This convent, named St Theresa's founded in 1913 (opened 1914), St Michael's Hospital, built on land provided by Miss Ellis.'

6.3.97 Using the table of receptor values set out in chapter 6.2.24 above, the statue is assessed as being a designated heritage asset of **medium significance**.

xvi. The Bird In Hand. 9, Trelissick Road

6.3.98 The Bird In Hand is a Grade II listed building, lying approximately 400 metres south west of the site.

6.3.99 The list description identifies the building as:

'Coach house, now public house. Circa 1860's built for Harvey and Co. Flemish-bond brick walls with rusticated granite dressings. Hipped scantle slate roof with slightly projecting eaves with cast-iron ogee gutters. Tall brick chimney over each hipped end.

Plan: Rectangular plan with stable, tack room and pair of coach houses on the ground floor; grooms' accommodation and probably fodder store on the first floor approached by flight of granite steps at the rear. Classical style details.

Exterior: 2-storeys plus attic. 1:1:2:2 bay south front with central bays broken forward and surmounted by triangular pediment with glazed central oculus. Plinth, chamfered rustications, keyed elliptical arches and first floor sill string. Doorway to second from left bay and 2 wide doorways to right-hand bays. Original doors and fenestration. Ledged doors with overlights, 8-paned fixed lights with 4-pane hoppers to ground floor window openings and 16-pane hornless sashes to first floor.

Interior: Not inspected.

This building is the former coach house of Glanmar House.'

6.3.100 The asset is surrounded by largely 20th century development and it has no intervisibility or connection to the site.

6.3.101 Using the table of receptor values set out in chapter 6.2.24 above, the Bird In Hand is assessed as being a designated heritage asset of **medium significance**.

xvii. Roddfield House, 14, Trelissick Road

6.3.102 Roddfield House is a Grade II listed building, lying approximately 450 metres south west of the site.

6.3.103 The list description identifies the building as:

'House. Circa mid C19. Stuccoed walls. Hipped dry Delabole slate roof with projecting eaves. Stuccoed chimneys over the entrance front and over the rear wall. There are 2 parallel roofs with valley between, linked on the left over the garden front.

Plan: Double depth plan with central entrance hall leading to stair hall at rear: 2 reception rooms (one behind the other) to garden front on the left; probably study right of entrance hall and probably kitchen at rear right.

Exterior: 2-storeys. Plinth, rusticated quoin strips, similar rustications around doorway and recessed architraves to window openings. Symmetrical 1:1:1 bay east front with central doorway and

window over. Left and right-hand bays have blind window openings. Original panelled door with overlight and original 12-pane hornless sashes to all principal openings except ground floor of garden front. 2-bay south garden front has possibly later C19 stuccoed canted bay windows to ground floor. The windows have panelled plinths, mullions with moulded capitals and moulded cornice to the entablature. The horned sashes are possibly original.

Interior: Not inspected. Probably retains its original internal features and joinery.'

6.3.104 The asset is surrounded by mixed age residential development and it has no intervisibility or connection to the site.

6.3.105 Using the table of receptor values set out in chapter 6.2.24 above, Roddfield House is assessed as being a designated heritage asset of **medium significance**.

xviii. Glanmor House, Trelissick Road

6.3.106 Glanmor House is a Grade II* listed building, lying approximately 500 metres south west of the site.

6.3.107 The list description identifies the building as:

'House. Circa 1862. Built for Harvey and Co for their transport manager. Stuccoed walls. Hipped grouted scantle slate roofs with central valley and linked across the garden front. Projecting eaves with cast iron ogee gutters. Chamfered stuccoed grouped chimney shafts at rear left, over right-hand wall, over cross wall of lower service wing, right, and towards rear, far right.

Plan: Unaltered double depth plan with 2-rooms-wide reception area of the house on the left and shallower plan 2-rooms-wide service area on the right. Main house has central hallway leading to stair hall and axial passage behind right-hand room; 2 linked reception rooms to garden front, left, and another reception room behind axial passage, 2 storey bay windows to garden front and at rear right. At rear left is a large bay window/conservatory. Later lean-to conservatory added to service end at rear. Classical style.

Exterior: 2-storeys. Similar stucco details to each front: plinth; giant engaged panelled corner pilaster; rusticated courses to ground floor; vermiculated first floor band under sills; moulded sills; moulded architraves and panelled frieze under eaves cornice. Reception block has original hornless sashes with plate glass, service wing has original hornless sashes with glazing bars. Symmetrical 3 window entrance front with original central porch and lower 3 window service wing set back on the right. Porch is approximately Tuscan distyle in antae with round headed windows between the square columns and central doorway with original door and overlight. Entablature

has moulded brackets to the cornice and there is an ornate parapet with pierced balustrade over. 2-bay garden front: 2-storey canted bay windows with pilaster mullions and round arch lights to the ground floor; moulded brackets to the cornices under the first floor sills and moulded cornices to the windows above. Rear has similar details 2-storey bay window on the left and large canted 5-light bay with pilaster mullions and entablature on the right. Service wing has wide mid-floor band and moulded architraves to the windows.

Interior: Complete interior with cast-iron stair balustrade by Harvey and Co; original doors, architraves and door furniture; chimney-pieces; and fine plasterwork ceilings with possibly the original colour scheme (repainted early C20).'

6.3.108 The asset lies surrounded by residential development and it has no intervisibility or connection to the site.

6.3.109 Using the table of receptor values set out in chapter 6.2.24 above, Glanmor House is assessed as being a designated heritage asset of **high significance**.

xix. Gate-Piers, Walls and Railings Approximately 60 Metres South East of Glanmor House

6.3.110 The gate piers, walls and railings south east of Glanmor House constitute a separate Grade II listed building, lying approximately 470 metres south west of the site.

6.3.111 The list description identifies the structure as:

'Gate piers, flanking walls, terminal piers and railings. Circa late C19. Granite ashlar and dressed granite. Ogee-on-plan entrance with central gateway and square-on-plan piers. Monolithic pier shafts have ogee-headed recessed panels and are surmounted by pyramidal caps. Low ashlar walls between piers have copings of similar section and original wrought iron railings with alternate twisted bars.'

6.3.112 Using the table of receptor values set out in chapter 6.2.24 above, the piers, walls and railings south east of Glanmor House together are assessed as being a designated heritage asset of **medium significance**.

xx. Meadowside Cottage, 40 and 42, Trellisick Road

6.3.113 Meadowside Cottage is a Grade II listed building, lying approximately 650 metres south west of the site.

6.3.114 The list description identifies the building as:

'Pair of cottages. Circa early-mid C19. Dressed coursed granite front with granite dressings, brick arches. Hipped roof with central axial brick stack; original grouted scantle slate roof to left, asbestos slate to right (No. 40).

Plan: Double depth plan. Pair of identical cottages each with one room at the front and one room behind; the entrance cross passages are at either end. Right-hand cottage has been extended on the right and at rear in the C20.

Exterior: 2-storeys. Symmetrical 4 window east front except that right hand cottage has C20 lean-to porch. Unaltered original openings with 4-centred arches with projecting granite keystones. Original hornless sashes with glazing bars and traceried heads. Doorways at extreme left and right with windows over. C20 doors.

Interiors: Not inspected but possibly retains original features and joinery.'

6.3.115 The asset lies in an area of suburban residential development and it has no intervisibility or connection to the site.

6.3.116 Using the table of receptor values set out in chapter 6.2.24 above, Meadowside Cottage is assessed as being a designated heritage asset of **medium significance**.

xxi. Meadowside House, 44-48, Trelassick Road

6.3.117 Meadowside House is a Grade II listed building, lying approximately 650 metres south west of the site.

6.3.118 The list description identifies the building as:

'House. Circa 1860s or possibly circa 1840s and remodelled in the 1860s. Stuccoed walls. Grouted scantle slate roofs, hipped except for gable end to axial wing, behind main entrance on the left. Wide eaves with cast-iron ogee gutter. Pair of chamfered stucco chimney shafts over right-hand wall and another chimney over rear wall of main block.

Plan: Double depth plan plus 2 rooms deep service wing at right angles to rear middle: 2 reception rooms at the garden front surrounded by open verandah with balcony above; entrance hall behind left-hand room leading presumably to central stair hall behind the front rooms; at rear left is a

projecting axial wing; set back on the right is an attached summer house with external steps and at far rear is service wing with entrance hall between the rooms.

Exterior: 2-storeys. Plinth, clasping Doric corner pilasters moulded architraves. Symmetrical 3 window south garden room (except for circa late C19 projecting bay window on the right). Central domed niche. Probably original 4-pane hornless sashes to first floor openings. Pair of circa late C19 French windows with overlights to ground floor left, 4-light bay window with leaded overlight, right. In front is a 5 bay cast-iron open verandah plus splayed corner bays and returning for 2 bays at either end. Verandah has column-turned stanchions; flat headed arches with pierced spandrels and frieze over. Above the verandah is a balcony with cross-braced balustrade. On the right the verandah front is glazed (circa late C19) to form a conservatory. West entrance front has symmetrical 3 window front of service wing set back on the left and 1:1:1 bay front on the right. Service wing has central doorway with panelled door and original 12-pane hornless sashes at front, end and rear. Main entrance front on the right has panelled and glazed box porch to middle bay with pilaster mullions, coloured glazing with marginal panes, overlights and entablature with dentils. Left-hand gable-ended bay is built forward and has canted bay window with pilaster mullions and dentilled entablature and tripartite window over with pilaster mullions and moulded cornice to the entablature. Blind window right of porch. Original hornless sashes with plate glass.

Interior: Not inspected but possibly as complete as the very interesting C19 exterior.'

6.3.119 The asset lies in an area of suburban residential development and it has no intervisibility or connection to the site.

6.3.120 Using the table of receptor values set out in chapter 6.2.24 above, Meadowside House is assessed as being a designated heritage asset of **medium significance**.

xxii. Charlotte House, 52 and 54, Foundry Hill

6.3.121 Charlotte House is a Grade II listed building, lying approximately 250 metres west of the site.

6.3.122 The list description identifies the building as:

'House. Circa 1804, remodelled early C19 and later C19. Stuccoed or possibly render replacing stucco. Asbestos slate hipped roofs with projecting eaves and cast-iron ogee gutters. Partly external stack at left-

hand side with rendered brick chimney over; pair of octagonal stuccoed chimney shaft over right-hand side and brick chimney over original end of wing towards rear on right.

Plan: Double depth plan plus C20 extensions. 2 reception rooms at the garden front; stair hall behind left-hand room, probably original kitchen behind right-hand room.

Exterior: 2 storeys. Regular 2 window garden front with granite plinth. The left-hand bay is bowed and there is a canted bay window to the ground floor of each bay. In front of the ground floor to a mid-late C19 4-bay verandah with ornate cast-iron stanchions, the verandah returns at either end both to cover the entrance doorway and for a distance at the other side. The transomed ground floor windows are probably contemporary with the verandah and have diagonal and square patterned glazing to the casements. First floor windows have similar glazing to the top lights only. The entrance front (left-hand wall) has doorway with pair of C19 panelled doors and overlight with diamond panes all within an early C19 moulded doorcase with corner blocks.

Interior: Parts inspected have all their early C19 carpentry and joinery details and plasterwork including: dog-leg stair with open string; cornice with modillions in the stair hall; cornices with trailing bands and 6-panel doors.

Charlotte House was the home of Jane Trevithick (nee Jane Harvey) wife of Richard Trevithick, the famous engineer, probably during the period of circa 1836 until 1868.'

6.3.123 Using the table of receptor values set out in chapter 6.2.24 above, Charlotte House is assessed as being a designated heritage asset of **medium significance**.

xxiii. The Laurels, 9, Foundry Hill

6.3.124 The Laurels is a Grade II listed building, lying approximately 185 metres west of the site.

6.3.125 The list description identifies the building as:

'House. Circa mid C19. Stuccoed walls. Hipped scantle slate roofs with projecting eaves. Chimney removed C20.

Plan: Double depth plan with 2 equal front rooms flanking a central entrance hall leading to a rear stair hall with a room on either side. Adjoining set back on the left is a 1 room wide probably service wing which projects further at the rear.

Exterior: 2 storeys. Symmetrical 3 window west road front with granite ashlar plinth, stucco keystones and stucco aprons under the first floor windows. Central doorway with original 6-panel door, with top 4 panels later glazed, and overlight. In front of the doorway is a circa late C19 glazed porch with pilaster corners and moulded cornice to its flat roof. Porch has horizontal glazing bars and over the double doors an overlight with coloured marginal panes. Ground floor

windows are possibly original or circa 1870s 4-pane hornless sashes, otherwise the windows are original 12-pane hornless sashes. Rear has a 3 window garden front also with original sashes.

Interior: not inspected.'

6.3.126 The Laurels lies in an established residential district on a hillside with views across the Foundry valley to the site.

6.3.127 Using the table of receptor values set out in chapter 6.2.24 above, The Laurels is assessed as being a designated heritage asset of **medium significance**. Its setting makes a positive contribution to that significance.

xxiv. Former Foundry School, 5, Foundry Hill

6.3.128 The former Foundry School is a Grade II listed building, lying approximately 180 metres west of the site.

6.3.129 The list description identifies the building as:

'School for foundry workers' children. Circa 1860. Built for Harvey and Co. Granite and killas rubble with granite dressings, slate hanging to walls of rear wing. Hipped slurried scantle slate roof with wide eaves and ventilator holes drilled into the soffits. Cast-iron ogee-section gutters.

Plan: Overall L-shaped plan. Originally probably a large rectangular schoolroom on each floor of the main part and possibly schoolteachers' accommodation in a one-room plan wing at right angles behind the right-hand side. Now used as a house and subdivided.

Exterior: 2 storeys. Tall virtually symmetrical 3 window west road front with no doorway. Original 30-pane hornless sashes to ground floor except that right-hand window has shutter in place of lower sash. Originally 12-pane sashes above but the lower sashes are replaced with 2 panes. Doorway to middle of left-hand wall at basement level. Originally double 3-panel doors and 5-pane overlight. Another doorway at higher level on left is probably in position of former stair window.

Interior: Not inspected.'

6.3.130 Neighbouring the Laurels, the former Foundry School shares its established residential hillside setting with views across the valley to the site.

6.3.131 Using the table of receptor values set out in chapter 6.2.24 above, the former Foundry School is assessed as being a designated heritage asset of **medium significance**. Its setting makes a positive contribution to that significance.

xxv. 7. Foundry Hill

6.3.132 No.7 Foundry Hill is a Grade II listed building, lying approximately 180 metres west of the site.

6.3.133 The list description identifies the building as:

‘House. Circa mid C19. Stuccoed walls. Hipped grouted scantle slate roof (being replaced at the time of the survey). Brick chimneys, over left-hand side wall and over cross walls and gable end to rear wing. Cast-iron ogee gutters.

Plan: 3 rooms deep and 2 rooms wide at the garden (road) front. Axial entrance hall behind right-hand room leading to stair hall behind left-hand room. Probably reception rooms behind and at far rear a service wing or cottage on the right with its own entrance.

Exterior: 2 storeys. Asymmetrical 2 window garden front without doorway. Stuccoed plinth and aprons under the sills. Right-hand return wall is symmetrical 3 window entrance front with central doorway and with left-hand windows blind. Right of this is a slightly later C19 1-window cottage front with its doorway on the left within an original porch. All the windows are original 12-pane hornless sashes.

Interior: not inspected.’

6.3.134 As a neighbour to the Laurels and the former Foundry School, the house shares their established residential hillside setting with views across the valley to the site.

6.3.135 Using the table of receptor values set out in chapter 6.2.24 above, no.7 Foundry Hill is assessed as being a designated heritage asset of **medium significance**. Its setting makes a positive contribution to that significance.

xxvi. Lane End, 16-22, Millpond Avenue

6.3.136 Lane End is a Grade II listed building, lying approximately 75 metres west of the site.

6.3.137 The list description identifies the building as:

'House, now divided into flats. Circa early C19. Stuccoed walls. Hipped asbestos slate roofs with projecting eaves. Brick chimneys over the side walls.

Plan: Double depth plan with 2 equal reception rooms at the garden front; axial entrance hall behind right-hand room leading to stair hall behind left-hand room; probably study behind entrance hall and kitchen behind stair hall. C20 additions at left-hand side towards the rear.

Exterior: 2-storeys. Similar stucco detail to each elevation: granite ashlar plinths; giant clasping corner pilasters with Greek key and anthemion detail and moulded hoods on consoles over the ground floor windows. Symmetrical 3 window east front with central blind niche to ground floor. All the windows are original 16-pane hornless sashes. Symmetrical 3 window north entrance front with central doorway within distyle porch with brackets to the entablature (originally open but infilled in the C20). Blind windows except for window over porch.

Interior: Not inspected. Probably retains its original internal features and joinery.'

6.3.138 Lane End lies in the Foundry valley in a mixed age residential setting. Mature vegetation lines the side of the road, shielding it to a significant degree from the site.

6.3.139 Using the table of receptor values set out in chapter 6.2.24 above, Lane End is assessed as being a designated heritage asset of **medium significance**. Its setting makes a modest contribution to that significance.

xxvii. Ladbroke House, Including Garden Walls and Gate Piers Approximately 25 Metres North East (15 Mill Pond Avenue)

6.3.140 Ladbroke House is a Grade II listed building, lying approximately 75 metres west of the site.

6.3.141 The list description identifies the building as:

'House including garden wall and gate piers adjoining road. Circa 1840's. Built for the Harvey family. Stuccoed walls. Hipped concrete tile roof wide eaves with moulded plaster soffits. Stuccoed chimneys with paired octagonal shafts over side walls, towards front, left and towards rear, right.

Plan: Double depth plan with 2 equal reception rooms at the garden front; axial entrance hall behind right-hand room leading to bowed stair hall behind the left-hand room; probably study behind entrance hall and kitchen behind stair hall. Later extensions at rear, right and adjoining left-hand side towards the rear.

Exterior: 2-storeys. Similar stucco detail to each elevation: granite ashlar plinths; giant panelled plasters with Corinthian capitals flanking each front; moulded architraves carved festoons over ground floor windows; moulded first floors sill bands and eaves entablature with Greek key pattern to garden front and moulded soffits to other elevations. Symmetrical 3 window north-east garden front with central domed blind niche to ground floor original windows throughout are 12-pane hornless sashes except for slightly larger sashes with marginal panes at ground floor left and right. Symmetrical 3 window north-west entrance front with central doorway. Original 6-panel door with later glazed top panels and overlight. Distyle Corinthian porch with dentils to the entablature and iron balustrade over. Left-hand window is blind. Chimneys over right-hand windows.

Interior: Many original features including marble chimney-pieces and moulded plaster ceiling cornices. Granite ashlar walls with granite copings to ogee-on-plan gateway flanked by granite monolith piers.'

6.3.142 Like Lane End, Ladbroke House lies in the Foundry valley in a mixed age residential setting. Mature vegetation lines the side of the road, shielding it to a significant degree from the site.

6.3.143 Using the table of receptor values set out in chapter 6.2.24 above, Ladbroke House is assessed as being a designated heritage asset of **medium significance**. Its setting makes a modest contribution to that significance.

xxviii. The Glade, 10, Millpond Avenue

6.3.144 The Glade is a Grade II listed building, lying approximately 85 metres west of the site.

6.3.145 The list description identifies the building as:

'House. Circa 1840's. Stuccoed walls. Hipped gouted scantle slate roof with wide eaves with panelled plaster soffits. Brick chimneys over the side walls.

Plan: Double-depth plan with 2 equal reception rooms at the garden front; axial entrance hall behind right-hand room leading to stair hall behind left-hand room; probably large study and kitchen at rear plus later wings at rear left and right.

Exterior: 2-storeys. Similar stucco detail to each elevation: granite ashlar plinths, giant Ionic corner columns; window architraves; first floor sill band and eaves entablature. Symmetrical 3 windows east garden front with central blind domed niche with pedimented architrave and blind window over. At ground floor left and right are identical projecting bay windows with square Doric corner columns and entablature over. C20 casements with older C20 small paned top lights. Original

12-pane hornless sashes to other window openings. Slightly asymmetrical 3 window north entrance front with central doorway. Distyle Ionic porch, 2- window right of doorway and 1 window on the left. First floor windows left and right are blind.

Interior: Not inspected. Probably retains its original features and joinery.'

6.3.146 Like Lane End and Ladbroke House, the Glade lies in the Foundry valley in a mixed age residential setting. Mature vegetation lines the side of the road, shielding it to a significant degree from the site.

6.3.147 Using the table of receptor values set out in chapter 6.2.24 above, The Glade is assessed as being a designated heritage asset of **medium significance**. Its setting makes a modest contribution to that significance.

xxix. 7.8 and 9, Mill Pond Avenue

6.3.148 Nos.7, 8 & 9 Mill Pond Avenue together form a Grade II listed building, lying approximately 100 metres west of the site.

6.3.149 The list description identifies the building as:

'Terrace of 3 cottages. Circa mid C19. Granite rubble with granite dressings. flipped grouted scantle slate roof with brick chimneys at right-hand end and over the cross party wall towards the left.

Plan: Double depth plan terrace of 3 similar cottages. Each cottage has 1 room at the front. Right-hand cottage are a pair with entrance passages close together in the middle. Left-hand cottage (No. 9) has its entrance passage towards the left. Service rooms at the rear.

Exterior: 2-storeys. Overall 6 window east front. Each cottage has a 2 window front with a slightly narrower window over the doorway of each. Original panelled door to right-hand cottage (No. 7) otherwise C20 doors. Original hornless sashes with glazing bars to right-hand cottage and to first floor of left-hand cottage, otherwise circa late C19 4-pane horned sashes.

Interior: Not inspected.'

6.3.150 Like other properties in Millpond Avenue, this terrace lies in the Foundry valley in a mixed age residential setting. Mature vegetation lines the side of the road, shielding it to a significant degree from the site.

6.3.151 Using the table of receptor values set out in chapter 6.2.24 above, nos.7, 8 & 9 Mill Pond Avenue are assessed as being a designated heritage asset of **medium significance**. Its setting makes a positive contribution to that significance.

xxx. Triumphal Arch, Foundry Lane

6.3.152 The Triumphal Arch is a Grade II listed building, lying approximately 200 metres north west of the site.

6.3.153 The list description identifies the building as:

'Triumphal arch. Built in 1843 for Harvey and Company reputedly to celebrate the Leeghwater Engine contract for draining the Haarlemmer Meer, Holland. Granite ashlar. Rectangular-plan abutments on either side of a fairly wide carriageway. Plinth, rusticated and vermiculated quoins and voussoirs, double impost bands, elliptical arch with projecting keystone, moulded cornice and tall ashlar blocking course.'

6.3.154 The arch sits across a narrow bending lane surrounded by housing and former industrial premises.

6.3.155 Using the table of receptor values set out in chapter 6.2.24 above, the Triumphal Arch is assessed as being a designated heritage asset of **medium significance**.

xxxi. Walls and Foundry Remains At SW557370, Foundry Lane

6.3.156 The walls and foundry remains together form a Grade II listed building, lying approximately 225 metres north west of the site.

6.3.157 The list description identifies the building as:

'Walls and structures associated with former iron foundry. Circa early C19. Built for Harvey and Co., Grouted rubble with granite and brick dressings.

Plan: Cranked-on-plan courtyard with retaining walls on 3 sides. On the left (south) the walls are pierced by one small doorway leading to steps up to a garden. The high wall at the end of the courtyard fronts a large vaulted rectangular-on-plan chamber ; the right-hand (north) wall fronts 3 similar chambers ; all are built into an earth bank.

Exterior: End wall is surmounted by a parapet with string and coping. There is a wide elliptically-arched doorway with projecting granite keystone. Above to the left is a pointed-arched opening with its granite-keyed brick arch rising from the parapet string. The right hand wall has 3

elliptically-arched doorways all with brick arches. The inner 2 doorways have rounded corners to the jambs and arches ; the other doorway has square corners.'

6.3.158 As the remains of an industrial complex in the WHS, whether applying the receptor values set out in chapter 6.2.24 or those in 6.2.27 above, the walls and foundry remains at Foundry Lane are assessed as being a designated heritage asset of **medium significance**.

xxxii. *Building at Harveys Foundry at SW 5578 3706*

6.3.159 The building at Harvey's Foundry is a Grade II listed building, lying approximately 220 metres north west of the site.

6.3.160 The list description identifies the building as:

'Foundry.c1825-40, in various stages and with earlier origins. Coursed slatestone rubble with dressed quoins and brick arches; part of hipped slate roof remaining. Stable and cartshed range of local rubble and brick with hipped slate roof and brick stacks.

PLAN: rectangular plan with, from left (south east) a granary, machine shop, boiler room and engine room; a boring mill stood further to the north west; a stable range extends to the west at right angles, making an overall T-shaped plan, and was joined to the main block by an extension of c1860.

EXTERIOR: Main complex of equal height. 5-storey granary has granite lintel over doorway and segmental brick arches over windows and loft doors; rear (west) is slate-clad with large ground-floor opening. Otherwise of 4 storeys with segmental-arched windows. To centre is furnace hole to left of segmental brick arch to vault with secondary flue hole; semi-circular arched ground floor openings to rear. Semi-circular brick arch to engine house on right. To extreme right (north west) is buttressed and dressed granite wall with 2 segmental-arched openings and joist holes for former pattern floor, this being the end of the demolished Boring Mill; buttress has brick springers for arch and iron socket for supporting crane rail at north east corner. The stable range is of 2 storeys, with loft openings set above segmental-arched double openings to cartsheds, with wrought-iron fittings to plank double doors, and over segmental-arched stable doors.

INTERIOR: heavy beamed floors, with some line shafting and flywheels visible. The basement to the granary has two barrel vaults with granite piers and cast-iron columns to brick vaulting. Engine house has flywheel mark on inner face of north wall, and holes indicating that the beam engine was mounted on a cast-iron entablature (a remarkable arrangement for a Cornish engine house).

Archaeological analysis and other information is contained in reports by Ken Brown, 1995, and the Cornwall Archaeological Unit. The stables have retained some softwood trusses. From 1779 Harvey's played a preeminent role in the supply of beam engines to the world's mining industry and for large draining projects. By the mid C19 they supplied beam engines to the largest capacity sites in the country (including the grade I listed pumping station at Kew), drainage projects in Europe (eg. Haarlem Meer in Holland) and to mines in Africa, Australia and The Americas. The surviving structure was built during the period of the firm's greatest prosperity from 1825 to 1870 and clearly expresses its role as a manufactory, the principal source of power being a large beam engine which also by virtue of its great size, served as a showpiece engine for visitors to the site. The foundry, therefore played a pivotal role in the context of C19 mining throughout much of the world.'

6.3.161 As the remains of an industrial complex in the WHS, whether applying the receptor values set out in chapter 6.2.24 or those in 6.2.27 above, the foundry building is assessed as being a designated heritage asset of **medium significance**.

xxxiii. Former Foundry at SW557370, Foundry Lane

6.3.162 The former foundry at Foundry Lane is a Grade II listed building, lying approximately 300 metres north west of the site.

6.3.163 The list description identifies the building as:

'Pattern shop for iron foundry. Circa early C19. Built for Harvey and Co. Killas and elvan rubble walls with granite dressings. Hipped gouted scantle slate roof with projecting eaves.

Plan: Rectangular 7-bay plan with large doorway to the front of each bay (except for 1 bay these are partly blocked).

Exterior: 2 storeys. Symmetrical 7-bay east front with wide round brick arched openings to each bay. Second from left doorway is unaltered, the other former doorways are partly blocked and all but one have windows. First floor had originally loading doorways to 2nd, 4th and 6th bays and windows in the other bays. All are now fitted with windows. 3rd, 5th and 7th bays have original 16-pane hornless sashes. Other windows are mostly old iron casements with glazing bars.

Interior: not inspected.'

6.3.164 As the remains of an industrial complex in the WHS, whether applying the receptor values set out in chapter 6.2.24 or those in 6.2.27 above, the former foundry at Foundry Lane is assessed as being a designated heritage asset of **medium significance**.

xxxiv. Former Pattern Shop at SW557371, Foundry Lane

6.3.165 The former pattern shop at Foundry Lane is a Grade II listed building, lying approximately 300 metres north west of the site.

6.3.166 The list description identifies the building as:

'Pattern shop for iron foundry. Circa mid C19. Built for Harvey and Co. Killas and elvan rubble walls with rock-faced granite dressings. Hipped corrugated asbestos partly scantle slate roof with projecting eaves. Cast-iron ogee-section gutter at the front.

Plan: Rectangular plan with 3-storey 6-bay building at the front and wider single-storey 8-bay outshot (with open fronted bays carried on octagonal wooden posts and with a floored roof space) parallel at the rear projecting slightly at the left. Front building has doorways to 2 of the bays.

Exterior: 3 storeys. Nearly symmetrical 1:1:2:1 bay east front with wide doorways in the second from left and 5th bays. Left hand doorway is heightened and rises into the first floor ; above is loading doorway (second floor). Right hand doorway is original with segmental brick arch ; other openings are original window openings with original windows (3 are boarded over).

Interior: not inspected.'

6.3.167 As the remains of an industrial complex in the WHS, whether applying the receptor values set out in chapter 6.2.24 or those in 6.2.27 above, the former pattern shop at Foundry Lane is assessed as being a designated heritage asset of **medium significance**.

xxxv. Railway Bridge at SW556371, King George VI Memorial Plantation

6.3.168 The railway bridge is a Grade II listed building, lying approximately 290 metres north west of the site.

6.3.169 The list description identifies the building as:

'Road bridge over railway cutting which breaches ancient earthwork. Built 1852 for the West Cornwall Railway. Granite rubble walls, brick arches vault and rock-faced granite copings. Iron railings.

Plan: Single-span bridge with swept abutments. Elliptically-arched span with battered abutments. Cambered parapet above with ends of parapet returned and with iron railings adjoining 3 ends.'

6.3.170 Using the table of receptor values set out in chapter 6.2.24 above, the railway bridge is assessed as being a designated heritage asset of **medium significance**.

xxxvi. The Cunaide Memorial, King George VI Memorial Plantation

6.3.171 The Cunaide Memorial is a Grade II listed building, lying approximately 320 metres north west of the site.

6.3.172 The list description identifies the building as:

'Gravestone. C6. Inscribed granite slab reset with C19 slate slab over. Inscription has been deciphered to read: HIC CENVI REQVIE VII CV NAT DO HIC TVMVLO IACIT VIXIT ANNOS XXXII. Believed to commemorate a woman (Cunaide), or her husband, this is the earliest Christian memorial known in Cornwall.'

6.3.173 Using the table of receptor values set out in chapter 6.2.24 above, the Cunaide Memorial is assessed as being a designated heritage asset of **medium significance**.

xxxvii. Memorial Arch, King George VI Memorial Plantation

6.3.174 The Memorial Arch is a Grade II listed building, lying approximately 345 metres north west of the site.

6.3.175 The list description identifies the building as:

'Memorial arch adjoining ancient walled earthwork. Datestone 1844. Granite ashlar with granite dressings and brick vaulting. Single span elliptical skew arch abutting embankment at either side. Plinth, impost string, alternate long and short voussoirs to elliptical arch, parapet string and panelled parapet with central date plaque with relief inscription.'

6.3.176 Using the table of receptor values set out in chapter 6.2.24 above, the Memorial Arch is assessed as being a designated heritage asset of **medium significance**.

xxxviii. Freemasons' Hall, 8 and 9, Foundry Square

6.3.177 The Freemasons' Hall is a Grade II listed building, lying approximately 125 metres north west of the site.

6.3.178 The list description identifies the building as:

'Former inn (the original White Hart Hotel), now a freemasons' hall. Built by Henry Trevithick to support his sister Jane, wife of Richard Trevithick 1871-1833, the famous engineer. Rendered walls. Hipped, almost pyramidal, grouted scantle slate. Chimneys over side walls removed in the C20.

Plan: Double depth plan with 2 equal reception rooms at the front flanking a central entrance hall leading to a rear stair hall between 2 service rooms, (possible remodelled in the C20). Later extensions behind.

Exterior: 2 storeys. Symmetrical 3 window north front with central doorway. C20 door. Original hornless sashes. The window right of the doorway is a complete 16-pane sash but the others have had their secondary glazing bars removed to leave 4-panes in each. Internal window shutters to ground floor rooms.

This building has important historical interest. Jane Trevithick was the hostess of the premises during Richard Trevithick's long period of absence in South America, where he travelled initially to supervise the installation of 9 of his engines in Peru. While he was in South America, engaged in many daring and some ill-fated ventures, Richard sent Jane no money, and when he returned to the port of Falmouth in October 1827 he had (accordingly to Francis Trevithick) only the clothes he wore, a gold watch, a drawing compass, a magnetic compass, and a pair of silver spurs. The hotel is also an interesting relic of Hayle's prosperity. For the ceremonial first opening of the sluices, to clear the sand from the river, on 27 December, 1834, the occasion was celebrated by a breakfast at the White Hart for the mine adventures, customers and 4 captains who had been employed in the work.

Interior: Not inspected.'

6.3.179 The hall sits in the centre of the Foundry area in a mixed commercial and residential area with wider views out to the north and the south and south east (but not including the site).

6.3.180 Using the table of receptor values set out in chapter 6.2.24 above, the Freemasons' Hall is assessed as being a designated heritage asset of **medium significance**. Its setting is historically relevant and makes apposite contribution to its significance.

xxxix. 7. Foundry Square

6.3.181 No.7 Foundry Square is a Grade II listed building, lying approximately 120 metres north west of the site.

6.3.182 The list description identifies the building as:

'House. Circa mid C19. Painted rubble walls with dressed granite sills and lintels. Hipped slurried scantle slate roof with projecting eaves and brick chimney over each side wall. Cast-iron ogee gutters.'

6.3.183 The house essentially shares the same setting and views as the Freemasons' Hall.

6.3.184 Using the table of receptor values set out in chapter 6.2.24 above, no.7 Foundry Square is assessed as being a designated heritage asset of **medium significance**.

xl. The White Hart Hotel, 10 Foundry Square

6.3.185 The White Hart Hotel is a Grade II* listed building, lying approximately 140 metres north west of the site.

6.3.186 The list description identifies the building as:

'Public house. Circa 1838. Built for Henry Harvey, brother-in-law of Richard Trevithick. Stuccoed walls. Scantle slate roof behind stuccoed parapet. Stuccoed chimneys over the side walls, left.

Plan: rectangular plan 2 rooms wide and 3 rooms deep. 2 equal reception rooms a the front flanking a central entrance hall leading to a large stair hall behind the right-hand room. Classical style.

Exterior: 3 storeys. Stuccoed elevations with classical detail. Rusticated courses at ground floor with stucco flat arches. North entrance front has the central doorway within a panelled stucco porch. Original pair of doors with latticed glazing and original fanlight with scrolled detail. Corners of the front are panelled pedestals carrying a giant order of clasping square fluted columns as antae to the 3 bays of the upper floors with 4 engaged giant round columns, the whole

surmounted by a Tuscan entablature and a parapet with an open pediment at the middle with central round plaque. The columns are a kind of debased Roman Doric with an Egyptian influence to the design of the capitals First floor windows have moulded hoods on carved consoles. The side elevations have eared architraves to the first-floor windows with aprons under the sills. All the windows (except ground floor left of east elevation) are original hornless sashes with glazing bars. The west elevation has a tall round headed stair window.

Interior: partly inspected. Entrance hall and stair hall have their original architectural details, including arches, plaster cornices and a fine open well stair with the mahogany handrail curving down to form the newel post. This building is erected on the site of the former Penpol pool (blamed by Henry Harvey for the spreading of cholera in the town).'

6.3.187 The hotel occupies a key site within the commercial heart of this part of Hayle and is surrounded mainly by commercial and a few residential properties. Its views are primarily out to the north.

6.3.188 Using the table of receptor values set out in chapter 6.2.24 above, the White Hart Hotel is assessed as being a designated heritage asset of **high significance**. Its setting reinforces its significance.

xli. Lloyds Bank, 3 and 4, Foundry Square

6.3.189 Nos.3 & 4 Foundry Square together form a Grade II listed building, lying approximately 175 metres north west of the site.

6.3.190 The list description identifies the building as:

'Former market house. Circa mid-late C19. Stuccoed walls. Hipped dry Delabole slate roof with slightly projecting eaves.

Plan: L-shaped plan. 2 rooms wide and 3 rooms deep. Central through passage and originally an axial passage in front of the rear (south) rooms. Small C20 extension on the left. Classical style details.

Exterior: Single storey (originally 2 storeys). Stucco detail is similar on all sides with textured granite ashlar plinth, chamfered rustications to impost string level and round arches with alternate rustications to the voussoirs. The quoins and the piers, punctuating the bays of the north and west fronts, are also rusticated. Above the level of the pier shafts and the tall keystones of the arches is an entablature with moulded architrave, plain frieze and moulded eaves cornice. Symmetrical 1:1:1 bay north and south entrance fronts both with central doorways (north front is wider). The

north doorway has a moulded stucco arch over responds with moulded imposts. Original panelled doors over the south doors is the original geometric and spoked fanlight. West front has a C19 shop window to the left-hand side of the middle bay. This window has a pair of round-headed lights with glazed spandrels within a square-headed opening. Other windows are original or circa late C19 large-paned horned sashes.

Interior: not inspected.'

6.3.191 The hotel occupies a highly visible site within the commercial heart of this part of Hayle, opposite the White Hart Hotel, and is surrounded mainly by commercial and a few residential properties.

6.3.192 Using the table of receptor values set out in chapter 6.2.24 above, the Lloyds Bank building is assessed as being a designated heritage asset of **medium significance**.

xlii. Premises Occupied by Whites, 25 Foundry Square

6.3.193 No.25 Foundry Square is a Grade II listed building, lying approximately 250 metres north west of the site.

6.3.194 The list description identifies the building as:

'Warehouse. Circa late C19. Mixed rubble and brick dressings with stucco details. Dry Delabole slate roofs with gable ends. Crested clay ridge tiles and finials.

Plan: Large rectangular plan with doorways at the front for each floor.

Exterior: 3 storeys. Virtually unaltered nearly symmetrical 3:1:3 bay east front. The floors are divided by moulded stucco strings, there are sill strings to the upper floors and a corbelled and moulded brick eaves cornice. The central bay rises from upper floor piers to a gable with a large stilted round arched window on the second floor rising into the gable. All the other openings have segmental-arched heads. Ground floor has central trio of window openings ; slightly irregularly spaced windows left and right (left hand window originally a doorway); doorway far right and wide doorway on the left. 1st floor has central pair of windows. First and second floors are symmetrical except that there are loading doorways in the bay right of the middle bay instead of windows as in the other bays. Ledged doors to ground floor, glazed doors to upper floors. Original windows with fixed casements and pivoting top lights with smaller panes.

Interior: not inspected.'

6.3.195 The asset lies in the heart of the Foundry area, close to the visually dominant railway viaduct and surrounded by commercial and residential buildings.

6.3.196 Using the table of receptor values set out in chapter 6.2.24 above, no.25 Foundry Square is assessed as being a designated heritage asset of **medium significance**.

xliii. Former Offices and Remains of Foundry of Harvey and Company, 24 Foundry Square

6.3.197 The former offices and remains of the foundry at 24 Foundry Square together are a Grade II* listed building, lying approximately 230 metres north west of the site.

6.3.198 The list description identifies the building as:

'Foundry office and remains of foundry. Late C18 and early-mid C19; built by Harvey and Company; altered late C20. Stuccoed stone and boarded timber frame. Hipped grouted scantle slate roof. Brick axial stack. Slate-hung clock turret left of centre with moulded eaves cornice to pyramidal roof with gablet over each clock face.

PLAN: L-shaped on plan main office range incorporating C18 foundry entrance, furnaces and limekiln; rear right-hand [SW] wing added in early-mid C19 as drawing office.

EXTERIOR: 2 storeys. 4-window north front with large round-arched carriage doorway under the right-hand window. Window to each centre bay, blind left hand bay (ground floor). Original 12-pane hornless sashes to first floor (including left-hand return). Circa early C20 windows to ground floor openings. Left-hand return wall has wide shop window. At rear weatherboarded drawing office wing raised on iron posts and with large 12-pane sash windows.

INTERIOR: Substantial remains of part of original C18 foundry, including remains of a furnace, a lime kiln and part of original yard with cobbles and drain. Small part of original office, but mainly pre-1845 offices and in rear wing pre-1888 drawing office supported on cast-iron posts. Two large iron-plated armoured strong rooms supported on cast iron piers and with cast-iron panelled doors and another strong room made of Barlow rails. Granite cantilevered stairs to office with cast-iron balustrade. Tiled lavatories. Part of the first floor of the main range has been removed. Kingpost roof over main front range. Clock in turret over main range made in 1893 by John H. West of Hayle, has illuminated dial.'

6.3.199 The asset lies in the heart of the Foundry area, close to the visually dominant railway viaduct and surrounded by commercial and residential buildings.

6.3.200 As the remains of an industrial complex in the WHS, whether applying the receptor values set out in chapter 6.2.24 or those in 6.2.27 above, the former office and foundry building is assessed as being a designated heritage asset of **high significance**.

xliv. Barclays Bank, 22 and 23, Foundry Square

6.3.201 Nos.22 & 23 Foundry Square together form a Grade II listed building, lying approximately 225 metres north west of the site.

6.3.202 The list description identifies the building as:

'Former emporium. Circa early C19. Built for the Harvey family. Stucco over a granite ashlar plinth. Scantle slate roof, hipped at the left-hand end and adjoining No 24 q.v. on the right.

Plan: Double depth plan with 2 shop fronts flanking a former wide entrance at the front with a 1-room wide wing adjoining on the left. Plan of main part remodelled as bank in the C20. Classical style.

Exterior: 2 storeys. Overall 4-bay east rood front. Symmetrical 1:1:1 bay front on the right with 1:1:1 bay ground floor flat arcade flanked by giant Ionic pilasters and surmounted by an entablature and parapet with the bays punctuated by plinths. The central bay (originally the entrance) is narrower. The first floor is carried on squat square Doric columns and antae with entablature forming fascia. The 3 first floor windows and those of the 1 window front wing on the left are original 12-pane hornless sashes. Stucco aprons under the first floor sills.

Interior: not inspected.

This building is part of the former Harvey's Emporium, the headquarters of Harvey and Co., iron founders.'

6.3.203 The asset lies in the heart of the Foundry area, close to the visually dominant railway viaduct and surrounded by commercial and residential buildings.

6.3.204 Using the table of receptor values set out in chapter 6.2/21 above, the Barclays Bank building is assessed as being a designated heritage asset of **medium significance**.

xlv. Premises Occupied by R.M. Munday, 21 Foundry Square

6.3.205 No.21 Foundry Square is a Grade II listed building, lying approximately 215 metres north west of the site.

6.1.1 The list description identifies the building as:

'House. Circa early C19. Stuccoed front with granite ashlar plinth. Grouted scantle slate roof with projecting eaves at the front, adjoining taller party walls at left and right. Brick chimney over left-hand party wall.

Plan: Double depth plan on slightly tapered site. 2 rooms at the front with entrance passage or hall between and presumably a stair hall between the rear service rooms.

Exterior: 2 storeys. Symmetrical 3 window east road front with blind window over central doorway. Original 6-panel door with 3-panel overlight and circa late C19 or C20 sashes in original openings with stucco aprons under the sills.

Interior: not inspected.'

6.3.206 The asset lies in the heart of the Foundry area, close to the visually dominant railway viaduct and surrounded by commercial and residential buildings.

6.3.207 Using the table of receptor values set out in chapter 6.2.24 above, no.21 Foundry Square is assessed as being a designated heritage asset of **medium significance**.

xlvi. Premises Occupied by Homestead and Cornish Linen Service, 18,19 and 20 Foundry Square

6.3.208 Nos.18, 19 & 20 Foundry Square together form a Grade II listed building, lying approximately 210 metres north west of the site.

6.3.209 The list description identifies the building as:

'Former Corubia biscuit factory. Circa late C19. Granite rubble with brick dressings and stucco details. Dry Delabole slate roof with gable ends. Crested clay ridge tiles. Brick chimney over party wall, right, serving No 21.

Plan: Built to fit a polygonal, almost triangular site, 10 bays in length, deeper on the right hand side but all under one roof of varied pitch.

Exterior: 3 storeys plus attic. 1:3:1:3:2 bay front with the brick piers dividing the bays treated as engaged columns with stucco mouldings. Ground and first floors have plain stucco sills and plinth caps and moulded strings broken forward as capitals at the piers. Ground floor windows are large with fascia over. First floor windows are round headed and have stucco hoodmoulds. Second floor

windows are paired sashes; segmental brick arches with moulded stucco eaves cornice over. Bay 5 (from the left) is a central entrance bay to bays 2-8 and has wide doorway with former loading doorways, each spanned by a segmental arch to the floors above. Over the eaves cornice is a steep gable dormer with pair of round-headed sashes. Bay 1 (far left) has doorway remodelled C20. Ground floor windows and those in the former loading bays are circa early C20, the other windows are original: fanlight-headed windows to first floor opening and horned sashes to the other openings.

Interior: not inspected.'

6.3.210 The asset lies in the heart of the Foundry area, close to the visually dominant railway viaduct and surrounded by commercial and residential buildings.

6.3.211 Using the table of receptor values set out in chapter 6.2.24 above, nos.18, 19 & 20 Foundry Square together are assessed as being a designated heritage asset of **medium significance**.

xlvi. No 8, Chapel Terrace, Including Front Garden Walls and Gate Piers

6.3.212 No.8 Chapel Terrace is a Grade II listed building, lying approximately 200 metres north of the site.

6.3.213 The list description identifies the building as:

'House, formerly the Bolitho Bank including front garden walls and gate piers. Circa mid C19. Stuccoed front. Grouted scantle slate roof with projecting eaves at the front. Brick chimneys over the party walls.

Plan: Double depth plan with large reception room at the front on the left ; entrance hall on the right leading to stair hall and service rooms at rear.

Exterior: 2 storeys. Regular 3 window west front with doorway under right-hand window. The front is flanked by stucco pilasters with tall round-arched panels and entablature over. Enclosed porch with eaves entablature and double doors with overlight. Ground floor window openings have moulded hoods on consoles ; first floor windows have moulded architraves. Circa early C20 2-pane horned sashes.

Interior: not inspected.

Shallow rectangular garden at the front with low stuccoed walls with hollow chamfered granite copings. Granite monolithic piers with cavetto pyramidal heads flank a central gateway.'

6.3.214 The house lies in the heart of the Foundry area, in a mixed residential and commercial setting, and with views primarily out westward.

6.3.215 Using the table of receptor values set out in chapter 6.2.24 above, no.8 Chapel Terrace is assessed as being a designated heritage asset of **medium significance**.

xlvi. Pratt's Hayle Market, 12, Chapel Terrace

6.3.216 No.12 Chapel Terrace is a Grade II listed building, lying approximately 200 metres north of the site.

6.3.217 The list description identifies the building as:

'Former Methodist chapel and schoolroom, now used as a market. Date plaque 1845. Stucco front, otherwise rubble with granite dressings. Scantle slate roof behind stuccoed parapet with pediment at the front.

Plan: Rectangular aisle-less plan with gallery on 4-sides large entrance porch at the front and large former schoolroom at the rear. Classical style.

Exterior: 2 storey elevations. 1:3:1 bay west front has first floor (gallery) windows to the 3 wider middle bays. Round headed openings. Ground floor has 1:3:1 bay entrance porch with stucco rustications. The middle bays are broken forward and flanked by panelled pilasters 3 doorways between with blind central doorway. The right and left hand bays are quadrant on plan and each have a window. Moulded parapet cornice and plain parapet. The first floor bays are divided by Tuscan pilasters over a moulded sill string; entablature above has moulded architrave, plain frieze and modillioned parapet cornice with pediment over the middle bays and a central round date plaque. Side walls have 4 square-headed openings to the ground floor of each side and round headed openings to the first floor (gallery). Entablature and parapets over.

Interior: some additions for use as an indoor market but the original architectural detail is intact including: panelled gallery, with Corinthian pilasters at the east end and plastered ceiling with moulded bands.'

6.3.218 The former chapel lies in the heart of the Foundry area, in a mixed residential and commercial setting, and with views primarily out westward.

6.3.219 Using the table of receptor values set out in chapter 6.2.24 above, no.12 Chapel Terrace is assessed as being a designated heritage asset of **medium significance**.

xlvi. Penmeneth House Including Front Garden Walls and Gateway, 16, Penpol Avenue

6.3.220 Penmeneth House is a Grade II listed building, lying approximately 200 metres north of the site.

6.3.221 The list description identifies the building as:

'House. Circa early C19. Slate hanging to front. Hipped scantle slate roofs with brick chimneys over the side walls of the original house.

Plan: Double depth plan with rear rooms partly within integral rear outshot, 2 equal-sized rooms at the front flanking a central entrance hall leading presumably to a stair hall between the rear rooms. Later C19 1-room wide wing (now garage to ground floor) adjoining on the left and lean-to adjoining on the right.

Exterior: 2-storeys. Overall 4 window north-west front. Original house, middle, has symmetrical 3 window front with central doorway. Original 6-panel door within circa mid-late C19 glazed box porch with coloured marginal panes. Original 16-pane hornless sashes to ground floor, C20 windows to first floor. Hip-fronted 1 window bay on left and lean-to on right. All with slate hanging (probably added circa mid-late C19).

Interior: Not inspected. Probably retains its original features and joinery. Mortar coped rubble garden wall parallel to the front of the house with gateway aligned with doorway. The gateway is a square-edged dressed granite pointed arched doorway.'

6.3.222 The house lies in a mixed age suburban residential location.

6.3.223 Using the table of receptor values set out in chapter 6.2.24 above, Penmeneth House is assessed as being a designated heritage asset of **medium significance**.

1. Penpol House (Penpol Avenue) Including Garden Walls and Gate Piers and Gates to South West and to North Including Pump

6.3.224 Penpol House is a Grade II listed building, lying approximately 200 metres north of the site.

6.3.225 The list description identifies the building as:

'House, C16, remodelled in the C17, extended and remodelled in the C18 and C19. Slate hanging to south-west front and north-west gable ends, otherwise painted rubble or rubble with granite dressings. Grouted scantle slate roofs with tall brick chimneys over the gable ends and over the side walls. Some cast iron ogee gutters.

Plan: At one time an irregular cruciform plan (south-east wing later mostly demolished); partly C17 wing at right angles to rear right and C18 wing at right angles to front right. Rear wing was rebuilt at rear in the C19 as 2 room plan farmhouse plus rear outshot (right) and front wing was extended with washhouse at the front. Main range has 2 original front rooms of the house (within thick walls) remodelled as rear service rooms to a circa 1760 2-room plan front and retaining a C17 stair tower projecting from the rear of an entrance hall between the rooms. The rear right-hand wing is C17 or earlier in the front 2 rooms but heightened in the C19, except for short section of roof over the front part. There is a C17 doorway into the left hand side.

Exterior: 2-storeys. Regular 4-window slate facing south-west front. Doorway under second-from-left first floor window with slate hood on wooden brackets. C20 ledged door and C20 windows. At far right is projecting gable end of wing and in front of the wing is a gable-ended C19 single-storey washhouse. Left-hand wall of wing has circa early C19 sash to first floor. Overall 4 window north-west front has C17 hollow chamfered doorway right of middle and nearby symmetrical 3 window front of rebuilt C19 front on the left with C20 door and C20 horned sashes with glazing bars. Right of the C17 doorway is a C20 copy 3-light casement with 8 panes per light and similar window over. Returning at right angles in front on the right is the rear wall of the main range of the house with central hipped roofed C17 stair tower. Ground floor: left and right are C18 3-light casements with original crown glass and inner stanchions possibly for earlier leaded glazing. Copy casements over.

Interior: Circa late C17 coved and moulded plaster ceiling over the stair; bolection moulded chimney pieces to the chambers on either side of the stair. Otherwise circa 1760 carpentry; joinery and plasterwork (where visible) including chimney pieces in the front chambers; dog-leg stair with rectangular balusters; panelled doors and moulded ceiling cornices. Roof structures not inspected but they retain some C18 or earlier work.

Garden walls in front of south-west front are grouted rubble. Gateway has square-on-plan granite monolithic piers and C19 wrought-iron gates with arched bracing, cross-braced lock rail and spear-head finials. Walls on right form path beside front wing. Garden walls in front of north-west front are granite rubble. In front of right-hand part (No. 18) the wall is older, lower and has hogs-back granite copings. Gate piers are round-headed granite monoliths. Gate to No. 18 is C19 wrought iron with arched top rail. There is a well in front of the right-hand end of the garden wall. Over the well is a C19 cast iron barrel pump with its original cranked handle.

Penpol has an interesting history: owned by the Godolphins from the C16 until 1639 when sold to Anthony Honeychurch of St Erth; in 1732 in the hands of Rt. Hon Henry Robartes, Earl of Radnor, who leased to John Curnow (Merchant Curnow) ; a daughter Jane married William Hocken, Rector of Phillack with Gwithian in 1770, another daughter, Jane, married Richard Oke Millett of Marazion in 1771. In 1788 Richard Miller bought Penpol from Lord Arundell. A later (Dr.) Richard Millet who had been living at Penpol for some years up to 1863, was accused by his brother-in-law, Dr. Edmonds of poisoning his brother Jacob Miller, by mixing aconite in horse radish sauce served with beef. There was an inquest and trial but he was found not guilty. Since 1921 Penpol has been owned by the Ellis family.'

6.3.226 The house lies in a mixed suburban residential location.

6.3.227 Using the table of receptor values set out in chapter 6.2.24 above, Penpol House is assessed as being a designated heritage asset of **medium significance**.

li. *Bodriggy Villa Including Front Garden Walls and Gate Piers, 54, Queens Way*

6.3.228 Bodriggy Villa is a Grade II listed building, lying approximately 550 metres north east of the site.

6.3.229 The list description identifies the building as:

'House, including front garden walls and gate piers. Circa mid C19. Stuccoed front, otherwise painted rubble. Hipped slurried scantle slate roof with projecting eaves. Brick chimneys over the side walls. Cast-iron ogee gutters.

Plan: Double depth plan with 2 equal-sized reception rooms flanking a central stair hall leading to a stair hall between the rear service rooms.

Exterior: 2-storeys. Symmetrical 3 window front with central doorway. Stucco plinth, quoin strips and similar stucco detail round doorway and moulded architraves. Original door with round-arched panels and overlight. Circa late C19 glazed porch with canted front, fretted mullions and paired brackets carrying an eaves entablature with acanthus leaves and shaped cresting over a moulded cornice. Windows are original 12-pane hornless sashes.

Interior: Not inspected.

Painted rubble walls adjoin at either side of the house and enclose a rectangular garden in front. The wall at the front is stuccoed and has a plinth and cavetto moulded granite coping. Gateway is cyma on plan and has square-on-plan granite monolithic pier shafts with cavetto pyramidal

caps, scrolled iron gate. The side walls of the garden are ramped up to high rear walls. The left-hand rear wall has battlements.'

6.3.230 The villa lies in an established mixed age suburban residential setting over the hill from the site.

6.3.231 Using the table of receptor values set out in chapter 6.2.24 above, Bodriggy Villa is assessed as being a designated heritage asset of **medium significance**.

lii. Ansley Villa, 25, Sea Lane

6.3.232 Ansley Villa is a Grade II listed building, lying approximately 800 metres north east of the site.

6.3.233 The list description identifies the building as:

'House. Circa mid C19 extended circa late C19. Granite rubble with granite dressings to original house front, stuccoed front to later part. Original house has hipped asbestos slate with projecting eaves and brick chimney over the side walls. Later wing has original hipped grouted scantle slate roof with projecting eaves, polygonal dormer roof over central canted bay windows and cast-iron ogee gutters. Brick chimney over rear wall.

Plan: Double-depth plan. Original house has 2 small parlours at the front flanking a central entrance hall leading presumably to a stair hall between very shallow service rooms and a 1-room plan heated wing probably the kitchen at right angles behind the right-hand side. Later C19 1-room plan wing on the right is deeper plan and has 2-storey bay windows to middle of front and to middle of right-hand side.

Exterior: 2-storeys. Overall 4 window south front. Symmetrical 3 window front with central doorway to original house on the left and taller later wing with central 2-storey bay window on the right. Original doors and windows. House has 2-panel door with overlight and hornless sashes with marginal panes. Wing has horned sashes with segmentally-headed lights and bracketted eaves cornice over. Similar 2-storey bay window to right-hand side wall.

Interior: Not inspected but probably retains its original features and joinery.'

6.3.234 The villa lies on a narrow lane in an established residential district with no views in the direction of the site.

6.3.235 Using the table of receptor values set out in chapter 6.2.24 above, Ansley Villa is assessed as being a designated heritage asset of **medium significance**.

liii. Bodriggy House No.21 Sea Lane and No.42 Bodriggy Street, Including Front Garden Walls

6.3.236 Bodriggy House is a Grade II* listed building, lying approximately 810 metres north east of the site.

6.3.237 The list description identifies the building as:

'House, including parallel former service range at rear and garden walls in front. Incorporating C17 or earlier remains but present house largely or wholly rebuilt circa 1718, extended slightly circa late C19. Granite ashlar front, otherwise painted rubble. Steep dry Delabole slate roof with tall brick chimneys over the gable ends and a tall gabled brick lateral stack over the middle of the original rear wall.

Plan: Overall U-shaped plan house with 3 large rooms at the front with large central hall and incorporating earlier wings at right angles to rear, left and right and returning from the rear left-hand side of the right-hand wing parallel to the main house. Victorian wing added at right of right hand rear wing. Classical style with archaic features.

Exterior: 2-storeys. Symmetrical 7 window front with central doorway. Plinth, flat arches and moulded mid-floor string which steps up as hoodmould over doorway. Circa early C19 door and windows. Panelled door with overlight and original C18 fanlight above. C20 distyle wooden porch with round-arched hood with moulded cornice linked to the capitals of the columns. 12-pane hornless sashes. Left-hand wall of rear left hand wing has pair of C18 18-pane sashes to large ground floor opening. Wealth of panelled doors with fielded panelling; fielded panelled window shutters (and some early C19 shutters); some eared chimney-pieces and probably C18 roof structures (not inspected).

Interior: retains most of its early C18 features including: fine open-well open-string stair with scrolled tread ends, column-turned balusters, moulded ramped handrail and dado with raised and fielded panelling; canopied ceiling over stair with dentilled lower cornice and central oval with winged putto blowing a pipe, moulded ceiling cornices in other rooms including chambers, another central oval in right-hand room; The original C18 stair tower is behind the left-hand side of the hall and there is an outshut behind the hall and the right-hand room (extended circa later C18).

There is a probably former 2-storey porch (at rear left of the deeper right-hand wing) which has a C17 chamfered doorway.

C19 rubble walls parallel to front and at left hand side linked to house at front and rear. Low wall parallel to front has square-edged granite copings and square-on-plan granite monolithic piers. Higher wall at left has scantle slate coping. Rear wall has C17 chamfered granite doorway.

Bodriggy was one of the large estates that surrounded the estuary of the River Hayle before the town of Hayle proper came into being. The estate is known to have been in the hands of the family of Bodriggy as early as 1181. During the last 800 years its ownership has passed into different families only twice.

Once the home of Merchant Curnow, the West family (of engineering note) and the Ellis family of the Hayle Brewery.'

6.3.238 The house lies on a narrow lane in an established residential district with no views in the direction of the site.

6.3.239 Using the table of receptor values set out in chapter 6.2.24 above, Bodriggy House is assessed as being a designated heritage asset of **high significance**.

Individual non-designated heritage assets in the wider environs of the site

liv. Hayle - Modern building (HER no.140113)

6.3.240 A non-designated asset identified on the HER, lying immediately west of the site. Building of unknown original use, now part of a house. Mellanear tin smelting works was built in 1838 by Harvey and Co. on a site known as Ropewalk Moor. It was closed in 1908 and was briefly reopened between 1915 and 1921. Partly built of rubble stone, with dressed granite lintels, rendered return elevations and concrete tiled roof. Single storey of two bays, now incorporated into a late C20 house. It may be a complete reconstruction using old materials, but is on the site of a building shown on 1877 and 908 OS maps.

6.3.241 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lv. Mellanear - Post Medieval smelting house (HER no.31889)

6.3.242 A non-designated asset identified on the HER, lying immediately west of the site. The Mellanear tin smelting works was built in 1837 on a site known as Ropewalk Moor by Williams Harvey (no relation to the Harveys of Hayle) who, with their other smelting

interests in Truro, dominated smelting in Cornwall throughout the 19th century. Tin from Australia was smelted here as was most of the tin ore from Dolcoath Mine near Camborne. Harvey's acquired an interest in the enterprise in 1888 and moved the main operation to Bootle in 1908. Mellanear was briefly reopened between 1915 and 1921 to cope with war time smelting of Bolivian ores.

6.3.243 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lvi. Hayle - Post Medieval wall (HER no. I39085)

6.3.244 A non-designated asset identified on the HER lying immediately west of the site. This enclosing wall is a surviving component of the Mellanear Smelting Works. Mellanear tin smelting works was built in 1838 by Harvey and Co. on a site known as Ropewalk Moor. It was closed in 1908 and was briefly reopened between 1915 and 1921. Three separate sections of the wall survive, that to the south is earlier, and may predate the 1842 Tithe Map; the northern section, running north-east, is late 19th century, and matches a remnant stretch of wall on the west side of the entrance to the Mellanear tin smelting site.

6.3.245 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lvii. Hayle - Post Medieval house (HER no. I40788)

6.3.246 A non-designated asset identified on the HER lying immediately west of the site. Building of unknown original use, now house. Mellanear tin smelting works was built in 1838 by Williams and Harvey (not connected to Harvey and Co., who did, however, own the land, and acquired an interest in the company in 1888) on a site known as Ropewalk Moor. It was closed in 1908 and was briefly reopened between 1915 and 1921. Early 19th century single storey rendered building with hipped concrete tiled roof, sash windows and door in gable end. Although clearly of more than one phase of building, it is on the site, and retains some fabric of a building shown here on the 1842 Tithe Map.

6.3.247 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lviii. Hayle - Modern house (HER no. I40108)

6.3.248 A non-designated asset identified on the HER lying immediately west of the site. House. Early C19, painted stone and render, two storeys with two stacks and two windows each floor. One of a group of smallholdings in regular enclosures along Mellanear Road dating from the late C18 or early C19, and perhaps associated with the nearby mines on the

Wheal Alfred set (especially Mellanear or West Wheal Alfred) rather than with the industrial developments in Hayle. The regular block of fields to the east was called 'Tin Closes' in the St Erth 1842 Tithe Award.

6.3.249 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lix. Hayle - Post Medieval road (HER no.140112)

6.3.250 A non-designated asset identified on the HER, lying approximately 140 metres west of the site. Post medieval track. The right of way running past the site of the Mellanear Tin smelter, and linking West Wheal Alfred mine with the smelter and Harvey's Foundry and quays. The hedges either side are carefully constructed, with occasional granite gate piers. The surface retains some old metalling, particularly notable is the use of glassy smelting slag. Now curtailed by the Hayle By-pass.

6.3.251 Using the table of receptor values set out in chapter 6.2.24 above, this track is assessed as being a non-designated heritage asset of **negligible significance**.

lx. Hayle - Post Medieval house (HER no.140997)

6.3.252 A non-designated asset identified on the HER, lying approximately 350 metres south west of the site. House; early C19, altered C20. Stone ground floor and rendered upper with replacement windows. The house has been very altered, but the basic fabric still survives. Walled enclosure survives also. One of a number of smallholdings set within regular closes along Mellanear Road, and part of a group shown on the 1809 OS survey drawings (although the present building may be a mid C19 rebuild of the original cottage), probably relating to the nearby mines on the Wheal Alfred set (especially Mellanear or West Wheal Alfred) rather than the industrial development in Hayle itself. The regular block of fields to the east was called 'Tin Closes' in the St Erth 1842 Tithe Award.

6.3.253 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxi. Hayle - Post Medieval house (HER no.140111)

6.3.254 A non-designated asset identified on the HER, lying approximately 350 metres south west of the site. House and walled garden. Circa 1800 and C20. Roughcast with concrete tiled roof. Two storeys to hipped roof with stacks at end left and end right. Symmetrical front of three sash windows in moulded surrounds on first floor, two on ground floor with central door. Stands back from the road in a walled plot with outbuildings, and a good early C20 moulded timber fence and gate on rendered wall. One of a number of smallholdings set

within regular closes along Mellanear Road, and part of a group shown on the 1809 OS survey drawings (although the present building may be a mid C19 rebuild of the original cottage), probably relating to the nearby mines on the Wheal Alfred set (especially Mellanear or West Wheal Alfred) rather than the industrial development in Hayle itself. The regular block of fields to the east was called 'Tin Closes' in the St Erth 1842 Tithe Award.

6.3.255 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxii. Hayle - Post Medieval house (HER no.139613)

6.3.256 A non-designated asset identified on the HER. House. Late C19. Rendered with (artificial) slate roofs. Two generously proportioned storeys to tall hipped roof, truncated stacks left and right. The principal elevation faces south, of three glazing bar sashes with central door, the roadside (north) elevation has 3 window bays, with a central round-headed stair window on first floor, and gabled mezzanine extension to centre. single storey extension to west elevation. Moulded gate piers to garden walls. Built between 1877 and 1907, but looking like 1830, this may have been the couthouse to Mellanear Mine, or at least to Gundry's shaft which stood on the north side of the road in 1877.

6.3.257 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxiii. Mellanear - Post Medieval mine (HER no.31913.03)

6.3.258 A non-designated asset identified on the HER, lying approximately 600 metres south west of the site. Mellanear mine was reopened in 1864 as part of West Alfred Consols. It was in operation from 1879 - 1888 and ceased in 1890. It produced copper, tin, zinc and pyrite. The OS show the mine in its disused state in 1908. Hamilton -Jenkin noted an engine house at SW 5580 3619 and part of the sett (called Wheal Music at SW 5580 3610). The OS indicates a surviving mine burrow on current maps. A series of shafts, smaller pits, and areas of associated spoil tips are visible on air photographs.

6.3.259 Using the table of receptor values set out in chapter 6.2.24 above, this mine is assessed as being a non-designated heritage asset of **low significance**.

lxiv. Trewoone - Post Medieval clay pit (HER ref.31914)

6.3.260 A non-designated asset identified on the HER, lying approximately 650 metres south west of the site. The tithe award for Phillack records the location as "clay pit fields". A rectilinear scoop is shown here on recent OS maps. Extant remains were recorded in 1976. Current

map editions do not show the scoop: it has probably been filled in. The pit is visible as an overgrown cutting on air photographs.

6.3.261 Using the table of receptor values set out in chapter 6.2.24 above, this pit is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxv. Wheal Ann - Post Medieval mine (HER ref.31913.01)

6.3.262 A non-designated asset identified on the HER, lying approximately 575 metres south east of the site. A line of disused tips and shafts are shown at the location on current OS maps. These are the remains of Wheal Ann. This mine worked from 1805 to 1815 and 1850 to 1865. It became part of a larger group of mines named West Alfred Consols. In 1991 parts of fields adjacent to the surface complex of Wheal Ann were stripped of topsoil prior to installation of a water pipeline. An infilled shaft was revealed as a slight depression at SW 5674 3642. The main surface complex of this mine is largely obliterated by outbuildings and gardens. A series of shafts with an extensive area of associated spoil tipping is visible on air photographs.

6.3.263 Using the table of receptor values set out in chapter 6.2.24 above, this mine is assessed as being a non-designated heritage asset of **low significance**.

lxvi. South Wheal Ann - Post Medieval mine (HER ref.31913.02)

6.3.264 A non-designated asset identified on the HER, lying approximately 800 metres south east of the site. South Wheal Ann, which later became part of West Alfred Consols group, is shown on the first edition OS 1-inch map and on Symons map of the mining area. It appears to have been a re-working of a sett known as the Leah mine in the 1750s. There is now no trace of the mine. The land appears to have been reclaimed. A line of three pits is visible on air photographs. These pits may be part of the mine, or alternatively, might be clay pits.

6.3.265 Using the table of receptor values set out in chapter 6.2.24 above, this mine is assessed as being a non-designated heritage asset of **low significance**.

lxvii. Leah - Post Medieval mine (HER ref.31912)

6.3.266 A non-designated asset identified on the HER, lying approximately 820 metres south east of the site. Leah copper work is mentioned in 1750. The tithe award records the location

as "tin close" which may refer to this working. This was a sett later re-worked as South Wheal Ann and West Alfred Consols.

6.3.267 Using the table of receptor values set out in chapter 6.2.24 above, this mine is assessed as being a non-designated heritage asset of **low significance**.

lxviii. Wheal Alfred - Undated linear earthwork (HER ref.53635)

6.3.268 A non-designated asset identified on the HER, lying approximately 1200 metres east of the site. Two banks, 220m long and 10m wide, are visible as crop marks on air photographs. The most south easterly of the two terminates at its eastern end in a mound, measuring 30m x 20m, which is likely to be a shaft associated with the Wheal Alfred mining complex. The date and function of the two banks is uncertain from air photo evidence alone.

6.3.269 Using the table of receptor values set out in chapter 6.2.24 above, this earthwork is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxix. Wheal Alfred - Undated linear earthwork (HER ref.53634)

6.3.270 A non-designated asset identified on the HER, lying approximately 1200 metres east of the site. A 100m length of curving ditch, up to 10m wide, flanked on either side by banks, is visible as a crop mark on air photographs. It is possibly a holloway or track leading to the quarry to the north east, although it seems rather wide for this interpretation and only a short length of it is visible. From air photo evidence alone this is an enigmatic feature, whose date and function are uncertain.

6.3.271 Using the table of receptor values set out in chapter 6.2.24 above, this earthwork is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxx. Wheal Alfred - Post Medieval nonconformist chapel (HER ref.31940)

6.3.272 A non-designated asset identified on the HER, lying approximately 1450 metres east of the site. A Wesleyan Methodist chapel, recorded on the 1st Edition 1:2500 OS Map of 1880, survives at Wheal Alfred. It was a chapel for the local mining community.

6.3.273 Using the table of receptor values set out in chapter 6.2.24 above, the chapel is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxxi. Wheal Alfred - Post Medieval mine (HER ref.31871)

6.3.274 A non-designated asset identified on the HER, lying approximately 1425 metres east north east of the site Wheal Alfred mine was in production between 1801 - 1932 and 1846 - 64. It is marked on the first edition OS 1-inch map and is shown in more detail on subsequent maps. A disused engine house was shown at SW 5748 3703. The mine was used for

extraction of copper. Wheal Alfred operated at one time as part of the Alfred Consols group. The Wheal Alfred workings were largely extant in 1979, but now the site is used for landfill and is largely obliterated. The extant part of the site is gorse covered. Buildings, shafts, and extensive areas of spoil tip are visible on air photographs.

6.3.275 Using the table of receptor values set out in chapter 6.2.24 above, this mine is assessed as being a non-designated heritage asset of **low significance**.

lxxii. Hayle - Post Medieval houses (HER no.141117)

6.3.276 A non-designated asset identified on the HER, lying approximately 420 metres east north east of the site. Houses. Late C19. Rubble stone (formerly rendered), slate, two storey, hipped, regular fenestration. A small group of cottages and houses was built in High Lanes from the 1870s onwards but which are separate development from the earlier smallholdings associated with mining in the area.

6.3.277 Using the table of receptor values set out in chapter 6.2.24 above, these houses are assessed as being a non-designated heritage asset of **low to negligible significance**.

lxxiii. Burnthouse Lane - Post Medieval shaft (HER no.53603)

6.3.278 A non-designated asset identified on the HER, lying approximately 475 metres east of the site. A mound, 20m in diameter, is visible on air. The mound is likely to be the remains of a shaft associated with North Wheal Alfred, situated 500m to the north east.

6.3.279 Using the table of receptor values set out in chapter 6.2.24 above, this shaft is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxxiv. Hayle - Post Medieval terrace (HER no.139001)

6.3.280 A non-designated asset identified on the HER, lying approximately 100 metres north of the site. Tremeadow Terrace was built in about 1819 and was originally called Mill Row. An unusually regular row of cottages and half-houses, built of rubble stone and granite with slate roofs, mostly replaced with mineral slate, and red brick stacks. Varied plots of 1 window and 2 window width, originally all sash windows, many now replaced. The rear elevation, despite some C20 extension, retains much of its original character, including a number of back-to-back sheds set within the shared courts of the cottage pairs. One of the main features of the row is the surviving series of front gardens, with rubble boundary walls capped with brick, and now with an impressive array of C20 sheds at their lower (south) ends; a municipal parking scheme at the north end of the row that has allowed access for garages is an intrusive feature. These gardens and the cottages are served by a common path bounding the Hammer Mills to the south, doorways into these buildings lead

off this path as well, indicating a common ownership and perhaps date for both sets of structures.

6.3.281 Using the table of receptor values set out in chapter 6.2.24 above, this terrace is assessed as being a non-designated heritage asset of **low significance**.

lxxv. Green Acres - Prehistoric round (HER no.53629)

6.3.282 A non-designated asset identified on the HER, lying approximately 1100 metres east of the site. A probable round of the Iron Age/Romano-British period is visible on air photographs. The north-eastern side of the enclosure is fossilised in the existing field hedge, whereas the south-western side is partially visible only as a very faint crop mark ditch and bank. The round is oval in shape, measuring 120m by 70m, with no sign of an entrance.

6.3.283 Using the table of receptor values set out in chapter 6.2.24 above, this probable round is assessed as being a non-designated heritage asset of **low to negligible significance**.

lxxvi. Hayle, Barview Farmhouse, Barview Lane - Post Medieval house (HER no.140811)

6.3.284 A non-designated asset identified on the HER, lying immediately east of the site. House. Late C18/early C19. Roughcast with stucco surrounds to door and windows and cement slurried slate roof. Two storeys with plinth and cill and hipped roof with stacks to left and to right. Regular fenestration of three sashes to first floor and to on ground with central panelled door. Single storey extension to right, and extensions to rear. Although superficially with the typical decorative treatment of mid C19 Hayle, this may be an earlier building altered and extended in the C19 with the expansion of the farm buildings from the small yard shown on the 1842 Tithe Map.

6.3.285 Using the table of receptor values set out in chapter 6.2.24 above, this structure is assessed as being a non-designated heritage asset of **low significance**.

6.4 Mitigation within the submitted design

6.4.1 The design has been subject to iterative assessment in terms of heritage impacts. Buffer strips have been incorporated along the shared boundaries with the scheduled mill

complex and WHS to the west, Hayle CA to the north and the three listed buildings that adjoin the site to the north.

- 6.4.2 Heritage interpretation is planned for the western edge of the site to enhance understanding of and interest in the WHS.

6.5 Potential environmental effects of the scheme

- 6.5.1 Potentially, the site lies within the setting of the following designated and non-designated heritage assets:

- i. Cornwall and West Devon Mining Landscape World Heritage Site
- ii. Hayle Conservation Area
- iii. Findspot of a Roman coin (HER no. I39301)
- iv. Post-medieval mining shaft (HER No.53602)
- v. Late C18-C19 mill complex, ropeworks and associated water management system immediately east of Millpond Avenue, Foundry (scheduled monument – ref. I402648)
- vi. Small multivallate hillfort, early Christian memorial stone and C19 landscaped paths at Carnsew (scheduled monument - ref. I006720)
- vii. Late C19 gardens laid out by John Dando Sedding to surround The Downes
- viii. The Downes (Roman Catholic Convent, Part Of St Michaels Hospital)
- ix. Terrace walls immediately north of The Downes
- x. Summerhouse at approximately 20 metres north east of The Downes
- xi. Netherleigh, 14 and 16, St Georges Road
- xii. Trepenpol, 20, St Georges Road
- xiii. The Beeches, 22, St Georges Road
- xiv. Gate-Piers, Gates and Flanking Walls Approximately 60 Metres North of The Beeches
- xv. Statue of St Michael Approximately 100 Metres East of The Downes
- xvi. The Bird In Hand, 9, Trelissick Road
- xvii. Roddfield House, 14, Trelissick Road
- xviii. Glanmor House, Trelissick Road
- xix. Gate-Piers, Walls and Railings Approximately 60 Metres South East of Glanmor House
- xx. Meadowside Cottage, 40 and 42, Trelissick Road
- xxi. Meadowside House, 44-48, Trelissick Road
- xxii. Charlotte House, 52 and 54, Foundry Hill
- xxiii. The Laurels, 9, Foundry Hill
- xxiv. Former Foundry School, 5, Foundry Hill
- xxv. 7, Foundry Hill
- xxvi. Lane End, 16-22, Millpond Avenue

- xxvii. Ladbroke House. Including Garden Walls and Gate Piers Approximately 25 Metres North East (15 Mill Pond Avenue)
- xxviii. The Glade, 10, Millpond Avenue
- xxix. 7,8 and 9, Mill Pond Avenue
- xxx. Triumphal Arch, Foundry Lane
- xxxi. Walls and Foundry Remains At SW557370, Foundry Lane
- xxxii. Building at Harveys Foundry at SW 5578 3706
- xxxiii. Former Foundry at SW557370, Foundry Lane
- xxxiv. Former Pattern Shop at SW557371, Foundry Lane
- xxxv. Railway Bridge at SW556371, King George VI Memorial Plantation
- xxxvi. The Cunaide Memorial, King George VI Memorial Plantation
- xxxvii. Memorial Arch, King George VI Memorial Plantation
- xxxviii. Freemasons' Hall, 8 and 9, Foundry Square
- xxxix. 7, Foundry Square
 - xl. The White Hart Hotel, 10 Foundry Square
 - xli. Lloyds Bank, 3 and 4, Foundry Square
 - xl.ii. Premises Occupied by Whites, 25 Foundry Square
 - xl.iii. Former Offices and Remains of Foundry of Harvey and Company, 24 Foundry Square
 - xl.iv. Barclays Bank, 22 and 23, Foundry Square
 - xl.v. Premises Occupied by R.M. Munday, 21 Foundry Square
 - xl.vi. Premises Occupied by Homestead and Cornish Linen Service, 18,19 and 20 Foundry Square
 - xl.vii. No 8, Chapel Terrace, Including Front Garden Walls and Gate Piers
 - xl.viii. Pratt's Hayle Market, 12, Chapel Terrace
 - xl.ix. Penmeneth House Including Front Garden Walls and Gateway, 16, Penpol Avenue
 - I. Penpol House (Penpol Avenue) Including Garden Walls and Gate Piers and Gates to South West and to North Including Pump
 - li. Bodriggy Villa Including Front Garden Walls and Gate Piers, 54, Queens Way
 - lii. Ansley Villa, 25, Sea Lane
 - liii. Bodriggy House No.21 Sea Lane and No.42 Bodriggy Street, Including Front Garden Walls
 - liv. Hayle - Modern building (HER no.140113)
 - lv. Mellaneer - Post Medieval smelting house (HER no.31889)
 - lvi. Hayle - Post Medieval wall (HER no.139085)
 - lvii. Hayle - Post Medieval house (HER no.140788)
 - lviii. Hayle - Modern house (HER no.140108)
 - lix. Hayle - Post Medieval road (HER no.140112)
 - lx. Hayle - Post Medieval house (HER no.140997)
 - lxi. Hayle - Post Medieval house (HER no.140111)
 - lxii. Hayle - Post Medieval house (HER no.139613)

- lxiii. Mellaneer - Post Medieval mine (HER no.31913.03)*
- lxiv. Trewoone - Post Medieval clay pit (HER ref.31914)*
- lxv. Wheal Ann - Post Medieval mine (HER ref.31913.01)*
- lxvi. South Wheal Ann - Post Medieval mine (HER ref.31913.02)*
- lxvii. Leah - Post Medieval mine (HER ref.31912)*
- lxviii. Wheal Alfred - Undated linear earthwork (HER ref.53635)*
- lxix. Wheal Alfred - Undated linear earthwork (HER ref.53634)*
- lxx. Wheal Alfred - Post Medieval nonconformist chapel (HER ref.31940)*
- lxxi. Wheal Alfred - Post Medieval mine (HER ref.31871)*
- lxxii. Hayle - Post Medieval houses (HER no.141117)*
- lxxiii. Burnthouse Lane - Post Medieval shaft (HER no.53603)*
- lxxiv. Hayle - Post Medieval terrace (HER no.139001)*
- lxxv. Green Acres - Prehistoric round (HER no.53629)*
- lxxvi. Hayle, Barview Farmhouse, Barview Lane - Post Medieval house (HER no.140811)*

6.5.2 Four of the foregoing seventy six assets (nos.(i) to (iv) are partly (nos (i) and (ii)) or wholly (nos. (iii) and (iv)) contained within the site.

6.5.3 Together, the heritage assets identified in 6.5.1 represent the potential receptors to change from the development of the site.

Construction phase impacts

6.5.4 During the construction phase of the proposed development, visual impacts, noise and increased traffic movements are likely to impact:

- The non-designated mine shaft on the site (HER no.53062);
- The immediate setting of part of Area A2 of the WHS where it adjoins the site;
- The immediate setting of Hayle Conservation Area where it borders the site;
- The setting of the scheduled mill complex;
- The settings of the listed Netherleigh, Trepenpol and The Beeches; and
- The setting of the non-designated Barview Farmhouse (HER no.140811).

The remaining receptors are unlikely to be affected to any significant extent.

- 6.5.5 The magnitude of impact during this phase, as defined in 6.2.25, is likely to range from **major adverse to minor**, according to location of the asset and the construction phase, but in all cases to be temporary.
- 6.5.6 The significance of effect during this phase, as defined in 6.2.26, is likely to **be moderate to nil**, according to the asset and phase, but in all cases to be temporary.
- 6.5.7 Given that the impacts will be of a temporary nature only, no additional mitigation measures are proposed beyond standard good practice for urban fringe and suburban construction sites. Residual impacts are impacts remaining following the successful implementation of mitigation measures. Given the nature of construction plant, such as tall cranes which cannot be easily mitigated, demolition and construction impacts would remain as those identified above.

Operational and residual impacts

i. Cornwall and West Devon Mining Landscape World Heritage Site

- 6.5.8 The Cornwall and West Devon Mining Landscape World Heritage Site is a designated heritage asset of very high significance, falling within the definition of 'Sites or structures of acknowledged international importance inscribed as of universal importance as WH property'. A small part of Area A2 of the WHS lies within the boundaries of the site. For the remainder, the site lies within the setting of the WHS.
- 6.5.9 The WHS's Outstanding Universal Value within the potentially affected Area A2 is derived from being:
- Cornwall's principal mining port which exported copper ore to the South Wales smelters, importing much of the Welsh coal which fuelled the Cornish steam revolution and was the means by which many of its beam engines were shipped to the far corners of the World.
 - The location of two (of three) of Cornwall's principal iron foundries creating the greatest steam engine manufacturing centre in the C19th world.
 - The location of Cornwall's only major copper smelter.
 - An unique example of twin 'company' industrial 'new towns' of Foundry and Copperhouse, these being wholly the product of their industrial past and maritime location, fringing the southern edge of the Hayle estuary in a distinctly linear character.
 - The massive, landform-scale, maritime infrastructure of extensive quays, wharves and massive sluicing ponds.

- The terminus of one of the most important of Cornwall's early railways (the Hayle Railway, 1834) serving a hinterland stretching eastwards as far as Redruth and Camborne, with their huge market for coal, timber and other materials.
- Within Copperhouse, the use of copper slag blocks for construction adds a distinctive 'vernacular' character to houses, boundary walls, bridges and other structures.

6.5.10 The likely impacts on OUV can be summarised as follows:

- The development will not result in direct physical impacts on the WHS and its OUV, as the small slither of the application site that falls within the boundary of the WHS is to be left as an undeveloped buffer alongside the WHS and the scheduled monument immediately within Area 2.
- One non-designated heritage asset on the application site itself (the post-medieval shaft) will suffer direct physical impact by being subsumed within the development. This will result in its legibility in the landscape, such as it is as an indistinct mound, being lost. The shaft is an ordinary, rather than a key, attribute of OUV, providing additional historic context to the WHS and nothing more. Accordingly, this impact involves the loss of legibility of an asset of low significance (see chapter 6.3.47).
- The development will not result in impacts on the inter-visibility of any key physical attributes of OUV.
- The development will affect the setting of the WHS rather than the WHS itself, but this does not prevent it having adverse effects on the WHS's OUV.
- The development will change detrimentally the historic character of the setting of Harvey's Foundry settlement/arm of the WHS and key views of historic land use inter-relationships out of and across the WHS. The principal views receiving impacts might reasonably be summarised as being those from the dunes area, from the open core of Millponds looking over the roofs of Tremeadow Terrace, from the junction of Foundry Hill with Trelassick Road looking eastwards, from the A30 to the south, and from Barview Lane looking back towards Harvey's Foundry, but the more detailed viewpoint analysis provided within the submission is reproduced as Annex IV at the end of this addendum in order to show a fuller range of affected views. Until now, land on the eastern side of the Penpol stream, which runs through the Foundry valley, remains open and undeveloped. The modern setting of this part of the town thus mirrors its historic form and provides a strong visual clue to the viewer of the restricted valley-bottom nature of the industrial settlement.

This will become blurred (although not entirely illegible), if the application site is comprehensively developed for new housing.

- The development of the application site will contribute towards the ongoing loss of the sense of separation that once existed between the two key historic settlements of Harvey's Foundry and Copperhouse, although it is far from being solely responsible for this and, given the topography of the Foundry valley, it could be argued that, as far as the WHS is concerned, the damage to this key inter-relationship has already occurred (for the greater part of the application site lies to the south of the boundary of the Foundry WHS arm).
- Three assets within the WHS (HER ref I39085 - a post-medieval wall, HER ref 31889 – a post-medieval smelting house since converted to being a dwelling, and HER ref I402648 – the scheduled mill complex, ropeworks and water management system) being also key attributes of its OUV, will receive respectively neutral, neutral and minor-to-moderate negative/adverse indirect impacts from the development. The latter is assessed to result principally from the changed experience of the millpond and leats in their immediate setting due to the replacement of open land by housing on the western fringe of the application site.

6.5.11 In respect to the relative weighting of direct and indirect impacts, this is undoubtedly a situation where professional judgement must be applied with particularly careful consideration. Unfiltered reading from the ICOMOS table of magnitudes of impact (see Annex II) would suggest that the magnitude of impact on the WHS's OUV is likely to amount to 'moderate', through the table's definitions:

- Built heritage or historic urban landscape attributes: 'Changes to the setting [of a historic building or other heritage asset] such that it is significantly modified';
- Historic landscape attributes: 'Change to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape; noticeable differences in noise or sound quality; considerable changes to use or access; resulting in moderate changes to historic landscape character'.

6.5.12 This would particularly reflect the visibility of the development on the hill slope in views out from, across and to the WHS, which impinge on the legibility of the distinct historic land use division between the industrial WHS core and its largely mixed open agricultural and scattered industrial setting. There is also one direct physical impact affecting the legibility of a non-designated asset/ordinary attribute of OUV in the setting and one minor-to-moderate negative but indirect impact on a key attribute of OUV within the WHS to be

added into the balance. Some limited re-balancing of the methodology's assumed 1:1 weighting of direct and indirect impacts does need to be applied in this instance, in the light of the discussion in 6.2.30-6.2.42 above. Once these various elements in the assessment are pulled together, it is considered that an overall negative/adverse impact on WHS Area A2's OUV of **minor (tending to minor-to-moderate) magnitude** is involved in the development proposals.

- 6.5.13 Using the matrix in 6.2.29 (and again applying professional judgement), the ICOMOS HIA methodology attributes a **moderate to large adverse permanent effect** on the WHS where key attributes of OUV (of very high significance) are involved, but a slight to moderate adverse significance of effect where other less than key attributes are concerned, which arguably might include matters providing 'additional historical context'. The intended application of these alternatives within the matrix is not entirely clear.

ii. Hayle Conservation Area

- 6.5.14 Hayle Conservation Area is a designated heritage asset of medium significance. Its setting in the immediate vicinity of the application site is considered to make a major contribution to that significance.

- 6.5.15 The impacts on Hayle Conservation Area arising from the development proposals for the application site can be summarised as being:

- Creation of an estate road off St George's Road. This will result in a direct impact at the margin of the CA itself, with a new road junction being created on St George's Road and an indirect impact on the immediate setting of the CA through the formation of the estate road itself.
- Removal of mature trees screening the boundary of the CA parallel to St George's Road and to the rear of Netherleigh, Trepennol and the Beeches.
- Blurring of the legibility of the built character of the CA along St George's Road and in the vicinity of Tremeadow Terrace.
- Loss of the immediate juxtaposition of the CA with open country and in associated views out of the CA from both the north and west.
- Transformation of wider, longer distance views from the vicinity of the Foundry Hill/Trelissick Road junction.

- 6.5.16 Using the magnitude of impact table set out in chapter 6.2.25 above, and taking into account limited direct physical impacts on the CA, more marked impacts on its setting to the south of St George's Road and to the east of Tremeadow Terrace, and the change to views from St George's Road, the millponds of Harvey's Foundry, and from the area

around the junction of Foundry Hill and Trelissick Road, the magnitude of change to the CA as a whole is likely to be seen as amounting to a **minor negative magnitude of impact** (defined as 'Changes to setting...such that it is noticeably changed').

- 6.5.17 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to a **minor adverse permanent effect** on the designated conservation area.

iii. Findspot of a Roman coin (HER no.139301)

- 6.5.18 The findspot is a non-designated heritage asset of negligible significance. The coin was an unattached find and there is no legibility to the findspot, even at the present time.

- 6.5.19 Development of the site will result in the over-building of the findspot, but this will be of **no impact** in the circumstance and will lead to **no permanent significance of effect** on the heritage asset.

iv. Post-medieval mining shaft (HER No.53602)

- 6.5.20 The low, indistinct mound that represents the survival of the disused shaft is a non-designated heritage asset of low significance.

- 6.5.21 Development of the site will result in the over-building of the shaft. As noted in 6.5.11, this will remove its remaining legibility in the landscape. In terms of the WHS, the shaft is an ordinary, rather than a key, attribute of OUV, providing additional historic context to the WHS and nothing more.

- 6.5.22 Using the magnitude of impact table set out in chapter 6.2.25 above, it can be seen that the loss of the mound, but not of the underlying shaft, will constitute a **moderate negative magnitude of impact**, being of no more than local significance and not being in breach of recognised acceptability, legislation, policy or standards.

- 6.5.23 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to a **minor adverse permanent effect** on the non-designated asset.

v. Late C18-C19 mill complex, ropeworks and associated water management system immediately east of Millpond Avenue, Foundry (scheduled monument – ref.1402648)

- 6.5.24 This scheduled mill complex is a designated heritage asset of high significance.

- 6.5.25 Although in a ruined state, the complex is mostly in good condition, and the mill and ropeworks are now a community amenity space, park, gardens, play area etc. The

continual experience of this site by the community increases its significance and the potential for impact.

- 6.5.26 The millponds and water management system lie in two parts, partly along Millpond Lane and a further section with a long rectangular pond and leats and ruins along the edges of the site itself. Intervisibility between the site and the main millpond area is comprehensively blocked by the mature trees which now occupy the site of the ropeworks. Conversely, the millpond and leats located along the edge of the site are more visible and their setting will be impacted severely by the neighbouring development, changing what is now agricultural land, but in the 19th century was in mixed agricultural and industrial use.
- 6.5.27 The development has been designed to include a buffer zone between new housing and the scheduled monument. This will help with its immediate context and in the ongoing experience of the asset. The ruins of the mill buildings along Foundry Hill and Chapel Road, already have a row of cottages to the east, Tremeadow Terrace, which block views at ground level to the lower part of the site. However, there are views to the upper slopes of the development site. The mill building was an industrial structure for which outlook and views were irrelevant outside of the key relationships between buildings within the complex. Intervisibility within the complexity will be unaffected by the development. The wider setting of the mill has changed dramatically as there has been a lot of later 19th, 20th and 21st century development in and around the mill and recently within Foundry Square. The houses intended for the new development will not directly impact on the structure or immediate setting of the mill building, they will also not affect our understanding of the structure or its significance, they will however affect the experience, as the visual connection to the fields will be lost.
- 6.5.28 The ropeworks runs south from the mill building towards the site, bordering it to the west. The ropeworks has lost its roof, but the buildings are largely intact and can still be walked through and experienced. The buildings and streams/leat are now obscured by trees, and the area has become a community woodland walk. The trees and other vegetation limit the views to the site as they are very dense. Parts of the ropeworks buildings have upstanding gables which will look out through the trees more clearly. The buildings can be experienced together, although not as intended, and glimpses of houses through the trees

will be minimised as much as possible by the buffer zones designed within the development.

6.5.29 Using the magnitude of impact table set out in 6.2.28 above, overall it is considered that the development of the site will result in **minor to moderate negative magnitude of impact**.

6.5.30 Applying the matrix of significance of effects provided in 6.2.29 above, this would equate to a **minor to moderate adverse permanent effect** on the designated asset.

vi. Small multivallate hillfort, early Christian memorial stone and C19 landscaped paths at Carnsew (scheduled monument - ref. 1006720)

6.5.31 The scheduled hillfort is a designated heritage asset of high significance.

6.5.32 It is in a mixed state, ranging from trace to fair, and is bisected by a railway cutting. Sections within the fields have been ploughed to the west to trace condition and to the northern and eastern sides the ramparts have been recut and faced to create decorative 19th century terracing. The railway cutting and sections of surviving ramparts are all now topped with trees which block views across the site and also block views out and across to the site. Extensive 19th and 20th century development means that historical views out from the hillfort have been changed beyond all recognition, as is its wider setting. A small plantation to the south east and several streets of housing will directly obscure views of the site to the south and partly obscure those to the south-east from the western part of the monument. Although the land falls away dramatically to the east, to the south east it begins to rise again along Foundry Hill and there are numerous tall 19th century buildings here which will obscure the lower parts of the site around the school and down to the millponds. Nonetheless, there will be glimpsed views of the upper part of the site from the monument.

6.5.33 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in **negligible negative to no magnitude of impact**.

6.5.34 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

vii. Late C19 gardens laid out by John Dando Sedding to surround The Downes

6.5.35 The garden at the Downes is a designated asset of medium significance.

6.5.36 The asset is in good condition. There are no views to the site from the gardens due to 20th century development of buildings at St Michael's Hospital. The lack of intervisibility

between the garden and the site and the distance separating them means that development of the site will have no effect on the vistas of the terraces within the garden.

6.5.37 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in **no impact** on the registered garden.

6.5.38 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

viii. The Downes (Roman Catholic Convent, Part Of St Michaels Hospital)

ix. Terrace walls immediately north of The Downes

x. Summerhouse at approximately 20 metres north east of The Downes

6.5.39 These three structures at The Downes are individually designated heritage assets of high significance.

6.5.40 The asset is in condition: fair to good condition. Views of the site from the house are blocked by the hospital buildings to the east and mature trees line the boundary with the car park, blocking any views to the south-east. Foundry Hill is populated with further historic and 20th century housing, which further reduces views. The setting of The Downes is irretrievably altered by the hospital, although the immediate setting of the house within its gardens remains to a degree unaffected.

6.5.41 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in **no impact** on these listed buildings.

6.5.42 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated assets.

xi. Netherleigh, 14 and 16, St Georges Road

6.5.43 Netherleigh is a designated heritage asset of medium significance.

6.5.44 Its condition is unknown, as only glimpses of roofs are possible from both the site and public highway. This house is set back from the road and 20th century housing has been developed in its former grounds.

6.5.45 To both the front and rear (north and south), the boundaries of Netherleigh are densely protected by mature vegetation, generally blocking intervisibility with the site, although views to the development will be possible from its upper windows to the rear. Extensive 20th century development has occurred already to the north and east of the listed building. Nonetheless, the only essentially unchanged views from the building are

currently to the south and south west, towards the site, so that these views across its setting will be fundamentally and permanently changed. Given that this group of villas was positioned specifically to take advantage of the local topography above the Foundry, this must be considered as impacting upon the significance of Netherleigh to some degree.

6.5.46 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in a **minor to moderate negative magnitude of impact** on this listed building.

6.5.47 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of a **minor to moderate negative permanent effect** on the designated asset.

xii. Trepenpol, 20, St Georges Road

6.5.48 Trepenpol is a designated heritage asset of medium significance.

6.5.49 Its condition appears to be good. The house sits at the top of the peak of the slope, just on the break and has less recourse to views to the west, as it is bounded on the west side by Netherleigh.

6.5.50 The contextual, settings and views issues affecting Trepenpol are generally similar to those for Netherleigh (see 6.5.46 above).

6.5.51 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in a **minor to moderate negative magnitude of impact** on this listed building.

6.5.52 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of a **minor to moderate negative permanent effect** on the designated asset.

xiii. The Beeches, 22, St Georges Road

6.5.53 The Beeches is a designated heritage asset of medium significance.

6.5.54 Its condition appears to be very good. It is the largest (and oldest) of the the 19th century group of three villas on the hill slope. It is also the grandest with the most exterior features of status and wealth, sat at the very top of the slope. Unlike Netherleigh and Trepenpol, The Beeches does not face onto a plot heavily surrounded by mature vegetation. Instead it looks out across a small field within which lie several stone and brick outbuildings, built along an old stone faced bank. The field is separated from the house by a tall stone wall, which will undoubtedly protect much of the ground floor from

views to the development. Generally, the contextual issues affecting The Beeches are similar to those for Netherleigh and Trepennol (see 6.5.46 above).

6.5.55 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in a **moderate negative magnitude of impact** on this listed building.

6.5.56 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of a **moderate negative permanent effect** on the designated asset.

xiv. Gate-Piers, Gates and Flanking Walls Approximately 60 Metres North of The Beeches

6.5.57 The gate piers, gates and walls north of The Beeches together comprise a designated heritage asset of medium significance.

6.5.58 The asset is entirely separated from views of the site by the positioning of The Beeches. Development of the site will have **no impact** on the listed gate piers, gates and walls or their setting.

6.5.59 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xv. Statue of St Michael Approximately 100 Metres East of The Downes

6.5.60 The statue is a designated heritage asset of medium significance.

6.5.61 There is a direct but distant line of sight between the statue and the site to the east. Development of the site will have **no impact** on the listed statue or its setting.

6.5.62 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xvi. The Bird In Hand, 9, Trelissick Road

6.5.63 The Bird In Hand is a designated heritage asset of medium significance.

6.5.64 There is no intervisibility between this asset and the site, and development of the site will have **no impact** on the listed building or its setting.

6.5.65 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xvii. Roddfield House, 14, Trelissick Road

6.5.66 Roddfield House is a designated heritage asset of medium significance.

6.5.67 There is no intervisibility between this asset and the site, and development of the site will have **no impact** on the listed building or its setting.

6.5.68 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xviii. Glanmor House, Trelassick Road

6.5.69 Glanmor House is a designated heritage asset of high significance.

6.5.70 There is no intervisibility between this asset and the site, and development of the site will have **no impact** on the listed building or its setting.

6.5.71 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xix. Gate-Piers, Walls and Railings Approximately 60 Metres South East of Glanmor House

6.5.72 The gate piers, walls and railings south east of Glanmor House constitute a separate designated heritage asset of high significance.

6.5.73 There is no intervisibility between this asset and the site, and development of the site will have **no impact** on the listed building or its setting.

6.5.74 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xx. Meadowside Cottage, 40 and 42, Trelassick Road

6.5.75 Meadowside Cottage is a designated heritage asset of medium significance.

6.5.76 There is no intervisibility between this asset and the site, and development of the site will have **no impact** on the listed building or its setting.

6.5.77 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxi. Meadowside House, 44-48, Trelassick Road

6.5.78 Meadowside House is a designated heritage asset of medium significance.

6.5.79 There is no intervisibility between this asset and the site, and development of the site will have **no impact** on the listed building or its setting.

6.5.80 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxii. Charlotte House, 52 and 54, Foundry Hill

6.5.81 Charlotte House is a designated heritage asset of medium significance.

6.5.82 There is no intervisibility between this asset and the site, and development of the site will have **no impact** on the listed building or its setting.

6.5.83 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxiii. The Laurels, 9, Foundry Hill

xxiv. Former Foundry School, 5, Foundry Hill

xxv. 7, Foundry Hill

6.5.84 The Laurels, the former Foundry School and no.7 Foundry Hill are individually designated heritage assets of medium significance.

6.5.85 There is a direct, but fairly distant line of sight between the rear of these buildings and the site to the east, especially from their upper rear windows. However, it is considered that development of the site will have **no impact** on the significance of the listed buildings or their settings.

6.5.86 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated assets.

xxvi. Lane End, 16-22, Millpond Avenue

xxvii. Ladbrooke House, Including Garden Walls and Gate Piers Approximately 25 Metres North East (15 Millpond Avenue)

xxviii. The Glade, 10, Millpond Avenue

xxix. 7,8 and 9, Millpond Avenue

6.5.87 These neighbouring properties are individually designated heritage assets of medium significance.

6.5.88 There are interrupted views between these buildings and the site to the east through mature vegetation in gardens and lining Millpond Avenue, most especially from their upper

windows. However, it is considered that development of the site will have **no impact** on the significance of the listed buildings or their settings.

6.5.89 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated assets.

xxx. Triumphal Arch, Foundry Lane

6.5.90 The Triumphal Arch a designated heritage asset of medium significance.

6.5.91 There is no intervisibility between the arch, which is surrounded by buildings on a narrow lane, and the site. Development of the site will have **no impact** on the listed building or its setting.

6.5.92 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxxi. Walls and Foundry Remains At SW557370, Foundry Lane

6.5.93 The walls and foundry remains constitute a designated heritage asset of medium significance.

6.5.94 There is no intervisibility between these remains, which are adjacent to the triumphal arch, and the site. Development of the site will have **no impact** on the listed building or its setting.

6.5.95 Applying the matrix of significance of effects provided in 6.2.29 above, this would equate to being of **no permanent effect** on the designated asset.

xxxii. Building at Harveys Foundry at SW 5578 3706

6.5.96 The building at Harvey's Foundry is a designated heritage asset of medium significance.

6.5.97 There is a direct line of sight to the site from much of the foundry. However, it is considered that development of the site will have **no impact** on the significance of the listed building or its setting.

6.5.98 Applying the matrix of significance of effects provided in 6.2.29 above, this would equate to being of **no permanent effect** on the designated asset.

xxxiii. Former Foundry at SW557370, Foundry Lane

xxxiv. Former Pattern Shop at SW557371, Foundry Lane

6.5.99 These neighbouring properties are individually designated heritage assets of medium significance.

6.5.100 There is no intervisibility between these assets and the site. Development of the site will have **no impact** on the listed buildings or their settings.

6.5.101 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated assets.

xxxv. Railway Bridge at SW556371, King George VI Memorial Plantation

6.5.102 The railway bridge is a designated heritage asset of medium significance.

6.5.103 There is no intervisibility between the bridge and the site. Development of the site will have **no impact** on the listed building or its setting.

6.5.104 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxxvi. The Cunaide Memorial, King George VI Memorial Plantation

6.5.105 The Cunaide Memorial is a designated heritage asset of medium significance.

6.5.106 There is no intervisibility between the memorial and the site, which lies beyond the railway that bisects the plantation/scheduled monument. Development of the site will have **no impact** on the listed building or its setting.

6.5.107 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxxvii. Memorial Arch, King George VI Memorial Plantation

6.5.108 The Memorial Arch is a designated heritage asset of medium significance.

6.5.109 There is no intervisibility between the arch and the site, which lies beyond the railway that bisects the plantation/scheduled monument. Development of the site will have **no impact** on the listed building or its setting.

6.5.110 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxxviii. Freemasons' Hall, 8 and 9, Foundry Square

6.5.111 The Freemasons' Hall is a designated heritage asset of medium significance.

6.5.112 Its condition appears to be good. The hall abuts the White Hart towards the southern end of Foundry Square, with its primary facade looking roughly northwards. It is a reasonably

squat two storeyed building and is enclosed to the rear by service courtyards that serve the hotel and some cottages. Topography and 19th century development across the road to the east block all views to and awareness of the site. Development of the site will have **no impact** on the listed building or its setting.

6.5.113 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xxxix. 7. Foundry Square

6.5.114 No.7 Foundry Square is a designated heritage asset of medium significance.

6.5.115 Its condition appears to be good. No.7 lies immediately to the south of the Freemasons' Hall and shares its setting. Again, topography and 19th century development across the road to the east block all views to and awareness of the site. Development of the site will have **no impact** on the listed building or its setting.

6.5.116 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xl. The White Hart Hotel, 10 Foundry Square

6.5.117 The White Hart Hotel is a designated heritage asset of medium significance.

6.5.118 Its condition appears to be good. The hotel faces north on the corner of Foundry Square and Foundry Hill. It is a reasonably grand three storeyed building of some prominence in the local built environment. To a large extent, however, the surrounding topography and urban context prevent views to the site, although it is considered that new housing on the site might be visible from its upper windows overlooking Foundry Square. Nonetheless, realistically, development of the site will have **no impact** on the listed building or its setting.

6.5.119 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

xli. Lloyds Bank, 3 and 4, Foundry Square

6.5.120 Nos.3 & 4 Foundry Square together form a designated heritage asset of medium significance.

6.5.121 The condition appears to be good. The hall abuts the White Hart towards the southern end of Foundry Square, with its primary facade looking roughly northwards. It is a reasonably squat two storeyed building and is enclosed to the rear by service courtyards that serve the hotel and some cottages. Topography and 19th century development across

the road to the east block all views to and awareness of the site. Development of the site will have **no impact** on the listed building or its setting.

6.5.122 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

- xlii. Premises Occupied by Whites, 25 Foundry Square
- xliii. Former Offices and Remains of Foundry of Harvey and Company, 24 Foundry Square
- xliv. Barclays Bank, 22 and 23, Foundry Square
- xlvi. Premises Occupied by R.M. Munday, 21 Foundry Square
- xlvi. Premises Occupied by Homestead and Cornish Linen Service, 18, 19 and 20 Foundry Square

6.5.123 These five buildings form a linked group at the northern end of Foundry Square and individually are designated heritage assets of medium significance.

6.5.124 Their condition appears to be good. Topography and their urban context mean that there is no intervisibility with the site. Development of the site will have **no impact** on the listed buildings or their setting.

6.5.125 Whether applying the matrices of significance of effects provided in 6.2.26 or 6.2.29 above, this would equate to being of **no permanent effect** on the designated assets.

- xlvi. No 8, Chapel Terrace, Including Front Garden Walls and Gate Piers
- xlvi. Pratt's Hayle Market, 12, Chapel Terrace

6.5.126 These two neighbouring buildings lie on the east side of Chapel Terrace and individually are designated heritage assets of medium significance.

6.5.127 Their condition appears to be good. Topography and their urban context mean that there is no intervisibility with the site. Development of the site will have **no impact** on the listed buildings or their setting.

6.5.128 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated assets.

- xlvi. Penmeneth House Including Front Garden Walls and Gateway, 16, Penpol Avenue
- l. Penpol House (Penpol Avenue) Including Garden Walls and Gate Piers and Gates to South West and to North Including Pump

6.5.129 Penmeneth House and Penpol House are neighbouring designated heritage assets of medium significance.

6.5.130 As far as can be discerned from the public highway, their condition appears to be good. They are shielded from the site by mature trees, although a glimpsed view may be

possible from upper floor windows. This could not be verified. Be that as it may, it is considered that development of the site will have **no impact** on the listed buildings or their settings.

6.5.131 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated assets.

li. Bodriggy Villa Including Front Garden Walls and Gate Piers, 54, Queens Way

6.5.132 Bodriggy Villa is a designated heritage asset of medium significance.

6.5.133 Its condition appears to be reasonably good. Topography and its urban context mean that there is no intervisibility with the site. Development of the site will have **no impact** on the listed building or its setting.

6.5.134 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated asset.

lii. Ansley Villa, 25, Sea Lane

liii. Bodriggy House No.21 Sea Lane and No.42 Bodriggy Street, Including Front Garden Walls

6.5.135 These two neighbouring buildings lie on the north side of Sea Lane/Bodriggy Street and individually are designated heritage assets of medium significance.

6.5.136 Their condition appears to be reasonably good. Topography and their urban context mean that there is no intervisibility with the site. Development of the site will have **no impact** on the listed buildings or their setting.

6.5.137 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the designated assets.

liv. Hayle - Modern building (HER no.140113)

lv. Mellaneer - Post Medieval smelting house (HER no.31889)

lvi. Hayle - Post Medieval wall (HER no.139085)

lvii. Hayle - Post Medieval house (HER no.140788)

lviii. Hayle - Modern house (HER no.140108)

6.5.138 These non-designated assets of low to negligible significance lie as a cluster to the south of the scheduled mill complex immediately to the west of the site.

6.5.139 They are largely but not entirely shielded from the site by mature trees and other vegetation.

6.5.140 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in a **minor to moderate negative magnitude of impacts** on the setting of these structures.

6.5.141 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to having **no permanent effect** on the non-designated assets.

lix. Hayle - Post Medieval road (HER no.140112)

6.5.142 This track is a non-designated heritage asset of negligible significance.

6.5.143 It lies in a 20th century housing estate to the west of the site and a little way south of the scheduled mill complex. Its urban context means that there is no intervisibility with the site. Development of the site will have **no impact** on the asset or its setting.

6.5.144 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated asset.

lx. Hayle - Post Medieval house (HER no.140997)

lxi. Hayle - Post Medieval house (HER no.140111)

6.5.145 These non-designated assets of low to negligible significance lie close to each other a little way south west of the site.

6.5.146 There is direct line of sight to the site from the assets and/or their settings. Nonetheless, the proposed development will lie in the middle distance of that view. Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in a **no impact** on the setting of these assets.

6.5.147 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to having **no permanent effect** on the non-designated assets.

lxii. Hayle - Post Medieval house (HER no.139613)

lxiii. Mellaneer - Post Medieval mine (HER no.31913.03)

6.1.2 These non-designated assets of low to negligible and low significance, respectively, lie close to each other some distance south west of the site and on the southern edge of a 20th century housing estate.

6.1.3 Topography and urban context mean that there is no intervisibility with the site. Development of the site will have **no impact** on these assets or their setting.

6.1.4 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated assets.

lxiv. Trewoone - Post Medieval clay pit (HER ref.31914)

6.5.148 The clay pit is a non-designated heritage asset of low to negligible significance.

6.5.149 It lies separated from the site to the south of the A30, which entirely shields it from view from the north. Development of the site will have **no impact** on the asset or its setting.

6.5.150 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated asset.

lxv. Wheal Ann - Post Medieval mine (HER ref.31913.01)

lxvi. South Wheal Ann - Post Medieval mine (HER ref.31913.02)

6.5.151 These non-designated assets of low significance lie close to each other well south of the site and the A30.

6.5.152 Topography means that there is no intervisibility with the site. Development of the site will have **no impact** on these assets or their setting.

6.5.153 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated assets.

lxvii. Leah - Post Medieval mine (HER ref.31912)

6.5.154 The Leah mine is a non-designated heritage asset of low significance, lying south of the A30 close to South Wheal Ann mine (see preceding entry).

6.5.155 Topography means that there is no intervisibility with the site. Development of the site will have **no impact** on this asset or its setting.

6.5.156 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated asset.

lxviii. Wheal Alfred - Undated linear earthwork (HER ref.53635)

lxix. Wheal Alfred - Undated linear earthwork (HER ref.53634)

lxx. Wheal Alfred - Post Medieval nonconformist chapel (HER ref.31940)

lxxi. Wheal Alfred - Post Medieval mine (HER ref.31871)

6.5.157 These non-designated assets variously of low to negligible and low significance lie well away from the site to its east.

6.5.158 Topography and context mean that there is no intervisibility with the site. Development of the site will have **no impact** on these assets or their setting.

6.5.159 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated assets.

lxxii. Hayle - Post Medieval houses (HER no.141117)

6.5.160 This non-designated heritage asset of low to negligible significance lies a little way to the east of the site surrounded by 20th century housing.

6.5.161 Development of the site will have **no impact** on the asset or its setting.

6.5.162 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated asset.

lxxiii. Burnthouse Lane - Post Medieval shaft (HER no.53603)

6.5.163 This non-designated mine shaft lies to the east of the site surrounded by agricultural land.

6.5.164 Topography and context mean that there is no intervisibility with the site. Development of the site will have **no impact** on the shaft as an asset or its setting.

6.5.165 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated asset.

lxxiv. Hayle - Post Medieval terrace (HER no.139001)

6.5.166 The terrace of houses is a non-designated heritage asset of low significance, lying in the Foundry area of Hayle in the valley a short distance north of the site.

6.5.167 There is partial but significant line of sight to the site from the asset and its immediate setting. The site forms part of the extended setting of the terrace.

6.5.168 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in a **minor negative magnitude of impact** on the setting of the terrace as a heritage asset (that is, 'changes to the setting of the asset such that it is noticeably different').

6.5.169 However, applying the matrix of significance of effects provided in 6.2.26 above, this would equate to having **no permanent effect** on the non-designated asset.

lxxv. Green Acres - Prehistoric round (HER no.53629)

6.5.170 This non-designated asset of low to negligible significance lies well away from the site to its east, close to four Wheal Alfred assets (see 6.5.161-163 above).

6.5.171 Topography and context mean that there is no intervisibility with the site. Development of the site will have **no impact** on this asset or its setting.

6.5.172 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to being of **no permanent effect** on the non-designated asset.

lxxvi. Hayle, Barview Farmhouse, Barview Lane - Post Medieval house (HER no.140811)

6.5.173 The farmhouse is a non-designated heritage asset of low significance, lying immediately to the east of the site.

6.5.174 There is direct and significant line of sight to the site from the asset and its setting. The site forms part of the extended setting of the farmhouse.

6.5.175 Using the magnitude of impact table set out in chapter 6.2.25 above, overall it is considered that the development of the site will result in a **moderate adverse magnitude of impact** on the setting of the farmhouse as a heritage asset (that is, 'changes to the setting of the asset such that it is significantly modified').

6.5.176 Applying the matrix of significance of effects provided in 6.2.26 above, this would equate to having **minor negative permanent effect** on the non-designated asset.

6.6 Additional mitigation, compensation and enhancement measures

6.6.1 Mitigation measures for construction phases have been dealt with in the relevant sections in the foregoing assessment. Measures for the completed development have been considered as inherent to the scheme and included within each impact assessment.

6.7 Assessment summary and residual environmental effects

6.7.1 This section of the cultural heritage chapter of the Environment Statement summarises the effects of development and their wider meaning.

6.7.2 Heritage policy is based around the notion that heritage resources are irreplaceable and finite. Ideally, all harm to the significance of heritage assets would be avoided, therefore,

but the NPPF recognises that that is not a realistic or indeed even sustainable position. As set out already in chapter 6.2.11 above, it recognises [NPPF paragraph 132] that:

'The more important the asset, the greater the weight should be...As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.'*

- 6.7.3 The NPPF establishes an undefined threshold of 'substantial harm' above which for designated assets, it demands that:

'local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss',

and below that threshold that:

'[the level of] harm should be weighed against the public benefits of the proposal, including securing its optimum viable use' [NPPF paragraphs 133-134].

- 6.7.4 Where non-designated assets are involved, the requirement is more simply that, whatever the level of harm, 'a balanced judgment will be required having regard to the scale of any harm or loss and the significance of the heritage asset' [NPPF paragraph 135].

- 6.7.5 It is generally acknowledged that substantial harm is a 'very high test'. In the Bedford case (Bedford Borough Council v Secretary of State for Communities and Local Government, 2013), it was held that:

'...for harm to be substantial, the impact on significance was required to be serious such that very much, if not all, of the significance was drained away.'

Plainly in the context of physical harm, this would apply in the case of demolition or destruction, being a case of total loss. It would also apply to a case of serious damage to the structure of the building. In the context of non-physical or indirect harm, the yardstick was effectively the same. One was looking for an impact which would have such a serious impact on the significance of the asset that its significance was either vitiated altogether or very much reduced.'

- 6.7.6 As the Barnwell (2014) case noted, however, 'less than substantial harm does not equate to a less than substantial planning objection' and that 'there is a need to give considerable

importance and weight to any harm...when carrying out the planning balance. As a working measure, therefore, it is suggested that permanent effects at and above the level of moderate should be regarded as being significant in environmental impact terms.

- 6.7.7 The table below provides a summary of significance of effects of impacts from the proposed development in relation to heritage and the historic environment.

Table: Summary of Significance of effects of impacts from the proposed development

Heritage Asset	Significance of effects	
	Construction phase	Operational phase
i) Cornwall and West Devon Mining Landscape World Heritage Site	Moderate temporary to nil	Moderate to large adverse permanent
ii) Hayle Conservation Area	Moderate temporary to nil	Minor adverse permanent
iii) Findspot of a Roman coin (HER no. I 39301)	Moderate temporary to nil	No permanent effect
iv) Post-medieval mining shaft (HER No.53602)	Moderate temporary to nil	Minor adverse permanent
v) Late C18-C19 mill complex, ropeworks and associated water management system immediately east of Millpond Avenue, Foundry (scheduled monument – ref. I 402648)	Moderate temporary to nil	Minor to moderate adverse permanent
vi) Small multivallate hillfort, early Christian memorial stone and C19 landscaped paths at Carnsew	Nil	No permanent effect



Heritage Asset	Significance of effects	
	Construction phase	Operational phase
<i>(scheduled monument - ref.1006720)</i>		
<i>vii) Late C19 gardens laid out by John Dando Sedding to surround The Downes</i>	Nil	No permanent effect

Heritage Asset	Significance of effects	
	Construction phase	Operational phase
viii) <i>The Downes (Roman Catholic Convent, Part Of St Michaels Hospital)</i>	Nil	No permanent effect
ix) <i>Terrace walls immediately north of The Downes</i>	Nil	No permanent effect
x) <i>Summerhouse at approximately 20 metres north east of The Downes</i>	Nil	No permanent effect
xi) <i>Netherleigh, 14 and 16, St Georges Road</i>	Moderate temporary to nil	Minor to moderate adverse permanent
xii) <i>Trepenpol, 20, St Georges Road</i>	Moderate temporary to nil	Minor to moderate adverse permanent
xiii) <i>The Beeches, 22, St Georges Road</i>	Moderate temporary to nil	Moderate adverse permanent
xiv) <i>Gate-Piers, Gates and Flanking Walls Approximately 60 Metres North of The Beeches</i>	Moderate temporary to nil	No permanent effect
xv) <i>Statue of St Michael Approximately 100 Metres East of The Downes</i>	Nil	No permanent effect
xvi) <i>The Bird In Hand, 9, Trelissick Road</i>	Nil	No permanent effect
xvii) <i>Roddfield House, 14, Trelissick Road</i>	Nil	No permanent effect
xviii) <i>Glanmor House, Trelissick Road</i>	Nil	No permanent effect

Heritage Asset	Significance of effects	
	Construction phase	Operational phase
<i>xix) Gate-Piers, Walls and Railings Approximately 60 Metres South East of Glanmor House</i>	Nil	No permanent effect
<i>xx) Meadowside Cottage, 40 and 42, Trelissick Road</i>	Nil	No permanent effect
<i>xxi) Meadowside House, 44-48, Trelissick Road</i>	Nil	No permanent effect
<i>xxii) Charlotte House, 52 and 54, Foundry Hill</i>	Nil	No permanent effect
<i>xxiii) The Laurels, 9, Foundry Hill</i>	Nil	No permanent effect
<i>xxiv) Former Foundry School, 5, Foundry Hill</i>	Nil	No permanent effect
<i>xxv) 7, Foundry Hill</i>	Nil	No permanent effect
<i>xxvi) Lane End, 16-22, Millpond Avenue</i>	Nil	No permanent effect
<i>xxvii) Ladbrooke House, Including Garden Walls and Gate Piers Approximately 25 Metres North East (15 Mill Pond Avenue)</i>	Nil	No permanent effect
<i>xxviii) The Glade, 10, Millpond Avenue</i>	Nil	No permanent effect
<i>xxix) 7,8 and 9, Mill Pond Avenue</i>	Nil	No permanent effect
<i>xxx) Triumphal Arch, Foundry Lane</i>	Nil	No permanent effect
<i>xxxi) Walls and Foundry Remains At SW557370, Foundry Lane</i>	Nil	No permanent effect

Heritage Asset	Significance of effects	
	Construction phase	Operational phase
xxxii) Building at Harveys Foundry at SW 5578 3706	Nil	No permanent effect
xxxiii) Former Foundry at SW557370, Foundry Lane	Nil	No permanent effect
xxxiv) Former Pattern Shop at SW557371, Foundry Lane	Nil	No permanent effect
xxxv) Railway Bridge at SW556371, King George VI Memorial Plantation	Nil	No permanent effect
xxxvi) The Cunaide Memorial, King George VI Memorial Plantation	Nil	No permanent effect
xxxvii) Memorial Arch, King George VI Memorial Plantation	Nil	No permanent effect
xxxviii) Freemasons' Hall, 8 and 9, Foundry Square	Nil	No permanent effect
xxxix) 7, Foundry Square	Nil	No permanent effect
xl) The White Hart Hotel, 10 Foundry Square	Nil	No permanent effect
xli) Lloyds Bank, 3 and 4, Foundry Square	Nil	No permanent effect
xlii) Premises Occupied by Whites, 25 Foundry Square	Nil	No permanent effect
xliii) Former Offices and Remains of Foundry of Harvey and Company, 24 Foundry Square	Nil	No permanent effect
xliv) Barclays Bank, 22 and 23, Foundry Square	Nil	No permanent effect

Heritage Asset	Significance of effects	
	Construction phase	Operational phase
<i>xlvi) Premises Occupied by R.M. Munday, 21 Foundry Square</i>	Nil	No permanent effect
<i>xlvi) Premises Occupied by Homestead and Cornish Linen Service, 18,19 and 20 Foundry Square</i>	Nil	No permanent effect
<i>xlvi) No 8, Chapel Terrace, Including Front Garden Walls and Gate Piers</i>	Nil	No permanent effect
<i>xlvi) Pratt's Hayle Market, 12, Chapel Terrace</i>	Nil	No permanent effect
<i>xlvi) Penmeneth House Including Front Garden Walls and Gateway, 16, Penpol Avenue</i>	Nil	No permanent effect
<i>l) Penpol House (Penpol Avenue) Including Garden Walls and Gate Piers and Gates to South West and to North Including Pump</i>	Nil	No permanent effect
<i>li) Bodriggy Villa Including Front Garden Walls and Gate Piers, 54, Queens Way</i>	Nil	No permanent effect
<i>lii) Ansley Villa, 25, Sea Lane</i>	Nil	No permanent effect
<i>liii) Bodriggy House No.21 Sea Lane and No.42 Bodriggy Street, Including Front Garden Walls</i>	Nil	No permanent effect
<i>liv) Hayle - Modern building (HER no.140113)</i>	Nil	No permanent effect

Heritage Asset	Significance of effects	
	Construction phase	Operational phase
<i>lv) Mellanear - Post Medieval smelting house (HER no.31889)</i>	Nil	No permanent effect
<i>lvi) Hayle - Post Medieval wall (HER no.139085)</i>	Nil	No permanent effect
<i>lvii) Hayle - Post Medieval house (HER no.140788)</i>	Nil	No permanent effect
<i>lviii) Hayle - Modern house (HER no.140108)</i>	Nil	No permanent effect
<i>lix) Hayle - Post Medieval road (HER no.140112)</i>	Nil	No permanent effect
<i>lx) Hayle - Post Medieval house (HER no.140997)</i>	Nil	No permanent effect
<i>lxi) Hayle - Post Medieval house (HER no.140111)</i>	Nil	No permanent effect
<i>lxii) Hayle - Post Medieval house (HER no.139613)</i>	Nil	No permanent effect
<i>lxiii) Mellanear - Post Medieval mine (HER no.31913.03)</i>	Nil	No permanent effect
<i>lxiv) Trewoone - Post Medieval clay pit (HER ref.31914)</i>	Nil	No permanent effect
<i>lxv) Wheal Ann - Post Medieval mine (HER ref.31913.01)</i>	Nil	No permanent effect
<i>lxvi) South Wheal Ann - Post Medieval mine (HER ref.31913.02)</i>	Nil	No permanent effect
<i>lxvii) Leah - Post Medieval mine (HER ref.31912)</i>	Nil	No permanent effect

Heritage Asset	Significance of effects	
	Construction phase	Operational phase
<i>lxviii) Wheal Alfred - Undated linear earthwork (HER ref.53635)</i>	Nil	No permanent effect
<i>lxix) Wheal Alfred - Undated linear earthwork (HER ref.53634)</i>	Nil	No permanent effect
<i>lxx) Wheal Alfred - Post Medieval nonconformist chapel (HER ref.31940)</i>	Nil	No permanent effect
<i>lxxi) Wheal Alfred - Post Medieval mine (HER ref.31871)</i>	Nil	No permanent effect
<i>lxxii) Hayle - Post Medieval houses (HER no.141117)</i>	Nil	No permanent effect
<i>lxxiii) Burnthouse Lane - Post Medieval shaft (HER no.53603)</i>	Nil	No permanent effect
<i>lxxiv) Hayle - Post Medieval terrace (HER no.139001)</i>	Nil	No permanent effect
<i>lxxv) Green Acres - Prehistoric round (HER no.53629)</i>	Nil	No permanent effect
<i>lxxvi) Hayle, Barview Farmhouse, Barview Lane - Post Medieval house (HER no.140811)</i>	Moderate temporary to nil	Minor adverse permanent

Cumulative effects of development

6.7.8 Finally, the cumulative effect of foreseeable development proposals on heritage assets needs to be considered.

6.7.9 There are two significant developments to consider: that of Hayle's harbour side and the wider urban extension of which the development of the site is a part. The harbour side



development is not considered to have a particular wider landscape impact, as it essentially involves the redevelopment of brownfield sites with buildings of a similar massing to the existing. Due to topography, the harbour side development has no intervisibility with the wider urban extension. The cumulative effects in terms of landscape impact are therefore only those already described in the landscape chapter of this environmental statement. From a heritage perspective, however, the harbour side development and the application site are the only major developments that impact upon the WHS. There is no inter-visibility between the remainder of the wider urban extension and the harbour side development.

- 6.7.10 It is concluded, therefore, that there will be no further additional/cumulative impact upon the WHS.

7.0 Ecology

7.1 Introduction

Background

- 7.1.1 Ecology Solutions was commissioned by Linden Homes in October 2015 to prepare the Ecology Chapter of the Environmental Statement (ES) in respect of proposals associated with land at Penpol, Hayle, Cornwall (see Figure 7.1).
- 7.1.2 Previous surveys were undertaken within the Site by Richard Green Ecology in 2011, 2012 and 2013. The methodology and findings of these surveys are outlined in an Ecological Impact Assessment report (EcIA), dated March 2014, which is included at Appendix 7.1. Reference is made to this document throughout this Chapter where relevant, with further information obtained through consultation with the recognised bodies involved in nature conservation in the local area.
- 7.1.3 The value of the ecological features identified through both field surveys and desk-top studies has been interpreted within the context of recognized methodologies and also within the planning policy context, both on a regional and local level. Habitat and species evaluations are based around the guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM) (Reference 1).
- 7.1.4 This Chapter also sets out the potential impact of the Development Proposals, both during construction and operation, on recognized ecological features and the significance of these impacts, along with strategies proposed to mitigate damage and compensate for loss.

Site Characteristics

- 7.1.5 The Site itself is located in the south of the town of Hayle in Cornwall. Existing residential development lies to the immediate north and west of the Site, whilst the Hayle Estuary lies approximately 0.6km to the northwest of the Site at its nearest point. Land to the south and east comprises agricultural land and small bands of scattered woodland.
- 7.1.6 The Site currently comprises arable fields bordered by regularly managed, species-poor hedgerows. There are two small fields in the north of the site which are not managed and comprise rank grassland with scattered scrub. A wet woodland runs along the western



boundary of the site which is situated within a damp valley. Within this woodland is a stream and two ponds.

Proposals

- 7.1.7 The proposals are for a residential development of 222 dwellings with associated areas of landscaping, hardstanding and roads, and the provision of land to facilitate the expansion of Penpol Primary School. Two areas of public open space are also to be provided in the east and west of the Site. A Masterplan of the proposals has been produced by Lavigne Lonsdale Architects and is included at Appendix 7.2.
- 7.1.8 The term "Site" when used in this ES Chapter refers to the complete development footprint and associated open space. The term Study Area refers to the wider environs of the site including agricultural land to the south which were subject to surveys as part of the EcIA produced for the site.

Scoping Exercise

- 7.1.9 Whilst no formal scoping exercise was undertaken as part of this assessment, regard was given to consultation responses to the original application, including comments from Natural England, Cornwall County Council and the Cornwall Wildlife Trust.

7.2 Assessment Methodology

Identifying the Zone of Influence

- 7.2.1 The potential ecological impacts of the Development Proposals are largely focused on the Site but also extend to its immediate surroundings.
- 7.2.2 In addition, consideration has also been given to the potential for the following significant effects which may spread beyond the Site:
- Disturbance to populations within hearing range during the construction phase due to noise or vibration;
 - Disruption to habitats / populations within receiving range of dust or other air quality considerations during the construction and operation phase;
 - Disruption to the normal diurnal patterns for species during construction and operation due to lighting;
 - Disturbance to habitats / species within walking distance as a result of an increase in population in the local area during the operation phase; and
 - Contamination of watercourses, particularly the potential for increased nutrient input, during the construction and operation phases.

Impact Assessment Methodology

- 7.2.3 The impact assessment has been made in relation to the latest masterplan for the Site.
- 7.2.4 The evaluation and impact assessment method is based on the guidelines produced by the Chartered Institute of Ecology and Environmental Management (Reference 1), which avoids the provision of definitions as to how to assign habitats and species different levels of value and relies on an approach that involves professional judgement and the use of available guidance and information.
- 7.2.5 The value of each resource should be determined within a defined geographical context:
- International;
 - National;
 - Regional;
 - County (or Metropolitan – e.g. in London);
 - District (or Unitary Authority, City or Borough);
 - Local or Parish; or
 - Site.

7.2.6 A number of other key considerations include:

- Designated Sites and Features (e.g. Special Protection Areas, Sites of Special Scientific Interest, ancient woodland, etc.);
- Biodiversity Value (Use of Biodiversity Action Plans, development plans and other published documents);
- Potential Value;
- Secondary or Supporting Value;
- Social or Economic Value; and
- Legal Issues.

7.2.7 For example, the Cornwall Biodiversity Action Plan has been used to assist in valuing features and developing mitigation strategies, where necessary. Consideration has also been given to the saved policies contained within the Penwith Local Plan 2004 and the emerging Cornwall Local Plan Strategic Policies (2010-2030).

7.2.8 Having identified the ecologically important features likely to be affected by the development, the current guidance promotes a transparent approach in which an impact is determined to be significant or not on the basis of a discussion of the factors that categorise it. This includes characterising the nature of the likely impacts on each important feature in terms of ecological structure and function, by considering the following parameters:

- Positive or negative;
- Extent;
- Magnitude
- Duration;
- Reversibility; and
- Timing and frequency.

7.2.9 Where it was concluded that there would be an impact (positive or negative and including cumulative impacts) on a defined site or ecosystem(s) and/or the conservation status of habitats or species within a given geographical area, it was described as significant in the following terms: major, moderate, minor, negligible and none.

7.3 Survey Methodology

- 7.3.1 The methodology utilised for the survey work can be split into three areas, namely desk survey, habitat survey and faunal survey. These are discussed in more detail below.

Desk Survey

- 7.3.2 In order to compile background information on the Site and its immediate surroundings Ecology Solutions contacted the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS). Whilst records returned from the ERCCIS were included within the EcIA, these records were older than two years and as such it was considered necessary to update the desk study.
- 7.3.3 Information received from the updated data search has been used to inform this assessment. The information provided by the ERCCIS has been included where possible at Appendix 7.3. Whilst not all of the information can be appended due to publication conditions all information supplied has been assessed and where relevant is referred to within this Chapter.
- 7.3.4 Further information on designated sites from a wider search area was also obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) website (Reference 2). This information is reproduced at Appendix 7.4.

Habitat Survey Methodology

- 7.3.5 The Site has been subject to a suite of ecological surveys undertaken by Richard Green Ecology Ltd between October 2011 and June 2013. Surveys were undertaken in order to ascertain the ecological value of the land contained within the boundaries of the Site and the wider study area to identify the main habitats and associated plant species, with notes on fauna utilising the site.
- 7.3.6 **Extended Phase 1 Survey.** Phase 1 surveys were undertaken by Richard Green Ecology in October 2011, September 2012 and June 2013. Surveys were based around the Phase 1 Survey methodology (Reference 3), whereby the habitat types present are identified with an assessment of the species composition of each habitat.
- 7.3.7 All species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. Surveys were undertaken throughout the year, including during the optimal period for botanical work and it is therefore considered that given the nature of the

habitats present, the surveys allowed an accurate evaluation of the intrinsic interest to be made.

Fauna

7.3.8 General faunal activity, such as birds or mammals observed visually or by call during the course of the surveys, was recorded. Specific attention was paid to any potential use of the study area by protected species, Priority species, or other notable or rare species.

7.3.9 In addition to casual observations, the following species-specific surveys were undertaken:

- Badgers *Meles meles* (September 2012 and June 2013);
- Bats (September 2012, June and July 2013);
- Dormice *Muscardinus avellanarius* (September 2012 - July 2013)
- Reptiles (September and October 2012);

7.3.10 Surveys were undertaken by experienced, and where necessary licensed ecologists, following established best practice and guidance issued by Natural England. The methodology of each survey is outlined in detail in the EcIA (Appendix 7.1) and is summarised below.

Badgers

7.3.11 Specific Badger surveys were undertaken at the Site as part of the Phase 1 survey, which entailed a comprehensive search for evidence of Badger in the form of setts and foraging signs within the Site. The wider area to the south was also subject to checks during the same periods.

Bats

7.3.12 Specific bat activity surveys were undertaken during September 2012 and June and July 2013. Three surveys were undertaken concentrating upon potential foraging areas and commuting / navigational routes within the Site. Surveys also incorporated habitats within the wider study area. The survey methodology is outlined at Sections 2.24 and 2.25 of the EcIA and summarised below.

7.3.13 Evening activity surveys commenced 15 minutes prior to sundown and continued for at least 2.5 hours following full sundown recording all bat activity. Following these activity

surveys, detectors were left in strategic locations (see Figure 6 within the EcIA (Appendix 7.1)) in order to record any bat activity throughout the night.

- 7.3.14 Surveys were undertaken by two surveyors competent in the use of bat detectors and call identification. Surveyors utilised EchoMeter 3 (EM3) and Anabat SD1 bat detectors to record the data for all the surveys. The data was subsequently analysed using Analook bat sound analysis software.
- 7.3.15 Weather conditions for these surveys were optimal for conducting bat surveys, being mild with cloud cover but no rain during each of the evening activity surveys. The dates and weather conditions for each survey are illustrated in Table 1 below.

Date	Time	Weather
13.09.2012	19:23-22:08	100% cloud cover, no wind, 15°C
14.06.2013	21:15-00:00	25% cloud cover, moderate wind, 13°C
25.07.2013	20:58-23:45	75% cloud cover, moderate wind, 17°C

Table 2 Dates and Weather Conditions for Bat Surveys 2012/2013

- 7.3.16 In addition to the activity surveys, static bat detector surveys were undertaken across the site in September 2012, May 2013 and June 2013. This entailed leaving SongMeter 2 (SM2) bat detectors at a range of locations to record bat activity over a number of consecutive nights. The locations where automated detectors were deployed are illustrated on Figure 6 within the EcIA (Appendix 7.1).

Dormice

- 7.3.17 A nest tube survey for Hazel Dormice was undertaken in respect of all suitable hedgerows and woodland within the Site. These surveys were undertaken between September 2012 and July 2013 and included all suitable habitats within the Site and Wider Area. The methodology is outlined in Section 2.2.3 of the EcIA and is summarized below.
- 7.3.18 The survey technique involves the erection of nest tubes within hedgerows and woodland in the Site. The Dormouse nest tubes utilised were those approved as standard by the Mammal Society. A total of 125 nest tubes were deployed throughout suitable habitats across the Site.

Reptiles

- 7.3.19 Specific reptile surveys were undertaken between September and October 2012 in order to establish the presence and absence of reptiles within areas of suitable habitat within the Site. The methodology is outlined in Section 2.2.2 of the EcIA and is summarized below.
- 7.3.20 Following an initial assessment to identify areas of suitable reptile habitat within the site, refugia surveys were undertaken. A total of 52 'tins' (0.5 x 0.5 metre squares of roofing felt which are often used as refuges by reptiles) were distributed over the suitable reptile habitat within the Site in accordance with relevant guidelines (Reference 4). For a map illustrating tin locations please refer to Annex C within the EcIA (Appendix 7.1).
- 7.3.21 The tins provide shelter and heat up quicker than the surroundings in the morning and can remain warmer than the surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles use them to bask and raise their body temperature which allows them to forage earlier and later in the day.
- 7.3.22 Surveys were undertaken during suitable weather conditions over 7 visits, as outlined in Table 2 below.

Survey	Date	Weather
1	20.09.12	14 °c, 0% cloud cover
2	25.09.12	12 °c, 40% cloud cover
3	28.09.12	14 °c, 75% cloud cover
4	29.09.12	15 °c, 0% cloud cover
5	30.09.12	14°c, 50% cloud cover
6	01.10.12	15 °c, 75% cloud cover
7	24.10.12	14 °c, 75% cloud cover

Table 3 Dates and Weather Conditions for the Reptile Surveys 2012

7.4 Baseline Conditions

Introduction

- 7.4.1 The objectives of establishing the ecological baseline are twofold:
- (i) To describe aspects of the natural environment and to identify important and protected habitats and species that could be adversely affected by the development proposals; and

- (ii) To characterise features that could be positively enhanced, created, restored or managed, by establishing the occurrence, distribution and extent of ecological features on site and in the surrounding area; and/or those species that could be positively managed to enhance their conservation status, distribution and abundance.

7.4.2 Important species are those protected by international or national legislation; those that have been identified in the UK Biodiversity Steering Group Volumes I to VI as priority species, and those identified as locally distinctive in a local BAP (e.g. 'local keystone', 'flagship' and 'umbrella species') (Reference 5).

Designated Sites

Statutory

- 7.4.3 There are no sites of international importance such as Special Protection Areas (SPAs) or Special Areas of Conservation (SACs) within or in close proximity to the Site. The nearest such site is Marazion Marsh SPA located approximately 5.9km to the southwest of the Site at its closest point (see figure 7.1). Marazion Marsh SPA is designated on account of its key ornithological importance for both wintering and passage migrant bird species.
- 7.4.4 There are a number of Sites of Special Scientific Interest (SSSIs) in close proximity to the Site. The closest such site is Hayle Estuary and Carrack Gladden SSSI, located approximately 0.6km to the northwest of the Site. Hayle Estuary and Carrack Gladden SSSI is designated on account of the site being a key location for a variety of bird species as a result of the feeding and roosting habitats it provides and the range of plant species it supports.
- 7.4.5 The next nearest statutory designated site is Gwithian to Mexico Towans SSSI which is located 1.6km to the north of the Site boundary at its nearest point (see Figure 7.1). Gwithian to Mexico Towans SSSI is designated on account of the sand dune habitat that it supports which provide opportunities for a diverse range of flora.
- 7.4.6 Two other SSSIs are also present in the local area, namely St Erth Sand Pits SSSI located approximately 1.5km to the southwest and Wheal Alfred SSSI located approximately 1.6km to the east of the Site at its nearest point. Both of these SSSIs are designated on account of their geological interests and therefore have no relevance to biodiversity and wildlife

conservation. It is therefore not considered that the development proposals will damage the interest features for which these sites have been designated.

Non-Statutory

7.4.7 There are no non-statutory designated sites of nature conservation importance within or immediately adjacent to the Site. There are a number of County Wildlife Sites (CWS) in the local area (as illustrated on Figure 7.1) including:

- Hayle Estuary CWS located approximately 0.3km to the northwest.
- Treloweth Woods CWS located approximately 1.4km to the southwest.
- Hayle Dune System located approximately 1.6km to the northwest.
- St Erth Pools CWS located approximately 2km to the southwest.

7.4.8 Hayle Estuary CWS is designated on account of its ornithological importance to range of wader, wildfowl and gull species. This site supports significant numbers of wintering populations and is considered to be an important feeding station for passage migrants.

7.4.9 The closest area of ancient woodland is Bosworgy Wood, which is located over 4km to the south of the Site boundary.

Ecological Features

7.4.10 The Site was subject to extended Phase 1 habitat surveys in October 2011, September 2012 and June 2013.

7.4.11 The following habitat types or features were identified within the Site boundary:

- Agricultural Land;
- Hedgebanks;
- Rank Grassland;
- Scrub;
- Ruderal Vegetation;
- Wet Woodland;
- Pond;
- Stream;
- Buildings; and
- Hardstanding.

- 7.4.12 Descriptions of each of these habitats/features, including their species composition, are provided in Section 3.2 of the EcIA (included at Appendix 7.1) shown at Figure 2 of the EcIA with their locations.

Desk Study

- 7.4.13 Information received by Ecology Solutions in 2015 included a number of records of notable plant species from the local area, however, none of these records were returned from within the Site itself. The closest of these records was of Western Rampion *Fumaria occidentalis* (IUCN Redlist: Rare, Nationally Scarce) (2010) from a location 0.2km to the west of the Site. Other notable plant species returned from the local area include Bluebell *Hyacinthoides non-scripta* (Schedule 8) (2011) from a location 0.5km to the northeast, Italian Lords-and-Ladies *Arum italicum subsp. Neglectum* (Nationally Scarce) (2011) from a location 0.6km to the northeast, Common Whitlowgrass *Erophila verna* (Locally Scarce) (2012) from a location 0.8km to the southwest, and Small-flowered Catchfly *Silene gallica* (Endangered, Nationally Scarce) (2008) from a location 1km to the north of the Site. With the exception of Bluebell, which could be located within the wet woodland, none of these species are likely to be present within the Site given the habitats present.

Wildlife Use of the Site

- 7.4.14 General observations were made during the Phase 1 surveys of any faunal use of the Site, with attention paid to the potential presence of protected and alien species.
- 7.4.15 Specific surveys of the Site were also undertaken with regard to Badgers, bats, Dormice and reptiles. Surveys incorporated both the Site and the wider study area in order to build up a comprehensive picture of the overall ecological value of the Site.
- 7.4.16 Please refer to the results section (Section 3) and Annexes C-D of the EcIA (Appendix 7.1) for light of the results of the faunal surveys.

Desk Study

- 7.4.17 The full results of the survey work undertaken for these groups are outlined in Section 3 and Annexes C to E of the EcIA. The key findings are summarised below. Information was also received from the ERCCIS in 2015 in respect of these species. This is also outlined below where relevant.

Badgers

7.4.18 Evidence of Badgers, in the form of footprints, was discovered along the western edge of the Site. No Badger setts were discovered during the surveys undertaken.

7.4.19 **Desk Study:** The desk study information received from the ERCCIS included a number of records of Badgers from the local area. The closest record of Badger was of 'feeding damage' from Bay View Farm from 2006, which is situated within the 4 digit grid square which contains the Site (SW5636). Other records of Badgers were returned from St Erth from a location approximately 1.4km to the southwest of the Site from 2007. No records of Badger setts were returned as part of the desk study.

Bats

7.4.20 None of the buildings or trees within the Site were considered to be suitable for bats during the surveys undertaken in 2012 and 2013.

7.4.21 At least eight different bat species were recorded to utilise the Site. Eight is the minimum number of different bat species recorded because records of *Myotis* sp. bats (of which there are 6 potential species) and Brown Long-eared bats (of which there are 2 potential species) were not identified to species level. The species most frequently recorded on site was Common Pipistrelle *Pipistrellus pipistrellus*, with other species recorded including Soprano Pipistrelle *Pipistrellus pygmaeus*, Noctule *Nyctalus noctula*, Leisler's Bat *Nyctalus leisleri*, Nathusius's Pipistrelle *Pipistrellus nathusii*, *Myotis* bats *Myotis* sp, Long-eared bats *Plecotus* sp, Greater Horseshoe bat *Rhinolophus ferrumequinum*. The majority of the hedgebanks throughout the site were shown to be utilised by bats, with features of greater importance identified to be the rank grassland located in the north and central part of the Site, and the western boundary (wet woodland). Hedgebanks beyond the Site boundary to the south and west (within the wider study area) were also shown to be utilised frequently by bats.

7.4.22 **Desk Study:** The information returned from the ERCCIS included a number of records of bats from the local area. All records were returned as 4 digit grid references, although no records were returned from the grid square containing the Site (SW5636). The closest records of bat species were recorded from grid squares immediately surrounding grid square SW5636 and thus were on average returned from locations between 0.5km to 1km from the Site boundary. Bat species returned from these locations include Common

Pipistrelle (2009), Noctule (2011), Natterer's Bat *Myotis Nattereri* (2005) and Brown Long-eared Bat *Plecotus auritus* (2009).

Dormice

- 7.4.23 With the exception of a potential Dormouse nest recorded within a hedgebank in the wider study area during the surveys undertaken between September 2012 and July 2013 no other evidence of Dormice was discovered during the survey work undertaken.
- 7.4.24 **Desk Study:** No records of Dormouse were returned from the ERCCIS as part of the Datasearch process.
- 7.4.25 Given that no evidence of Dormouse was recorded, albeit none at all within the Site boundary, and that no records of Dormouse were returned from the local area it is not considered that the this species is present within the Site and no further consideration will be given in the writing of this Chapter.

Birds

- 7.4.26 The Site provides some potential opportunities for nesting and foraging birds in the form of rank grassland, hedgebanks, wet woodland and ponds. However given the majority of the Site undergoes an intensive agricultural regime opportunities for birds are limited, and as such the Site is not considered to be of particular importance to this group.
- 7.4.27 **Desk Study:** The information returned from the ERCCIS included a number of records of birds from the local area, the vast majority of which are of wader species returned from locations associated with the Hayle Estuary. Of those notable species, the closest records were of Red Kite *Milvus milvus* which was returned from the grid square containing the Site (SW5636) in 2008, and Lapwing *Vanellus vanellus*, which was returned from a location approximately 0.8km to the north of the Site. The next closest records were of Black-tailed Godwit *Limosa limosa*, Common Scoter *Melanitta nigra* and Long-tailed Duck *Clangula hyemalis* all of which were returned from the Hayle Estuary CWS and Carnsew Pool area (grid square SW5537) which is approximately between 0.5km and 1km to the northwest of the Site.

Reptiles

7.4.28 A small population of Slow-worms *Anguis fragilis* were recorded in the rank grassland fields in the north of the Site.

7.4.29 **Desk Study:** The information returned from the ERCCIS included a number of records of reptile species from the local area with the majority of records returned from the sand dune systems within Gwithian to Mexico Towans SSSI which is located 1.6km to the north of the Site boundary at its nearest point. The closest record was of a Common Lizard *Zootoca vivipara* which was returned from a location within Hayle approximately 0.7km to the northwest of the Site in 2005. The next closest record was of a Slow-worm which was returned from a location approximately 1.3km to the northwest of the Site in 2009.

Amphibians

7.4.30 No evidence of any amphibian species was recorded within the Site during the surveys undertaken in 2012 and 2013. There is no evidence to suggest that any protected or notable species would be present due to the intensive agricultural management regime undertaken at the Site.

7.4.31 **Desk Study:** A number of records of Common Toad *Bufo bufo* and Common Frog *Rana temporaria* were returned from the ERCCIS as part of the Datasearch process. The closest record for both species was returned from the same location, approximately 0.1km to the northwest of the Site in 2003.

Invertebrates

7.4.32 The habitats at the Site are likely to support a range of common invertebrate species, but there is no evidence to suggest that any protected or notable species would be present due to an intensive agricultural management regime.

7.4.33 **Desk Study:** The information returned from the ERCCIS included a number of records of Invertebrate from the local area. The closest of these records were all returned from a single location approximately 0.8km to the northeast of the Site boundary. The most

notable species returned from this location was of Coastal Pearl Moth *Mecyna asinalis* (2013) which is Nationally Notable.

7.5 Ecological Evaluation & Identification of Key Impacts (Pre and Post Mitigation)

- 7.5.1 This section identifies all potentially significant likely effects, both during construction and post construction (positive and negative), such that appropriate mitigation can be identified wherever necessary.
- 7.5.2 This assessment has been undertaken in line with the latest Masterplan to assess the impacts of the proposed development.

The Principles of Site Evaluation

- 7.5.3 The methods and standards for site evaluation within the British Isles have remained those defined in 'A Nature Conservation Review' by Ratcliffe (1977) (Reference 6). These are broadly used across the United Kingdom to rank sites, so priorities for nature conservation can be attained. Current SSSI designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.
- 7.5.4 In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within ecological/geographical units are also incorporated into the ranking procedure.
- 7.5.5 Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.
- 7.5.6 Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a

woodland type with comparatively poor species diversity, common in the south of England may be of importance at its northern limits, say in the border county.

- 7.5.7 In addition, habitats of local importance are often highlighted within a local Biodiversity Action Plan (BAP). The Cornwall BAP highlights a number of habitats and where these occur within the Site or the Wider Study Area, these are highlighted below.
- 7.5.8 Levels of importance can be graded at the international, national, regional, county or local level and in terms of low, medium or high value.

Designated Sites

Statutory Wildlife Sites

- 7.5.9 There are no statutory designated sites of nature conservation importance within or immediately adjacent to the Site.
- 7.5.10 The closest European Protected Site is Marazion Marsh SPA located approximately 5.9km to the southwest of the Site at its closest point. Given the distances involved and that the Site is separated by significant areas of open countryside and existing development (St Erth) it is not considered that there will be any adverse impacts on this European Protected Site as a result of the development. This is further bolstered by a consultation response received from Natural England (6th May 2015) whereby they hold no objection with regards to potential impacts on European Sites.
- 7.5.11 The closest statutory designated site is Hayle Estuary and Carrack Gladden SSSI, located approximately 0.6km to the northwest of the Site. The next nearest statutory designated site is Gwithian to Mexico Towans SSSI which is located 1.6km to the north. Both SSSIs are separated from the Site by minor roads, a railway line, and existing development (both residential and business parks).
- 7.5.12 SSSIs are of national importance for nature conservation and are designated under the Wildlife and Countryside Act 1981 (as amended) (Reference 7).
- 7.5.13 Given the relatively close proximity of these SSSIs to the Site, potential significant impacts considered include: increased noise or lighting leading to disturbance effects on faunal species; dust deposition leading to suppression of vegetation growth; degradation of habitats through contamination caused by deposition of chemicals / particulates from construction traffic; pollution / contamination of hydrological systems; and potential

disturbance to species arising as a result of increased recreational pressure within the designated sites corresponding from the anticipated increase in the local population.

- 7.5.14 Given the screening of existing development within Hayle and the presence of existing street lighting, no potential impacts on statutory designated sites from increased lighting have been identified during either the construction or operational phases. In relation to noise it is considered that given the current noise levels and screening there would be no potential adverse impacts on Hayle Estuary and Carrack Gladden SSSI. Gwithian to Mexico Towans SSSI is further removed from the Site and as such given the distances and screening of existing development, no lighting or noise impacts are expected.
- 7.5.15 With regards to dust deposition there is potential for vegetation within nearby designated sites to be impacted through dust amalgamation on leaves, however, it is important to note that impacts arising from dust particulates is usually only significant within 20m of the origin. As such, given the distance of these statutory designated sites it is unlikely that impacts from dust will arise.
- 7.5.16 It is apparent that the Site slopes downwards towards the north (i.e. towards Hayle Estuary and Carrack Gladden SSSI) and there is a hydrological link between the Site and this SSSI in the form of an existing stream. It is also noted that there will be a significant amount of soil disturbance across the Site during the construction phase in the form of subsoil stripping and infrastructure construction. This could not only increase the presence of suspended soil particulate within runoff but also lead to an increase in the volumes of runoff as a result of the removal of surface vegetation and topsoil. As such in the absence of any mitigation there is potential for adverse effects to arise as a result of contaminated run-off and nutrients entering watercourses and ultimately the Estuary.
- 7.5.17 Such effects of increased nutrient input would have impacts on birds by altering the nutrient composition of the mudflats, and hence alter the diversity and availability of the various prey species. The increase in suspended particles within the estuary could also have impacts on fish populations.
- 7.5.18 It is important to note, however, that as the Site is currently subject to an intensive agricultural regime there are likely to be significant levels of nutrient input into the nearby watercourses at the present time. As such any potential increase needs to be considered in the light of the current situation.
- 7.5.19 There is also potential for adverse impacts to arise through surface runoff during the operational phase, given that large areas of hard standing and roads are to be installed as part of the development proposals. Water runoff from roads may inevitably contain spillages of fuel and other contaminants from vehicle movements and, if not properly

treated, these could eventually enter the surface water system and onwards to contaminate the estuary. Such contaminants would impact the water quality of the estuary and reduce its capacity as a resource for the wildlife and habitats it supports.

- 7.5.20 Given that the development is for new residential development it will ultimately increase the size of the local population at Hayle by approximately 511 people (using the average number of people per household from the 2011 Census (2.3 people) (Reference 8) multiplied by 222 dwellings) and as such there is potential for the development to result in an increase in the recreational use of the SSSI. Whilst a larger population is likely to increase the number of daily visitors at the SSSI, it is important to note that access to the large majority of the SSSI is prohibited to both walkers and dogs, on account of the inaccessible nature of the mudflat and sandflat habitats it supports. These areas are not just unappealing to walk upon but also dangerous to traverse. Whilst walkers can access some areas of the SSSI, those areas that are of the highest importance to wintering and migrating bird populations (i.e. the reasons for the SSSI's designation) are essentially out-of-bounds. Those areas of the estuary, such as the estuary margins, which are cited to support notable plant species (Red Data Book plant species) are also relatively inaccessible.
- 7.5.21 Furthermore, the type of facilities that are available at the SSSI have been provided for visitors (hides and boundary footpaths). There is very little pedestrian access and no 'Nature Trails' associated within the main body of the SSSI. For example, those areas of the SSSI that are of particular value to rare vagrant bird species and exhibit rich and diverse flora, such as the south-westerly location (Lelant Water), do not have any footpaths that would encourage people to enter the estuary. There is one footpath which follows the boundary of the SSSI (The South West Coast Path) and only two footpaths which pass through the SSSI; a 1.6km circular footpath (Carnsew Pool Walkway) which encircles the man-made Carnsew Pool; and a short footpath which crosses the extreme eastern section of the SSSI (Copperhouse Pool).
- 7.5.22 Furthermore, it is noted that the RSPB Nature Reserves associated with the Estuary go so far as to promote the use of these walkways as a way of viewing and enjoying the wildlife. As such it is not considered that, in the event there is an increase in use of these footpaths, it will result in a significant increase in disturbance from recreational pressure,

particularly when birds will already be familiar with those areas frequented by humans and habituated accordingly. The locations of all footpaths are illustrated on Figure 7.2.

- 7.5.23 Given the nature of people likely to visit these sites (those with an interest in nature), increased use of hides is not likely to impact birds on account of the purpose of a hide being a location to watch birds discretely (unless the design of the hide is flawed).
- 7.5.24 Whilst the beaches (Porth Kidney Sands) of the SSSI are areas that can be more easily accessed by pedestrians the addition of 222 homes (a 5% increase in the human population) is unlikely to lead to a significant increase in the day-to-day usage of these beaches, particularly when the exposed nature of beaches means that any activity upon them is conspicuous, irrespective of the numbers of people.
- 7.5.25 Moreover, the estuary is of special importance for its wintering wildfowl and wading birds, however, the level of recreational use at these beaches is likely to be significantly lower over winter as opposed to summer, both in terms of the volume of people and the time spent on the beaches. People are thus unlikely to be present for long periods particularly into the evening hours and would be more likely to remain near to the high-tide mark. As such, it is considered that the potential for disturbance impacts will be negligible across the year, even more so over the winter months when the estuary is at its highest importance to birds.
- 7.5.26 Overall, it is considered that the Hayle Estuary and Carrack Gladden SSSI, in terms of its potential as a recreational resource, is more of a visual asset as opposed to a site that welcomes infinite opportunities for physical use. As such the small increase in the human population in the local area is not expected to lead to any adverse impacts on the SSSI. Whilst there might be an increase in the number of people viewing the SSSI from its boundaries, walking the beaches and using those footpaths available, it is not considered that recreational activity will be significantly greater than the current levels and in any event will be largely secluded from those important areas which contribute to the SSSI's value as a designated site.
- 7.5.27 Gwithian to Mexico Towans SSSI does provide some freedom for physical recreational use on account of the walkable terrain it supports and the number of footpaths it contains. However, its isolation from the Site (1.4km) reduces the likelihood of residents walking from the proposed development. Furthermore, given the location of the Copper House Pool area of the estuary (see Figure 7.2) there is no direct footpath route between the Site

and Gwithian to Mexico Towans SSSI and as such walking to the site would entail a 2.3km route around the estuary before the SSSI and its footpaths are even reached.

7.5.28 In addition to this, the vast majority of footpaths and bridleways that are immediately available from the boundaries of the Site (Bar View Lane and the Millpond / Penpol Stream) head in a southerly direction and thus away from both SSSIs. These two nearby public rights of way are significantly more convenient to access than the routes in close proximity to the Hayle Estuary and Carrack Gladden SSSI (those at Carnsew and Lelant Water). This will reduce the likelihood of people visiting the SSSI in the first instance both because routes are more easily accessed and because they are more immediately appealing (do not pass through the urbanised areas of Hayle). The locations of all footpaths are illustrated on Figure 11.2.

7.5.29 In summary, there is potential for effects upon the SSSI's as a result of recreational pressure, however, the severity of these impacts is considered to be very limited. This is considered on account of the following;

- Access within the Hayle Estuary and Carrack Gladden SSSI is restricted to a small number of areas rendering the vast majority of the SSSI inaccessible.
- Those facilities currently present within the Hayle Estuary and Carrack Gladden SSSI (footpaths and hides) have been provided in a non-invasive manner and are promoted by the RSPB as a way of viewing the wildlife.
- The Hayle Estuary and Carrack Gladden SSSI is of value to wintering birds and it is considered that the level of visitors over this key period will be limited.
- There is an extensive footpath network situated in close proximity to the Site. These will not only be easily accessible but will provide a wide variety of choice over routes in the surrounding countryside.

7.5.30 Overall, in absence of mitigation the potential for recreational impacts are not considered to be significant.

7.5.31 As a result of those remaining impacts mentioned, mitigation / avoidance measures will be required.

Impacts: *Contamination of hydrological systems during the construction phase through chemical spillages and ground works.*

Contamination of hydrological systems during the operational phase through runoff from impervious surfaces and increased nutrient deposition entering the estuary.

Potential (albeit limited) for an increase in recreational use resulting in disturbance.

7.5.32 Prior to mitigation / enhancement measures, impacts are at the **national level** and of **minor – moderate adverse significance**.

Mitigation:

Standard engineering protocols and best practice guidelines will be employed during the construction period, which will employ standards to prevent toxic or waste spillages during construction, e.g. bunding of fuel tanks on impervious surfaces and in the event spillages occur, preventing them from spreading through the use of spillage kits, absorbent booms and oil interceptors. Washing down of vehicles and storage of surplus, potentially contaminated water and construction materials will take place in designated areas. Method statements will be implemented to incorporate emergency procedures to deal with accidental spillages and leakages.

Soil erosion will be minimised in the first instance through the use of managed soil stripping during construction. In addition to this, further measures will be undertaken during construction to ensure that silt laden water runoff does not enter the stream along the western boundary, or any other local watercourse. Water will be collected into temporary site drainage and the silt accumulated by silt trips before being discharged. Saturated soil will be sufficiently drained through the use of stockpiling in allocated drainage areas before being disposed from the Site. Bunding and a filter drain system complete with catch-pits will be installed to prevent any erosion from these stockpiles from entering the local watercourses. All of these procedures will be accommodated by good construction site management to ensure continued efficiency and will be implemented through the provision of a Construction Environmental Management Plan (CEMP).

As outlined in the Hydrology Chapter, the development includes the use of an appropriately designed Sustainable Urban Drainage System (SuDS) management train, incorporating swales, soakaways and ponds. Surface run-off during the operation period will be directed towards these features and allowed to infiltrate, with swales and localised soakaways being the initial instrument of retaining runoff. Attenuation ponds will then form the next stage in water settlement where they will act to 'capture' suspended solids and potential nutrients. Treatment of fuel and oil will also take place in these ponds through biological processes. The SuDS will not only act as attenuation but will be designed to retain the first 10mm of rainfall, which

contains the highest quantities of pollutants, where possible. The ultimate outcome will be the removal of all contaminants from runoff such that none enter the nearby watercourses and ultimately the SSSI. The SuDS will be monitored in the long term to ensure their continued efficiency.

Water runoff from building roofs and other external areas will be directed to the below ground gravity network. Given this water is considered to be limited in contaminants, it will be discharged directly into the SuDS features. Silts will be prevented from entering the drainage system in the first instance through the use of gully traps, channels and silt traps. Runoff will then enter the attenuation ponds with outfall into the nearby local watercourses restricted to the agreed greenfield runoff rate. The silt traps and drainage infrastructure will be inspected regularly to monitor the potential for areas of significant silt build up and to ensure the continued operation at an efficient standard.

Extensive new areas of public open space will also be delivered as part of the development proposals, providing new residents with immediate 'on the doorstep' opportunities for informal recreation. Whilst there are not expected to be significant recreational impacts on the Hayle Estuary and Carrack Gladden SSSI, the addition of public open space will remove the need for people to search for other means of recreational resources further afield by providing 'on-the-doorstep' recreational opportunities. This will reduce the likelihood of people wanting/having to visit designated sites on a daily basis, for example when walking the dog. These areas of open space will provide footpaths of their own in addition to aesthetically pleasing scenery such as the ponds (including the SuDS features), newly planted grassland and trees with additional access to the wet woodland along the western boundary. The locations of these areas of open space will also allow for a greater range of choice in terms of walking routes available in the local area and provide ample connections with footpaths, including those that lead in a southerly direction.

7.5.33 Post mitigation measures, impacts are at the **national level** and of **no significance**.

Non-Statutory Wildlife Sites and Ancient Woodland

- 7.5.34 There are no non-statutory designated sites of nature conservation importance or parcels of ancient woodland within or adjacent to the Site.
- 7.5.35 The closest non statutory designated site is Hayle Estuary CWS which is located 0.3km to the northwest of the Site. Other non-statutory designated sites are located in excess of 1.3km of the Site boundary.
- 7.5.36 It is considered that there is potential for possible adverse effects on Hayle Estuary CWS as a result of dust deposition leading to suppression of vegetation growth and degradation of habitats through contamination caused by deposition of chemicals / particulates from construction traffic and pollution / contamination of hydrological systems. The potential for recreational disturbance on the Hayle Estuary CWS is negligible given that the site is inaccessible (largely comprising the estuary itself) and that any increase in activity in the surroundings is unlikely to be significantly higher than the current baseline levels.
- 7.5.37 Given the distances involved and the nature of the proposals, it is considered that there would not be any potential significant effects upon any other CWSs.
- 7.5.38 Given the screening of existing development within Hayle and the street lighting that will currently be in operation within the Town, no potential impacts from increased lighting have been identified during the construction or operational phases. In relation to noise it is considered that given the current noise levels (particularly along the railway line) and screening there would be no potential adverse impacts on this CWS.
- 7.5.39 As a result of those remaining impacts mentioned, mitigation / avoidance measures will be required.

Impacts: Dust deposition suppressing vegetation and contaminating the CWSs wet habitats during the construction phase.

Contamination of hydrological systems during the construction phase through chemical spillages and ground works.

Contamination of hydrological systems during the operational phase through leachate and increased nutrient deposition entering the CWS.

- 7.5.40 Prior to mitigation / enhancement measures, impacts are at the **county level** and of **minor – moderate adverse significance**.

Mitigation: Use of wheel washes during construction and operational phases.

Damping down techniques to be used during dry weather spells where unmade roads or cleared ground are present.

Appropriate and sensitive stockpiling of materials at all times using baffles, clamps or covers where necessary.

For mitigation measures with regards to hydrology and the prevention of contamination please refer to those measures proposed above for statutory designated sites which refer to the use of SuDS, appropriate drainage and construction guidelines of best practice. It is considered that the prevention of any suspended solids and nutrients from reaching the SSSI will, in doing so, also prevent them from entering and impacting upon the CWS.

7.5.41 Post mitigation measures, impacts are at the **county** level and of **no** significance.

7.5.42 The closest area of ancient woodland is Bosworgy Wood which is located in excess of 4km to the south of the Site boundary. Given this distance, it is not considered that the development proposals would result in any adverse effects on this Ancient Woodland.

Habitats

Agricultural Land

7.5.43 This is the dominant habitat within the Site and is also present throughout the wider area. On account of the negligible ecological interest of this habitat, losses are considered to be of no ecological significance. In any event new planting within the areas of open space will more than mitigate for this loss.

7.5.44 Impacts are of **no significance**.

Hedgebanks

7.5.45 There are a number of Hedgebanks present within the Site. Whilst the majority of these habitats are to be retained, around 250m of this habitat will be lost to the development proposals in the north of the Site to facilitate access. These hedgebanks are of limited ecological value on account that they are regularly managed and of species-poor quality (with fewer than 5 species per 30m). The vast majority of the hedgebank habitats present,

particularly the length of hedgebank which runs along the southern and western boundaries of the Site, will be retained in their entirety (Appendix 11.2).

- 7.5.46 For those hedgebanks that are to be retained, mitigation / avoidance measures will be required in respect of air quality, direct damage and hydrological impacts.

Impacts: *Loss of hedgebanks.*

Dust deposition suppressing vegetation during the construction phase, or during the operational phase.

Damage to the hedgebank (including the root systems) during the construction phase through machinery encroachment.

Contamination during the operational phase through leachate run-off.

- 7.5.47 Prior to mitigation / enhancement measures, impacts are at the **site level** and of **minor – moderate adverse significance**.

Mitigation: *New native hedgerow planting will be undertaken as part of the development proposals to mitigate for losses. Given that only 250m of hedgebank is to be lost it is considered that the provision of new hedgerows in the north and east of the Site (see Appendix 11.2) in addition to tree and shrub planting in areas of open space, particularly in the northeast corner and western boundary which contain a combined total area of approximately 1.13ha, will more than mitigate for this loss. Indeed there will be a net gain in the length of hedgerow across the Site and thus will be a significant enhancement over the existing situation.*

Retained hedgerows will also be subject to bolster planting using native species in order to enhance their structure and bird nesting value.

Use of wheel washes during construction and operational phases.

Damping down techniques to be used during dry weather spells where unmade roads or cleared ground are present.

Appropriate and sensitive stockpiling of materials at all times using baffles, clamps or covers where necessary.

The use of protective fencing to ensure that no damage comes to retained hedgebanks during the construction phase.

A SuDS scheme will be employed in the west of the site to ensure that all run-off is diverted to these areas and away from the remainder of the site.

All hedgerows will be subject to a management regime which promotes structural and floristic diversity. Details of this will be provided within an Ecological Management Plan.

- 7.5.48 Following mitigation / enhancement measures, impacts are at the **site level** and of **minor to moderate beneficial significance**.

Rank Grassland

- 7.5.49 There are two small fields in the north of the Site that are subject to very little management and as a result are heavily intermixed with Bramble scrub. Although species-poor, this habitat provides some opportunities for faunal species, including reptiles, and is therefore considered to be of some value at the site level.

- 7.5.50 All areas of rank grassland within the Site will be lost to the development proposals.

Impacts: Loss of grassland habitat which has some ecological value in the context of the site. This includes the two areas of rank grassland in the north (total area of approximately 0.66ha) and the centrally located area of rank grassland (total area of approximately 0.33ha).

- 7.5.51 Prior to mitigation / enhancement measures, impacts are at the **site level** and of **minor adverse significance**.

Mitigation: Provision of species-rich grassland (including both wildflower and wet grassland) in the areas of open space is proposed in the west and east of the Site (see Appendix 11.2). The total area of this habitat to be provided is approximately 1.13ha. Given that approximately 1ha of rank grassland is to be lost there will be a net gain in both the extent and quality of this habitat available as a result of the development.

Management of these grassland habitats to enhance their inherent ecological value and also ensure that their ecological value remains viable to a range of faunal groups in the long term. Overall there will be significant enhancements to the value of this habitat over the existing situation.

- 7.5.52 Following mitigation / enhancement measures, impacts are at the **site level** and of **minor to moderate beneficial significance**.

Scrub

7.5.53 As outlined above, areas of Bramble scrub are associated with the rank grassland fields in the north of the Site. Given the species poor quality of this habitat it is considered to be of very limited ecological significance.

7.5.54 All areas of scrub will be lost to the development proposals.

Impacts: *Loss of scrub habitat.*

7.5.55 Prior to mitigation / enhancement measures, impacts are at the **site level** and of **minor adverse significance**.

Mitigation: *Provision of new shrub planting of a range of native species in the areas of open space proposed in the west and east of the Site.*

Management of these habitats in the long term to ensure that a mosaic in habitat structure is maintained.

7.5.56 Following mitigation / enhancement measures, impacts are at the **site level** and of **minor beneficial significance**.

Ruderal Vegetation

7.5.57 Areas of ruderal vegetation are associated with the wet woodland habitat located in the west of the Site. On account of the species-poor quality of this habitat it has negligible ecological interest. In any event none of this habitat will be lost as part of the development proposals.

7.5.58 Impacts are of **no significance**.

Wet Woodland

7.5.59 A band of wet woodland is present within the damp valley in the west of the Site.

7.5.60 Under the development proposals all woodland will be retained, however, mitigation / avoidance measures will be required in respect of potential for direct damage, potential air quality and hydrological impacts which could arise.

Impacts: *Dust deposition suppressing vegetation during the construction, or during the operational phase.*

Contamination during the operational phase through leachate run-off.

Damage to the woodland (including the root systems) during the construction phase through machinery encroachment.

- 7.5.61 Prior to mitigation / enhancement measures, impacts are at the **site level** and of **minor to moderate adverse significance**.

Mitigation: *Standard engineering protocols and best practice guidelines will be employed during the construction period, which will employ standards to prevent toxic or waste spillages during construction, e.g. bunding of fuel tanks on impervious surfaces and in the event spillages occur, preventing them from spreading through the use of spillage kits, absorbent booms and oil interceptors. Washing down of vehicles and storage of surplus, potentially contaminated water and construction materials will take place in designated areas. Method statements will be implemented to incorporate emergency procedures to deal with accidental spillages and leakages.*

The SuDS and drainage scheme as outlined above will ensure that all run-off is diverted to specified water catchment areas and away from the remainder of the site. The location of these SuDS will intercept excess water from entering the wet woodland, thus preventing contamination and/or water logging of habitat features during the operational phase.

The use of protective fencing to ensure that no damage comes to retained woodland during the construction phase. These will be undertaken to best standards with areas sectioned off as inaccessible to personnel on site.

New native tree planting will be undertaken as part of the development proposals within the 1.13ha area of open space. These areas will be managed in the long term to ensure their viability to a range of faunal groups. Given that no woodland is to be lost this will be a significant enhancement over the existing situation.

- 7.5.62 Following mitigation / enhancement measures, impacts are at the **site level** and of **minor – moderate beneficial significance**.

Stream and Ponds

- 7.5.63 A small stream flows through the damp valley bottom in the west of the Site.
- 7.5.64 The stream will be retained within the wet woodland as part of the development proposals. Mitigation / avoidance measures will be required in respect to the potential for contamination of the streams hydrology from air and water.

Impacts: *Dust deposition within the stream as a result of vehicle movements and stock piles during the construction phase.*

Contamination during the operational phase through leachate run-off.

Contamination during the construction phase through chemical spillages and ground works.

7.5.65 Prior to mitigation / enhancement measures, impacts are at the **site level** and of **minor – moderate adverse significance**.

Mitigation: *Use of wheel washes during construction and operational phases.*

Damping down techniques to be used during dry weather spells where unmade roads or cleared ground are present.

Appropriate and sensitive stockpiling of materials at all times using baffles, clamps or covers where necessary.

Contractors will be made aware of the location of the stream and ponds.

For mitigation measures with regards to hydrology and the prevention of contamination please refer to those measures proposed above for non-statutory designated sites which refer to the use of SuDS, appropriate drainage and construction guidelines of best practice. Such measures will ensure the prevention of any suspended solids and nutrients from reaching the nearby watercourses.

Banks of SuDS ponds are to be designed and maintained in a way to attract wildlife. The edges of the ponds will be shallow sloping and vegetated to provide ecological benefits, whilst maintaining a permanent pool will ensure they remain fit for purpose. The shallow zone (aquatic bench) will also provide benefits to ecology by creating appropriate foraging grounds of varying depths for a range of faunal species.

Where possible, the existing ponds on site will be managed to increase their value to wildlife through appropriate planting and re-grading of marginal habitat. Where areas of the existing ponds are to be lost, for reasons of health and safety for example, then new ponds will be created of comparable size and in suitable locations. Appropriate planting, to benefit a range of faunal species will include: Water Plantain Alisma plantago-aquatica, Water Mint Mentha aquatica, Water Forget-me-not Myosotis scorpioides, Fool's Water-cress Apium nodiflorum, Spiked Water Milfoil Myriophyllum spicatum and Common Reed Phragmites

australis where appropriate. Pond margins will be profiled to increase their value to faunal species by offering easy access to the water.

- 7.5.66 Following mitigation / enhancement measures, impacts are at the site level and of minor – moderate beneficial significance.

Impacts on Protected Species

Badgers

- 7.5.67 **Legislation.** The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain, with particularly high populations in the southwest.
- 7.5.68 As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of a Badger sett an offence. A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. ‘Current use’ is defined by Natural England as any use within the preceding 12 months.
- 7.5.69 In addition, the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting ‘cruel ill treatment’ of a Badger.
- 7.5.70 Work that disturbs Badgers is illegal without a licence. Natural England has developed guidelines on the types of the activity, which it considers should be licensed for certain operations within close proximity to sett entrances. For example; using machinery or excavating within 20m of a sett, may require a licence.
- 7.5.71 Local Authorities are therefore obliged to consult Natural England over any application which is likely to adversely affect Badgers.
- 7.5.72 **Activity.** Badger footprints were observed along the western edge of the site at the boundary of the agricultural fields and within the damp valley. No setts were discovered within the Site during the surveys undertaken.
- 7.5.73 Given the presence of footprints on site, it is likely that the site is visited on occasion by Badgers, however, the lack of other evidence (such as foraging signs, latrines and setts) suggests that the Site is not of any key importance for this species.

Impacts: *Possible increase in traffic related mortalities as a result of the increased traffic movements associated with the new development in its operational form.*

Potential harm to Badgers during the construction phase as a result of the absence of safeguards in relation to onsite hazards such as open trenches and stockpiled materials.

7.5.74 Pre-mitigation, impacts are **adverse** at the **county level** and are of **minor significance**.

Mitigation: *All hedgebanks that are to be retained will be protected through the instalment of protective fencing. This will ensure that potential Badger foraging and commuting habitat is not fragmented during the construction phase.*

Further check surveys will be undertaken ahead of any development proposals to confirm the status of Badgers on site. In the unlikely event that an active sett is found, then a Natural England licence may be required to cover the sett closure or potential disturbance to badgers.

Speed restrictions will apply to roads within the Site both during the construction phase and operation. This will reduce the possibility of Badger fatalities through traffic movements during both phases.

Any trenches left open over-night will have a means of escape for Badgers provided (e.g. a wooden board will be placed into the excavation, at an angle). Contractors will be made aware of the potential presence of Badgers in the area.

Stock piled materials will be checked regularly for any signs of digging by Badgers and where considered appropriate, such piles will be covered to dissuade Badgers from digging.

Although no key Badger foraging habitat will be lost to the development proposals (agricultural land is considered to offer only limited opportunities), suitable foraging and commuting areas will be available to Badgers during the operational phase. The areas of open space proposed along the western boundary of the Site (indeed where the footprints were recorded) will be planted with species-rich grassland and fruiting shrub species. This will be a significant enhancement over the existing situation given the relative lack of such habitats currently on site.

7.5.75 Post mitigation, impacts are **beneficial** at the **county level** and of **minor significance**.

Bats

7.5.76 **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and

Species Regulations 2010 (as amended) ("the Habitats Regulations"). These include provisions making it an offence to:

- Deliberately kill, injure or take (capture) bats;
- Deliberately disturb bats in such a way as to be likely to significantly affect:
 - the ability of any significant group of bats to survive, breed or rear or nurture their young; or to hibernate; or
 - to affect significantly the local distribution or abundance of the species concerned;
- Damage or destroy any breeding or resting place used by bats;
- Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).

7.5.77 The words 'deliberately' and 'intentionally' include actions where a court can infer that the defendant knew 'the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.

7.5.78 The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

7.5.79 European Protected Species licences are available from Natural England in certain circumstances, and permit activities that would otherwise be considered an offence.

7.5.80 Barbastelle, Bechstein *Myotis bechsteinii* and Horseshoe bats *Rhinolophus* sp. are UK Priority Species.

7.5.81 **Activity.** No trees or buildings were found to support roosting bats during the course of the specific bat surveys undertaken within the Site.

7.5.82 The hedgebanks, rank grassland areas and woodland within the Site are utilised by a range of bat species for foraging and navigational purposes. As such, the Site is considered to be of some value for this group.

7.5.83 A small fraction of these habitats (areas of rank grassland and 250m of the hedgebank) will be lost to the development proposals, although the large majority of those key habitats (remaining hedgebanks, woodland, ponds and stream) will be retained.

7.5.84 The Development Proposals could have an impact on foraging and commuting bats within the Site through an increase in artificial lighting.

Impacts: *Potential disturbance to foraging and commuting corridors from lighting associated with the Development Proposals during the construction and operational phases.*

Some losses to foraging and commuting habitat, in the form of the rank grassland fields and hedgebanks during the construction phase.

- 7.5.85 As no roosts are considered to be present, and as suitable foraging habitat exists adjacent to the Site and within the wider landscape, prior to mitigation impacts are predicted to be **negative** at the **national level** and of **minor adverse significance**.

Mitigation: *The vast majority of existing foraging and commuting habitats for bats including features such as wet woodland, hedgebanks, stream and ponds are to be fully retained within the Development Proposals.*

New tree planting will be undertaken within the Site as part of the development proposals. This will increase roosting and foraging opportunities for bats in the long term.

The creation of SuDS and the potential enhancement of ponds and wetland habitat associated will serve to increase invertebrate numbers and hence foraging opportunities for bats.

A large area of open space is proposed around the SuDS features in the west of the Site. This area will be planted with native tree and shrub species in addition to wet and wildflower grassland. This will provide a range of foraging opportunities for bat species.

*Artificial lighting is known to deter some species of bats from using their usual foraging areas. However, bats such as Noctule, Leisler's *Nyctalus leisleri*, Serotine *Eptesicus serotinus* and Pipistrelle sp. swarm around mercury street lights and high-pressure sodium lights feeding on the insects, i.e. the presence of lights can in fact encourage foraging bats. In any event a sympathetic lighting scheme will be employed whereby the areas of open space, hedgebanks and wet woodland edges are to remain unlit to provide dark areas and corridors suitable for a range of foraging and commuting bat species. This will be enforced during the construction and operation phases.*

In addition, bat boxes are to be erected throughout the Site on newly planted and retained trees to provide roosting opportunities for bat species in the area. This will provide a significant enhancement over the current situation and will be undertaken ahead of the operational phase in order to ensure immediate benefits to this group are met.

- 7.5.86 Post mitigation, impacts are **positive** at the **national level** and of **minor to moderate** significance.

Reptiles

7.5.87 **Legislation.** All six British reptile species receive a degree of legislative protection that varies depending on their conservation importance.

7.5.88 Rare, endangered or declining species receive 'full protection' under the Wildlife and Countryside Act 1981 (as amended) as well as protection under the Conservation of Habitats and Species Regulations 2010 ("The Habitats Regulations"; as amended). Species that are fully protected include Smooth Snake and Sand Lizard. These receive protection from:

- killing, injuring, taking;
- possession or control (of live or dead animals, their parts or derivatives);
- damage to, destruction of, obstruction of access to any structure or place used for shelter or protection;
- disturbance of any animal occupying such a structure or place;
- selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).

7.5.89 By contrast, due to their abundance and more cosmopolitan habitat requirements in Britain, Common Lizard, Slow Worm, Grass Snake and Adder are only 'partially protected' under the Wildlife and Countryside Act 1981 (as amended) and as such only receive protection from deliberate killing and injuring or being sold or other forms of trading.

7.5.90 The habitat of common reptiles receives no legal protection.

7.5.91 **Activity.** A small Slowworm population (max count of 3 individuals) was recorded within the rank grassland and scrub in the north of the Site during the surveys undertaken.

7.5.92 The development proposals will result in the loss of this reptile habitat and therefore mitigation measures (in the form of a translocation exercise and habitat creation) are necessary to ensure no harm comes to reptiles.

Impacts: *Loss of all suitable reptile habitat.*

7.5.93 Impacts are **negative** at the **national level** and of **moderate** adverse significance.

Mitigation: *Given the known presence of reptiles within the Site, it is recommended that this population is translocated to a suitable receptor site (preferably onsite) prior to any development works taking place within the areas of rank grassland in the north. The translocation exercise would be undertaken with regard to best practice and guidance.*

With regard to guidance and best practice guidelines, receptor areas should contain sufficient suitable habitat for the relocated population/s and have no, or low, existing populations of species being relocated. As a rule of thumb, the size should be equal to the area of habitat being lost. However, it is possible to increase the carrying capacity of a receptor area through habitat enhancements and construction of artificial hibernacula. Thus, in providing habitat of greater quality it is possible to provide a reduced area of receptor habitat.

In this instance, suitable reptile habitat (matrix of species-rich grassland, scrub and waterbodies) will be provided in the west of the Site within the areas of open space proposed. This area of open space (1.13ha) will be greater than the combined areas of reptile habitat that is to be lost (1ha) and will be of much higher quality through the provision of species-rich grassland and hibernacula. This will impose a significant enhancement over the existing situation.

All receptor areas will be subject to long term management initiatives which retain and enhance their value to reptiles over time.

7.5.94 Post mitigation, impacts are positive at the **national level** and of **moderate beneficial significance**.

Birds

7.5.95 On account of the habitats present, there are potential opportunities for common bird species within the Site. That said, the majority of habitats that are likely to be of particular value to birds (wet woodland, hedgebanks, stream and ponds) are being retained as part of the development proposals.

Impacts: *Short-term disturbance to nesting birds and potential to damage or destroy nests during site clearance work or through encroachment of machinery.*

Short and long-term disturbance to nesting bird populations from light pollution where a lighting scheme illuminates areas of potential nesting habitat.

7.5.96 Pre-mitigation, impacts are **negative** at the **local level** and are of **minor significance**.

Mitigation: *In order to safeguard any nesting bird species, potential nesting habitat (hedgebanks, scrub and woodland) will be fenced during construction works where necessary.*

Where hedgebank is to be removed and in the unlikely event that any scrub and tree clearance work needs to be undertaken, this will be done

outside of the main breeding season (March - July inclusive). Should this not be possible, potential nesting habitat will be subject to a check survey by an experienced ecologist immediately prior to its removal. Should an active nest be found, a suitable buffer will be established around the nest and kept in place until the young have fledged.

The provision of new tree / shrub planting proposed throughout the open space in the west of the Site will provide improved nesting opportunities for many bird species. Planting will be of a native species mix with the emphasis on berry/seed bearing varieties that will provide foraging opportunities in the future.

The creation of SuDS in the west and the potential enhancement of ponds and wetland habitat will serve to increase foraging opportunities for some bird species reliant upon these habitats within the Site.

The vast majority of the Site (including areas of open space, hedgebanks and woodland edge habitat) will remain unlit and lighting in general is to be designed to minimise impacts on ecological features.

In addition, a variety of styles of nest boxes will be erected throughout the areas of open space (on suitable trees) within the Site. These will provide further breeding opportunities for a range of different bird species. With the use of various types of nest boxes there is an opportunity to attract species that are currently absent. This will provide a significant enhancement over the current situation and will be undertaken ahead of the development in order to ensure immediate benefits to this group.

7.5.97 Following mitigation, impacts are **positive** at the **local level** and of **minor significance**.

Invertebrates

7.5.98 **Activity.** Given the agricultural setting and intensive management currently enforced upon the Site it is considered that no protected or notable invertebrate species are likely to be present. All those habitats that are likely to be of value to invertebrates, namely the hedgebanks, wet woodland, stream and ponds will be retained as part of the development proposals. Therefore only a small minority of potential invertebrate habitat (scrub and grassland mosaic in the north of the Site) will be lost to the development proposals.

Impacts: *Loss of habitat suitable for common invertebrate species during the construction phase.*

7.5.99 Impacts are negative at the site level and of minor significance.

Mitigation: *Retention of deadwood within the retained wet woodland to benefit saproxylic invertebrate species.*

New wetland in the form of SuDS features and pond enhancement will provide enhanced habitats for aquatic invertebrates within the Site.

New tree planting and species rich grassland creation in areas of open space in the west of the Site, coupled with appropriate management will benefit a wide range of invertebrate species as part of the development proposals.

7.5.100 Following mitigation, impacts are **positive** at the **local level** and of **minor significance**.

Overall Ecological Impact

7.5.101 Overall, the Development Proposals will have a negligible impact on habitats or fauna given the limited value of the majority of land within the Site that is to be lost. Those habitats that are to be retained, namely the hedgebanks, wet woodland, stream and ponds, are of relevant ecological importance in the context of the site and are known to be of value to a range of species.

7.5.102 As part of the development proposals, new habitats will be created within the Site. These include species rich wildflower grassland, species rich wet grassland, tree planting, SuDS ponds and wetland areas. These measures will aim towards an increase in the biodiversity value of the Site, which is currently poor on account of its agricultural use, and will help towards the aims of the biodiversity action plan for Cornwall and the UK.

7.5.103 In addition, all effort has been made to ensure that protected or notable species present within the Site will be maintained in the long-term at a favorable conservation status.

7.5.104 Overall, impacts following mitigation and enhancements recommended within this report are **positive** and of **minor to moderate beneficial significance**.

7.6 Residual Impacts

Statutory Designated Sites

- 7.6.1 All potential impacts on statutory designated sites, whether a result of light, noise, air pollution, hydrological contamination and recreational pressure, have been assessed within this Chapter. Following the mitigation measures proposed there are predicted to be no residual adverse impacts on any statutory designated site as a result of the Development Proposals.

Non Statutory Designated Sites

- 7.6.2 There are predicted to be no residual adverse impact on any non-statutory designated site as a result of the Development Proposals.

Habitats

- 7.6.3 There are predicted to be no significant residual adverse impact on habitats as a result of the Development Proposals.
- 7.6.4 There is predicted to be an increase in the quality and diversity of habitats present within the Site. The significance of these impacts will be on a minor – moderate positive scale at the local level.

Fauna species

Bats

- 7.6.5 Following implementation of appropriate mitigation, the residual impact of the Development Proposals upon this group within the Site is predicted to be an increase in the quality of suitable foraging opportunities through habitat creation and enhancement. The significance of these impacts will be on a minor positive scale at the national level.

Birds

- 7.6.6 Following implementation of appropriate mitigation, the residual impact of the Development Proposals upon this group within the Site is predicted to be an increase in the quantity and quality of suitable habitat through habitat creation and enhancement. The

addition of SuDS features will provide habitats for a range of species including wading birds. The significance of these impacts will be on a minor positive scale at the local level.

Reptiles

- 7.6.7 Following implementation of appropriate mitigation, the residual impact of the Development Proposals upon this group within the Site is predicted to be an increase in the quantity and quality of suitable habitat. Reptiles are to be translocated across the site and released in habitat that is of higher quantity and quality than currently present. This habitat will be managed to ensure the prosperity of reptiles on site in the long term. Overall there will be a significant enhancements over the existing situation. The significance of these impacts will be on a moderate positive scale at the local level.

Invertebrates

- 7.6.8 After implementation of appropriate mitigation, the residual impact of the Development Proposals upon this group within the Site is predicted to be an increase in the quantity and quality of suitable habitat through habitat creation and enhancement (grassland and pond / wetland creation). The benefits this will have on invertebrate populations will provide foraging opportunities for a range of other faunal groups. The significance of these impacts will be on a minor positive scale at the local level.

Other species

- 7.6.9 After implementation of appropriate mitigation and enhancement measures, there is predicted to be an increase in the quantity and quality of habitats available to other species not currently present within the Site. As each faunal group benefits from the enhancement measures proposed the prosperity for biodiversity across the site will increase overall. The significance of these impacts will most likely be on a minor positive scale at the local level.

Cumulative Impacts

- 7.6.10 There are not deemed to be any significant cumulative impacts resulting from the development in light of other local developments. The mitigation measures for the Site

have been designed to offset any perceived impacts. There would be no residual adverse impacts, thus negating any accumulation of such impacts.

7.6.11 With regards to Statutory and Non-statutory designated sites and Ancient Woodland appropriate mitigation measures (where required) would be brought forward in the event any potential adverse impact are identified in relation to these other development schemes. In any event, on the basis that the development at the site would not result in an impact (positive or negative) on any designated site there would be no significant cumulative effects.

7.6.12 With regards to protected species appropriate mitigation and enhancements have been considered in order to maintain and enhance foraging, navigational, refuge and nesting/roosting opportunities for a range of faunal groups, including those yet to be recorded onsite. Thus, as it has been previously concluded, there would be a beneficial impacts for all of these groups ranging from minor to moderate significance.

7.7 Planning Policy Context

7.7.1 The relevant planning policy framework that relates to nature conservation in Hayle, Cornwall is currently issued nationally through National Planning Policy Framework (NPPF) and locally through the Penwith District Local Plan and the Cornwall Local Plan Strategic Policies (2010-2030). Any proposed development will be judged in relation to the policies contained within these documents.

National Policy

National Planning Policy Framework (NPPF) (March 2012)

7.7.2 The National Planning Policy Framework (NPPF) sets out the Government's requirements for the planning system.

7.7.3 The key element of the NPPF is that there should be '*a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking*' (paragraph 14). It is important to note that this presumption '*does not apply where development requiring Appropriate Assessment under*

the Birds or Habitats Directives is being considered, planned or determined' (paragraph 119).

- 7.7.4 The NPPF also considers the strategic approach which Local Authorities should adopt with regard to the protection, enhancement and management of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.
- 7.7.5 Paragraph 118 of the NPPF comprises a number of principles which Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential SPAs, possible SACs, listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or deterioration of 'irreplaceable' habitats unless the need for, and benefits of, the development in that location clearly outweigh the loss.
- 7.7.6 National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

Local Policy

Penwith District Local Plan (2004)

- 7.7.7 The Penwith District Local Plan was adopted in February 2004, and a number of policies from this document were "saved" by the Secretary of State in September 2007. A number

of these saved policies are relevant to biodiversity and nature conservation and these are reproduced below.

- 7.7.8 **Policy CC-1** development will not be permitted where it would significantly harm the landscape character, amenity, nature conservation, archaeological, historic or geological values of the coast and countryside of Penwith.
- 7.7.9 **Policy CC-2** proposals which maintain, enhance and facilitate the enjoyment and understanding of landscape character, amenity, nature conservation, archaeological, historic and geological values in the coast and countryside will be permitted.
- 7.7.10 **Policy CC-4** proposals for development conflicting with the objective to conserve and enhance the natural beauty of the heritage coast will not be permitted.
- 7.7.11 **Policy CC-5** development will not be permitted where it would cause significant harm to the character and amenity of the areas of great landscape value.
- 7.7.12 **Policy CC-6** proposals for development which would significantly harm the integrity of a designated or candidate special area of conservation, or a designated or proposed special protection area, or which would conflict with the conservation objectives for such a site will not be permitted.
- 7.7.13 **Policy CC-7** proposals for development which would significantly harm the nature conservation value or geological interest of a site of special scientific interest will not be permitted.
- 7.7.14 **Policy CC-8** development will not be permitted where it would significantly harm the nature conservation or geological interest of areas of great scientific value, county wildlife sites, county geological sites, ancient woodland sites and local nature reserves. Where development is permitted any impact on such values must be minimised and conditions will be imposed, or a planning obligation sought, to ensure that mitigating measures are undertaken.
- 7.7.15 **Policy CC-9** proposals for development which would cause significant harm to a protected species or its habitat will not be permitted.
- 7.7.16 **Policy CC-10** proposals for development which would have a significant adverse effect on the integrity or continuity of landscape features and habitats of major importance for wild flora and fauna will not be permitted. Where development which would have a more limited adverse effect is permitted, damage to nature conservation values must be minimised and where appropriate a planning obligation will be sought to ensure that

compensatory measures are undertaken to retain the continuity or integrity of the features or habitats.

7.7.17 **Policy CC-11** the creation and management of landscape features and habitats which are of major importance for wild flora and fauna will be encouraged by:-

- management agreements with landowners and occupiers; and
- establishing local nature reserves.

7.7.18 **Policy CC-12** proposals for development which would result in the loss or damage to trees, woodland, hedgerows and Cornish hedges which make a significant contribution to the character of the landscape and nature conservation will not be permitted.

7.7.19 **Policy CC-13** tree planting and hedgerow schemes which are in keeping with the character of the landscape will be acceptable subject to:-

- the use of native species where appropriate and
- appropriate aftercare and management measures.

7.7.20 **Policy CC-14** proposals for development which would have a significant adverse effect on the shoreline or adjacent coastal waters in terms of its landscape character, amenity, nature conservation, archaeological, historic and geological values will not be permitted.

Cornwall Local Plan, Strategic Policies (2010-2030)

7.7.21 Policy guidance concerning development and nature conservation at the local level is also provided within the Cornwall Local Plan Strategic Policies (2010-2030).

7.7.22 Policy 23 within this document refers to the Natural Environment. This policy states that development proposals will need to sustain Cornwall's local distinctiveness and character to

protect and enhance Cornwall's natural environment according to their international, national and local significance. The following measures need to be taken into account:

- 7.7.23 Development should be of an appropriate scale, mass and design such that the distinctive a diverse landscape character and coastline of Cornwall is not affected.
- 7.7.24 That any proposals within The Cornwall and Tamar Valley Area of Outstanding Natural Beauty (AONB) conserves and enhances the natural beauty and special qualities of the AONB.
- 7.7.25 That terrestrial and marine biodiversity is conserved, specifically ensuring that with direct and cumulative impacts under consideration a developer should;
- Protect international, national and locally designated sites for nature conservation from inappropriate development. This includes the use of appropriate buffer areas and provision made for their management with reference to up to date evidence and management plans.
 - Conserve, protect and enhance features of biological interest and provide for their appropriate management.
 - Ensure that there is no net loss of existing biodiversity and that a net gain in biodiversity is met by ensuring and unavoidable impacts are appropriately mitigated and/or compensated for.
- 7.7.26 Regard the importance of habitats identified in the South West Regional Nature Map and contribute to the creation of a local and regional biodiversity network of wildlife corridors and local wildlife sites. This includes helping to deliver the actions set out in the Cornwall Biodiversity Action Plan.
- 7.7.27 Where development will result in loss, the Council will seek appropriate and proportionate mitigation and/or compensation such as replacement habitats



Discussion

7.7.28 It is considered that following the recommendations in this report, the Development Proposals associated with the Site, would fully accord with all levels of planning policy. Development of the Site would not result in any significant impacts on any designated sites for nature conservation (statutory or non-statutory) or any other notable / protected habitats or species. There are no issues, which have been identified which would provide a constraint to the proposals from an ecological perspective and as such it is considered that the Development Proposals would not contravene any relevant planning policies relating to ecology and nature conservation.

7.8 Summary & Conclusions

- 7.8.1 Ecology Solutions was commissioned by Linden Homes to prepare the Ecology Chapter of the ES in respect of proposals associated with Penpol, Hayle, Cornwall.
- 7.8.2 Previous surveys were undertaken within the Site by Richard Green Ecology Ltd in 2011, 2012 and 2013. The methodology and findings of these surveys are outlined within an EcIA which is included at Appendix 11.1. Relevant information within this document was referred to when writing this Chapter, with further information obtained through consultation with the recognised bodies involved in nature conservation in the local area.
- 7.8.3 There are no sites of international importance such as SPAs or SACs within close proximity to the Site or wider Study Area, the closest being Marazion Marsh SPA which is located approximately 5.9km to the southwest of the Site.
- 7.8.4 There is one SSSI which is in relative close proximity to the Site, namely Hayle Estuary and Carrack Gladden SSSI which is located approximately 0.6km to the northwest. The next closest statutory designated site, which is designated for nature conservation interest reasons, is Gwithian to Mexico Towans SSSI which is located approximately 1.6km to the north of the Site boundary.
- 7.8.5 Impacts upon these SSSIs as a result of the development proposals at the Site have been assessed within this Chapter. Regard has been given to potential impacts relating to aspects such as noise, light and air pollution, hydrological contamination, nutrient input and recreational pressure. Following the appropriate mitigation measures proposed there are not considered to be any overriding residual impacts on these sites as a result of the development proposals at the Site.
- 7.8.6 The closest non statutory designated site is Hayle Estuary CWS which is located 0.3km to the northwest of the Site. The potential for impacts on this CWS as a result of the development proposals at the Site have been assessed within this Chapter with particular focus on increased recreational pressures and the potential for nutrient input. Following the mitigation measures put forth there are not considered to be any overriding residual impacts.
- 7.8.7 Other non-statutory designated sites are located in excess of 1.3km of the Site boundary and are too well removed to be affected by the proposals.
- 7.8.8 Habitats identified within the Site boundary are of limited intrinsic ecological value on the basis that the large majority of the site comprises intensively managed agricultural fields. Additional habitats present within the Site include hedgebanks, wet woodland, scrub, rank grassland, a stream and ponds. Whilst these habitats are of greater ecological value in the

context of the site, the vast majority of them are to be retained as part of the development proposals.

- 7.8.9 The Site is considered to be of value to foraging bats, nesting birds and common reptile species (Slowworm). Whilst potential evidence of Dormice was recorded within the Wider Study area given the survey effort, the lack of records returned from the local area by the ERCCIS and the relative species-poor quality of those habitats available, it is not considered that a population is utilising the Site. The Site may be of value to some common invertebrate species, though there is no evidence to suggest that it would be of value to any notable species.
- 7.8.10 With the implementation of the mitigation strategy detailed in this Chapter, there are predicted to be no adverse impacts upon any statutory or non-statutory designated site as a result of the Development Proposals.
- 7.8.11 The impact of the Development Proposals on habitats within the Site boundary, is predicted to be a loss of habitat, the majority of which is of negligible value to wildlife. For those habitats that are of higher ecological value in the context of the site, potential adverse effects are considered to be limited. These relate to minor losses through machinery encroachment during construction, and the suppression of vegetation through dust and hydrological contamination during both the operation and construction phases.
- 7.8.12 Post-mitigation, the impacts of the Proposed Development on habitats are predicted to be a permanent loss of some habitat of low intrinsic ecological value (agricultural land and rank grassland) but an increase in the quantity, quality and diversity of habitats present within the Site. These will be delivered as part of the areas of open space and will include significant areas of habitat creation / enhancement and appropriate management.
- 7.8.13 New habitats will be created within the Site and include the creation of; ponds and wetland planting (SuDS), tree planting and species-rich grassland creation (areas of open space). Losses to the rank grassland and scrub habitats in the north of the Site will be fully mitigated for through the provision of larger areas of species-rich grassland within the areas of open space of both greater quantity and quality. Such areas will also fully accommodate for the translocated reptile population and provide significant enhancements for the loss of suitable reptile habitat (rank grassland) within the Site.
- 7.8.14 The impact upon faunal species on site, pre-mitigation, is predicted to be a temporary loss of all suitable habitat for some species (reptiles) and the spatial disturbance to the

remaining areas of habitat during construction which are of value to other species (Badgers, bats, birds and invertebrates).

- 7.8.15 With the implementation of appropriate mitigation, there are not considered to be any predicted residual impacts upon any faunal species with the ultimate outcome being a significant positive enhancement. This will be achieved through habitat creation, enhancement and appropriate management. The measures proposed have potential to provide opportunities for other species / groups not currently present within the Site and thus boost its biodiversity value overall.
- 7.8.16 Taking into account possible impacts and off-setting these, where appropriate, with appropriate mitigation and enhancement measures, the Development Proposals comply with environmental policies contained within all relevant planning policy.
- 7.8.17 Proposed ecological enhancements act towards achieving aims for habitat and species contained within both the National and Cornwall BAP.
- 7.8.18 In conclusion, all relevant ecological issues have been addressed within this ES Chapter. On the evidence of the specific ecological surveys, and with the implementation of avoidance, mitigation and enhancement recommended in this report, the impact of the Development Proposals upon the natural environment will be a loss of semi-natural habitat of low ecological value. However habitat creation, enhancement and management on site will more than offset this loss in the long term and will result in new habitats of greater quantity and ecological value being present following the development. The net impact is therefore predicted to be a long-term increase in the ecological value of the site and biodiversity overall. Furthermore, there are not expected to be any overriding impacts as a result of recreational pressure on any of the nearby designated sites, and appropriate mitigation measures have been provided to ensure there are no impacts from nutrient input on the Hayle Estuary and Carrack Gladden SSSI. On this basis, there is no justifiable ecological reason why the Development Proposals could not come forward and a consent be granted.



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7. HM Government, (1981); *Part I and Part II of Wildlife and Countryside Act (as amended)*. HMSO.
8. Cornwall Council, Community Intelligence Team (2013). 2011 Census An overview of the headline figures for Cornwall.

8.0 Landscape & Visual Impact

8.1 Introduction

- 8.1.1 The aim of this chapter is to establish if there would be any adverse landscape and visual effects as a consequence of the development proposals, and to identify any mitigation measures necessary. In order to assess these effects, a Study Area extending up to 5km from the site boundary was considered, together with a smaller Site and Surrounds Area within which more local effects were investigated. These areas are shown on Figures 8.1 and 8.2.
- 8.1.2 In the terms used in this chapter, landscape effects are changes to the fabric and features of the landscape resource, while visual effects arising from a proposed development can be defined as changes to the appearance of the site when viewed from the local area. The landscape and visual assessments are separate though linked procedures. Landscape assessment is concerned with identifying and assessing the importance to be placed on the landscape characteristics, landscape quality and condition of the landscape. Visual assessment aims to assess the extent of visibility of a development, the perception of viewers and visually sensitive receptors. Landscape impacts derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced. This may, in turn, affect the perceived value ascribed to the landscape. Visual impacts relate to the changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes, and to the overall impacts with respect to visual amenity.
- 8.1.3 The assessment addresses three topics: it firstly identifies the existing baseline situation in relation to views and the appearance of the site; secondly it identifies those aspects of the proposals and construction activities that are likely to impose landscape and visual effects on the baseline situation, chiefly by the selection and analysis of representative 'key viewpoints', chosen to represent impacts on the local area; and thirdly it identifies the potential magnitude and significance of these effects, and proposes mitigation measures to address these. The location of the site, its area and its present configuration is described at the beginning of this chapter.
- 8.1.4 Wherever possible, tables or matrices are used (linked with the illustrative plans), so that the landscape and visual impacts are recorded and quantified in a systematic and logical manner. Consideration is given to the impacts on completion of the development (classified

as “Year 1” at completion, and Residual (15 years post completion), so that the residual impacts of the development after mitigation are identified.

- 8.1.5 Landscape and visual impact assessments may also be different from other specialist studies because they are generally undertaken by professionals who are also involved in the design of the landscape and the preparation of subsequent management proposals. This can allow the assessment to proceed as an integral part of the overall scheme design rather than as a study based on finalised proposals. This is the case with this application as Lavigne Lonsdale was both the masterplanner, architect, landscape architect and landscape planner.
- 8.1.6 In order that the assessment can be conducted, professional judgements need to be made on the relative value and quality of either landscape elements or visual receptors. These judgements are made on the basis of factual evidence, reasoned arguments and informed opinion. The thresholds for magnitude of change, receptor sensitivity and significance of impacts used in the landscape and visual assessments are set out in the text in tabular form in Section 8.2.2.

8.2 Methodology & Scope

Legislative and Policy Framework

- 8.2.1 The site lies within the administrative area of Cornwall County Council. At the time of writing the relevant landscape planning policies and guidance which are relevant and have informed the design process are contained within the following documents.

National Planning Policy Framework 2012

The NPPF states that:

"Policies in Local Plans should follow the approach of the presumption in favour of sustainable development so that it is clear that development which is sustainable can be approved without delay." (Para 15) and

"Plans and decisions need to take local circumstances into account, so that they respond to the different opportunities for achieving sustainable development in different areas." (Para 10.)

It continues, stating that planning should:

"take account of the different roles and character of different areas." (para 17), and

"respond to local character and history, and reflect the identity of local surroundings and materials, while not preventing or discouraging appropriate innovation." (para 58)

With regard to the historic environment, the NPPF states:

"In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting." (para 128)

The archaeological issues have been covered by a separate assessment by CgMs..

Under section 11, **Conserving and enhancing the natural environment**, the relevant paragraphs are ;

Para 109 *"The planning system should contribute to and enhance the natural and local environment by ;*

- *Protecting and enhancing valued landscapes....."*

The site is NOT covered by any International nor National landscape designation although the World Heritage Site and Conservation Area adjoins the north west boundary.

Para 113 *" Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks."*

A large part of the site is covered by a Local Plan Policy TV2 (Open Areas related to settlements OALS). This is covered below under Local Plan designations.

Local Guidance: Penwith Local Plan 2004

The site is covered by the Penwith Local Plan, adopted 2004, which is now being superseded by new Development Plan Documents, but most of its policies are "saved" until the new Local

Development Framework comes into effect. The effect of these new LDF documents to the proposed development is considered in the Town Framework section below.

Study Area (Figure 8.3)

Policy CC-3 Area of Outstanding Natural Beauty (AONB) : In the wider study area, the AONB is a National designation and is located approximately 3km to the west of the site.

Policy CC-5 Area of Great Landscape Value : The AGLV (Area of Great landscape Value) adjoins the AONB designation and acts as a landscape “buffer” along the south west edge of St Ives and Carbis Bay and also along the Hayle Towans to the north of the site

Site and Surrounds (Figure 8.3a)

The centre of Hayle is historically important and is a part of the industrial legacy of Cornwall. As such, the area was designated a World Heritage Site in 2005.

World Heritage Site :

The Cornwall and West Devon Mining Landscape World Heritage Management Plan 2005-2010 Plan recognises the importance of visual setting and states:

"The setting of the Site includes a physical space in which events could adversely affect the visual appreciation or understanding of the Site" (Summary Page 21)

Policy 6 States:

"Developments outside the Site that will adversely affect its outstanding universal value will be resisted." (Summary Page 21)

DCLG circular 07/09

This circular states that, Local Planning Authorities should protect

"the World Heritage Site and its setting, including any buffer zone, from inappropriate development." (para 12)

This is reinforced by Saved Policy 2 of the Cornwall Structure Plan which states;

"The conservation and enhancement of sites...including the proposed World Heritage Site, should be given priority in the consideration of development proposals."

Impacts on the World Heritage Site are covered under the Archaeological Assessment.

Scheduled Ancient Monuments & Conservation Areas

There are two Scheduled Ancient Monuments (SAMs) in the vicinity of the Application Site, and the site adjoins a Conservation Area. They are described in detail and their significance and setting is considered in the Archaeological Assessment.

Landscape Policy : Policy TV2 : Open Areas related to Settlements (refer to Figure 8.3a)

Under the Local Plan, Policy TV2 states;

"Policy TV2 : proposals for development which would result in the loss of, or have an adverse effect on, the Local environment value of the following open areas will not be permitted"

This covers land between the Mill Pond and Bar View Lane. Its function is to provide green setting to built development. However, this policy would be superseded by the emerging Local Plan and Town Framework.

Supplementary Planning Documents and Guidance

The Emerging Local Plan

Cornwall Council are in the process of adopting their new Local Plan (refer to Planning Statement for further information). Policy PP2 refers to Hayle & St Ives (which includes Carbis Bay) and includes the following Environmental objectives;

Objective 4 : Environment :

"Ensure development is sensitive to the outstanding natural, built and historic environment of the area. "

"giving careful consideration to the location, scale and design of all new development."

With regards to Green infrastructure, the policy goes on to say ;

"Maintain/enhance strategic green corridors; provision of enhanced walking and cycling routes, and ecological corridors. New and improved public open spaces and green links."

The Town Framework

8.2.2 The Hayle Town Framework Plan has identified that the southern extremity of the town, upto the boundary of the A30, will be developed as part of a major urban extension for upto 2000 homes (refer to Figure 8.25). The site forms a part of this area. As part of this emerging allocation, Cornwall Council carried out a thorough assessment of the site and a wider area (refer to Section 8.7 Cumulative Effects). The application site falls within area 10 and under the Landscape appraisal was considered to be of High landscape Sensitivity due to the valley topography, wetland and public footpath. It was retained as an area suitable for development subject to further consideration if the green corridor could be retained, reinforced and enhanced. The application therefore includes for an extended green corridor and flood zone in this area.

8.3 Assessment Methodology

8.3.1 This report identifies the existing baseline description for the Site and the surrounding Study Area, the proposals and the likely landscape and visual effects of the proposals.

8.3.2 The assessment was carried out by an experienced Chartered Landscape Architect with considerable experience of Landscape & Visual assessment on sensitive sites throughout the UK. The method of assessment is based on the "Guidelines for Landscape & Visual Impact Assessment (Third Edition)", by the Landscape Institute and the Institute of Environmental Management & Assessment, and includes:

- Definition of Purpose



- Desktop research. Reference information and consultees included:
- OS 1:25,000 maps,
- The Cornwall and Isles of Scilly Landscape Character Assessment 2007
- Countryside Agency 'New map of England',
- Aerial Photographs,
- Topographic surveys of the site and surrounding area, plus the proposed layout drawings
- Penwith Local Development Framework Core Strategy
- Earlier Local plans and 'saved' policies
- English Heritage 'Images of England' website
- Field Surveys: The site and surrounding area were visited in May and June 2014 and previously in January 2014. No 'formal' winter views have been taken.

Definitions and Terminologies

- 8.3.3 The 'Site Area and surrounds' refers to redline site area and the immediate area, from where the site is fully or partly visible. This has been simplified for the purposes of the accompanying figures to a rectangular area centred on the Site, as also shown on Figure 8.2
- 8.3.4 The 'Study Area' (refer to Figure 8.1) is the area within which views of the site were potentially possible. The limits to this area were initially defined from map data, chiefly contour information, from Zone of Theoretical Visibility (ZTV) mapping based on a digital

terrain model, and from the study of aerial photography to identify existing vegetation cover. The outer limit of the study area is a circle of 3km radius, centred on the site.

Significance Criteria

8.3.5 For ease of reference and understanding the methodology, tables showing the significance criteria, magnitude of change and predicted effects are provided as follows.

8.3.6 Landscape sensitivity is assessed through applying the criteria cited in the following table:

Table 8.1: Landscape Sensitivity Criteria

Very High	Landscapes covered by a national designation for landscape value such as AONB, Heritage Coast or National Park which taking into account its character, quality and value is highly sensitive to even very small changes.
High	Landscapes covered by a national designation or a highly valued local landscape designation which taking into account its character, quality and value is highly sensitive to small changes.
Medium	Landscapes not covered by a local or national designation for landscape value but with a moderate number of locally valued landscape features which taking into account its character, quality and value would tolerate some change.
Low	A relatively robust landscape character which could tolerate moderate to substantial change.
Very Low	A relatively robust landscape character which could tolerate substantial change.
Not Sensitive to Change	Significantly eroded landscapes with no discernible landscape pattern or landscape characteristics that would be affected by change.

Landscape Magnitude of Change

8.3.7 The approach taken in defining the magnitude of change brought about by the introduction of a development on the landscape character is presented in the table below:

Table 8.2: Magnitude of Change - Landscape

Very Large	Very large changes in landscape characteristics over an extensive area.
Large	Notable changes in landscape characteristics over a wide area or intensive change over a more limited area.
Medium	Moderate change in landscape characteristics in a localised area.
Small	Minor change in landscape characteristics.
Very small	Slight change in landscape characteristics.
None	No change.

Landscape Impact Significance

8.3.8 By combining the magnitude of change predicted and the sensitivity of the landscape receptor an assessment of the significance of the effect can be made. The following table outlines the general principles that inform this judgement:

Table 8.3: Assessment of Landscape Impact Significance

Table 8.3 : Landscape Effects							
MAGNITUDE OF CHANGE	V. Large	Moderate impact	Moderate impact	Moderate impact	Major impact	Severe impact	Severe impact
	Large	Minor impact	Minor impact	Moderate impact	Major impact	Major impact	Severe impact
	Medium	Minor impact	Minor impact	Minor impact	Moderate impact	Major impact	Major impact
	Small	Negligible impact	Minor impact	Minor impact	Minor impact	Moderate impact	Moderate impact
	Very Small	Negligible impact	Negligible impact	Negligible impact	Minor impact	Minor impact	Minor impact
	None	No change	No change	No change	No change	No change	No change
		None	Very Low	Low	Medium	High	V. High
SENSITIVITY							

8.3.9 These impacts can be beneficial, neutral or adverse.

Visual Sensitivity

8.3.10 The following table sets out the criteria which will be used in the assessment to judge sensitivity of visual receptors:

Table 8.4: Sensitivity of Visual Receptors

Sensitivity Category	Description
Very High	Viewers that are very highly attuned to their surroundings with prolonged viewing opportunities. This includes views from designed vistas or viewpoints including hill-forts, castles and beacons.
High	Viewers that are very highly attuned to their surroundings with prolonged viewing opportunities. This includes views from National Trails or named recreational paths, designated tourist routes, outdoor recreational and tourism spaces/activities and navigable waterways. Private views from a large group of dwellings enjoying high quality views. Public Open Space
Medium	Views from recreational facilities in moderate and mixed use areas, road users on local scenic and slower roads, and other viewers with a moderate awareness of and focus on their surroundings. This includes main and local railways and less well-used public rights of way. Private views from a group of dwellings.
Low	Viewers with a passing awareness of and a limited focus on their surroundings, including people in their places of work, industry, mixed use areas, and roads where vehicles are travelling at high speeds. Includes low usage roads and little used footpaths.
Very Low	Viewers with a passing awareness of and a limited focus on their surroundings, including people in their places of work, industry, mixed use areas, and roads where vehicles are travelling at high speeds with an almost completely obscured view of the changed landscape.
None	Views of the changed landscape are completely obscured.

Visual magnitude of change

8.3.11 The magnitude of change likely to be brought about by the development proposals on visual amenity will be assessed using the following magnitude of change criteria:

Table 8.5: Magnitude of Change – Visual

Scale of Impact	Description
Very Large	Total alteration to key features or characteristics of the existing views such that post development the existing view will be completely changed
Large	Major alteration to key features or characteristics of the existing views such that post development the existing view will be considerably changed
Medium	Partial alteration to key features or characteristics of the existing views such that post development the existing view will be noticeably changed
Small	Minor alteration to key features or characteristics of the existing views such that post development the existing view will be largely unchanged despite discernible differences
Very Small	Minimal alteration to key features or characteristics of the existing views such that post development there will be barely discernible changes
None	No change to the view

Visual significance

8.3.12 By combining the magnitude of change predicted and the sensitivity of the receptor to a particular change, an assessment of the significance of the impacts can be made. The following table outlines the general principles of this judgment.

Table 8.6: Assessment of Visual Impact Significance

Table 8.6 : Visual Effects							
MAGNITUDE OF CHANGE	V. Large	Moderate impact	Moderate impact	Moderate impact	Major impact	Severe impact	Severe impact
	Large	Minor impact	Minor impact	Moderate impact	Major impact	Major impact	Severe impact
	Medium	Minor impact	Minor impact	Minor impact	Moderate impact	Major impact	Major impact
	Small	Negligible impact	Minor impact	Minor impact	Minor impact	Moderate impact	Moderate impact
	Very Small	Negligible impact	Negligible impact	Negligible impact	Minor impact	Minor impact	Minor impact
	None	No change	No change	No change	No change	No change	No change
		None	Very Low	Low	Medium	High	V. High
SENSITIVITY							

8.3.13 These impacts can be beneficial, neutral or adverse.

Table 8.7: Significance Criteria

Table 8.7 : Significance of Effects (Landscape & Visual)	
Severe Adverse Impact	Where the proposal would cause a severe deterioration to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
Major Adverse Impact	Where the proposal would cause a major/substantial deterioration to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
Moderate Adverse Impact	Where the proposal would cause a noticeable deterioration to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
Minor Adverse Impact	Where the proposal would cause a minor deterioration to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
Negligible Adverse Impact	Just discernible deterioration to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
None	Where one might expect change, but none would occur, or the proposals would not be visible
Negligible Beneficial Impact	Just discernible improvement to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
Minor Beneficial Impact	Where the proposal would cause a minor change that is a perceptible improvement to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
Moderate Beneficial Impact	Where the proposal would cause a noticeable improvement to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity
Major Beneficial Impact	Where the proposal would cause a major/substantial improvement to the existing landscape resource and the contribution of the site to the local landscape character, or to the existing visual amenity

8.3.14 Impacts may also be 'Neutral' in cases where the proposal, while constituting a change to the existing landscape character or view, would neither be an improvement to, or deterioration of that which is existing.

8.4 Limitations of the assessment

8.4.1 The full photographic study has been carried out in the summer months when full leaf cover is out. Winter visits were carried out throughout the masterplanning process.

8.5 Baseline Conditions

Existing Baseline: Landscape

Topography & Drainage :

Study Area :

- 8.5.1 Figure 8.4 shows that the site lies on the west side of the broad Hayle estuary at a height of about 10m-50m AOD. The land rises to both the east and the west of the estuary but the highest land is to the west, to the south of St Ives and within the AONB.
- 8.5.2 The rugged granite hill outcrops to the west are not significant in terms of height (247m AOD) but they form good vantage points (eg Trencom Hill (165m AOD)).
- 8.5.3 To the East and south of the site, the land rises but not significantly, with peaks at an altitude of circa 90-100m AOD.
- 8.5.4 The topography is generally gently undulating

Site Area : (Figure 8.5)

- 8.5.5 The site lies on a broad valley slope, rising in the east to a height of 48m AOD and falling to a stream corridor to the west at a height of circa 6.5m AOD.
- 8.5.6 The gradients on the site vary from 1:15 at the steepest to 1: 5 (average 1:9) The steepest sections have been avoided for development where possible.
- 8.5.7 There is a stream and wetland area to the west of the site which forms part of the Flood Plain which feeds into the estuary.

Vegetation Cover

Study Area : (Figure 8.6)

- 8.5.8 The vegetation cover is largely defined by field boundaries (hedgerows and hedgerow trees) and isolated woodland groups, generally found in the valleys.
- 8.5.9 Tree cover within the urban areas is also significant, particularly in the larger gardens associated with the historic houses.

Site Area : (Figure 8.7)

- 8.5.10 The site is predominantly farmland consisting of 1 large field and 3 smaller fields that are bounded by tall hedgerows. Tree cover is largely associated with the smaller field boundaries which contain some mature evergreen and deciduous, tall stature trees. These help to provide a green setting to the site from the surrounding area. There is also scrub growth

within two of the smaller fields which have hindered access. Scrub growth also occurs in the centre of the larger field around the remnants of an old derelict building. There is one large sycamore in this group.

- 8.5.11 The most sensitive area of vegetation cover lies to the west of the site, at the lower levels, where a wetland woodland is regenerating. This forms a strong boundary to the site.

8.6 Future Baseline

- 8.6.1 If the site was retained in its current form as agricultural land, then farming practices would continue and the existing character of the area would be retained. The school would however not be able to expand which would inevitably restrict its future size and ability to service local demand.

8.7 Mitigation Within The Submitted Design

Integrated Mitigation

- 8.7.1 The purpose of mitigation is to avoid, reduce and where possible, remedy or offset any adverse impacts on the environment arising from the proposed development. In terms of landscape and visual impact, mitigation may either be 'in-built' (Primary) and as such effective from Year 1 or, secondary, as in the case of planting. Planting may become more effective over time, hence the predicted landscape and visual impacts are assessed at Year 1 of the completed development and Year 15
- 8.7.2 As a result of the assessment of predicted landscape and visual impacts as set out above, adverse effects were identified in the loss of existing trees and hedges, changes to vegetation, soils and landform within the site generally as well as the loss of rural landscape and views. There is also the potential for adverse views of the construction works.
- 8.7.3 Primary mitigation measures are those integrated into the design of the proposed development and thus effective from the outset. Secondary mitigation measures are those applied to the final design, which further mitigate any remaining adverse effects.
- 8.7.4 The Masterplan for the Application Site has been developed in order to take into account the opportunities and constraints of the site and surrounding area so that the resulting

layout is a response to these influences, rather than being imposed on the site and requiring mitigation measures to make it fit. This includes the following:

- 8.7.5 Figure 8.22 shows the Landscape Strategy.
- 8.7.6 Levels : The scheme road and development levels have aimed to correlate to existing levels where possible in order to balance the cut and fill on the site . Split level housing typologies have also been used which remove the need for under build. Some rear garden retaining structures have however been incorporated in order to allow for suitable garden gradients.
- 8.7.7 Hedgerows & Trees : There are very few landscape constraints on the site but the hedgerows and mature trees form an important landscape resource. We have tried to retain hedgerows where possible, including the well defined tree line to the north of the site.
- 8.7.8 Wetland Woodland : The wetland woodland to the west of the site in the base of the valley is an important component of the site and must be retained and un-developed as it is in the flood plain. This woodland does a significant job in terms of screening the lower levels of the site in views from the west.
- 8.7.9 Density & buffer zones: The density is low on the upper slopes of the site so that more tree planting can be integrated into the site layout. This is particularly evident on the land opposite the Listed Buildings where a woodland buffer has been included and the density of development is low (circa.15units/ha - average site density 27ha).
- 8.7.10 School: there have been numerous meetings with the school head teacher and stakeholders in order to ensure that the school has sufficient space to grow and that the development does not create unnecessary overlooking issues. The application drawings have been approved by the school head teacher and CC/LEA.
- 8.7.11 Parks : The open space areas help to create additional buffer zones along the southern boundary and the 'hilltop' park helps to provide a 'green' break in the urban grain and provide a treed setting to the scheme- this reflects areas of the existing townscape.
- 8.7.12 Tree planting and on plot landscape : This is a significant component of the scheme in order to help 'green' the setting of the proposed scheme. Street tree planting has been shown on the major spaces and streets. Existing trees have been retained where possible but there will be a significant nett increase in tree planting across the site. Due to the low density of parts of the scheme towards the east of the site on the higher ground , the

garden sizes are quite large and so tree planting within gardens should be included. The gardens could start to provide a significant contribution to biodiversity.

- 8.7.13 SUDS : The drainage strategy includes for soak-aways and below ground storage. However, there is also scope to the west of the site to include above ground storage in the form of wetlands/ ponds or 'scrapes' in the grassland areas which will help with the increase in biodiversity.
- 8.7.14 Storey Heights : Building heights are generally 2 storey apart from key buildings within the scheme,. The entrance buildings which are set back from the Conservation Area will be built partly in stone and are three storeys to define the entrance into the scheme. There is also a variety of building forms in the scheme and so the street scenes will be diverse but simple, reflecting the urban street scape in the older parts of Hayle.
- 8.7.15 Materials : the built materials will be a mixture of render (predominantly) stone (granite) and timber effect rain screen cladding, The use of colour will also help to provide variety in the street scene and reflect the historic pattern of development in the local area.

8.8 Potential Environmental Effects (with integrated mitigation)

- 8.8.1 This section relates to the potential effects (adverse or beneficial) of the proposals on the landscape and visual characteristics of the site. The section has been split into three to



show (i) potential effects during construction, (ii) at completion (operational year 1) and, (iii) 15 years residual.

8.5.1 Landscape Effects During Construction :

Table 8.8 shows the likely landscape effects of the proposals during Construction

Table 8.8 Landscape effects during Construction

Environmental Effect Landscape : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact & Mitigation (note : construction operations are temporary but the effects are permanent)	Significance
Topography & Drainage	Medium (Ridge line)	grading and soil movements to general development areas and retaining structures. Large magnitude	Permanent Work with the contours and align roads with the slopes to minimize cut. Avoid working in the lower levels within the flood plain and incorporate new drainage ponds	Major Impact
Land use	Medium (green field)	Large (agricultural field becoming built development)	Permanent Incorporate parks and landscape buffers within the scheme	Major Impact
Vegetation Cover	medium (wetland and large tree groups)	Small (loss of some hedgerows)	permanent	Minor Impact
Landscape Character	Medium	Large (built development)	Permanent Change in character on the site area and in the perception of the site from local views	Major Impact

Landscape Designations : There would be no direct impact on the AONB or on the nearest AGLV. In- direct impacts are covered in the visual section The World Heritage Site and Conservation Area are not landscape designations. Direct impacts are the road junction works to St Georges Road/ Penpol Road and the future school plans which do not form part of this application.

The Policy TV2 (OALS) would be effected as the green gap would be largely removed in this area. Cornwall Councils Town Framework Plan identified this area for development though. The green flood zone along the base of the valley has however been retained and strengthened as part of this application as a response to the Town Framework plan assessment.

Historic & Cultural	High (within the World Heritage Site)	Small(removal of hedge along St Georges Road)	Permanent	Minor Impact
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8.5.2 Visual Effects during Construction

Table 8.9 : Potential Visual Effects during construction

Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 1, 1a & 1b : Bar View Lane	Medium	Medium	permanent (hedge break) House construction	Moderate adverse	The only area of the site that would impact is the far eastern corner. The existing hedge will be broken through to allow for the footpath link (subject to legal approval) and the construction of the two houses on the upper levels will visible.
Viewpoint 2 : Bridleway	Low	Very Small	Permanent	Negligible adverse	Site forms a very small part of the view. There is the potential for the roofs on the upper slopes (east) to be visible but this would be a very small change in the view.
Viewpoint 3 : Trewoone Farm	medium/low	Very Small	permanent	Negligible /Minor adverse	Large part of the site is hidden behind the slope. The upper parts of the site during construction may be visible but this forms a very small part of a much wider view.
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 4 : Trethingey Farm	Low	Very Small	permanent	Negligible adverse	Large part of the site is hidden behind the slope. The upper parts of the site may be visible but this forms a very small part of a much wider view.



Viewpoint 5 : A30 lay by	Low	Medium	permanent	Minor adverse	Construction operations on the southern part of the site and the upper levels would be visible. These would be seen in the context of the existing built edge of Hayle but would be a partial alteration to the agricultural setting to Hayle in views from this short elevated section of the A 30. Retention of the existing hedge helps to mitigate. (Note : if viewed as a passenger, the significance could increase to Moderate adverse)
Viewpoint 6 : Trenhale Lane	Medium Busy local road	Small/Medium	permanent	Moderate adverse	Views in this area are largely restricted by the dense hedgerow cover although in winter views would be available. Construction operation would be visible on the main upper southern slopes of the site but this forms a small part of the view which would be glimpsed and is seen in the context of existing built development
Viewpoint 7 : Strawberry Lane	Medium	Small	permanent	Minor adverse	The site forms a small slither of the view and house construction on the upper slopes will be visible. The lower slopes are screened by intervening tree cover and the A30 embankment.
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description

Viewpoint 8 : B3302	Medium/High (residents)	Medium	permanent	Moderate adverse	Views are restricted by intervening vegetation and buildings so the impacts vary. Hedgerows still provide a dense cover in winter. If there are clear views to the site, then the effect will be Major adverse as the site forms a large part of the view. However, where views are glimpsed, the impact will be Moderate.
Viewpoint 9 : St Erth Praze	Medium/Low	very Small	permanent	Negligible adverse	Site forms a very small component of a much wider view. Construction operations would form a very small component in the view.
Viewpoint 10 : Mellaneer Road/Boskennel Drive	High	Very Large	permanent	Severe adverse	Construction operations including earthworks terracing for houses and roads and housing construction would be very visible in these views. Mitigation is difficult due to the nature of the view (elevated views directly onto the site). Retention of trees (particularly to the north of the site) and hedgerows will help to provide an existing 'green' context to the site but there will be some vegetation clearance.
Viewpoint 11 : Mellaneer Close	High	Very Large	permanent	Severe adverse	as per Viewpoint 10.
Viewpoint 12 : Treameadow terrace	High	Small	permanent	Moderate Adverse	Development operations (mainly vehicle movements and upper storey house level construction) on the northern edge will be visible beyond the existing vegetation and rise in the topography, particularly in winter. The additional school land and tennis club land helps to make development further back from the receptors.
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description



Viewpoint 13 : Hayle tennis club	Medium	Medium	permanent	Moderate Adverse	The additional land for the tennis club helps to move development further away from the existing courts. Noise and views of the construction operations will be evident - particularly for the pumping station and houses on the northern edge of the site but due to the level difference, the impact is partially mitigated.
Viewpoint 14 : Mill Pond	Very High (SAM)	Small	permanent	Moderate adverse	the site forms a background element in views but is not a focal component in the view. levels operations and house building would be visible but would not form a noticeable change in the overall enjoyment of the SAM.
Viewpoint 15 : Public bridleway west	Medium	Large	permanent	Major Adverse	The changes in the southern section of the site in terms of levels grading and house building is visible and would be a major alteration in the view. Mitigation during construction is difficult but having the landscape buffer along the stream corridor and flood plain helps to push development away from the receptor.
Viewpoint 16 : Public footpath west	Medium	None (in summer) Medium (in winter for short sections of path)	NA in summer Permanent in winter	No Change (in summer) Moderate adverse in winter for short sections	Due to the density of the vegetation cover, the likely effects would be screened from the view in summer. Glimpsed views in winter may be possible but the vegetation cover is very thick and deep and will have a screening effect even in winter. However, grading works and house building will be visible in winter in the lower slopes- having the landscape buffer helps to mitigate by pushing development further away from the receptor. Building the footpath access (decked) will require some vegetation clearance but if sensitively done, this could be an improvement in terms of public accessibility

Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 17 : Lelant Church	High Close to SW long distance path and golf club	Very Small	permanent	Minor adverse	Site forms a small component of a much wider view and any construction operations on the upper slopes only would be seen within the context of existing built development
Viewpoint 18 : St Michaels Way	Medium	Very Small	permanent	Minor adverse	Site operations form a small component of a much wider view and is seen within the context of existing built development
Viewpoint 19 : Trencrom Hill	Very High (AONB)	very Small	permanent	Minor adverse	Site operations form a small component of a much wider view and is seen within the context of existing built development
Viewpoint 20 : Knills Monument	High	no discernable change	na	no change	As above -distance mitigates
Viewpoint 21 & 22:	Medium/High	Large	permanent	Major adverse	The loss of the vegetation cover, change in levels and construction of the site entrance and highway works will be a major change for this short section of road. The number of receptors is high only because of the school-residential impacts are limited.
Viewpoint 23 : Churchtown Road, Phillack	Medium	Very Small	permanent	Minor adverse	The site operations (house building) may be visible for the upper slopes on the northern side of the site. They would be seen in the context of existing built development.

8.5.3 Landscape Effects at Completion (Operational Year 1)

Table 8.10 : Landscape Effects at Completion (Operational year 1)

Environmental Effect Landscape : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact & Mitigation (note : construction operations are temporary but the effects are permanent)	Significance
Topography & Drainage	Medium (Ridge line)	Large magnitude The creation of roads and housing terraces	Permanent Terraced levels will be screened by the housing. Additional ponds for the SUDS scheme will provide additional wetland habitat.	Major Impact Not necessarily adverse but a major change from baseline. Wetland SUDS features and landscape buffer are beneficial changes.
Land use	Medium (green field)	Large (agricultural field becoming built development)	Permanent Inclusion of landscape buffer on the western side and open space areas on the upper slopes do mitigate to a certain degree but the change from baseline will remain major adverse.	Major Impact
Vegetation Cover	medium (wetland and large tree groups)	Small (loss of some hedgerows)	Permanent Inclusion of landscape buffer on the western side and open space areas on the upper slopes, plus tree planting and tree retention do mitigate and integrate the development and increase the vegetation cover on the site	Minor Impact beneficial effect with additional planting.

Landscape Character	Medium	Large (built development)	Permanent Given the change from agricultural farmland to development, the impact will be major and will remain a major change. The inclusion of the landscape buffers, parks and tree planting will help to integrate and soften the scheme but the nature of the future character in townscape and not farmland.	Major Impact
<p>Landscape Designations : There would be no direct impact on the AONB or on the nearest AGLV. In- direct impacts are covered in the visual section The World Heritage Site and Conservation Area are not landscape designations. Direct impacts are the road junction works to St Georges Road/ Penpol Road and the future school plans which do not form part of this application.</p> <p>The Policy TV2 (OALS) would be effected as the green gap would be largely removed in this area. Cornwall Councils Town Framework Plan identified this area for development though. The green flood zone along the base of the valley has however been retained and strengthened as part of this application as a response to the Town Framework plan assessment.</p>				
Historic & Cultural	High (within the World Heritage Site)	Small(removal of hedge along St Georges Road)	permanent	Minor Impact

8.5.4 Visual Effects at Completion (operational year 1)

Zone of Theoretical Visibility (ZTV) Figure 8.23 & 8.24

- 8.8.2 Figure 8.23-8.24 shows the zone of theoretical visibility (ZTV) of the whole site development. For this study, the proposed development was tested taking the heights of proposed key buildings with target points set to reflect the storey heights. The proposed development was tested without any landscape mitigation measures being applied.
- 8.8.3 For the whole site, a comparison of the baseline Visual Envelope and the proposed Zone of Theoretical visibility mapping shows that the additional areas of visibility are relatively limited to the following locations:



- wider area to the south and east. This is likely to be roof lines along the upper parts of the site.
- additional areas to the north but these views would be seen in the context of the foreground existing built development of Hayle.

8.8.4 More points of visibility to the west although the site would be seen in the context of the built area of Hayle and from a distance of between 3-5km.

8.8.5 In order to understand the likely visual effects, montages of the development have been included from key viewpoints to assist in the process of the EIA. These are Viewpoints 5,



10, 11 and 14 (refer to Figures 26-30)

Visual Effects – Night time hours

8.8.6 The likely effects of the development on the surrounding area include the following;

- Street lighting associated with the scheme development in what is a green field at present. CC determine the street lighting specification.
- Mitigation could include the use of cut off lights but this will need to be discussed with Cornwall Council as the adopting authority at Conditional discharge stage.

Table 8.11 Visual Effects at Completion (operation year 1) with mitigation

Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 1, 1a & 1b : Bar View Lane	Medium	Medium	permanent	Moderate adverse	The only area of the site that would impact is the far eastern corner. The new footpath link will be in place (which could be beneficial for access and permeability) plus the upper houses will be visible. Retention of the boundary hedge is the best form of mitigation.
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 2 : Bridleway	Low	Very Small	permanent	Negligible adverse	Site forms a very small part of the view. There is the potential for the roofs on the upper slopes to be visible but this would be a very small change in the view.
Viewpoint 3 : Trewoone Farm	medium/low	Very Small	permanent	Negligible /Minor adverse	Large part of the site is hidden behind the slope. The upper parts of the site may be visible but this forms a very small part of a much wider view.
Viewpoint 4 : Trethingey Farm	Low	Very Small	permanent	Negligible adverse	Large part of the site is hidden behind the slope. The upper parts of the site may be visible but this forms a very small part of a much wider view.

Viewpoint 5 : A30 lay by	Low	Medium	permanent	Minor adverse	Upper levels of the southern section of development would be seen in the context of the existing built edge of Hayle but would be a visible component in views from this short elevated section of the A30. Retention of boundary hedgerows helps to define the edge of the scheme and this is reinforced with additional planting although in year 1, this will not be that effective. (Effect on Views for passengers may increase to Moderate adverse)
Viewpoint 6 : Trenhale Lane	Medium Busy local road	Small/Medium	permanent	Moderate adverse	Views in this area are largely restricted by the dense hedgerow cover although views in winter will be available . Housing would be seen on the upper slopes with the existing trees forming a backdrop which helps provide a 'mature green' context to the development. The site would also be seen in the context of existing built development. Retention and reinforcement of the southern hedge boundary is important until later phases come forward (refer to cumulative effect).
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 7 : Strawberry Lane	Medium	Small	permanent	Minor adverse	The site forms a small slither of the view and proposed housing on the upper slopes will be visible. The lower slopes are screened by intervening tree cover and the A30 embankment. Retention of boundary vegetation is the best form of mitigation and these should be left to grow on.

Viewpoint 8 : B3302	Medium/High (residents)	Medium	permanent	Moderate adverse	Views are restricted by intervening vegetation (in summer) and buildings so the impacts vary. If there are clear views to the site (more so, in winter) then the effect will be Major adverse as the site forms a large part of the view. However, where views are glimpsed, the impact will be Moderate. The inclusion of the landscape buffers and parks will help break down the housing but initial tree and shrub planting will not have much effect at this stage. The retention of existing mature trees is important in term sof providing a mature landscape setting/ backdrop to the development from day 1.
Viewpoint 9 : St Erth Praze	Medium/Low	very Small	permanent	Negligible adverse	Site forms a very small component of a much wider view.
Viewpoint 10 : Mellaneer Road/Boskennel Drive	High	Very Large	permanent	Severe adverse	Built development would be very visible on the opposite side of the valley. Mitigation is difficult but the retention of existing mature trees/ hedgerows (which should be allowed to grow on) and the inclusion of open spaces will help to soften the built development. The change from baseline is however a major change.
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 11 :Mellaneer Close	High	Very Large	permanent	Severe adverse	Similar to Viewpoint 10.

Viewpoint 12 : Treameadow terrace	High	Small	permanent	Moderate Adverse	Completed housing may be visible beyond the existing vegetation and rise in the topography. The additional school land and tennis club land helps to push development further back from the receptors. The inclusion of new hedgerows around the site and tree planting in some rear gardens/ site boundaries is important to help provide a greener setting in the long term.
Viewpoint 13 : Hayle tennis club	Medium	Small	permanent	Minor Adverse	The additional land for the tennis club helps to move development further away from the existing courts. The completed pumping station may be visible but planting will help provide a stronger landscape boundary to the site
Viewpoint 14 : Mill Pond	Very High (SAM)	Small	permanent	Moderate adverse	The site forms a background element in views but is not a focal component in the view. Housing will be visible but would not form a noticeable change in the overall enjoyment of the SAM. Tree planting along the boundaries and within the scheme is important to help soften the development over time. Retention of existing tree and hedge vegetation is the most effective form of mitigation from this view.
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description

Viewpoint 15 : Public bridleway west	Medium	Large	permanent	Major Adverse	The changes in the section of the site is visible (housing) would be a major alteration in the view. The inclusion of the landscape buffer on the lower slopes and retention and reinforcement of hedgerows is important in terms of providing a landscape setting to the scheme- over the long term.
Viewpoint 16 : Public footpath west	Medium	None in summer Medium in small sections of path in winter	NA	No Change (in summer) Moderate adverse (for small sections in winter)	Due to the density of the vegetation cover, the likely effects would be screened from the view in summer. Glimpsed views in winter may be possible but the vegetation cover is very thick and deep and will have a screening effect even in winter. The inclusion of the footpath link will however open some views up although additional reinforcement planting will be required- the inclusion of a landscape buffer on the western side of the scheme will help to push development back from the receptor and retain a 'green' setting to the existing footpath.
Viewpoint 17 : Lelant Church	High Close to SW long distance path and golf club	Very Small	permanent	Minor adverse	Site forms a small component of a much wider view and is seen within the context of existing built development
Viewpoint 18 : St Michaels Way	Medium	Very Small	permanent	Minor adverse	Site forms a small component of a much wider view and is seen within the context of existing built development
Viewpoint 19 : Trencrom Hill	Very High (AONB)	very Small	permanent	Minor adverse	Site forms a small component of a much wider view and is seen within the context of existing built development
Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 20 : Knills Monument	High	no discernable change	na	no change	distance mitigates

Viewpoint 21 & 22:	Medium/High	Large	permanent	Major	The change from baseline for a short section will be a major change but the inclusion of street trees and sensitive granite stone walling to reflect the existing walls within the conservation area will help to mitigate. Whilst the change is major, it isn't necessarily adverse- it could be seen as a neutral impact (neither beneficial nor adverse).
Viewpoint 23 : Churchtown Road, Phillack	Medium	Very Small	permanent	Minor adverse	Some roof lines may be visible within the setting of existing built development and the retention of the existing vegetation is important in retaining some green setting to Hayle.

8.6 Residual Effects Assessment

8.6.1 The following Table 8.12 sets out the predicted residual landscape effects arising from the

development proposals, once the scheme has reached maturity (15 years residual):

Table 8.12: Landscape Effects - 15 years residual with mitigation

Environmental Effect Landscape : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Topography	Medium (Ridge line)	Large	Permanent	Major Impact although the fundamental valley feature will not be undermined .	entrance road cut will be a noticeable change. The site roads & FFL's have been designed to follow existing contours where possible. Some rear garden retaining walls will be required.
Land use	Medium (green field)	Large (agricultural field becoming built development)	Permanent	Major Impact	Over time, this site will become part of the built fabric of the town and so the historical use will become less evident.
Vegetation Cover	medium (wetland and large tree groups)	medium	permanent	medium beneficial	Increased vegetation cover across the site.
Landscape Character	Medium	Large (built development)	permanent	Major Impact	Over time, this site will become part of the built fabric of the town and so the rural landscape character will become less evident.
Historic & Cultural	High (within World heritage Site)	Small (removal of hedge along St georges Road)	permanent	Minor Impact(beneficial once the school amendments are made)	Limited impact on the World heritage site. Over time, the public realm enhancements related to the school layout will improve the St Georges Road area.

8.8.7 In **Table 8. 11** below, the residual visual impacts on the twenty two assessment viewpoints are recorded to illustrate the effect of the mitigation measures:



Table 8.13: Residual visual effects (at 15 years after Completion) with mitigation



Environmental Effect Visual : Construction & operational	Sensitivity of receptor	Impact magnitude	Nature of Impact (note : construction operations are temporary but the effects are permanent)	Significance	Description
Viewpoint 1, 1a & 1b : Bar View Lane	Medium	Medium	permanent	Moderate adverse becoming neutral	The only area of the site that would impact is the far eastern corner. The existing hedge will be broken through to allow for the footpath link and the construction of the two houses on the upper levels will be visible. Hedge growth will be managed but will still provide a robust edge to the site along Bar View Lane.
Viewpoint 2 : Bridleway	Low	Very Small	permanent	Negligible adverse becoming neutral	Limited mitigation due to the fact that it is the upper roof levels are potential visible.
Viewpoint 3 : Trewoone Farm	medium/low	Very Small	permanent	Negligible /	Large part of the site is hidden behind the slope. The upper parts of the site may be visible but this forms a very small part of a much wider view. Existing and proposed tree and hedgerow cover will continue to grow and screen views.
Viewpoint 4 : Trethingey Farm	Low	Very Small	permanent	Negligible	Large part of the site is hidden behind the slope. The upper parts of the site may be visible but this forms a very small part of a much wider view. Existing and proposed tree and hedgerow cover will continue to grow and screen views.



Viewpoint 5 : A30 lay by	Low	Medium	permanent	Minor / adverse	Development would be seen in the context of the existing built edge of Hayle but would be a visible component in views from this short elevated section of the A30. Tree retention, and tree planting/ growth over 15 years plus hedge retention and reinforcement will help to assimilate the development into the view. Wider plans for the Hayle masterplan will have further effects on this view in the future (refer to cumulative effects).
Viewpoint 6 : Trenhale Lane	Medium Busy local road	Small/Medium	permanent	Moderate adverse becoming neutral	Views in this area are largely restricted by the dense hedgerow cover in summer although winter views would still be available. Views of the houses will be visible as glimpsed views. Tree retention, and tree growth within the scheme plus hedge retention and reinforcement will help to assimilate the development into the view. Wider plans for the Hayle masterplan will have further effects on this view in the future (refer to cumulative effects). The change from baseline would however remain a moderate effect but the scheme would be seen as part of the built fabric of hayle over a period of 15 years and so the impact would revert to a neutral effect.
Viewpoint 7 : Strawberry Lane	Medium	Small	permanent	Minor / negligible adverse	The site forms a small slither of the view and housing on the upper slopes will be visible. The lower slopes are screened by intervening tree cover and the A30 embankment. Tree retention, and tree planting over 15 years plus hedge retention and reinforcement will help to assimilate the development into the view.



Viewpoint 8 : B3302	Medium/High (residents)	Medium	permanent	Moderate adverse becoming neutral	Views in this area are largely restricted by the dense hedgerow cover in summer although winter views would still be available. Views of the houses will be visible as glimpsed views. Tree retention, and tree growth within the scheme plus hedge retention and reinforcement will help to assimilate the development into the view. Wider plans for the Hayle masterplan will have further effects on this view in the future (refer to cumulative effects). The change from baseline would however remain a moderate effect but the scheme would be seen as part of the built fabric of hayle over a period of 15 years and so the impact may revert to a neutral effect.
Viewpoint 9 : St Erth Praze	Medium/Low	very Small	permanent	Negligible adverse	Site forms a very small component of a much wider view. hedgerows will grow and so there will be no discernible change in the view over time.
Viewpoint 10 : Mellaneer Road/Boskenn el Drive	High	Very Large	permanent	Severe /Major adverse	It is difficult to mitigate for these views as the nature of the change is so large. Tree planting over a period of 15 years will help to breakdown the mass of the housing over time and the open space areas are important in terms of provided breaks in the urban form. The change from rural to urban though is a large change.



Viewpoint 11 : Mellaneer Close	High	Very Large	permanent	Severe /major adverse	It is difficult to mitigate for these views as the nature of the change is so large. Tree planting over 15 years will help to breakdown the mass of the housing over time and the open space areas are important in terms of provided breaks in the urban form. The change from rural to urban though is a very large change.
Viewpoint 12 : Treameadow terrace	High	Small	permanent	Moderate /Minor Adverse	Completed housing may be visible beyond the existing vegetation and rise in the topography. The additional school land and tennis club land helps to push development further back from the receptors. The proposed planting which includes hedgerows around the site and tree planting in some rear gardens/ site boundaries is important to help provide a greener setting to the development as it matures.
Viewpoint 13 : Hayle tennis club	Medium	Small	permanent	Minor / Negligible Adverse	The additional land for the tennis club helps to move development further away from the existing courts. The reinforcement planting on the site boundary to the pumping station will help to screen the development and the tree planting within the scheme (particularly around the school boundaries will help to soften the effect of built development.



Viewpoint 14 : Mill Pond	Very High (SAM)	Small	permanent	Moderate/minor adverse	The site forms a background element in views but is not a focal component in the view. Housing will be visible but would not form a noticeable change in the overall enjoyment of the SAM. Tree planting along the boundaries and within the scheme is important to help soften the development and will start to look mature after 15 years. Retention of existing tree and hedge vegetation is the most effective form of mitigation from this view.
Viewpoint 15 : Public bridleway west	Medium	Large	permanent	Major Adverse	The changes in the section of the site that are visible (housing) would be a major alteration in the view. The inclusion of the landscape buffer on the lower slopes and retention and reinforcement of hedgerows is important in terms of providing a landscape setting to the scheme. The maturing tree cover will help to assimilate the development but will not hide it- the change will remain major.



Viewpoint 16 : Public footpath west	Medium	None (in summer) Medium in winter	NA in summer Permanent in summer	No Change (in summer) Moderate/ Minor neutral	Due to the density of the vegetation cover, the likely effects would be screened from the view in summer. Glimpsed views in winter may be possible but the vegetation cover is very thick and deep and will have a screening effect even in winter. The inclusion of the footpath link will however open some views up although additional reinforcement planting will be required- the inclusion of a landscape buffer on the western side of the scheme will help to push development back from the receptor and retain a 'green' setting to the existing footpath. The maturing tree and vegetation cover associated with the landscape buffer will help to reinforce the vegetation screen and the effect over 15 years may become neutral as your experience along this footpath will not be adversely effected over time as it will remain a strong linear landscaped park.
Viewpoint 17 : Lelant Church	High Close to SW long distance path and golf club	Very Small	permanent	Minor adverse	Site forms a small component of a much wider view and is seen within the context of existing built development . The main visual tree cover will be retained and enhanced with additional tree planting and so the scheme will be assimilated into the view
Viewpoint 18 : St Michaels Way	Medium	Very Small	permanent	Minor adverse	Site forms a small component of a much wider view and is seen within the context of existing built development. Mitigation planting will not have a significant effect from this distance.

Viewpoint 19 : Trencrom Hill	Very High (AONB)	very Small	permanent	Minor adverse	Site forms a small component of a much wider view and is seen within the context of existing built development. Mitigation planting will not have a significant effect from this distance.
Viewpoint 20 : Knills Monument	High	no discernable change	na	no change	distance mitigates
Viewpoint 21 & 22:	Medium/High	Large	permanent	Major beneficial once the school improvement s are made.	The addition of hedge and tree planting along the boundary of what will be the future school entrance will mature over 15 years and will provide a softer entrance condition. It is hoped that within this period the school is expanded and the new public realm to the entrance is completed which will provide a beneficial effect to the street scene.
Viewpoint 23 : Churchtown Road, Phillack	Medium	Very Small	permanent	Minor adverse	the site operations would be seen in the context of existing built development. The on site planting works would have a limited effect on the mitigation from this view.

8.8.8 Residual Visual Effects Summary : Due to the fact that the scheme is on a sloping site overlooking existing houses that are in close proximity, there will be major residual adverse impacts related to Viewpoints 10, 11 & 15. Mitigation is difficult but the tree planting will help to soften the built development over time. The degree of change from baseline is however still a major change.

8.8.9 A short section of visibility along the A30 will also allow views into the site and the effect on passengers will result in residual adverse effects. The impacts on middle to long distance



views generally are however less significant as the scheme is actually well contained and is seen against existing built development.

8.9 Cumulative Effects Assessment

- 8.9.1 The site falls within an area that has been identified as a growth area under the Hayle Town Framework. (Dec 2011). Whilst this is not an adopted document, it was produced to inform the growth strategy for Hayle and would appear to be a robust document in terms of its assessment process.
- 8.9.2 Figure 8.25 shows the extent of area HUE2 which covers all the southern area around Hayle up to the A30, which includes the application site (HUE2(B)). This would provide circa 2000 homes over the next 20 years.
- 8.9.3 This level of housing will clearly have an additional visual impact on the local area (houses and land/ footpaths adjoining the proposed development area Vp 1, 2, 8, 10, 15), the A30 when it is on embankment (section to the south of the application area VP 5) and middle/ long distance views to the south and east (Vp 3, 4, 7) although there are limited visual receptors in these areas as it is primarily farmland.
- 8.9.4 There are no International nor National landscape designations in this area. There is an additional Local landscape designation related to Policy TV2 : Open Areas related to Settlements but it would appear that Cornwall Council have not considered this to be an



important designation in relation to future development and that the growth requirements of Hayle should take precedence.

8.10 Assessment Summary

Work carried out

8.10.1 Lavigne Lonsdale Ltd. were appointed by Linden Homes Ltd to prepare an assessment of likely landscape and visual effects arising from the proposed development.

8.10.2 Changes arising from the proposed development were sub-divided into effects on:

- **Landscape designations** (areas designated for their value in landscape and habitat terms)
- **Landscape character** (local landscape character types and landscape character areas);
- **Landscape Elements** (the fabric and features of the land); and
- **Views** (the appearance of the site when viewed from the local area).

8.10.3 The method of assessment is based on the "Guidelines for Landscape & Visual Effect Assessment (Second Edition)", by the Landscape Institute and the Institute of Environmental Management & Assessment.

8.10.4 The work included desktop research using a range of planning and landscape assessment references, field surveys including panoramic photography from 23 representative viewpoints, and the creation of 3D computer modelling of the site and montages to assist with the evaluation of visual impacts.

Principal Findings

8.10.5 **Landscape Designations:** the site does not directly impact on any International or National landscape designations. The site is in close proximity to the World Heritage site and Conservation Area but has been set back to provide breathing space for the Penpol School. The frontage development contains stone and rendered facades to reflect the material palette in the Conservation Area.

8.10.6 Policy TV2 : open area related to settlement, would be effected but the Cornwall Council emerging Town Framework Plan has ignored it as a designation due to the need for housing.

8.10.7 The emerging Town Framework plan identified that the site area was sensitive in landscape terms due to the wetland and existing public footpath but that it should be included for



development subject to providing a suitable wetland / green corridor enhancement which is included in the application scheme.

8.10.8 **Landscape Character:** There would be a significant change in the landscape character associated with the site. However, the retention of trees and inclusion of green buffers (wetland woodland and woodland/ hedge reinforcement) will help to integrate the developed edge into the wider landscape and retain the surrounding landscape character .

8.10.9 Clearly the character will change significantly as green fields will become development.

Landscape Effects

8.10.10 **Topography :** The scheme aims to retain a majority of the site at existing ground level, subject to localised earth moving to create Finish Floor levels, particularly on the northern part of the site. However, more significant earthworks and retention will be required for the entrance road and certain parts of the scheme where levels are steeper.

8.10.11 **Land Use :** the loss of agricultural land will be seen as a major adverse effect on the localised area.

8.10.12 **Vegetation Cover :** whilst there will be a loss of some existing hedgerows, there will be a nett gain in hedgerow, woodland and tree cover across the site. This is a beneficial effect in the long term.

8.10.13 **Historical & Cultural :** the field patterns are medieval. The most sensitive are the small field patterns to the northeast of the site which have been retained. The development has also been designed to provide sufficient setting to the Listed Buildings and to respond to the setting of the Penpol Primary School.

8.10.14 **Visual Effects:** The temporary construction activities will inevitably give rise to short term adverse effects by the removal of some field boundaries, earthworks and soil clearance plus the building operations.

8.10.15 The ZTV is not dissimilar to the ZVI so that the extent of visual influence is larger restricted the south and west of the site.

8.10.16 In order to mitigate adverse visual effects, a scheme of integrated mitigation works has been incorporated into the development, including the following elements:

- Retention of all important hedgerows and hedgerow trees and a net increase in tree and shrub cover across the site.
- Creation of a woodland buffer along the northern edge adjacent to the Listed Buildings.



- The inclusion of parks and street trees to help break up the urban areas and the retention and reinforcement of the wetland woodland to the west.

8.10.17 Whilst mitigation can help reduce potential effects and integrate development into the wider landscape, the effect of development on the local views particularly from the west (Viewpoints 10 & 11) will remain adverse given the fact that the residents are currently looking out onto existing fields. By retaining trees and woodlands, incorporating buffer zones, reduce storey heights, etc, can help to mitigate, the change in character will remain a significant change.

8.10.18 If development is to occur though, the treatments are appropriate and will help to reduce impacts and integrate the scheme into the wider setting.



9.0 Conclusions

9.1 Introduction

9.1.1 An assessment of the Proposed Development in respect to the scoped areas of potential environmental concern has shown that if the identified additional mitigation is implemented during the design, construction and operational stages of the Proposed Development, all identified environmental effects can be appropriately mitigated and reduced to a level which is not considered to be significant. That is with the exception of landscape and cultural heritage, which are addressed in more detail in the sections below.

9.1.2 Detailed below are the conclusions of the post mitigation effects assessment from each chapter.

9.2 Ecology

9.2.1 The ecology assessment identified that prior to the implementation of mitigation that the Proposed Development could potentially result in a number of significant effects on both statutory and non-statutory sites, habitats and reptiles. However, through the implementation of appropriate design mitigation and through the use of a Construction Environmental Management Plan (CEMP) the assessment has concluded that there will be no significant adverse residual effects from the development on ecological receptors.

9.2.2 Additionally the assessment has identified that the mitigation which will be provided through the development will result in several minor beneficial effects which include;

- The provision of more diverse, higher quality habitats; and,
- The increase in quality and quantity of suitable habitat for bats, birds, reptiles and invertebrates.

9.3 Landscape and Visual Impact Assessment

9.3.1 The ES has identified significant effects at the operational phase from three viewpoints around the site. These include;

- Viewpoint 10 :Mellaneer Road/Boskennel Drive;
- Viewpoint 11 : Mellaneer Close
- Viewpoint 15 : Public bridleway west

9.3.2 In addition a short section of visibility along the A30 will also allow views into the site and the effect on passengers will result in residual adverse effects.

9.3.3 Design mitigation in the form of landscape planting has been incorporated into the masterplan, and while this will partially mitigate these effects, the visual effect on these near by receptors will remain significant.

9.3.4 In respect to landscape, significant effects to landscape have been identified to:

- Topography
- Landuse
- Landscape Character

9.3.5 It is considered that these effects are an unavoidable consequence of development on this site and as such can not be mitigated further

9.4 Cultural Heritage

9.4.1 The ES has identified potentially significant construction effects on the following receptors.

- Hayle Conservation Area
- Findspot of a Roman coin (HER no.139301)
- Post-medieval mining shaft (HER No.53602)
- Late C18-C19 mill complex, ropeworks and associated water management system immediately east of Millpond Avenue, Foundry (scheduled monument – ref.1402648)
- Netherleigh, 14 and 16, St Georges Road



- Trepenpol, 20, St Georges Road
 - The Beeches, 22, St Georges Road
 - Gate-Piers, Gates and Flanking Walls Approximately 60 Metres North of The Beeches
 - Hayle, Barview Farmhouse, Barview Lane - Post Medieval house (HER no.140811)
- 9.4.2 However, these effects are considered to be temporary during the construction phase, and as such due to the construction period being limited to 4.5 years and ranging across the site during this period, additional mitigation is not considered to be appropriate.
- 9.4.3 The ES has also identified potentially significant operational effects on the setting of Cornwall and West Devon Mining Landscape World Heritage Site.
- 9.4.4 Given that the Proposed Development affects the setting rather than the heritage Site itself, it has not been practical to identify any additional mitigation.

9.5 Summary

- 9.5.1 An assessment of the proposed development in respect to the identified areas of potential environmental concern has shown that if the identified additional mitigation is implemented during the design, construction and operational stages of the development, the majority of operational and construction effects identified can be appropriately mitigated for and reduced to a level which is not considered to be significant.
- 9.5.2 However, there remain a small number of significant adverse effects that are still considered to be significant following additional mitigation and compensation. These effects are listed below:
1. LVIA: Potential effects on three separate viewpoints at operational phases.
 2. Landscape: Potential effects on topography, land use and landscape character
 3. Cultural Heritage: Potential effects on the setting of Cornwall and West Devon Mining Landscape World Heritage Site.
- 9.5.3 Whilst these effects are considered to be residually significant, it should be noted that LVIA effects have been reduced as far as possible through careful and sensitive design layout and the scheme has ensured that the impacts on viewpoints are as sensitive as possible.
- 9.5.4 In addition to these adverse effects, there are significant beneficial effects in socio-economic terms through job creation at both the construction and operational phases, delivery of new homes and provision of land to allow for the expansion of the local primary school.
- 9.5.5 There are also minor benefits for ecological receptors including the provision of more diverse, higher quality habitats and the increase in quality and quantity of suitable habitat for bats, birds, reptiles and invertebrates.

9.6 In-combination Effects

- 9.6.1 In accordance with the EIA Regulations, it is also necessary to identify the in-combination effects (also known as inter-relationship) arising from the Proposed Development. These are the effects which in isolation may only represent a slight effect upon a receptor, but in conjunction with the other effects arising from the topic assessments, may represent a greater effect and need to be given further consideration. For example, a local resident might be affected by the noise from the construction phase, but might also be affected by



dust and increased traffic. Individually, these might not be assessed as being significant, but in combination they might become significant.

- 9.6.2 This form of cumulative assessment is based upon the residual effects as it has been assumed that the additional mitigation detailed above will be implemented, as it can be readily secured through the planning system.
- 9.6.3 Only those effects which have been determined to be minor/slight or above have been considered to represent an effect on identified receptors and are therefore represented in the in-combination effects table.
- 9.6.4 The in-combination effects assessment identified a number of in-combination effects on a single receptor or group of receptors, as is the case for local residents. However, primarily for the timescale reasons given above, in combination effects are not considered to be magnitudinally greater than those effects identified by individual topic chapters and as such no additional mitigation or compensation is required.



Table 9.1 In-Combination Effects during Construction



Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations (e.g. local footpaths, woodland)	Heritage features (above ground e.g. listed buildings, conservation areas,)
LLVIA Effect of construction works on Local viewpoints	Minor to Moderate Adverse	Minor to Moderate Adverse		-
Cultural Heritage Cornwall and West Devon Mining Landscape World Heritage Site	-	-	-	Moderate adverse
Cultural Heritage <i>Hayle Conservation Area</i>	-	-	-	Moderate adverse
Cultural Heritage <i>Findspot of a Roman coin (HER no.139301)</i>	-	-	-	Moderate adverse



Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations (e.g. local footpaths, woodland)	Heritage features (above ground e.g. listed buildings, conservation areas,)
Cultural Heritage <i>Post-medieval mining shaft (HER No.53602)</i>	-	-	-	Moderate adverse
Cultural Heritage <i>Late C18-C19 mill complex, ropeworks and associated water management system immediately east of Millpond Avenue, Foundry (scheduled monument – ref.1402648)</i>				Moderate adverse
Cultural Heritage <i>Netherleigh, 14 and 16, St Georges Road</i>				Moderate adverse
Cultural Heritage <i>Trepenpol, 20, St Georges Road</i>				Moderate adverse



Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations (e.g. local footpaths, woodland)	Heritage features (above ground e.g. listed buildings, conservation areas,)
Cultural Heritage <i>The Beeches, 22, St Georges Road</i>				Moderate adverse
Cultural Heritage <i>Gate-Piers, Gates and Flanking Walls Approximately 60 Metres North of The Beeches</i>				Moderate adverse
Cultural Heritage <i>Hayle, Barview Farmhouse, Barview Lane - Post Medieval house (HER no.140811)</i>				Moderate adverse

Table 9.2 In-Combination Effects during Operation



Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations	Ecology Protected species/Habitat	Heritage features (above ground)
EEcology Establishment of wildlife habitats	-	-	-	Slight - beneficial	-
Ecology Bat foraging areas	-	-	-	Slight - beneficial	-
Ecology Creation of reptile habitat	-	-	-	Slight - beneficial	-
Ecology Creation of bird habitat	-	-	-	Slight - beneficial	-
Ecology Establishment of invertebrate habitats	-	-	-	Slight - beneficial	-
LVIA Effect on local viewpoints	Minor to Moderate Adverse	Minor to Moderate Adverse		-	-
LVIA Effect on landscape character	-	-	Major adverse	-	-



Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations	Ecology Protected species/Habitat	Heritage features (above ground)
Cultural Heritage Cornwall and West Devon Mining Landscape World Heritage Site	-	-	-	-	Moderate to Large Adverse
Cultural Heritage <i>Hayle Conservation Area</i>	-	-	-	-	Minor adverse
Cultural Heritage <i>Post-medieval mining shaft (HER No.53602)</i>					Minor adverse
Cultural Heritage <i>Late C18-C19 mill complex, ropeworks and associated water management system immediately east of Millpond Avenue, Foundry (scheduled monument – ref. I 402648)</i>					Minor adverse



Nature of Effect (Post Additional Mitigation)	Local Residents	Wider Community	Landscape Features and Designations	Ecology Protected species/Habitat	Heritage features (above ground)
Cultural Heritage <i>Netherleigh, 14 and 16, St Georges Road</i>					Minor adverse
Cultural Heritage <i>Trepnol, 20, St Georges Road</i>					Minor adverse
Cultural Heritage <i>The Beeches, 22, St Georges Road</i>					Minor adverse
Cultural Heritage <i>Hayle, Barview Farmhouse, Barview Lane - Post Medieval house (HER no.140811)</i>					Minor adverse