LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Proposed Sand and Gravel Extraction
from Land at White Cross Farm,
off Reading Road, South of Wallingford, Oxfordshire

August 2021

For

London Rock Supplies UK Ltd
Unit 5 Delta Court
Manor Way
Borehamwood
Hertfordshire
WD6 1FJ

Contents *Page*

1.0 INTRODUCTION

1.1 This document is a Landscape and Visual Impact Assessment Report in respect of proposals for Sand and Gravel Extraction from Land at White Cross Farm, off Reading Road, South of Wallingford, Oxfordshire (the site)

1.2 This report has been produced by Kedd Limited, a practice specialising in landscape architectural design and assessment works relating to environmental planning schemes in both urban and rural areas.

1.3 The assessment report has been produced in liaison with Greenfield Environmental the project co-ordinators for inclusion within a planning application and environmental statement on behalf of London Rock Supplies UK (The Client).

1.4 The aim of the report is to understand the baseline landscape and visual resources and receptors within the Site/ Site local area and to assess their value and sensitivity to change resulting from the proposed development type. From this baseline position to assess the specific magnitude of effect of the detailed development proposed on the resources/receptors and to determine the Level of Significance of Effect on Landscape and Visual matters (which could be potentially adverse/ or beneficial), evaluate the landscape and visual impacts associated with the proposed development to determine the likely effects to the landscape and visual character of the area and where necessary recommend mitigation measures which can be incorporated into the design of the scheme.

Site Context and Description

1.5 The site is located within a rural/urban fringe setting. It is contained between the A4130 Wallingford bypass to the north and subsequently Wallingford Town, the River Thames to the east, the A329 Reading Road to the west and agricultural hedges/ field boundaries and woodland to the south. See Figure 1 Location Plan in Appendix A.

1.6 The site is located to the west of the River Thames and within a low lying flat landscape, the flood plain. It comprises four separate fields which are farmed as arable land, semi-improved grassland. Habitats recorded within the Site include dense scrub, hedgerows, scattered trees and hardstanding. There is a steel framed "Dutch" barn part clad in corrugated sheet located in the centre of the Site. There is a very narrow wet ditch which extends through the site from south-north. This is very shallow in depth and is surrounded by a mix of hedgerow species and ruderal vegetation / open banks. A further wet drain extends from the northern boundary to the River Thames in a south easterly direction to the north east of the site.

1.7 There is an existing vehicle access from the Reading Road, together with one section of public right of way (PROW), the Thames Path which runs north/south along the eastern boundary of the site. The route of the pathway is both open to the Site and also contained by areas of existing scrub vegetation.

1.8 Surrounding land uses include a children's day care nursery to the west within Elizabeth House, a solar farm and agricultural land to the east, leisure and recreational activities associated with the River Thames including boating and Carmel College grounds (a former boarding school), together with agricultural land/horse pastures. There is residential enclave to the south along with Oxford Brookes University Boat House and Jetty together with the Springs Golf Course. Residential development associated with the town of Wallingford is to the north, together with the University of Oxford Boat Club. The Centre for Agricultural and Biosciences International (CABI) is located to the north east of the A4130 Nosworthy Way, Wallingford Bypass along with a CALA Homes – Carmel Meadows residential development. The Thames pathway connects many of the land uses as well as linking into the wider PROW network. The Barchester Waterside Court Care Home has been developed and established on land to the north west of the Reading Road / A4130 roundabout (which is adjacent to the site). The Grundon New Barn Farm Quarry also lies to the north west, accessed off he A4130,

Potential Landscape and Visual Effects

Sources of Potential Landscape and Visual Effects

1.9 The proposed development is described in detail in Chapter 3. In summary, the proposed development comprises two stages:

A. Mineral Extraction and Progressive Restoration Stage

1.10 A new vehicular entrance and a separate vehicle exist will be established which will involve the removal of existing hedge / tree planting.

1.11 Soils and existing agricultural vegetation will be progressively stripped to expose mineral. Initially, stripped soils will be placed in temporary soil storage bunds of between 3m and 5m in height.

1.12 A mineral processing plant and associated facilities will be established followed by extraction of mineral by excavator, transported to the plant site for processing. To facilitate the initial stage, an "as raised" stockpile of up o 10m in height will temporarily store mineral, with subsequent direct processing of extracted mineral and onward sale. This initial stage will enable the plant site to be established within the quarry void, below existing ground levels. As soon as void space has been created through mineral extraction, progressive restoration will take place utilising imported inert material to create formation levels, onto which, directly stripped soils will be placed to create the soil profile. On completion of mineral processing and restoration works, all plant and machinery will be decommissioned and removed from site.

1.13 The potential landscape and visual effects of Stage A include:

i. The loss of landscape features, principally trees, agricultural land and a progressive change in landform/ topography and landuse from agricultural to open water.
ii. The removal of a Dutch Barn
iii. The temporary introduction of engineering/ quarry plant and soil and "as raised" storage bunds / stock
iv. Creation of temporarily disturbed land

B. Post Restoration Stage

1.14 The permanent / final restoration of the site is to a wildlife enhanced agricultural landscape which utilises its proximity to the River Thames and ground water levels to promote Biodiversity Net Gain. The restoration land uses being:

- Agricultural land
- Damp meadow / marshy habitat
- River Thames Corridor for access
- Additional section of permissive PROW
- Ditches and shallow ponds
- Native tree and shrub planting to strengthen the northern and western boundaries
- Site internal hedgerows
- Reinstatement of barn

1.15 The potential landscape and visual effects of Stage B include:

i. The re-siting of the internal barn closer to the A329 Reading Road could result in the structure being more visually prominent that it currently is
ii. All other land uses at permanent restoration are key defining landscape character elements and features of the South Oxfordshire District Council defined character areas and types for this site / local area.

Landscape and Visual Mitigation Measures and Enhancement Measures

1.16 Mitigation measures associated with the Proposed Development have evolved during the design of the scheme in order to both minimise potential adverse landscape and visual effects and enhance beneficial effects.

1.17 In respect of Stage A, temporary operational, mitigation and enhancement measures include:

- The active management of internal site peripheral vegetation to maintain and enhance the effect of vegetation screening. Actions will include gap and under planting of existing vegetation blocks utilising native/species rich plants.
- Advanced planting to establish vegetation screening.

- Placement of temporary soil screening bunds behind existing hedgerows/ tree planting adjacent to the Reading Road to further prevent views into the Site during the operational stage.
- The placement of temporary agricultural straw bales along the eastern boundary of the progressively extracted and restored Phase 1 and 2.
- The design of the construction phased working and restoration scheme to ensure the greatest area possible is progressively restored in both an efficient way, in the shortest possible timeframe, thereby helping to ensure the smallest possible area of disturbance within the site at any one-time period.

1.18 In respect of Stage B, mitigation and enhancement measures include:

- Establishing locally typical landscape elements and features including native tree and shrubs, hedgerows, and damp meadow.
- Design and implementation of a long-term management plan for all landscaping and habitats
- Creation of sustainable habitats to support and promote Biodiversity Net Gain e.g. shallow scrapes / ponds.
- Land will be restored to original or similar ground levels aOD.

2.0 SUMMARY METHODOLOGY

2.1 This Landscape and Visual Impact Assessment (LVIA) has been carried out in accordance with the Landscape Institute and the Institute of Environmental Management and Assessment Guidelines for Landscape and Visual Impact Assessment (GLVIA 3), Photography and Photomontage in Landscape and Visual Assessment and Natural England, An Approach to Landscape Character Assessment.

"LVIA is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource, in its own right, and on people's views and visual amenity" GLVIA3.

2.2 Data, collation and assessment has been carried out utilising both desk top and Site survey works to identify the baseline landscape character and visual nature and condition of the Site and its local area. Initial desk top survey analysis helped to identify the potential areas the proposed development may influence / change in respect of character and viability. A 1:25,000 Ordnance Survey map was used to identify potential areas of visibility from roads, properties, public rights of way and open access land. Utilising Site and Site context topographical 3D data the Zone of Theoretical Visibility (ZTV) of the existing Site and the potential proposed development was undertaken. See Figure 6 and 7 within Appendix A. These were then used to inform and help define a study area within which the proposed development could influence / change both Landscape Character and Visual Amenity. It is worth noting that the ZTV's are a worst-case scenario in assessing the geographical land area from where the existing / proposed Site development could be observed / influence

Landscape Character as this method of analysis does not account for existing built form or vegetation structure which would affect / could screen views towards the Site from landscape and visual receptors.

2.3 The desktop appraisal helped form the basis for Site survey works which were carried out in summer and winter 2016, summer 2017, and summer 2021.

2.4 A description of the full Methodology and Assessment Process used is detailed within Appendix B of this report.

2.5 In summary and in highlighting the main assessment process the GLVIA states that when undertaking an LVIA, this should consider:

i) Landscape effects i.e. the effects on the landscape as a resource; and
ii) Visual effects i.e. the effects on views and visual amenity.

2.6 It also states that*; "LVIA must deal with both and should be clear about the difference between them"*. GVLIA3 para 2.2.2 para 21.
The Guidelines explain that both landscape and visual effects are dependent upon the sensitivity of the landscape resource or visual receptors and the magnitude of impact.

Sensitivity – is the term applied to specific receptors, combining judgements of the susceptibility of the receptor to the type of change or development proposed and the value related to that receptor.

Susceptibility – is the ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.

Landscape Value – being the relative value that is attached to different landscape by society. A landscape may be valued by different stakeholders for a whole variety of reasons. Value attached to views – The recognition of the value attached to particular views, e.g. in relation to heritage assets or through planning designations.

Magnitude (of Effect) – the term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration.

Assessed Overall Level of Significance of Effect – this term relates to the final judgement about whether each effect identified is significant or not. It is a measure of the importance or gravity of the environmental effect, defined by the significance criteria specified within Appendix B.

2.7 The assessment process and its findings are detailed within Sections 4.0 to 7.0 of this report.

2.8 The Site is located within the administrative boundary of South Oxfordshire. The following policy documents cover this administrative area and set out the current landscape policy context. Relevant landscape and environmental policies have been included below:

i. Oxfordshire Minerals and Waste Local Plan Part I - Core Strategy 2017

ii. South Oxfordshire Local Plan to 2035 – adopted December 2020

iii. Chilterns AONB Management Pan 2014-2019

iv. North Wessex Downs Management Plan 2014-2019

2.9 Consultation has included:

Oxfordshire County Councils email dated 6th May 2021 ref PRE.0048/21 in respect of Pre-Application advice on resubmission of application for sand and gravel extraction.

Liaison with Crieth Haidrun, Landscape Architectureal Officer at Oxfordshire County Council in respect of a Draft Restoration Scheme for the site – bringing lan back to a similar AOD level as existing (July 2021).

Technical Difficulties

2.10 No technical difficulties were encountered which could have compromised the overall integrity of the assessment undertaken.

3.0 THE PROPOSED DEVELOPMENT

3.1 The proposed development is for the temporary extraction of sand and gravel with the progressive importation of inert materials to aid in the restoration of disturbed land back to the same / similar above Ordnance Survey datum levels as existing.

3.2 Drawing No. KD.WLF.D.002 to D.010, contained within the Planning Statement, illustrate the proposals.

3.4 In summary, the proposals being:

Current Situation

3.5 The Site Application Area is: ~ 18.97 Hectares (46.87 Acres)

3.6 The current land uses comprise hedged / wooded boundaries to the north, south and west, agricultural land and scrub vegetation to the eastern boundary alongside the Thames Pathway (a National Trail) and the River Thames. The main land use being agriculture.

3.7 The western area of the Site comprising the better quality agricultural land on slightly higher ground, compared to the eastern area of the Site where agricultural land is more prone to waterlogging. A ditch with varying boundary vegetation runs north to south between the two areas.

3.8 The Site is accessed off the A329 Reading Road, onto a track which leads eastwards.

3.9 A large dutch barn structure is located within the north western area of the Site.

Phase A

Operations

1. Additional native tree planting to western and northern boundaries will take place to strengthen and add species diversity to existing planting blocks.
2. Establishment of new Site access / entrance off the A329 Reading Road (left turn only) and exist onto the A4130 Nosworthy Way (left hand turn only).
3. Soils to be stripped from both the Phase A area and the footprint of the "as raised"mineral stockpile (up to 10m in height). Soils to be placed in Bunds 1, 2 and 3 along the inner western and north western boundaries of the Site. Topsoil to be stored at 3m in height, with subsoil at 5m in height. Bunds to be grass seeded and maintained.
4. Mineral will be fully extracted from Phase A. This "as raised" material will be placed in a stockpile within and to the south west of the plant site. The extracted void will then be infilled utilising imported inert materials to approximately 1.2m below final restoration levels. A void will be left within the north eastern area of this phase and established as a water and silt management lagoon(s). To the south of this area, a void will also be left available (Restoration Area 01) to accomodate poor quality soils / overburden / sequential stripping of Phase 1.
5. On completion of infilling of this phase, a mineral processing plant and ancillary office buildings are to be constructed.
6. Once the plant is commissioned and operational, sand and gravel from the "as raised" stockpile will be placed within the mineral processing plant, mineral products will be produced, temporarily stocked, and transported off Site to point of sale.
7. Silt generated through processing will be placed within the lagoon.

Phase 1

Operations

1. Sequential sections of agricultural straw bales are to be placed along the eastern boundary of Phase 1, to help screen the active mineral extraction area.
2. Soil stripping will take place with the poorer quality soils and overburden being directly placed to help create the restoration formation levels (i.e. landform levels

below the proposed final soil profile) within the Restoration Area 01, in combination with imported inert material. This area will be utilised for plant site activities.

3. Mineral will then be extracted, transported to the plant site by dump truck for processing, temporarily stocked, and transported off-site by HGV to point of sale.
4. Silt generated as part of processing is to be placed within the silt lagoon.
5. Once sufficient void has been created within Phase 1(a), poorer quality soil and overburden material will be stripped from the Phase 1(b) area and combined with imported inert material to help achieve restoration formation levels within Phase 1(a).
6. Mineral extraction and progressive restoration will continue sequentially into Phase 1(b)

Phase 2

Operations

1. Soils will be progressively stripped from Phase 2 in a southerly direction and utilised along with imported inert material to restore land within Restoration Area 02 (Phase 1).
2. Mineral will be extracted and transported to the “as raised” stockpile from which it will be removed, processed, temporarily stocked and transported by HGV to point of sale.
3. Silt generated as part of processing is to be placed within the silt lagoon.
4. Once sufficient void has been created within the norther part of Phase 2, remaining soils within the southern area of this phase will be progressively stripped and directly placed for restoration within this void, together with land within Restoration Area 02, to help complete restoration works within Phase 1.
5. All restored land will be managed and maintained under a 5 Year Aftercare Period, before being handed back to the landowner.

Phase 3

Operations

1. Soils will be progressively stripped in a northerly direction and temporarily stored (outside of the floodplain) within an area of the "as raised" stockpile.
2. Imported inert materials will continue to be placed to complete the restoration of Restoration Area 03.
3. Mineral will be extracted and transported to the “as raised” stockpile from which it will be removed, processed, temporarily stocked and transported by HGV to point of sale.
4. Silt generated as part of processing is to be placed within the silt lagoon.
5. Once sufficient void has been created through mineral extraction within the southern part of Phase 3, soils from both the northern part of Phase 3 together

with soils held in Bund 1 (within Phase 3) will be progressively placed along with imported inert restoration materials, to restore land within the southern and central areas of this phase.

6. By removing soils temporarily held within Bund1, it will allow the full extraction of mineral from this phase.
7. All restored land will be managed and maintained under a 5 Year Aftercare Period, before being handed back to the landowner.

Phase 4

Operations

1. Remaining in-situ soils within Phase 4 will be stripped and placed for restoration, along with imported inert materials, to restore land within Restoration Area 04 (Phase 3).
2. Mineral will be extracted and transported to the "as raised" stockpile from which it will be removed, processed, temporarily stocked and transported by HGV to point of sale.
3. Silt generated as part of processing is to be placed within the silt lagoon.
4. Once sufficient land has been brought up to restoration formation levels within the extracted Phase 4 area, remaining soils within Bund 1 will be placed for restoration. Mineral will then be extracted from this area.
5. All restored land will be managed and maintained under a 5 Year Aftercare Period, before being handed back to the landowner.

Final Works

Operations

1. On the cessation of final mineral processing and sales from the quarry, all processing plant will be decommissioned and removed from Site. The site office, weighbridge, staff facilities and wheel wash will remain until the completion of final restoration works.
2. Imported inert material will be directly placed to restore land within unrestored areas of Phase 4. On achieving restoration formation levels, soils held in Bunds 2 and 3 will be removed and placed to complete the restoration soil profile on this land and land within the plant site area.
3. All remaining quarry offices and equipment will then be removed from Site.
4. All restored land will be managed and maintained under a 5 Year Aftercare Period, before being handed back to the landowner.

Concept Restoration

3.10 The Concept Restoration Objectives for the site are:

- The re-establishment of ground levels at or similar to existing (ranging from ~43mAOD to ~46mAOD).
- The protection and retention of the soil resource and its concentration and use to re-establish the current area of Best and most Versatile Land for agricultural purposes, and to maintain land productivity.
- The rejuvenation and strengthening of local landscape character elements and features to ensure the site reflects and helps sustain the Flat Floodplain character of the South Oxfordshire District Council Character Type.
- The creation of new and sustainable habitats, including damp meadow, shallow water bodies, ditches and vegetation structure, to enhance and sustain Biodiversity Net Gain.
- To create an on-site water management system which has no effect on local surface or ground water patterns.
- To provide additional public footpath access to offer an alternative 'away from road' route.

3.11 All land within the site is to be actively managed and maintained during the sequential development period and subsequently be placed into a 5 Year Aftercare and Management Plan, once restored.

4.0 LANDSCAPE ORIENTATED DESIGNATIONS AND PLANNING POLICIES

Landscape Designations

4.1 The Site is not located within a National Park. The eastern boundary of the site runs adjacent to the Chilterns Area of Outstanding Natural Beauty / River Thames. The North Wessex Downs AONB is located approximately 1.5 km to the west, south west and north of the site. The Chilterns AONB is part of a chalk ridge which crosses England from Dorset to Yorkshire. The chalk ridge forms a range of rounded hills with a scarp slope looking north west indented by coombes and cut by a number of gaps. The Site forms a boundary with the South West edge of the AONB which includes the River Thames in this area. Due to its location close to London and several large towns, the management plan acknowledges that the "Chilterns provides highly valued landscapes and places to escape to. It is a place which has to cope with growing populations and increasing traffic levels as well as pressures for development which come right up to its boundary". (Chilterns Area of Outstanding Natural Beauty Management Plan 2014-2019).

4.2 The North Wessex Downs is also a chalk downland area, stretching from its North-East Corner, across Berkshire, Hampshire and Wiltshire in the west. The Landscape Types identified closest to the Site are Downs Plain and Scarp; a "low level surface extending as a wide ledge at the foot of the high Open Downland", and Vales; where springs from the adjacent landscape result in 'their streams meandering across the Vale Floor".

4.3 Please see Figure 2 in Appendix A for Landscape Orientated Designations.

4.4 There are Listed Buildings located in the surrounding area, mainly within in the town of Wallingford to the north but also in countryside locations near the Site. The closest listed buildings to the site being the Julius Gottlieb Gallery and Boathouse Grade II* located ~ 50m to the east of the site along with the Former Church of St John the Baptist located ~40m to the east of the site.

- There are three conservation areas within 2km of the centre of the site. These are ~ 200m to the north Winterbrook Conservation Area, ~500m to the north Wallingford Conservation Area, and ~1km to the south east North Stoke Conservation Area. As a result of intervening landscape and built elements and features and/or distance these conservation areas are not judged to be affected by the proposed development.
- Registered Parks and Gardens- Located ~1.5km to the south, Fairmile Hospital Gardens. The gardens are considered to be distinct and separated from the proposed development site.
- National Nature Reserves- No sites are located within 2km of the site.
- Local Nature Reserves/ Local Nature Conservation Sites- The closest non- statutory designated site is located at a distance of ~1.5m to the south of the proposed development. This being the LWS's 58RO3 Unill and Ham Woods and the 58RO6 North Unhill Bank. It is considered that due to distance and intervening landform and landuses that the propoposed development will have no effect on these sites.
- Sites of Special Scientific Interest (SSSI)- none are located within 2km of the site.

4.5 The Thames Path runs along the eastern boundary of the site. This pathway is a National Trail and is one of sixteen National Trails across the UK.

Landscape Orientated Planning Policy

4.6 The Site is located within the administrative boundary of South Oxfordshire. The following policy documents cover this administrative area and set out the current landscape policy context. Relevant landscape and environmental policies have been included below:

- Oxfordshire Minerals and Waste Local Plan Part I - Core Strategy 2017
- South Oxfordshire Local Plan to 2035 – adopted December 2020
- Chilterns AONB Management Pan 2014-2019
- North Wessex Downs Management Plan 2014-2019

Oxfordshire Minerals and Waste Local Plan Part I – Core Strategy 2017

Policy C7: Biodiversity and Geodiversity

"Minerals and waste development should conserve and, where possible, deliver a net gain in biodiversity.

The highest level of protection will be given to sites and species of international nature conservation importance (e.g. Special Areas of Conservation and European Protected Species) and development that would be likely to adversely affect them will not be permitted.

In all other cases, development that would result in significant harm will not be permitted unless the harm can be avoided, adequately mitigated or, as a last resort, compensated for to result in a net gain in biodiversity (or geodiversity). In addition:

- *(i) Development that would be likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other development) will not be permitted except where the benefits of the development at this site clearly outweigh both the impacts that it is likely to have on the Site of Special Scientific Interest and any broader impacts on the national network of Sites of Special Scientific Interest.*
- *(ii) Development that would result in the loss or deterioration of irreplaceable habitats, including ancient woodland and aged or veteran trees, will not be permitted except where the need for and benefits of the development in that location clearly outweigh the loss.*
- *(iii) Development shall ensure that no significant harm would be caused to: - Local Nature Reserves; - Local Wildlife Sites; - Local Geology Sites; - Sites of Local Importance for Nature Conservation; - Protected, priority or notable species and habitats, except where the need for and benefits of the development in that location clearly outweigh the harm.*

All proposals for mineral working and landfill shall demonstrate how the development will make an appropriate contribution to the maintenance and enhancement of local habitats, biodiversity or geodiversity (including fossil remains and trace fossils), including contributing to the objectives of the Conservation Target Areas wherever possible. Satisfactory long-term management arrangements for restored sites shall be clearly set out and included in proposals. These should include a commitment to ecological monitoring and remediation (should habitat creation and/or mitigation prove unsuccessful)."

Policy C8: Landscape

"Proposals for minerals and waste development shall demonstrate that they respect and where possible enhance local landscape character, and are informed by landscape character assessment. Proposals shall include adequate and appropriate measures to mitigate adverse impacts on landscape, including careful siting, design and landscaping. Where significant adverse impacts cannot be avoided or adequately mitigated, compensatory environmental enhancements shall be made to offset the residual landscape and visual impacts.
Great weight will be given to conserving the landscape and scenic beauty of Areas of Outstanding Natural Beauty (AONB) and high priority will be given to the enhancement of

their natural beauty. Proposals for minerals and waste development within an AONB or that would significantly affect an AONB shall demonstrate that they take this into account and that they have regard to the relevant AONB Management Plan. Major developments within AONBs will not be permitted except in exceptional circumstances and where it can be demonstrated they are in the public interest, in accordance with the 'major developments test' in the NPPF (paragraph 116). Development within AONBs shall normally only be small-scale, to meet local needs and should be sensitively located and designed."

Policy C9: Historic Environment and Archaeology

"Proposals for minerals and waste development will not be permitted unless it is demonstrated, including where necessary through prior investigation, that they or associated activities will not have an unacceptable adverse impact on the historic environment.
Great weight will be given to the conservation of designated heritage assets: Blenheim Palace World Heritage Site; scheduled monuments; listed buildings; conservation areas; historic battlefields; registered parks and gardens; and non-designated archaeological assets which are demonstrably of equivalent significance to a scheduled monument; and the setting of those assets.
Where an application would affect a non-designated heritage asset, the benefits of the proposal will be balanced against the scale of harm to or loss of the heritage asset and its significance.
Where, following assessment of an application, the loss (wholly or in part) of a heritage asset is considered acceptable in principle, the applicant will be required to record and advance understanding of that asset, proportionate to the nature and level of the asset's significance, and to publish their findings.
Proposals for mineral working and landfill shall wherever possible demonstrate how the development will make an appropriate contribution to the conservation and enhancement of the historic environment."

South Oxfordshire Local Plan to 2035 – Adopted December 2020

Policy ENV1: Landscape and Countryside

1. *The highest level of protection will be given to the landscape and scenic beauty of the Chilterns and North Wessex Downs Areas of Outstanding Natural Beauty (AONBs):*

    - *Development in an AONB or affecting the setting of an AONB will only be permitted where it conserves, and where possible, enhances the character and natural beauty of the AONB;*
    - *Development in an AONB will only be permitted where it is appropriate to the economic and environmental wellbeing of the area or promotes understanding or enjoyment of the AONB;*

- *Major development in an AONB will only be permitted in exceptional circumstances and where it can be demonstrated to be in the public interest; and*
- *Development proposals that could affect the special qualities of an AONB (including the setting of an AONB) either individually or in combination with other developments, should be accompanied by a proportionate Landscape and Visual Impact Assessment.*

AONB Management Plans will be a material consideration in decision making.

2. *South Oxfordshire's landscape, countryside and rural areas will be protected against harmful development. Development will only be permitted where it protects and, where possible enhances, features that contribute to the nature and quality of South Oxfordshire's landscapes, in particular:*

   i) trees (including individual trees, groups of trees and woodlands), hedgerows and field boundaries;
   ii) irreplaceable habitats such as ancient woodland and aged or veteran trees found outside ancient woodland;
   iii) the landscapes, waterscapes, cultural heritage and user enjoyment of the River Thames, its tributaries and flood plains;
   iv) other watercourse and water bodies;
   v) the landscape setting of settlements or the special character and landscape setting of Oxford;
   vi) topographical features;
   vii) areas or features of cultural and historic value;
   viii) important views and visually sensitive skylines; and
   ix) aesthetic and perceptual factors such as tranquility, wildness, intactness, rarity and enclosure.

3. *Development which supports economic growth in rural areas will be supported provided it conserves and enhances the landscape, countryside and rural areas.*

4. *The Council will seek the retention of important hedgerows. Where retention is not possible and a proposal seeks the removal of a hedgerow, the Council will require compensatory planting with a mixture of native hedgerow species.*

Policy ENV3: Biodiversity

1. *Development that will conserve, restore and enhance biodiversity in the district will be supported. All development should provide a net gain in biodiversity where possible. As a minimum, there should be no net loss of biodiversity. All proposals should be supported by evidence to demonstrate a biodiversity net gain using a recognised biodiversity accounting metric.*

2. *Development proposals which would result in a net loss of biodiversity will only be considered if it can be demonstrated that alternatives which avoid impacts on biodiversity have been fully explored in accordance with the mitigation hierarchy. In the absence of alternative sites or layouts, development proposals must include adequate mitigation measures to achieve a net gain of biodiversity. Where harm cannot be prevented or adequately mitigated, appropriate compensation measures will be sought, as a last resort, through planning conditions or planning obligations (depending on the circumstances of each application) to offset the loss by contributing to appropriate biodiversity projects to achieve an overall net gain for biodiversity.*

3. *Planning permission will only be granted if impacts on biodiversity can be avoided, mitigated or, as a last resort, compensated fully.*

Policy ENV6: Historic Environment

1. *Proposals for new development that may affect designated and non-designated heritage assets should take account of the desirability of sustaining and enhancing the significance of those assets and putting them to viable uses consistent with their conservation. Heritage assets include statutorily designated Scheduled Monuments, Listed Buildings or structures, Conservation Areas, Registered Parks and Gardens, Registered Battlefields, archaeology of national and local interest and non-designated buildings, structures or historic landscapes that contribute to local historic and architectural interest of the district's historic environment, and also includes those heritage assets listed by the Oxfordshire Historic Environmental Record.*

2. *Proposals for new development should be sensitively designed and should not cause harm to the historic environment. Proposals that have an impact on heritage assets (designated and non-designated) will be supported particularly where they:*

    i) conserve or enhance the significance of the heritage asset and settings. The more important the heritage asset, the greater the weight that will be given to its conservation;
    ii) make a positive contribution to local character and distinctiveness (through high standards of design, reflecting its significance, including through the use of appropriate materials and construction techniques);
    iii) make a positive contribution towards wider public benefits;
    iv) provide a viable future use for a heritage asset that is consistent with the conservation of its significance; and/or
    v) protect a heritage asset that is currently at risk.

3. *Non-designated heritage assets, where identified through local or neighbourhood plan-making, Conservation Area Appraisal or review or through the planning application process, will be recognised as heritage assets in accordance with national*

guidance and any local criteria. Development proposals that directly or indirectly affect the significance of a non-designated heritage asset will be determined with regard to the scale of any harm or loss and the significance of the asset.

4. *Applicants will be required to describe, in line with best practice and relevant national guidance, the significance of any heritage assets affected including any contribution made by their setting. The level of detail should be proportionate to the asset's importance. In some circumstances further survey, analysis and/or recording will be made a condition of consent.*

5. *Particular encouragement will be given to schemes that will help secure the long term conservation of vacant and under-used buildings and bring them back into appropriate use.*

6. *Alterations to historic buildings, for example to improve energy efficiency, should respect the integrity of the historic environment and the character and significance of the building.*

Policy ENV7: Listed Buildings

1. *Proposals for development, including change of use, that involve any alteration of, addition to or partial demolition of a listed building or within the curtilage of, or affecting the setting of a listed building will be expected to:*

    i) conserve, enhance or better reveal those elements which contribute to the heritage significance and/or its setting;
    ii) respect any features of special architectural or historic interest, including, where relevant, the historic curtilage or context, such as burgage plots, or its value within a group and/or its setting
    iii) such as the importance of a street frontage or traditional shopfronts; and
    iv) be sympathetic to the listed building and its setting in terms of its siting, size, scale, height, alignment, materials and finishes (including colour and texture), design and form, in order to retain the special interest that justifies its designation through appropriate design, with regard to the South Oxfordshire Design Guide.

2. *Development proposals affecting the significance of a listed building or its setting that will lead to substantial harm or total loss of significance will be refused unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that demonstrably outweigh that harm or loss or where the applicant can demonstrate that:*

    i) the nature of the heritage asset prevents all reasonable uses of the site; and
    ii) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and

iii) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
iv) the harm or loss is outweighed by the benefit of bringing the site back into use.

3. Development proposals that would result in less than substantial harm to the significance of a listed building will be expected to:

i) minimise harm and avoid adverse impacts, and provide justification for any adverse impacts, harm or loss of significance;
ii) identify any demonstrable public benefits or exceptional circumstances in relation to the development proposed; and
iii) investigate and record changes or loss of fabric, features, objects or remains, both known and unknown, in a manner proportionate to the importance of the change or loss, and to make this information publicly accessible.

4. Changes of use will be supported where it can be demonstrated that the new use can be accommodated without any adverse effect on the significance of the building and its setting.

4.7 In addition to the above Local Planning Authority Policies, as the site is in very close proximity to one AONB The Chilterns and close to a second The North Wessex AONB, the management plans for these AONB's have been examined and their policies with relevance to the Site and landscape issues are reproduced below.

Chilterns AONB Management Plan 2014-2019

D16. The environmental impacts on the Chilterns (including those arising from through traffic) of quarrying and the operation of landfill sites and other waste management facilities within and adjacent to the AONB should be minimised.

There are few active chalk quarries left within or near the AONB and any landfill operations associated with redundant workings will need to be very closely monitored and managed. Workings for aggregates are generally nearby rather than within the Chilterns AONB. However, deposits in the Thames Valley are known to extend into the AONB. Development pressures will maintain demand for aggregates. The Board will resist proposals for quarrying within the AONB due to the damaging impacts of both extraction and the through traffic associated with transportation. Of equal concern are the impacts that might arise from the development and operation of other waste management facilities such as energy from waste plants, household waste recycling sites and anaerobic digestion plants.

D9 Full account should be taken of the likely impacts of developments on the setting of the AONB.

There is increasing pressure for both large- and small-scale development within the setting of the AONB. Greater appreciation is required of what the likely impacts may be of such development, particularly as the views both out of and back to the AONB are fundamental to the enjoyment of the AONB itself. Similarly, more account needs to be taken of such impacts,

and to this end the Board has prepared a position statement on this matter and encourages the preparation of landscape and visual assessments where appropriate.

UE15 The use of the River Thames corridor and Grand Union Canal for quiet leisure activities, which are consistent with maintenance of environmental character, should be promoted.
The Chilterns waterways are much loved and provide numerous possibilities for quiet leisure activities and water-based activities such as boating and canoeing. Access improvements have been made to many stretches of the River Thames and Grand Union Canal towpaths to make them more accessible to all, but there is still scope to improve access for all; this should be a priority near urban areas. The availability and quality of visitor facilities, waymarking and interpretation is integral to many people's enjoyment and understanding of the waterways and the Board must work with its partners to support this, for example the Canal& River Trust which provides advice to guide developments on canals. The use of the Thames for leisure boating has been in decline for some years and provides potential for growth.

North Wessex Downs Management Plan 2014-2019

North Wessex Downs Landscape AONB policy: *Ensure that all development in or affecting the setting of the AONB conserves and enhances the character, qualities and heritage of the North Wessex Downs landscape.*

5.0 LANDSCAPE CHARACTER

Baseline

5.1 The assessment of an area's landscape character and its ability to accommodate change is initially based on the categorisation of a landscape's features and elements that combine to create the distinctive character of an area. Landscape character comprises a description and assessment of the distinct and recognisable pattern of elements and features that occur consistently in a particular type of landscape and how this is perceived. The character of a landscape is a combination of geology, landform, soils, vegetation, land-use and human activities. In addition, character is identified through characterisation, which classifies maps and describes areas of similar character.

Landscape Characterisation

5.2 The Landscape Character is described at three geographical levels. At the National Level utilising, Natural England Character Areas. At the County Level by the Oxfordshire Wildlife and Landscape Study (OWLS), and at the Local District Level utilising South Oxfordshire District Council Landscape Character Assessment which describes the most detailed published landscape assessment of the area.

National level

5.3 During the mid 1990s, the Countryside Agency worked with English Nature and English Heritage to produce The Character Map of England. This provided an analysis of landscape character at a broad, national scale and resulted in the definition of 159 different National Character Areas.

5.4 Unusually the Site lies in close proximity to three different National Character areas. Character Area 108, Upper Thames Vales in which the site is located, 110 Chilterns which borders the eastern side of the Site, 116, Berkshire and Marlborough Downs approximately 4km to the south west. These are all shown within Appendix A, Figure 3 The Site is however, only visually influenced by two of the Character Areas, 108 and 110 and so only these two areas are described below.

5.5 Character Area 108, Upper Thames Vales covers an extensive area of low-lying land extending from the west of Swindon through to Aylesbury in the east. The area completely encircles another National Character Area 109, Midvale Ridge in the centre including Oxford and land to the west and east. The Site is situated in the central southern side of the Character Area.

5.6 In summary, the key characteristics relevant to the Site and its location include:

- Low-lying clay-based flood plains including alluvium and gravel terraces creating a gently undulating topography.
- The large river system of the River Thames drains the Vales, and where mineral extraction takes place, pits naturally fill with water.
- Woodland cover is low but hedges, hedgerow trees and field trees are frequent. Watercourses are often marked by lines of willows and native black poplar.
- In the river corridors, grazed pasture dominates, with limited areas of historic wetland habitats.
- Settlement is sparse on flood plains, apart from at river crossings.

Statements of Environmental Opportunity

5.7 The most relevant opportunities to the Site and its location include:

SEO1 Along the Thames and its tributaries, promote best practice mineral working in order to conserve and restore semi-natural habitats, historic features, geodiversity, soil quality and to regulate water flow in this area and downstream.

SEO4 Realise sustainable development that contributes positively to sense of place and built heritage. Create and manage greenspace to provide benefits for biodiversity, floodwater management, filtration of pollutants, tranquillity and recreation.

Landscape Change

5.8 Recent changes are sited to include:

- Slight increase in trees and woodlands
- Non-native poplar plantations have changed the open character of many riverside landscapes
- Pollarded riverside willows and native black poplars are aging with few successors and often collapse into watercourses and across paths.
- Development pressures are high in this area with many rural villages experiencing significant expansion.

5.9 Gravel extraction and consequent restoration has brought change in the landscape along the Thames although it is localised.

5.10 Character Area 110, Chilterns, is immediately to the east of the site along the border with the River Thames and follows a similar line to the Chilterns AONB in this area. This area is on the south-eastern end of the character area. The area covers an area of chalk escarpment facing the North West and dip slope leading into the London Basin to the South East

5.11 In summary, the key characteristics relevant to the Site and its location include:

- Several Chalk streams and features associated with a history of modification including historic mills, watercress beds, culvers and habitat enhancements
- Within the Chilterns views are enclosed within branching valleys, sunken route ways and extensive woodland and hedgerow-enclosed trees.
- The River Thames and its flood plain mark a distinctive area in the south. The river is a focus for settlement, abstraction and recreation.
- Brick and flint are the dominant traditional building materials.
- Numerous parkland landscapes define large historic estates.
- Extensive rights of way, commons, open access down land, woodland and some parklands provide access to the countryside. The Thames Path, is one of many high-profile recreation routes. Private leisure land uses, including golf courses and horse paddocks are common near urban centres.

Statements of Environmental Opportunity

5.12 The most relevant opportunities to the Site and its location include:

SEO1 Manage the wooded landscape, hedgerows, commons and parklands with the aims of conserving and enhancing biodiversity and the historic landscape and its significant features; maximising the potential for recreation and securing the sustainable production of biomass and timber.

SEO3 Conserve the Chilterns' groundwater resource, River Thames and chalk streams by working in partnership to tackle inter-related issues at a catchment scale and also across the

water supply network area. Seek to secure sustainable water use and thriving flood plain landscapes that are valued by the public.

Landscape Change

5.13 Recent changes are sited to include:

- Increase in amount of woodland being managed under agreements with the forestry commission, although very few new woodlands have been created.
- Recreational land uses, including horse paddocks, golf courses and 'hobby' farms are replacing commercial agricultural land uses.
- For rivers, low flow alleviation schemes have been in place for several years with the majority of chalk streams suffering low flows.

County Level

5.14 The Oxfordshire Wildlife and Landscape Study (OWLS) was carried out by Oxfordshire County Council, Natural England and The Earth Trust and published on the County Councils web page in 2004. As far as Landscape Characterisation is concerned the definitions are more general than the South Oxfordshire Landscape Assessment above. The Site and immediate surrounding land all falls into the Terrace Farmland Landscape Type which is described as follows:

A flat, open, intensively farmed landscape overlying river gravel terraces.

Key characteristics

- *Broad, flat or low-lying gravel terraces.*
- *A large scale, regularly shaped field pattern of predominantly arable land.*
- *Localised tree-lined ditches.*
- *Nucleated villages.*

5.15 The Area immediately surrounding the River Thames is within the River Meadowlands Landscape Type and is described as follows;

This is a linear riverine landscape with a flat, well defined alluvial floodplain. It has pastoral character with meadows, wet and semi-improved pasture.

Key characteristics

- *Flat, low-lying topography with seasonally flooded alluvial floodplains.*

- *Meandering river channels.*
- *Grazing meadows and small fields of permanent pasture.*
- *Riparian character with a strong pattern of riverside willows and tree-lined ditches.*

Sparsely settled with a few roads.

Landscape Sensitivity

Determination of Landscape Sensitivity

5.16 The methodology at Appendix B sets out how value, susceptibility and overall sensitivity is determined for each landscape receptor. The landscape components located on and adjoining the site comprise species poor intermittent internal hedgerows, minor ditches and pasture grazing land of mixed (grade 3b and 4). Site peripheral hedgerows are relatively strong but are not comprised of great species diversity. The value of the individual landscape elements takes into account the other baseline studies that provides an indicator of Condition and Quality and also includes an assessment of the Rarity and Representiveness of the individual features in the local landscape and its Nature Conservation Value.

5.17 The Value of Landscape Features ranges from Low e.g., intermittent hedgerows, Grade C trees and lower grade agricultural land and minor ditches, to Medium E.g. Grade A and B individual trees.

5.18 The Susceptibility of landscape features to the Proposed Development includes an assessment on how easy they are to replace. Susceptibility is assessed to be Medium to High for mature trees, which recognises that new planting can be achieved as part of the restoration scheme; however, these trees would take some time to achieve maturity. Other elements in the landscape including minor water courses and low-quality hedgerows generally have a lower susceptibility to change, particularly when the progressive working and restoration scheme has been designed to replace these elements lost.

5.19 In summary, the Sensitivity of landscape elements overall (continuing judgements of values and susceptibility) is assessed to range from Low (i.e. hedgerows, low quality agricultural land, minor water courses and Grade C individual trees) to Medium (Grade B individual trees).

5.20 An assessment of the Sensitivity of the Landscape Character Areas within the study area takes into account the sensitivity of individual components set out above and a number of additional considerations listed below:

- Scenic Quality
- Recreation Value
- Perceptual aspects including tranquillity
- Current and Historic Association

5.20 A desktop study of the sensitivity of the landscape to change across the whole of Oxfordshire was carried out on behalf of Oxfordshire County Council by Land Use Consultants and published in August 2016. The datasets were used to create 7 different themed asset maps including Landscape and Visual Assets, and a general map encompassing all the assets.

5.21 The Site is shown within this study as having (with all the themes combined) of moderate to high sensitivity to change. Of areas of high sensitivity, a further assessment was made to show how sensitive the high areas were to change and in this assessment the Site area is shown to be of low to moderate sensitivity to change, (i.e. 1-3 of 8).

5.22 Oxfordshire County Council have recently completed a study into the historic landscape classification of the county (2016). The results are published online on their webpage with interactive map information. The Site is shown on this map to historically have been "unenclosed – rough ground 1540 to 1810"; this is the same for land to the west on the other side of Reading Road and land to the south and land just to the north on the other side of Nosworthy Way. The land that currently forms part of the Carmel College site is shown to be Ornamental Parkland/ designed landscape 1540 to 1920, and land just to the north including the area of the church is shown to be a rural hamlet from 1066 to 1797.

Local Level

5.23 The South Oxfordshire Landscape Assessment 1998 was produced by Atlantic Consultants on behalf of South Oxfordshire District Council and following consultation and some changes was adopted as supplementary planning guidance on 24th July 2003.

5.24 South Oxfordshire was assessed in general as a predominantly rural district with a high proportion of attractive, unspoilt countryside. The high quality of its landscape is confirmed by the designation of nearly half of the district within the Chilterns and North Wessex Downs Areas of Outstanding Natural Beauty (a national designation).

5.25 The Site is located within Character Area 4, River Thames Corridor of the South Oxfordshire Landscape Assessment. See figure 4 in Appendix A. The site is located in proximity to three other character areas, ~ 2.5km to the south west of Character Area 3, The Clay Vale, ~300m west if Character Area 6, Central Vale Fringes and ~500m to the north east of Character Area 7, Wessex Downs and Western Vale Fringes.

5.26 Character Area 4 – The River Thames Corridor, embraces the flat, low-lying floodplain of the River Thames between Long Wittenham and Goring and includes the lower reaches of its main tributary, The River Thame.

5.27 In the assessment, the Landform and Landcover is described as follows:

The land lies almost entirely below 60m AOD and is exceptionally flat, with little perceptible variation in relief. The floodplain is confined to a comparatively narrow strip where it is bounded by the harder rocks of the lower and upper greensand and chalk but widens

considerably around the confluence of the Thames and Thame within the softer Gault Clay of the central vale. The transition between the floodplain and surrounding landscape is comparatively subtle, with no obvious valley form, but the boundaries of the character area do follow a perceptible break in slope between the very flat floodplain floor and rising ground beyond.

The underlying solid geology is dominated by Gault Clay but this is masked by extensive quaternary deposits. A thin strip of alluvium follows the immediate river corridors, giving rise to heavy soils with naturally impeded drainage. These areas are still liable to flooding (as designated within the local plan) and are predominantly under permanent pasture. Beyond this, the floodplain is dominated by extensive spreads of river terrace gravels which are better drained and support lighter more easily worked soils. Much of this has been extensively drained and is now under intensive arable cultivation.

5.28 The Settlement and buildings of the area are described as follows:

The Thames-side terrace gravels have been a favoured area for settlement from prehistoric times. Neolithic settlers at Dorchester and other downstream gravel sites along the Thames took advantage of the lighter, more workable soils, an accessible water supply and slight elevation above the most flood-prone areas. This pattern of settlement persisted and was extended through the Roman and Saxon periods, with Dorchester providing a particularly notable persistence of settlement and overlap of cultures. Apart from the physical advantages of these locations, this continuity of settlement was also due to the strategic importance of the River Thames as a territorial boundary and for defence, transport and trade.

The string of Thames-side settlements from Dorchester to Goring include the smaller settlements of Shillingford, Warbourough, Benson, Preston Crowmarsh, Crowmarsh Gifford, North and South Stoke and Moulsford. They also include the town of Wallingford which originated by an important ford over the Thames. This strategic position made it a meeting point of ancient routes and contributed to its importance.

Many of these settlements retain a substantial number of old buildings of historical importance and contain designated Conservation Areas. Because of the lack of building stone, most of the older houses here are timber framed with thatched roofs and there are occasional examples of walling in cob, a mixture of mud and straw. Brick was also widely used from an early date and appears as 'nogging' for timber framed houses, in alternating bands of brick and flint in some eighteenth-century cottages and in a characteristic pattern of mellow red and grey brickwork.

5.29 The Landscape and Visual Character of the area is described as follows:

Landscape character in this area has a strong degree of coherence, with the River Thames providing a strong unifying influence. There are consequently few variations in landscape character. The main distinctions that have been drawn are between:

- *The different sub-types of the flat, low lying **floodplain** landscapes which dominate the area;*
- *Small areas of **parkland** landscape to the north of Wallingford and at Mongewell;*
- *An area of **amenity** landscape in the form of a golf course to the south of Mongewell park.*

5.30 At the local level the site is located within the ***Floodplain Landscapes*** landscape type: -

Floodplain pasture is characteristic of the immediate corridor of the River Thames and Thame, on the heavy alluvial soils more prone to flooding. Elsewhere, the areas underlain by terrace gravels have been extensively drained and are now under intensive arable cultivation, typically with a weak landscape structure and very open character. Areas of floodplain wetland, created as a result of extensive gravel workings around Dorchester, are particularly distinctive features of this character area.

Flat, open farmland, key characteristics: (found on the other side of Reading road and therefore adjacent to the Site)

- *Distinctively flat, low lying farmland (below 50 metres AOD)*
- *Large scale rectilinear field pattern with distinctive network of drainage ditches;*
- *Weak landscape structure with few trees, low or gappy hedges, open ditches and fences;*
- *Comparative inaccessibility creates a rural and remote character;*
- *Open, denuded landscape results in high intervisibility*

Flat semi-enclosed farmland, key characteristics:

- *As above but with stronger landscape structure and a semi-enclosed character around Burcot and to the north of Wittenham Clumps;*
- *Predominantly rural character but with some intrusion of built form around Burcot;*
- *Semi-enclosed character with moderate to low intervisibility.*

Flat floodplain pasture, key characteristics (the area in which the Site is located)

- *Flat, low lying farmland, typically dominated by permanent pasture with a distinctively 'wet', riparian character;*
- *Prone to flooding with distinctive network of drainage ditches;*
- *Comparatively strong landscape structure with willows conspicuous along the riverside;*
- *Intimate, pastoral and tranquil character with some 'arcadian' qualities along the Thames close to settlements and riverside parklands (e.g. Mongewell);*
- *Generally low intervisibility, although views along the river corridor may be possible in some more sparsely vegetated areas;*
- *Important areas of riverside greenspace within or adjoining the main settlements and urban areas (eg the riverside at Wallingford)*

5.31 The Site has the potential (due to proximity) to be partially visually influenced by the nearby *Parkland and Estate Farmland* landscape type which is found on the other side of The River Thames in the Mongewell Park, upslope from the Carmel College site

Key characteristics:

- *Well managed parkland character with formal features such as avenues and free standing mature trees in pasture, clumps and blocks of woodland;*
- *Unspoilt character;*
- *Generally enclosed character with strong landform, woodland and tree cover, low intervisibility*

5.32 The *Amenity Landscape* type is found on the other side of the River Thames and south of Mongewell Park. Although fairly close to the Site, due to vegetation and land topography there is little visual intervisibility between this area and the Site.

Key characteristics

- *Typical golf course landscape of greens, fairways and roughs, with associated buildings and features;*
- *Intensively managed and sub-urban character;*
- *Moderate intervisibility*

5.33 The Landscape Management Issues of this character area are described as Follows:

Overall, this area retains a predominantly rural character with some particularly unspoilt and attractive areas of landscape which have retained a strong structure of hedgerows and trees, have a particularly rich, diverse and well managed character and are of high scenic quality. These mainly comprise the pastoral floodplain pasture landscapes and the small areas of remnant parkland immediately next to the Thames. Management to conserve and enhance these characteristics and qualities is the most appropriate strategy in these landscapes.

Much of the remaining area comprises a rural farmed landscape which is showing some signs of decline in condition and quality. Principally this is the result of a general weakening of landscape structure through intensive arable farming, creating an open and denuded character which exacerbates the intrusion of built development and roads (e.g. to the south of Wallingford). Action to repair or restore former landscape diversity and structure would be desirable within these areas.

Other typical land management issues include the impact of 'horsiculture' and somewhat 'scruffy' or intrusive land uses on the fringes of settlements, and the gradual sub-urbanisation of the river corridor landscape through development along the riverside.

Key landscape enhancement priorities should be to:

- *Maintain permanent pasture and riverside trees to reinforce the tranquil, pastoral character of the river corridors;*
- *Encourage planting and pollarding of willows along ditches and watercourses and less intensive management of ditch systems to promote semi-natural aquatic and riparian vegetation;*
- *Minimise disturbance to wildlife caused by recreational use of former gravel pits near Dorchester and encourage management of aquatic and riparian vegetation to maximise wildlife value;*
- *Encourage better maintenance of field boundaries and discourage further hedgerow removal and replacement by fencing;*
- *Encourage the maintenance and restoration of parkland landscapes and features at Wallingford Castle and Mongewell Park;*
- *Improve landscape structure and land management on the fringes of built areas and land management on the fringes of built areas and along main roads to mitigate adverse impacts on the surrounding countryside and river corridor landscape.*

5.34 The planning and development issues related to this character area have been described as follows:

Large scale development of any kind will be inappropriate within open countryside areas and along the river corridors. The ability of the landscape to accommodate small scale development will depend upon:

- *The potential impacts on distinctive landscape and settlement character;*
- *The potential impacts on intrinsic landscape quality and valued features and the overall sensitivity of the landscape to change;*
- *The visual sensitivity of the receiving landscape.*

Some specific conclusions are that:

- *Development would generally be inappropriate within the unspoilt floodplain pastures, wetlands and parkland/estate landscapes;*
- *Development within visually exposed landscapes such as the open flat farmland of the floodplain, will be highly prominent unless closely associated with existing built form or well-integrated within new landscape frameworks;*
- *Further recreational development associated with the former gravel pits is generally incompatible with nature conservation interests and therefore undesirable;*

Landscapes on the fringes of settlements are particularly vulnerable to change and special attention should be paid to creating strong landscape 'edges' to reduce the urbanising influences of development on adjacent countryside and to prevent the coalescence of settlements

5.35 In summary, the Site is located within:

- *National Character Area 108 - Upper Thames Clay Vales*
- *Oxfordshire Wildlife and Landscape Study (OWLS) - Vale of White Horse*
- *South Oxfordshire Character Area 4 - River Thames Corridor*
- *South Oxfordshire Character Type - Flat Flood Plain Pasture.*

Local/ Site Assessment

5.36 Based upon the field work carried out in as part of the previous minerals and marina application in 2016 and 2017 and works carried out as part of this application in 2021, which involved identifying the elements and features which comprise the local Site landscape we confirm and agree that the Site landscape is typical of the River Thames Corridor Character Area 4 and that it is comprised of the descriptive elements stated within the Flat Flood Plain Pasture Character Type. These include generally low intervisibility, flat with a network of ditches with a relatively strong landscape structure. Departures from this at the Site level include loss of tranquillity as a result of the proposed development area bordering two roads including the elevated section of the Wallingford Bypass, together with variable internal structure with few trees and gappy hedges. The built form of the Dutch Barn adds to the strength of flood plain agricultural land use character. Photographs of existing landscape features and elements which comprise the site/ local area can be seen on Figure 5 within Appendix A.

5.37 The scenic quality of the site landscape within the Flat Floodplain Pasture Landscape Type is assessed as Medium, the landscape appearing agriculturally functional in the spring, summer and autumn months and slightly degraded in winter. The scenic quality is degraded by the Wallingford Road Bypass with its semi urbanisation of this part of the Thames Corridor. Scenic quality rises to the east with the peripheral built and vegetative elements and structures of Carmel College adding to the quality including the Boat House and mature native and specimen trees. In respect of the site area we assess the tranquillity as Low to Medium as a result of noise generated by vehicle traffic using the Reading Road and A4130 Wallingford Bypass. Recreational values are assessed as Medium to High taking into account the use of the River Thames for leisure fishing and boating, recreational sports use for rowing, the Thames Pathway for the enjoyment of walking, amenity and health. The cultural and historic association of the site/ local area including its relationship and joint setting with Carmel College and the listed boat house. We assess that the cultural and historic aspects of the land area to be of Medium to High value.

5.38 The north-eastern corner of the site within which the proposed northern ramp to the new footbridge over the water access to the marina from the Thames will be sited is located within the Chilterns AONB. The AONB having a designated high value and potential sensitivity to change. The remainder of the site where proposed mineral extraction will be located, and the marina established is not within any AONB, The North Wessex Downs AONB located ~1.5km to the north, south and west of the site. It is grouped with land uses/ activities

outside of this boundary with areas of urban development, solar farms, airfield runways, sewage works and agricultural land.

5.39 The sites landscape is not rare. It is common within the Thames Flood Plain which covers a large geographical area and is generally robust.

Table 1: Landscape Sensitivity Summary

Receptor		
Landscape Character Type		
• Flat Open Farmland	Direct or indirect changes to the landscape character	Moderate
• Parkland and Estate Farmland		Moderate
• Amenity Landscape		Moderate
• Flat Open Farmland		Moderate
• Open Rolling Downs		Moderate
Landscape Designations		
Area of Outstanding Natural Beauty (AONB)	Direct or indirect changes to the AONB	
• Chilterns AONB		Very High
• North Wessex Downs AONB		Very High
Cultural Heritage Designations		
Conservation Areas	Direct or indirect changes affecting the conservation areas	
• Winterbrook		
• Wallingford		
• South		
Listed Buildings		
• New Barn Farm	Direct or indirect changes affecting the setting of the building	High
• Carmel College		High
• Carmel College		HIgh
• Carmel College		HIgh
• Carmel College		HIgh
• White Cross House		HIgh
Leisure / Amenity		
Public Right of Way (PROW)		
• Thames Pathway	Direct or indirect changes affecting the leisure value	High
• Dame Agatha Christie Way		Medium
• Cholsey Wallingford Railway		Medium
• Other PROWS		Medium
Scenic Qualities	Changes affecting the overall enjoyment of the site/local area	Medium
Tranquillity	Changes affecting the peaceful enjoyment of the area/ countryside	Low/Medium

Recreational Value	Changes affecting direct or indirect use of facility	Medium

Interaction between the Landscape Receptors and the Proposed Development – Magnitude of Effect

5.40 The degree of effect the development is likely to generate is linked to the scale and duration of the proposed development, the extent to which the development is visible with the surrounding landscape, as well as the extent to which the development is at variance to or conflicts with the key characteristics of the landscape character areas and the elements and features which comprise them. Distance is also a factor in determining levels of impact. These factors can either be adverse or beneficial in nature. This aspect of the assessment utilises a five-point textural scale which ranges from Very Low- Low- Medium- High-Very High.

5.41 Magnitudes of effect associated with the Proposed Development are assessed against the following for the purpose of this study:

Stage A - Temporary Mineral Extraction and Progressive Restoration
Stage B - Permanent Post Restoration

5.42 Short term has been defined as ranging between zero to five years, Medium term as ranging between five to ten years and Longer term as greater than ten years.

Assessment of the Proposed Development upon the Current Situation during Stage A - Mineral extraction and Progressive Restoration

5.43 The proposed direct development effects on the site and the Flat Floodplain Pasture Landscape Type will retain site structural peripheral vegetation including shrubs, hedges and trees/ tree blocks, apart from the clearance of vegetation to allow safe vehicle access into an out of the site. This would represent a Low Adverse magnitude in the context of substantial areas of woodland/ hedgerows and shrub vegetation in the locality close to the site. New proposed tree/shrub planting with native species rich plants would result in a net Low Beneficial effect upon this landscape receptor.

5.44 The removal of low grade agricultural land as part of the river terrace and wider farmed landscape character would result in a Low magnitude effect. The removal of the Dutch Barn is considered to be a low magnitude effect on the current landscape character situation.

5.45 The mineral extraction operational stage will NOT result in the closure or diversion of any PROW. There will be a loss of two sections of shallow ditches within the site. This is considered as resulting in a Low magnitude effect.

5.46 The introduction of the proposed developments new built/ engineering forms including plant, equipment, work shed, soil/storage bunds would be localised within the strong

landscape boundaries of the current site. Although the built/ engineering features are not large in size/scale, or geographical extent of influence they are not, however, representative features of the local Landscape Character Types. Other effects upon landscape character include a reduction in tranquillity and local visual scenic qualities. The overall effect is assessed to be Medium Adverse.

5.47 The potential for indirect magnitude effect on other local Landscape Character Types (Parkland and Estate Farmland, Amenity Landscape, Flat Open Farmland, Open Rolling Downs) is assessed as Very Low to Low as a result of either distance and/or locally strong vegetative structure reducing the potential for intervisibility between character types.

Assessment of the /Stage B - Permanent Post Restoration

5.48 The site Restoration, as illustrated on Drawing No. KD.WLF.D.010, described and illustrates a strong site peripheral boundary of existing and new native tree and shrub planting, which reflects boundary planting to the Thames Flood Plain. This represents a Medium Beneficial Magnitude of Effect. The recreation of land levels at or similar to those of the original site represents a Neutral Magnitude of Effect. Additional sections of hedgerow represent a Medium Beneficial Magnitude of Effect. The opening up and clearing of site ditches, the creation of new shallow ponds and scrapes and associated sparse native vegetation structure, represents a High Beneficial Magnitude of Effect. The permanent and managed creation of Damp Meadow is also considered to represent a High Beneficial Magnitude of Effect on landscape character. With the retained public access through the site being enhanced by proposed signage, describing and illustrating / educating users in respect of local / site surroundings, character / history and ecology, combined with a new ~400m length of 'away from road' permissive access, a Medium Beneficial Magnitude of Effect is assessed. The associated establishment of new habitats is considered a Medium to High Beneficial Magnitude of Effect. The overall Magnitude of Effect at Stage B – Permanent Post Restoration, being assessed as potentially Medium to High Beneficial.

Overall Assessed Effects of the proposed development on Local Landscape Character during Stage A and Stage B

Table Two: Assessed Significance of Effects

Receptor	Sensitivity of receptor in respect of this development type	Magnitude during the operational period (Stage A)	Assessed Significance during the operational period (Stage A)	Magnitude effect at Post Restoration	Assessed Significance at Post Restoration
Landscape Character Type					
Flat Open Farmland	Medium	Low Adverse	Slight Adverse	Low Beneficial	Slight Beneficial

Parkland and Estate Farmland	Medium	Very Low Adverse	Slight Adverse	Very Low Beneficial	Very Slight Beneficial
Amenity Landscape	Medium	Very Low	Slight Adverse	Very Low Beneficial	Slight Beneficial
Flood Plan Pasture	Medium	Medium Adverse	Moderate Adverse	Medium to High Beneficial	Moderate to Notable Benefiical
Open Rolling Downs	Medium	Very Low	Slight Adverse	Very Low Beneficial	Slight Beneficial
Landscape Designations					
AONB's					
Chilterns AONB	Very High	Low Adverse	Moderate Adverse	Very Low Beneficial	Moderate Beneficial
North Wessex Downs AONB	Very High	None	Neutral	None	Neutral

Landscape Character Summary Assessment Conclusions

5.49 The site is located within the South Oxfordshire District Council defined Flat Flood Plain Pasture landscape type, which we assess as of Medium Sensitivity to the type of quarry and restoration development proposals. The actual Magnitude of Effect assessed during eh Stage A Operational Period of the quarry being Medium Adverse. This principally relates to the introduction of engineering earthworks and built forms into this landscape, together with movements associated with mineral extraction and restoration, and an amount of disturbed / operational land. Mitigation including strengthening of peripheral vegetation structure and progressive restoration. When combining the Medium Sensitivity with the Medium Adverse Magnitude of Effect, a resulting Moderate Adverse Significance of Effect on landscape character is assessed. This level is Not a Significant Effect.

5.50 At Stage B Post Restoration, the Sensitivity of the Flat Flood Plain Pastures remains the same. The Magnitude of Effect is considered Medium to High Beneficial, resulting from the rejuvenation and establishment of a sustainable landscape and biodiversity structure of landscape elements and features, and habitats. The resulting Significance of Effect being Moderate to Notable Beneficial. A Moderate Significance not being Significant. A Notable Significance being a Significant Beneficial Effect.

6.0 VISUAL MATTERS

Visual Baseline

6.1 Desktop and site survey works have identified the areas of landscape and visual receptor locations from which the existing Site and the proposed development may be visible along with the different groups of people who may experience views of the development and its

specific elements and features, along with the viewpoints where they will be affected and the nature of the views at these points.

6.2 This baseline and assessment work has been carried out by initially mapping the geographical extent of the study area where receptors have the potential to view the current site and the proposed development. This was carried out digitally through the production of Zones of Visual Influence (ZTVI).

6.3 This was initially carried out based upon the sites current situation where ground levels very from between 43 to 46m above Ordinance Datum (aOD). This helped to define a study area, set within a surrounding 5Km^2 topographical and landform data grid. The findings of this ZTVI are illustrated on Figure 6. As can be seen on this model image the areas where views of the current site and its agricultural activities are likely to have a higher magnitude of impact are highly concentrated within and immediately surrounding the actual site area. The elevated section of the A4130 Nosworthy Way blocking potential views from the immediate north/ north eastern area. As distance from the site increases land areas at similar elevations to the site reduce in the level of potential magnitude of impact and visual effect. Higher ground to the north east, east and west of the site is noted to potentially receive a visual influence from the site and its activities. Lower mid and lower areas where views of the development are likely to have lower magnitudes of impact include Wallingford to the north, Cholsey to the south west, North Stoke to the south east and Mongewell Park to the east. The ZTVIs are only based upon topographical / landform data i.e. no other physical features such as buildings and vegetation. The ZTVI of the current site and its activities includes land within both the Chilterns AONB an North Wessex Downs AONB.

6.4 Figure 7 illustrates the predicted ZTVI that would occur during Stage A, the temporary mineral extraction and progressive restoration period. The potential ZTVI also includes the Lodge to the norh west and the existing PV farm. The areas of land which could be affected by higher mid levels of magnitude of impact also increase generally in the shape of the current ZTVI, limited / restricted in the north by the elevated section of A4130. The new Barchester Residential Care Home is located within this level of potential visual influence. The model includes the site access, active extraction areas, a mineral processing plant at 14m in height, together with a work shed at 10m in height and progressive restoration. Compared to the current situation model there is an overall geographical area increase in the potential to view site facilities and activities, from generally within 2km of the site to 3-4km. The areas where views of the temporary development could have a higher magnitude of impacts are again concentrated within and around the periphery of the site together with spreading slightly westwards and eastwards towards the western periphery of Carmel College.

6.5 Based upon the above desk top research and assessment works a detailed visual Site survey took place being guided by both the current and proposed ZTVI's. Both ZTV mapping and Site surveys assume that the observers eye height is some 1.5 to 1.7 metres above ground level, based upon the midpoint of average heights for men and women.

6.6 The Site survey considered the viewpoint from which the current situation and the proposal will actually be seen by differing groups of people. These groups included:

- Residential visual receptors in private properties
- Public viewpoints e.g. public rights of way, inland waterways and public open space (POS)
- Places where people work
- Transport routes where there may be views from private vehicles and from different forms of public transport.

6.7 The findings of the desktop and site survey have allowed the consideration and identified visual receptors into a number of zones of potential visual receptors grouped on the basis of currently or potentially receiving similar 'types' of views from the proposed development.

6.8 The zones are illustrated on Figure 9 within Appendix A. A total of 6 Zones were identified which can be used to represent the likely effects resulting from the proposed development. These are:

Zone 1	River Thames Corridor	Located on similar elevations along and to the east of the site at distances of 0-150m
Zone 2	Mongewell Park/ Portway	Located on higher elevations to the east of the site at distances of ~500 to 1km
Zone 3	Newham Manor/ Farm Plain	Located on similar and high site elevations to the north east of the site at distances of ~50 to 500m
Zone 4	Elevated Section of the Nosworthy Way and adjacent land	Located on higher elevations than the site to its northern boundary at distances of ~20 to 150m
Zone 5	Reading Road and Land to the West	Located at similar site elevations to the west at distances of ~20 to 200m
Zone 6	Cholsey Hill	Located at higher elevations looking down at the site area from distances of ~2km

6.9 These zones are the same as those of the original site application.

6.10 Within these zones a total of 39 Individual/group receptor viewpoints have been selected to highlight and to be representative of the likely effects resulting from the proposed development. These receptor viewpoints are illustrated on Visual Receptor Photosheets Figures 10 to 16 within Appendix A. These form a combination of original and new site photographs, to illustrate seasonality affects. The actual zones will vary in extent and nature dependent upon seasonal screening effect of vegetation.

6.11 The location of these receptors being illustrated on Figure 9 within Appendix A. Photographs from representative visual receptor locations being illustrated on Figure 7 with associated

photographs being illustrated on Figure 10 to 17. Supplementary photographs being illustrated on Photosheet Figures 18 and 19, to both illustrate the seasonality affect and added / new potential receptors.

6.12 Table 3 Summarises the visual receptors identified and their potential sensitivity. This is first determined by assessing Sensitivity of Visual Receptors to change from this type of Quarry Extraction development and progressive restoration proposal and then the magnitude of the visual effect, its size/scale, geographical extent, duration and reversibility. A judgement on the sensitivity of visual receptors and magnitude of the effect are then combined to assess the overall significance of visual impact/effects.

6.12 The susceptibility of visual receptors to changes in view and visual amenity is mainly a function of "the occupation or activity of people experiencing the view at particular locations and the extent to which their attention or interest may therefore be focused on the views and visual amenity they experience at particular locations" (GVLA page 113).

Table Three- Sensitivity of Visual Receptors to Change

6.13 Please note that individual visual receptors sensitivity to change varies in respect to the context of their current view. The reference numbers and letters within all tables related to Zone e.g. 1 / Receptor Location e.g. 3 and Photo e.g. B.

Zone/ Receptor Ref No.	Description of Visual Receptor	Assessed Susceptibility to change of Visual Receptor	Assessed Value of View	Overall Assessment of Sensitivity of Visual Receptor
1/1 Photo A	Potential Residential/ Visitors to the Wet Boat House	High	High	High
1/2 Photo B	St Johns Baptist Church (derelict)	High	Medium	Medium to High
1/3	Users of PROW 181/36	High	Medium	Medium to High
1/4	Users of facilities/ grounds of Carmel College	Medium	Medium	Medium
1/5 Photo C	Users of the Thames Pathway PROW 161/16	High	High	High
1/6	Users of the River Thames (on boats)	Medium	Medium	Medium
2/7 Photo E	Residents of property accessed off Wallingford Road.	High	High	High
2/8 Photo E & E	Residents of properties accessed off Constitutional Hill	High	High	High
2/9	Users of PROW 181/43	Medium	Medium	Medium
2/10	Users of PROW 181/18	Medium	Medium	Medium

2/11 Photo G	Users of the Springs Hotel and Golf Club	Medium	Medium	Medium
2/12	Users of Wallingford Road	Low	Low	Low
2/13	Residents of The Ridgeway	High	High	High
2/14	Users of PROW 181/14	Medium	Medium	Medium
3/15 Photo I	Users of PROW 181/13	Medium	Medium	Medium
3/16	Users of PROW 181/30	Medium	Medium	Medium
3/17	Users of PROW 181/17	Medium	Medium	Medium
3/18	Users of PROW 181/18	Medium	Medium	Medium
3/19 Photo J	Users of PROW 181/35	Medium	Medium	Medium
3/20	St Marys Church/ Newham Farm	Medium	Medium	Medium
3/21	Users of A413	Low	Low	Low
3/22	Users of Port Way A4074	Low	Low	Low
3/23	Workers at CABI	Medium	Low	Low
4/24 Photo L	Vehicle users of the elevated sections of A4130 Wallingford Bypass	Low	Low	Low
4/25 Photo M	Pedestrian users of the elevated section of the A4130 Wallingford Bypass	Medium	Low	Low to Medium
4/26 Photo N	Vehicle and pedestrian users of the A4130 Nosworthy Way/ Reading Road Roundabout	Low	Low	Low
4/27	Residents of White Cross	High	Low	Low to Medium
4/39	Residents of Barchester Waterside Court Care Home	High	Low to Medium	Low to Medium
5/28	Users of the Reading Road, including pedestrians	Low	Low	Low to Medium
5/29 Photo P&R	Bright Horizons Day Nursery and Pre-school	High	High	High
5/30 Photo Q	Residents of The Lodge	High	High	High
5/31	Users of Cholsey to Wallingford Road	Low	Low	Low
5/32	Residents of New Barn Farm	High	High	High

5/33 Photo T	Residents of Reading Road to south of the site	High	High	High
5/34	Possible Residents of Mead Furlong/ Leisure uses	High	High	High
6/35	Users of Cholsey Road	Low	Low	Low
6/36	Residents of the Manor	High	High	High
6/37 Photo U &V	Users of PROW 167/22	Medium	Medium	Medium
6/38	Users of A4130 from adjacent to the new Grundon New Barns Farm Quarry	Low	Low	Low

6.14 Local visual receptors have a variety of assessed sensitivity to change resulting from the proposed development within this locality. Residential receptors having the greatest sensitivity to change along with potential receptors using designated pathways.

Magnitude of Visual Effects

6.15 The magnitude of existing and potential future visual effects resulting from the proposed development have been evaluated in terms of its size/ scale, geographical extent, duration and reversibility. These have been summarised below.

Assessed Magnitude during Stage A- Temporary Mineral Extraction and Progressive Restoration

Development. The development will involve the establishment of two access / exit points into the site and a temporary change of use from agricultural land which will involve new elements and features including soil stripping, bunding, mineral extraction and progressive restoration of land. Development will include the temporary inclusion of a mineral processing plant (14m in height) a work shed of (10m in height), an office and weighbridge of around 2.5- 3m in height, together with mobile plant and machinery.

Size/scale. The size of the individual elements that would comprise the proposed development are relatively small set within its landscape setting. Its scale comprises relatively small individual built structures, together with a medium size and scale element of progressive extraction and restoration.

Geographical extent. The site/ temporary development area is ~ 19Ha in geographical extent. This is a relatively large area of land perceived in isolation but when set within the

local context and River Thames Valley it is relatively small in size, within a contained geographical extent of influence.

Duration/ reversibility. The operational period of the quarry and its restoration is approximately 5 years. These operations being temporary. The proposed development being reversible in that on completion of mineral extraction and restoration, all quarry plant and activities will be decommissioned and removed from site, land levels will be restored to the same / similar levels and topography as existing, the soils resource will be protected, conserved and concentrated to ensure no Best and Most Versatile Land will be lost, and there will be enhancement o landscape character structure panting , with new habitats to potentially increase Biodiversity,

6.16 Over, the assessed Magnitude of Effect of the proposed development is:

Stage A	Operational Period	Low to Medium Adverse
Stage B	Post Restoration	Low to Medium Beneficial

Visual Mitigation Measures

6.16 The following specific visual mitigation measures are proposed to both help integrate the proposed development into its surroundings and to help screen it from potential receptor views.

- Strengthening of existing hedgerow/ tree planting around the peripheral boundaries of the site.
- Soil storage/ screening bunds to the north western boundary
- Progressive phased restoration to minimise the area of unrestored land
- Temporary placement of straw/ hay bales on the inner side of the Thames Pathway during the phased extraction and progressive restoration process.

Assessed Overall Significance of Visual Effects

6.17 This is achieved by continuing the separate judgements about sensitivity of the visual receptor and the magnitude of the proposed development (including any mitigation measures) on visual impact effects. These findings have been summarised within Table 4 within Appendix A.

Predicted Visual Effects

6.18 The assessed Significance of Visual Effect have been considered at two stages i.e. Stage A – Operational Mineral Extraction and Progressive Restoration and Stage B – Post Restoration. During both periods, 39No. Representative Visual Receptors have been identified to reflect and assess the visual change / effect of the proposed development.

Stage A – Operational Mineral Extraction and Progressive Restoration

6.19 It is assessed that during the operational quarry and restoration period, that there will be NO Adverse Significant Visual Effect to any receptor. It is assessed that there is the potential for four receptors to have the potential to receive a Moderate Adverse effect during this period. These include:

- The first receptor/ location is Reference 1 within Zone 1, the potential residents/ visitors to the Boat House within the Chilterns AONB located ~30m to the east of the site. From this property receptors could have clear views of the proposed temporary extraction and construction activities. It is proposed, however, to introduce temporary screening of the site activities via the placement of straw bales along the section of the site facing this receptor. The appearance of these bales being part of the agricultural landscape and capable of screening views from this receptor and other receptors located to the east of the site. With temporary screening mitigation in place, combined with existing bank side vegetation and progressive restoration, we assess the potential visual impact to receptors at this property of Moderate Adverse.

- The second receptor/ location is Reference 5 within Zone 1. This location relates to users of the Thames Pathway which is a national trail with receptors walking within the site. Receptors using this pathway could have clear views of all proposed temporary development operations from relatively close proximity. Part of the path is located within vegetation in proximity to the river bank. These receptors will also have potential views of the site operations mitigated by the proposed straw bales which may be relocated along the progressively extracted and restored areas, thus limiting visual disturbance. With the screening and mitigation in place we assess the potential visual impact to these receptors to be Moderate Adverse.

- The third receptor being reference 29 within Zone 5, staff, children, parents and visitors to the Bright Horizons Day Nursery and Pre-School. It is considered that the majority of these potential receptors will only visit/ use the lower ground floors of Elizabeth House. There are, however, three further floors with east facing windows which look across and down onto the site. These views are panoramic over the wider local Thames Valley. Mitigation measures to prevent/ reduce potential views of the Stage A activities including the strengthening/ gapping up of the site's peripheral hedgerow with the Reading Road, a soil screening bund to the south west of the site boundary, which will be grass seeded and maintained, together with progressive extraction and restoration. It is considered that these mitigation measures will not screen all of the site/ site activities and structures from this receptor location. The resulting level of visual significance is assessed as Moderate Adverse within this period.

- The fourth receptor being reference 39, staff, residents, and visitors to the Barchester Waterside Court Care Home. The acre home has been built away from the site, off the Nosworthy A4130, Reading Road and Winterbrook roundabout. It is screened against these roads / roundabout by roadside vegetation. Roadside vegetation also boundaries the White Cross Farm site. Additional planting and temporary bunding will also be in place. Residents in higher elevated south and east facing rooms may have views of the site and the proposed operations and activities, specifically during winter months. We therefore assess the Sensitivity to this development as High, with the actual predicted Magnitude of Effect being None to Low. When combined this results in a Moderate Adverse Significance of Effect within the operational period.

6.20 Of the other representative receptors, it is assessed that seven will receive a Slight Adverse Effect, six a Very Slight Adverse Effect, one a Minimal Adverse Effect and twenty-one a Neutral Effect, during the operational period.

Stage B – Post Restoration

6.21 At Stage B – Post Restoration, it is assessed that there will be No adverse visual effects to visual receptors. It is also assessed that No receptors will receive a Significant Beneficial Significance of Effect. One receptor group (reference 5 – users of the Thames Path 167/16) is assessed to receive a Moderate Beneficial Significance of Effect. Users of this national pathway are considered of a High Sensitivity. The restored land uses including damp meadow, individual and grouped wetland tree species, strengthening of local landscape character features and opportunities for long term management are considered to result in a Medium Beneficial Magnitude of Effect with a subsequent combined Moderate Beneficial Significance of Effect.

6.22 Of the other representative receptors, it is assessed that six will receive a Slight Beneficial Significance of Effect, four a Very Slight Significance of Effect, one a Minimal Significance of Effect, and twenty-seven a Neutral Effect.

7.0 CUMULATIVE EFFECTS

7.1 Cumulative Landscape and Visual Assessment must be considered in LVIA when it is carried out as part of EIA.

7.2 Cumulative Effects can be described as those that:

"Result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future."

- *"Cumulative effects – as 'the additional changes caused by a proposed development in conjunction with other similar development or as the combined effect of a set of developments, taken together' (SNH 2012:4)*
- *Cumulative landscape effects – as effects that 'can impact on either the physical fabric or character of the landscape, or any special values attached to it' (SNH2012:10)*
- *Cumulative visual effects – as effects that can be caused by combined visibility, which 'occurs where the observer is able to see two or more developments from one viewpoint' and / or sequential effects which 'occur when the observer has to move to another viewpoint to see different developments' (SNH 2012:11)"*

7.3 In discussions with the application co-ordinators, we considered that there are existing permitted development which could, when combined with the proposed application, result in cumulative effects. This development being Grundon New Barn Farm Quarry, which is located ~500m to the west of the site. This development will involve the progressive phased working and processing of sand and gravel, and restoration, over a period of 18 years. Consideration was also taken into account of the new Barchester Waterside Court Care Home and the intensification of development at the CABI site for residential development.

7.4 We assess that No cumulative landscape effects which could impact on either the physical fabric or character of the landscape or any special values attached to it would occur.

7.5 In respect of the potential for cumulative adverse visual effects, residential receptors who may be susceptible to change from both developments include those of The Lodge Receptor ref. 30 in Zone 5, New Barn Farm Receptor No. 32 in Zone 5, teaching activities at Elizabeth House (Bright Horizons Day Nursery) Receptor No.29 in zone 5, residents of the Barchester Waterside Court Care Home Receptor No. 39 and users of the A4130 from adjacent to the Grunden New Barn Quarry and Nosworthy Way / Reading Road roundabout. We consider that residential / other users of these receptor location points along with users of the local PROW and road network are of low susceptibility to intervisibility between the four potential cumulative sites. We assess that no Significant cumulative visual effects resulting from a combined visibility will occur, where the observer is able to see both developments from one viewpoint.

8.0 CONCLUSION

8.1 A Landscape and Visual Impact Assessment has been carried out in respect of the Proposed Development. The assessment has been carried out in accordance with the Landscape Institute and Institute of Environmental Management Guidelines for Landscape and Visual Impact assessment (GLVIA3).

8.2 Desktop and Site survey works identified the current baseline situation including Landscape Character resources, elements and features which comprise the local setting, along with visual receptors which have the potential to view the Proposed Development.

8.3 The site is not located within a National Park. The eastern boundary of the proposed development runs adjacent to the Chilterns AONB / River Thames, with the North Wessex Downs AONB being located ~1.5km away.

8.4 There are Listed Buildings located in the surrounding area, mainly within in the town of Wallingford to the north but also in countryside locations near the site. The closest listed buildings to the site being the Julius Gottlieb Gallery and Boathouse Grade II* located ~ 50m to the east of the site along with the Former Church of St John the Baptist located ~40m to the east of the site.

- There are three conservation areas within 2km of the centre of the site. These are ~ 200m to the north Winterbrook Conservation Area, ~500m to the north Wallingford Conservation Area, and ~1km to the south east North Stoke Conservation Area. As a result of intervening landscape and built elements and features and/or distance these conservation areas are not judged to be affected by the proposed development.
- Registered Parks and Gardens- Located ~1.5km to the south, Fairmile Hospital Gardens. The gardens are considered to be distinct and separated from the proposed development site.
- National Nature Reserves- No sites are located within 2km of the site.
- Local Nature Reserves/ Local Nature Conservation Sites- The closest non- statutory designated site is located at a distance of ~1.5m to the south of the proposed development. This being the LWS's 58RO3 Unill and Ham Woods and the 58RO6 North Unhill Bank. It is considered that due to distance and intervening landform and landuses that the proposed development will have no effect on these sites.
- Sites of Special Scientific Interest (SSSI)- none are located within 2km of the site.

8.5 The landscape character, visual influence and setting of the AONBs and Listed Buildings and other designated sites has been considered and assessed. It is concluded that as a result of the design of the temporary scheme, with integrated mitigation measures, the operational proposed will not significantly adversely affect the designated areas / sites nor Listed Buildings. At post restoration, the potential impacts being Neutral.

8.6 At a national level, the site has been identified with the regional JCA 108, Upper Thames Vales, at the county level the Oxfordshire Wildlife and Landscape Strategy (OWLS) locates the site and its immediate surroundings within the Terrace Farmlands Landscape Type. At the local level, the site being identified within the South Oxfordshire Landscape Assessment as located within the River Thames Corridor – Flat Flooplain Pastures.

8.7 The mineral extraction operational stage will NOT result in the closure or diversion of any PROW. There will be a loss of two sections of shallow ditches within the site. This is considered as resulting in a Low magnitude effect.

8.8 The introduction of the proposed developments new built/ engineering forms including plant, equipment, work shed, soil/storage bunds and stocks would be localised within the

strong landscape boundaries of the current site. Although the built/ engineering features are not large in size/scale, or geographical extent of influence they are not, however, representative features of the local Landscape Character Types. Other effects upon landscape character include a potential reduction in tranquillity and local visual scenic qualities. The overall effect is assessed to be Medium Adverse.

8.9 In respect of visual matters, a current baseline and potential development ZTVI was produced. The current baseline being based upon current round levels and associated landform only i.e. no built or vegetative structures. The proposed development being based upon the same together with a worst-case scenario of the proposed quarry plant stie structures, stocks, bunds and fully disturbed land (no progressive restoration).

8.10 Although the potential ZTVI increases slightly associated with the proposed development, the higher levels of magnitude of visual effect for both the current site and the proposed development are located within or in proximity to the site boundary. This being a result of the local typically flat topography.

8.11 Within the defined study area, a number of potential visual receptor types / groups exist. These include occupants of residential properties (both within defined settlements and isolated), users of PROW / local urban footpaths, transient users of local roadways, and users of commercial and industrial. The local landscape is valuable at a local level for amenity and recreation purposes however offers limited scope for access.

8.12 The following specific visual mitigation measures are proposed to both help integrate the proposed development into its surroundings and to help screen it from potential receptor views.

- Strengthening of existing hedgerow/ tree planting around the peripheral boundaries of the site.
- Soil storage/ screening bunds to the western and north western boundary
- Use of temporary agricultural straw bales to screen views
- Progressive phased restoration to minimise the area of unrestored land
- Temporary placement of straw/ hay bales on the inner side of the Thames Pathway during the phased extraction and progressive restoration process.

8.13 We assess that no visual receptors will receive a significant adverse impact associate with the temporary operational stage of the quarry and its progressive restoration. We assess that four representative visual receptors will receive a Moderate Adverse Effect, principally relating to the assessed High Sensitivity and level of Magnitude from the proposed development. These being receptors at the Boat House, located on the opposite side of the River Thames to the site, users of the PROW Thames Pathway, within the eastern corridor of the site, staff, children and visitors to the Bright Horizons Day Nursery and Pre-School, and staff, residents and visitors to the Barchester Waterside Court Care Home. At post restoration, receptor views are assessed as Neutral or Beneficial.

8.14 Comments on the Proposed Developments Accordance with Landscape and Visual Orientated Designations and Policies

8.15 The site is not located within a National Park; however the eastern boundary of the site runs adjacent to the Chilterns AONB. The AONB boundary being confined to the immediate River Thames embankment, thus covering its immediate corridor. The proposed development does not impinge on this river corridor. Mitigation measures integrated into the scheme include a 30m standoff being provided, which includes the Thames Pathway (a national trail), agricultural grazing land and bankside vegetation.

8.16 They also include the temporary placement of agricultural straw bales adjacent to the proposed mineral extraction and restoration areas. This will both physically and visually separate the AONB from the proposed temporary operations. Restoration will also be sequential, following on from mineral extraction. This progressive restoration limiting the relatively short time that land is required. Restoration enhancement establishment of damp meadow, shallow ponds and ditches, replicating typical landscape character elements and features in the local setting, and creating habitat to promote Biodiversity Net Gain. It is also proposed to provide educational / historic signage to provide visual context and help users understand the local area and its wildlife and heritage assets.

8.17 These mitigation and enhancement measures also acting to protect and conserve the setting of the Julius Gottlieb Gallery and Boathouse (Grade II*) along with the former Church of St John the Baptist. These listed buildings being located on the eastern side of the River Thames.

8.18 The proposals have been designed to both retain and respect the site's / local areas specific landscape character and setting. Typical defining landscape character elements and features have been integrated into the scheme, including the strengthening of existing site peripheral native broadleaf woodland and hedgerows, returning land levels through restoration to at or similar landforms and aOD levels. The scheme minimises potential disturbance and contains temporary visual change through the use of the existing contained site and through temporary screening via planting and seeded and maintained soil bunds. The scheme also creates sustainable and manageable land units for agriculture (conserving and concentrating the soil resource to ensure all land of Best and Most Versatile Land Characteristics is replaced) and creating new habitats to promote landscape structure and enhance Biodiversity.

8.19 We therefore consider that the scheme is in accordance with landscape and visual orientated designations and policies contained within the Oxford Minerals and Wate Local Plan Part 1 – Core Strategy 20217, South Oxfordshire Local Plan to 2035 – adopted December 2020, Chilterns Management Plan 2014-2019, and North Wessex Downs Management Plan 2014-2019.

8.20 The potential for cumulative effects has been assessed. It is considered that three existing permitted development, that of Grundon New Barns Farm Quarry, Barchester Waterside

Court Care Home and CABI / CALA Homes residential development, could combine with the proposed development to result in adverse effects. Both desktop and site survey works have been carried out and have confirmed that there is none to very limited intervisibility between the sites or combined significant adverse effects to visibility, by individual receptors. Potential landscape receptors which may be susceptible to cumulative adverse effects from both developments include the designated Wessex Downs AONB and the Landscape Character Types of the Flat Flood Plain Pasture, Parkland and Estate Farmland and Semi-Enclosed Rolling Downs. We consider that the White Cross Farm application, New Barn Farm Quarry and CABI / CALA Homes development sites areas are separately well contained within their individual landscape settings. The Barchester Waterside Court Care Home also being confined within strong roadside vegetation boundaries. We assess that No cumulative landscape effects which could impact on either the physical fabric or character of the landscape or any special values attached to it would occur. We conclude that No significant cumulative landscape or visual effects will occur.

8.21 It is therefore considered that the proposed development is in accordance with guidance and relevant landscape and environmental planning policy, and that no significant adverse levels of landscape or visual effects will result. It is also concluded that the proposed development will not result in any likely cumulative adverse effects in combination with either existing or proposed development.

APPENDICES

APPENDIX A: Figures 1 to 20

APPENDIX A: Drawings (Figures) & Photosheets

Table 4 Assessed Overall Significance of Effects

Figure 1 Location Plan
Figure 2 Landscape Orientated Designations
Figure 3 National Landscape Character Areas
Figure 4 Local Landscape Character Areas and Types
Figure 5 Site/ Local Character Element and Features. (Photographs)
Figure 6 Current Situation – Zone of Theoretical Visual Influence
Figure 7 Stage A – Mineral Operations Zone of Theoretical Visual Influence
Figure 8 Stage B- Final Restoration Zone of Theoretical Visual Influence
Figure 9 General Location of Visual Receptor Zones and Visual Receptor Photo Locations.

Figure 10 Visual Receptor Photographic Sheet 1- Zone 1 River Thames Corridor
Figure 11 Visual Receptor Photographic Sheet 2- Zone 2 Mongewell Park/ Pathway
Figure 12 Visual Receptor Photographic Sheet 3- Zone 3 Newham Manor/Farm Plain
Figure 13 Visual Receptor Photographic Sheet 4- Zone 4 Wallingford Bypass/ Adjacent Land
Figure 14 Visual Receptor Photographic Sheet 5- Zone 5 Reading Road and land to the west of the site
Figure 15 Visual Receptor Photographic Sheet 6- Zone 5
Figure 16 Visual Receptor Photographic Sheet 7- Zone 5
Figure 17 Visual Receptor Photographic Sheet 8- Zone 6 Chorley Mill
Figure 18 Supplementary Baseline Photographs - Sheet 1
Figure 19 Supplementary Baseline Photographs - Sheet 2

TABLE FOUR -ASSESSED OVERALL SIGNIFICANCE OF VISUAL EFFECTS						
Receptor Ref	**Description**	**Distance from Site boundary**	**Description of Potential Effect**	**Viewpoint sensitivity**	**Magnitude**	**Significance of Effect**
Zone 1/1	Potential Residents/ visitors to the Wet Boat House	~30m	Stage A - Mineral Extraction and Progressive Restoration Clear, partly uninterrupted views of mineral extraction activities including plant site, extraction area, processing, stocking and progressive restoration works.	High	Low Adverse	Moderate Adverse
			Stage B - Final Restoration Clear view of the majority of the restored site.	High	Low Beneficial	Slight Beneficial
Zone 1/2	St Johns Baptist Church (Environs)	~40m	Stage A - Mineral Extraction and Progressive Restoration Restricted views towards the site/ mineral extraction facilities and operations from the western environs of the ruined church	High	Very Low Adverse	Slight Adverse
			Stage B - Final Restoration Partial restricted views towards the restored site.	High	Very Low Beneficial	Slight Beneficial
Zone1/3	Users of PROW 181/36	~60m	Stage A - Mineral Extraction and Progressive Restoration Possible glimpses, specifically in winter months of small part of the northern area of the extraction area and plant site.	Medium	Very Low Adverse	Very Slight Adverse
			Stage B - Final Restoration Possible minor glimpses of the restored site.	Medium	Very Low Beneficial	Very Slight Beneficial
Zone1/4	Users of Facilites/grounds in Carmel College	~40-500m	Stage A - Mineral Extraction and Progressive Restoration Possible glimpses, specifically in winter months of small part of the northern area of the extraction area and plant site.	Medium	Very Low Adverse	Very Slight Adverse
			Stage B - Final Restoration Possible minor glimpses of the restored site.	Medium	Very Low Beneficial	Very Slight Beneficial
Zone 1/5	Users of the Thames Path 167/16	Adjacent	Stage A - Mineral Extraction and Progressive Restoration Both clear and screened views of the majority of the site extraction area and associated processing plant, stocking/ activities and progressive restoration. Views are screened where parts of the path are set behind existing vegetation.	High	Low to Medium Adverse	Moderate Adverse

			Stage B - Final Restoration Both clear and screened views of restored site including new damp meadow habitats and managed land.	High	Low to Medium Benefical	Moderate Beneficial
Zone 1/6	Users of the River Thames (Boats)	~10-30m	Stage A - Mineral Extraction and Progressive Restoration Both clear and partially restricted views of the majority of the site. Restrictions of view including the elevated riverbanks and bank side vegetation. Transient users will have views of the mineral processing facilities and phased extraction and progressive restoration. Mitigation measures include existing bank side vegetation and the placement of temporary agricultural straw bales to screen views.	Medium	Low Adverse	Slight Adverse
			Stage B - Final Restoration Both clear and partially restricted views of the majority of the restored site.	Medium	Low Beneficial	Slight Beneficial
Zone 2/7	Residents of Property accessed off Wallingford Road	~300m	Stage A - Mineral Extraction and Progressive Restoration Residents may have partial views looking west from an elevated position from 1st floor windows down and across towards the site. Views of the proposed development may be observed as part of a wider panoramic visual context, mainly screened by intervening built structures (Carmel College) and vegetation.	High	Very Low Adverse	Slight Adverse
			Stage B - Final Restoration Potential views of the southern area of the restored site.	High	Very Low Beneficial	Slight Beneficial
Zone 2/8	Residents of properties accessed off Constitutional Hill	~600m	Stage A – Mineral Extraction and Progressive Restoration Period and Stage B - Final Restoration Residential receptors are set down within the lower slope of the eastern River Thames Valley side.	High	Neutral	Neutral
Zone 2/9	Users of PROW 181/43	~150m	Stage A – Mineral Extraction Period and Stage B- Final Restoration Views of the proposed development that are screened by both intervening vegetation and structures from ground elevations.	Medium	Neutral	Neutral
Zone 2/10	Users of PROW 181/18	~200-400m	Stage A - Mineral Extraction and Progressive Restoration Potential views of the site are screened by intervening vegetation and existing built structures along the vast majority of its length.	Medium	Neutral	Neutral
			Stage B - Final Restoration	Medium	Neutral	Neutral

			All views screened.			
Zone 2/11	Users of The Spring Hotel and Golf Club	200m to 1km	Stage A - Mineral Extraction and Progressive Restoration From higher south-eastern elevations of the golf course it may be possible to view the progressive land use changes within a part of the southern and western areas of the site, specifically during winter months. These changes being at distances of ~1km.	Medium	Very Low	Very Slight Adverse
			Stage B - Final Restoration No noticeable change in view.	Medium	Neutral	Neutral
Zone 2/12	Users of Wallingford Road	~900m	Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration Users of the roadway traveling north may have a minor glimpse of the change of land use during the extraction and final restoration period. Very restricted by existing tree blocks and hedges.	Low	Very Low Adverse	Minimal Adverse
Zone 2/13	Residents of properties accessed off Constitutional Hill	~500m	Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration No views.	High	Neutral	Neutral
Zone 2/14	Users of PROW ref 181/18 (Section A-B)	~400m	Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration Vegetation screens potential views.	Medium	Neutral	Neutral
Zone 3/ 15-23	Users of PROW, 181/13, 181/30, 181/17, 181/18, 181/35 Users of A4074 Port Way between the Ridgeway and Park View roundabout, users of Old Reading Road and minor road to Newham Farm, Residential/ Business Activities at Newham, Manor Farm, Newham Farm, CABI and visitors to St Marys Church	~100 to 1 Km	Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration The receptors within the zone have views of the site mainly prevented by the Nosworthy Way bridge over the River Thames, vegetation structure planting and other built development.	Low to High	Neutral	Neutral
Zone 4/24	Vehicle users of the elevated section of the A4130 Nosworthy Way	~100 to 500m	Stage A - Mineral Extraction and Progressive Restoration Users travelling both east and west over the elevated section of the A4130 Nosworthy Way / bridge over the River Thames would have restricted views over all of the site looking southwards. The plant site	Low	Medium Adverse	Slight Adverse

			associated facilities together with progressive soil stripping mineral extraction and restoration would be visible.			
			Stage B - Final Restoration At final restoration land would be restored to similar levels and land uses.	Low	Low Beneficial	Very Slight Beneficial
Zone 4/25	Pedestrian users of the elevated section of the A4130 Nosworthy Way	~50m	Stage A - Mineral Extraction and Progressive Restoration Users travelling both east and west over the elevated section of roadway/ bridge over the River Thames would have restricted views over all of the site looking southwards. The plant site associated facilities together with progressive soil stripping mineral extraction and restoration would be visible.	Low	Medium	Slight Adverse
			Stage B - Final Restoration At final restoration land would be restored to similar levels and land uses.	Medium	Neutral	Neutral
Zone 4/26	Vehicle and pedestrian users of the A4130 Nosworthy/ Reading roundabaout including Reading Road leading into Wallingford	~50m	Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration Local vehicle users in this vicinity can look east/south east towards the site where an existing tree and shrub boundary planting will be strengthened, managed and maintained. Screen bunding is also proposed, restricting views into the site.	Low	Low Adverse	Very Slight Adverse
			Stage B - Final Restoration At final restoration land would be restored to similar levels and land uses	Low	Neutral	Neutral
Zone 4/27	White Cross	~100m	Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration The residential complex is located within its own landscape setting contained within an existing built and landscaped structure. In winter months, it may be possible for receptors to look south over the slightly raised A4130 towards the site entrance. The plant site and future marine facilities/ work shed being set behind a screening bund / vegetation planting.	Medium	Low Adverse	Slight Adverse
			Stage B - Final Restoration At final restoration land would be restored to similar levels and land uses.	Medium	Neutral	Neutral
Zone 4/39	Residents of Barchester Waterside Court Care Home	~50m	Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration	High	Neutral to Low Adverse	Moderate Adverse

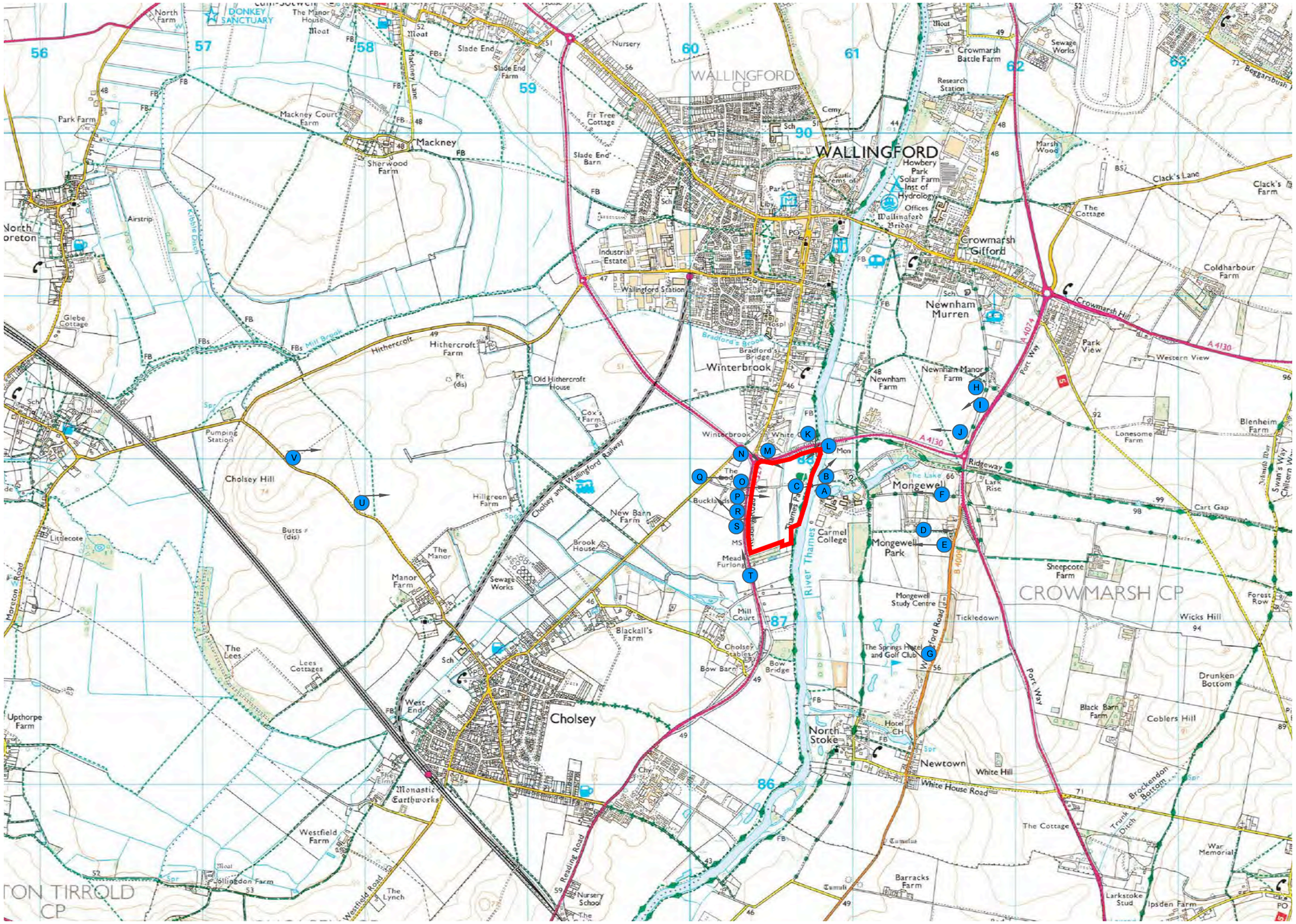
			The care home has been built away from the site, off the Nosworthy A4130, Reading Road and Winterbrook roundabout. It is screened against these roads / roundabout by roadside vegetation. Roadside vegetation also boundaries the White Cross Farm site. Additional planting and temporary bunding will also be in place. Residents in higher elevated south and east facing rooms may have views of the site and the proposed operations and activities, specifically during winter months.			
			<u>Stage B - Final Restoration</u> At final restoration land would be restored to similar levels and land uses.	High	Neutral	Neutral
Zone 5/28	Users of the Reading Road Vehicle Users	Adjacent	<u>Stage A - Mineral Extraction and Progressive Restoration</u> Users of the Reading Road travelling both north and south can look immediately east towards the western site boundary which is hedged with shrub and tree species. The hedge is to be strengthened where there are gaps to include evergreen species and maintained. A temporary soil storage bund will be located towards the southern end of the sites western boundary, with a sand and gravel stockpile to be located within the central western boundary and a new site access road and the proposed plant site/ facilities along the north-west boundary. The bund and stockpile providing additional physical screening.	Low	Low Adverse	Very Slight Adverse
	Pedestrian Users	~10m		Low	Low Adverse	Very Slight Adverse
	Vehicle Users	Adjacent	<u>Stage B - Final Restoration</u> At final restoration land would be restored to similar levels and land uses – all bunds will be removed.	Low	Neutral	Neutral
	Pedestrian Users	~10m		Low	Neutral	Neutral
Zone 5/29	Bright Horizons Day Nursery and Pre-school (Staff, Children, parents and visitors)	~15 to 100m	<u>Stage A - Mineral Extraction and Progressive Restoration</u> Elizabeth house within which Bright Horizons is based is set back from Reading Road. At ground and lower floors, views are at low levels partially screened from site by tree/hedges lining the road. The house is however a tall structure with rooms on second, third and fourth floors which look directly east over the site and the wider Thames Valley. The proposed sand and gravel stockpile is to be of ~10m in height and located along the central western boundary of the site onto which Elizabeth	High	Low to Medium Adverse	Moderate Adverse

			House faces. The processing plant will be located within the north-western areas of the site and will be ~14m in height along with other operational facilities including weighbridge ~2.5m in height and a work shed of 10m in height. Visual receptors from upper floors looking east from the House will also be able to view the progressive mineral extraction and restoration of the site.			
			<u>Stage B - Final Restoration</u> At final restoration land would be restored to similar levels and land uses – all bunds will be removed.	High	Neutral	Neutral
Zone 5/30	Residents of the Lodge	~200m	<u>Stage A - Mineral Extraction and Progressive Restoration</u> Residents from this property may have first floor east facing windows looking towards the site from which they currently observe the sites western hedgerow and views into the site beyond. During the mineral extraction period receptors could be able to observe the proposed processing plant, work shed and potentially sand and gravel stocks	High	Very Low Adverse	Slight Adverse
			<u>Stage B - Final Restoration</u> At final restoration land would be restored to similar levels and land uses – all bunds will be removed.	High	Neutral	Neutral
Zone 5/31	Users of Cholsey to Wallingford C class road	~150 to 750m	<u>Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration</u> Roadside hedgerows/ trees adjacent to the road and the Reading Road together with intervening built structures limit the potential of vies towards the site.	Low	Neutral	Neutral
Zone 5/32	New Barn Farm	~500m	<u>Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration</u> Roadside hedgerows/ trees adjacent to the road and the Reading Road together with intervening built structures limit the potential of vies towards the site.	High	Neutral	Neutral
Zone 5/33	Residents of property located to the south of the site, off Reading Road	~30 to 50m	<u>Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration</u> The property is set within a vegetative contained setting within a rectangular block of land off the Reading Road running east towards the River Thames. There may be first floor north facing windows within the property where receptors may glimpse, specifically the southern area of	High	Very Low Adverse	Slight Adverse

			the site. If this is the case receptors would be able to view the areas of mineral extraction and restoration.			
			<u>Stage B - Final Restoration</u> At final restoration land would be restored to similar levels and land uses – all bunds will be removed.	High	Neutral	Neutral
Zone 5/34	Possible Residents of Mead Furlong/ Leisure users	~50m	<u>Stage A - Mineral Extraction and Progressive Restoration</u> There appears to be bungalow property set behind stables and set back from the A329 Reading Road behind roadside hedges. Users of on site equestrian activities and residents many have the ability specifically in winter months to view the western boundary of the site against which a 3m high temporary soil storage bund will be located-seeded and maintained and the proposed 5m high sand and gravel stockpile. The stockpile being potentially most visible when users of the Mead Furlong exit their site onto the Reading Road.	Medium	Neutral to Low Adverse	Neutral to Very Slight Adverse
			<u>Stage B - Final Restoration</u> At final restoration land would be restored to similar levels and land uses – all bunds will be removed.	Medium	Neutral	Neutral
Zone 5/ 35-37	Residents/ Users of PROW 167/22 roadways within the New Wessex Downs AONB Vehicle users	~2km	<u>Stage A - Mineral Extraction and Progressive Restoration and Stage B - Final Restoration</u> Land located to the north west of the village of Cholsey rises from ~50m aOD to ~72m aOD to Cholsey Hill within the North Wessex Downs AONB. A section of roadway 'Church Road" and PROW 167/122 run through this locally high elevated landscape. Users of these routes can look east towards the site. The view being panoramic over large scale arable fields in the foreground down to the settlement of Cholsey, Winterbrook and Wallingford, down into the wooded periphery of the River Thames Valley before rising back up into the wooded and agricultural west facing slopes	Low	Neutral	Neutral

			of the Chilterns AONB. The site and the proposed Stage A mineral extraction and progressive restoration, and Stage B final restoration proposals being a very minor geographical component of the overall view. Potential views of the site being screened by existing built and vegetative structures as well as topography and landform.	High	Neutral	Neutral
Zone 5/ 38	Users of the A4130 from adjacent to the Grunden New Barns Farm Quarry		<u>Stage A - Mineral Extraction and Progressive Restoration</u> Vehicle receptors travelling east looking along the Boseley Way towards the Wallingfrod Road roundabout. Existing vegetation and built structure screening the site.	Low	Neutral	Neutral
			<u>Stage B - Final Restoration</u> At final restoration land would be restored to similar levels and land uses – all bunds will be removed.	Low	Neutral	Neutral

White Cross Farm - Proposed Sand & Gravel Quarry: ***Location Plan / Photographic Locations***

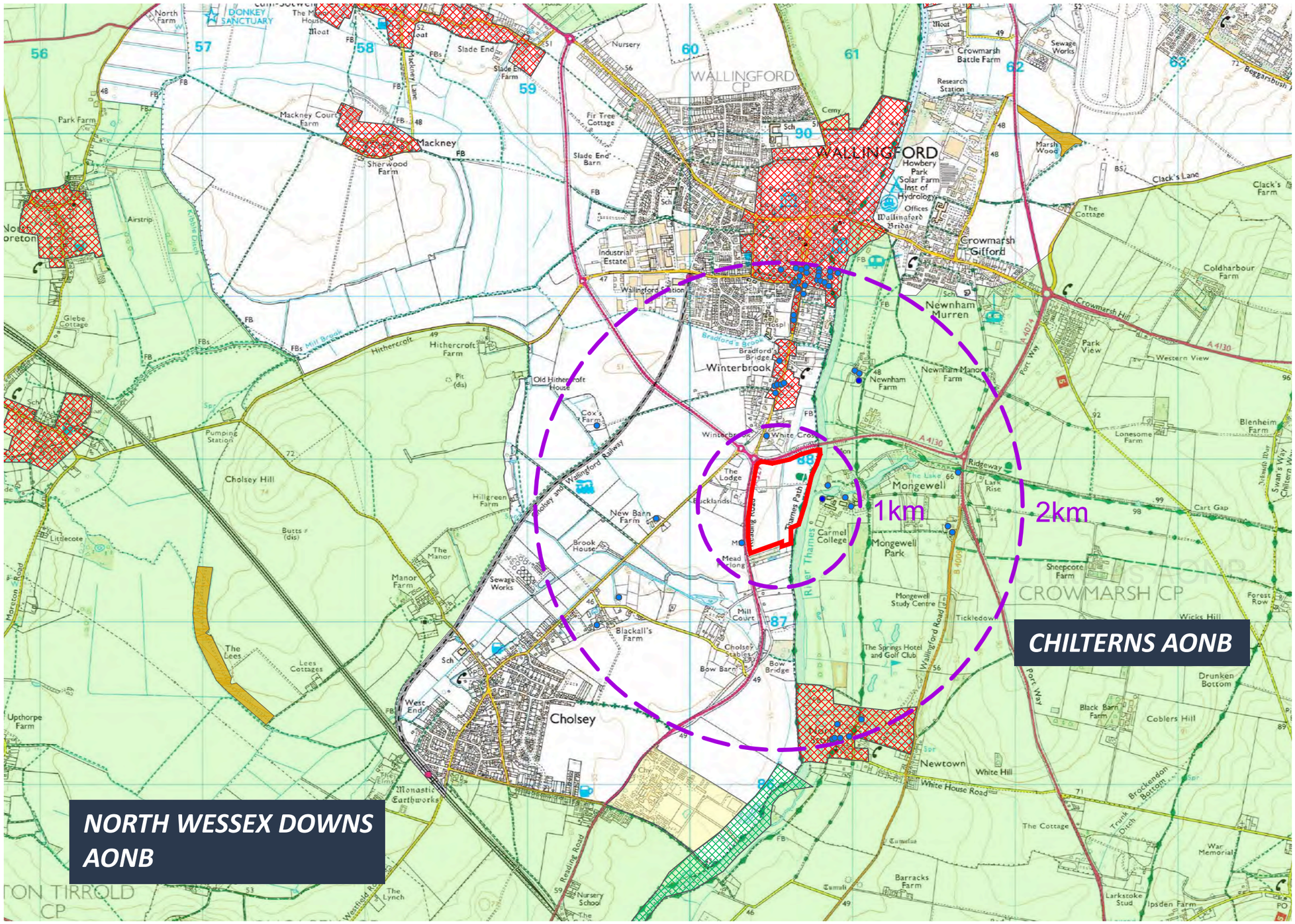


Legend

- Application Site
- A — Photograph locations

SCALE - 1:25,000 @A3

White Cross Farm - Proposed Sand & Gravel Quarry: ***Landscape Orientated Designations***



Legend

- Application Site

Ecological Designations
Source: Natural England

- Area of Outstanding Natural Beauty
- Ancient Woodland

Local Designations

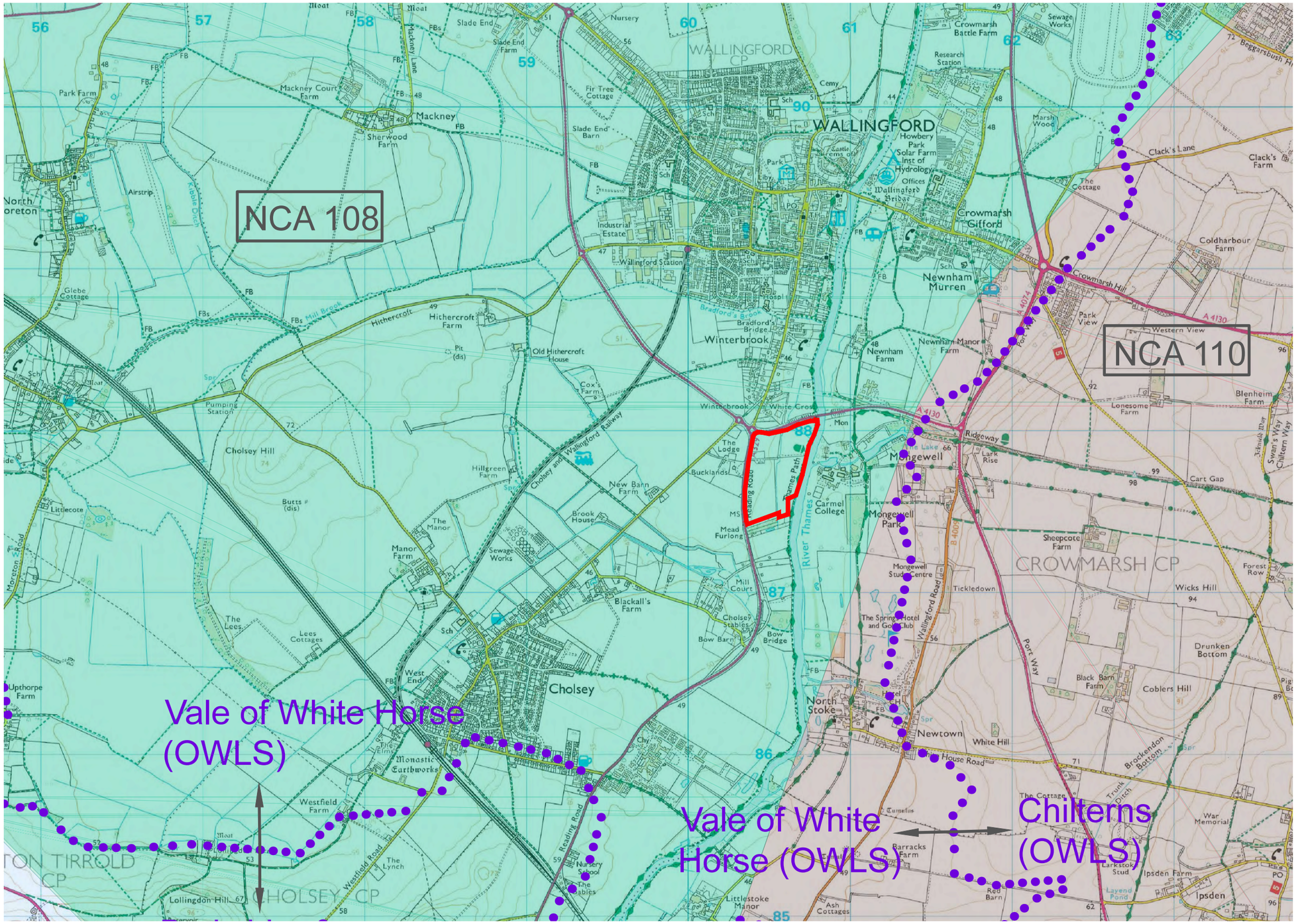
- Conservation Areas
  Source: South Oxfordshire District Council
- Local Wildlife Sites
  Source: Thames Valley Environmental Records Centre

Historic Designations

- Registered parks & gardens
- Grade II
- Grade II*

SCALE - 1:25,000 @A3

White Cross Farm - Proposed Sand & Gravel Quarry: ***National Landscape Character***



Legend

- Application Site

National Character Areas
(Source: Natural England)

- NCA 108 — Upper Thames Clay Vales
- NCA 110 — Chilterns
- NCA 116 — Berkshire and Marlborough Downs

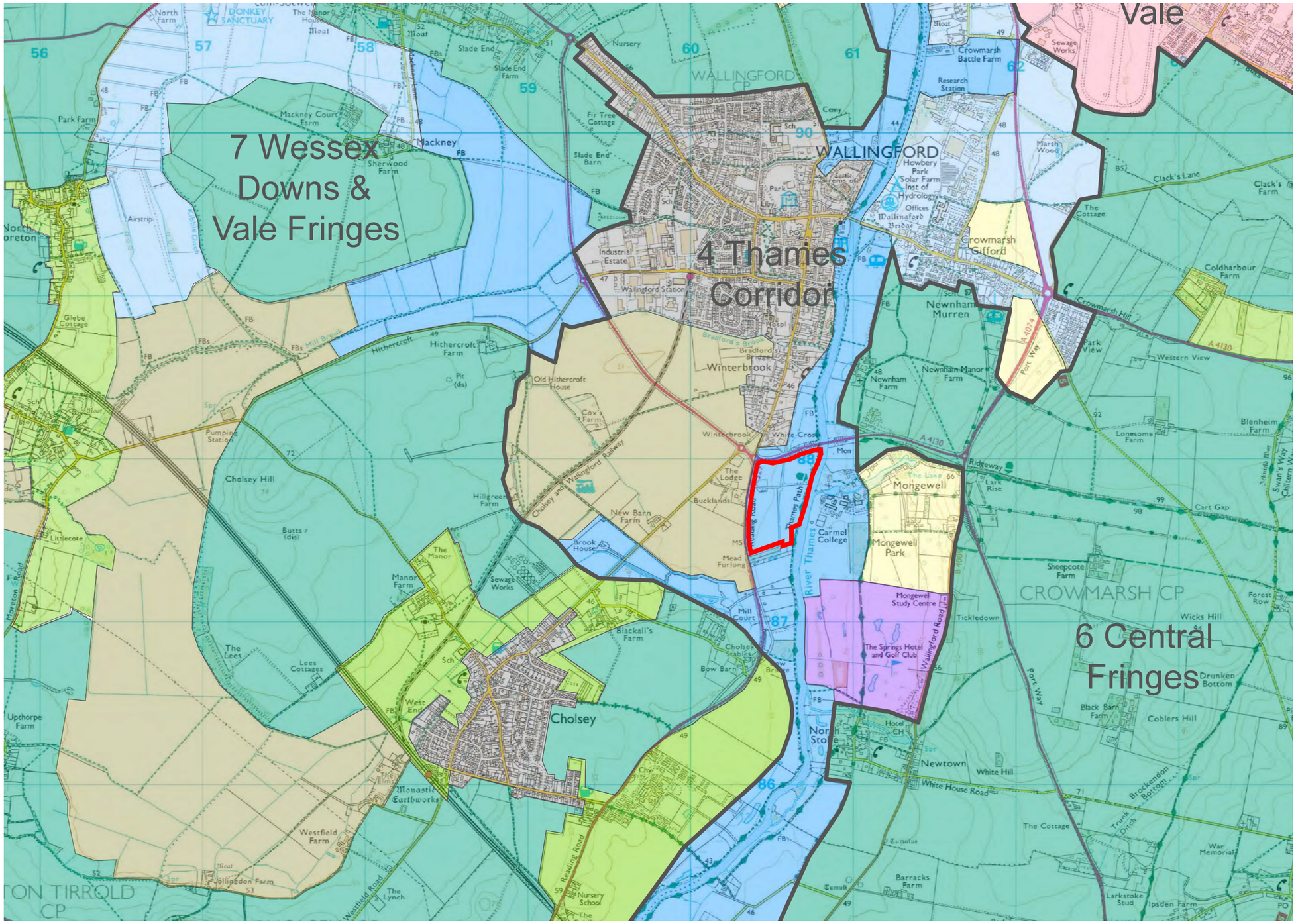
Regional Character Areas
(Source Oxfordshire Wildlife and Landscape Study)

- County Character Areas

SCALE - 1:25,000 @A3

Kedd Limited- Fox Studio, King Street, Much Wenlock, Shropshire, TF13 6BL

White Cross Farm - Proposed Sand & Gravel Quarry: ***Local Landscape Character***



Legend

- Application Site

Local Character Areas & Types
(Source South Oxfordshire District Council)

- District Character Areas
- Open rolling downs
- Semi-enclosed rolling downs
- Airfields/MOD sites
- Flat open farmland
- Flat, semi-enclosed farmland
- Parkland & estate farmland
- Flat flood plain pasture
- Amenity landscape
- Urban

SCALE - 1:25,000 @A3

White Cross Farm - Proposed Sand & Gravel Quarry: ***Site / Local Character Elements & Features***

Relatively strong containment of the site- low intervisibility of mid distance. Dutch Barn being the main built element within the existing site.

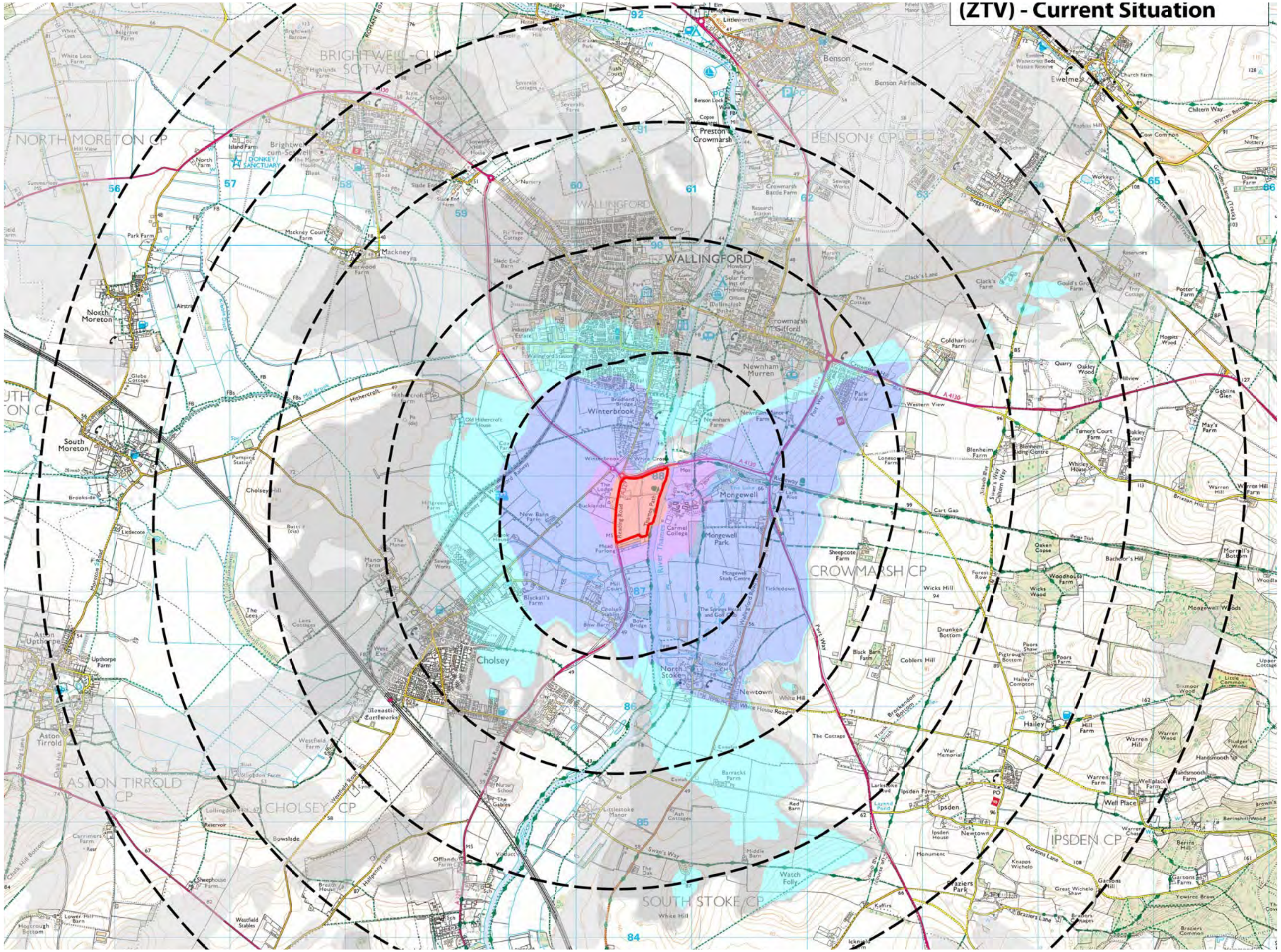
Relatively strong linear vegetative hedgerow boundaries, again acts as a containing structure character element.

Marginal terestrial and aquatic vegetation to the river banks and ditch system within site.

Loss of site tranquillity as a result of two of its boundaries bordering both high level and ground level roads.

Main land use within the site is grazing land on a flat floodplain landform.

Strong linear element of the River Thames with associated recreational and leisure land uses.



Legend

Application Boundary

1km Distance Banding from Site

Zones of (Theoretical) Visual Influence

(by vertical angle of view)

The vertical angle is the sectional angle the site forms when viewed from a specific location. The edge of the coloured area defines the visual envelope within the Local Study Area.

Zone	
>3.0°	Areas where views of the development are likely to have ***higher*** magnitude of impact
1.0-3.0°	↑
0.3-1.0°	
0.2-0.3°	
0.1-0.2°	↓
0.0-0.1°	Areas where views of the development arelikely to have ***lower*** magnitude of impact

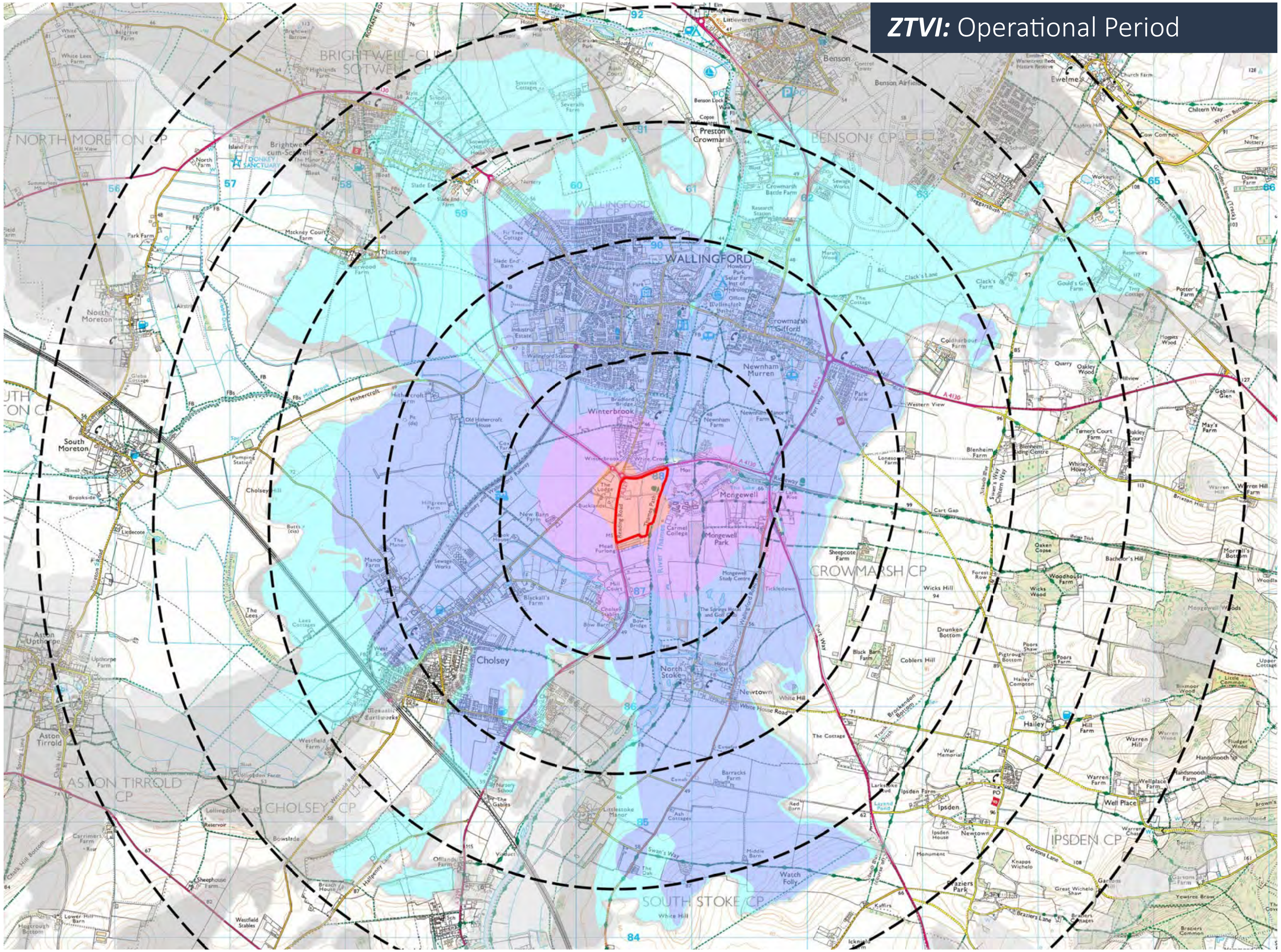
This computer method helps define the measure of visual impact the proposed scheme might have by linking potential visual impact to the vertical angle subtended at the viewpoint by the top and bottom extremities of the area being viewed. This gives a measure of how much of a given field of view is occupied by the area when viewed from different locations.This method automatically takes into account what effect distance has on impact (ie. an object close to the viewer occupies a far greater vertical angle than something hundreds of metres away).

The computation also takes account of the curvature of the earth. The ZVI values were calculated on a 25m grid across the study area and points of the same value were linked to produce "contours" of potential 'visual magnitude'. The computation utilises Terrain 5 data, with woodland blocks and buildings acting as visual barriers. The 'actual' Zone of Visual Influence will be modified by the effects of intervening trees, hedgerows, other structures, minor landform features and atmospheric conditions.

SCALE - 1:35,000 @A3

White Cross Farm - Proposed Sand & Gravel Quarry: ***ZTVI - Operational Period: Mineral Extraction & Progressive Restoration***

ZTVI: Operational Period



Legend

Application Boundary

1km Distance Banding from Site

Zones of (Theoretical) Visual Influence
(by vertical angle of view)

The vertical angle is the sectional angle the site forms when viewed from a specific location. The edge of the coloured area defines the visual envelope within the Local Study Area.

Zone	
>3.0°	Areas where views of the development are likely to have *higher* magnitude of impact
1.0-3.0°	↑
0.3-1.0°	
0.2-0.3°	
0.1-0.2°	↓
0.0-0.1°	Areas where views of the development arelikely to have *lower* magnitude of impact

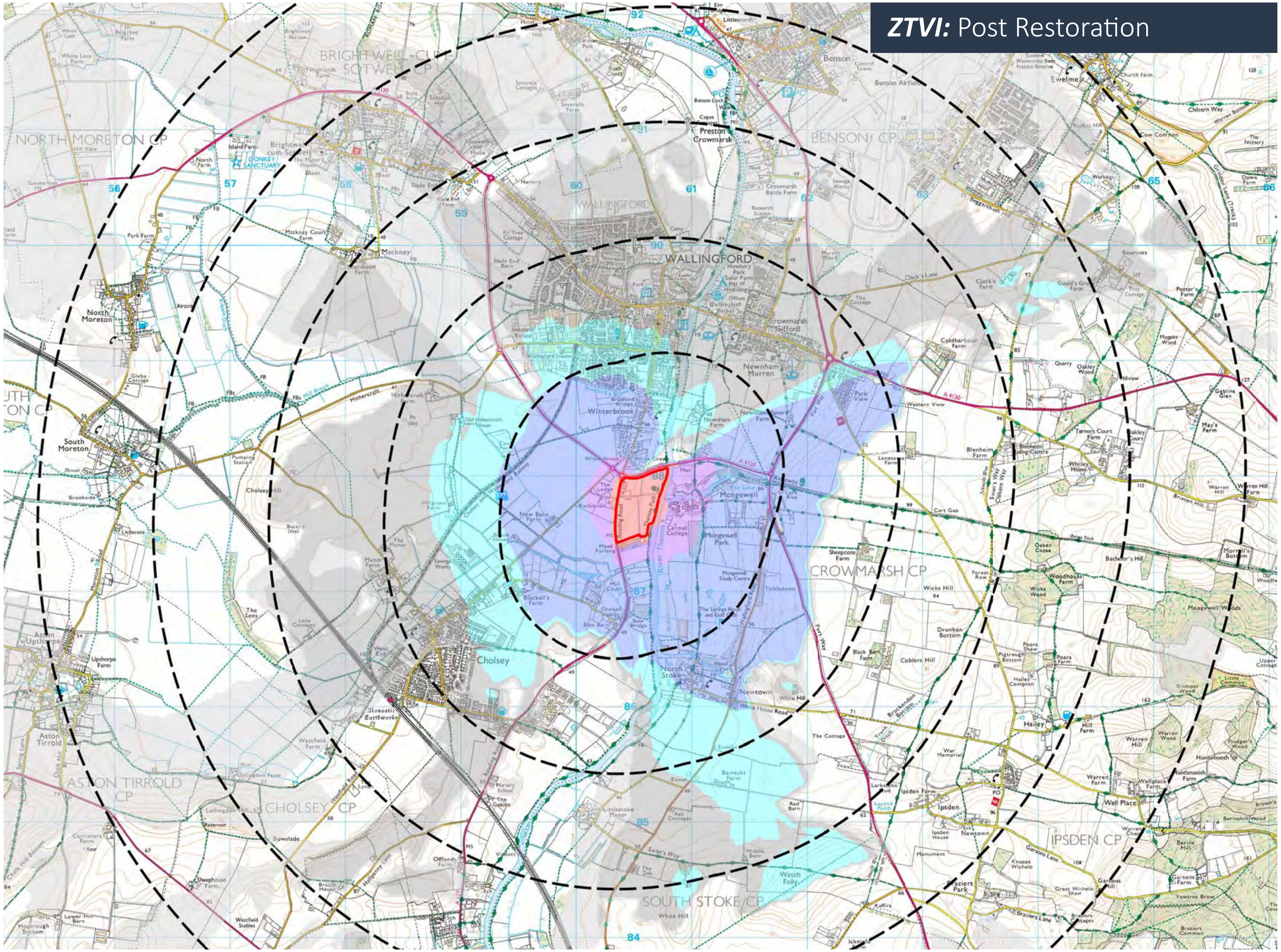
This computer method helps define the measure of visual impact the proposed scheme might have by linking potential visual impact to the vertical angle subtended at the viewpoint by the top and bottom extremities of the area being viewed. This gives a measure of how much of a given field of view is occupied by the area when viewed from different locations.This method automatically takes into account what effect distance has on impact (ie. an object close to the viewer occupies a far greater vertical angle than something hundreds of metres away).

The computation also takes account of the curvature of the earth. The ZVI values were calculated on a 25m grid across the study area and points of the same value were linked to produce "contours" of potential 'visual magnitude'. The computation utilises Terrain 5 data, with woodland blocks and buildings acting as visual barriers. The 'actual' Zone of Visual Influence will be modified by the effects of intervening trees, hedgerows, other structures, minor landform features and atmospheric conditions.

SCALE - 1:35,000 @A3

Kedd Limited- Fox Studio, King Street, Much Wenlock, Shropshire, TF13 6BL

White Cross Farm - Proposed Sand & Gravel Quarry: ***ZTVI - Post Restoration***



Legend

Application Boundary

1km Distance Banding from Site

Zones of (Theoretical) Visual Influence
(by vertical angle of view)

The vertical angle is the sectional angle the site forms when viewed from a specific location. The edge of the coloured area defines the visual envelope within the Local Study Area.

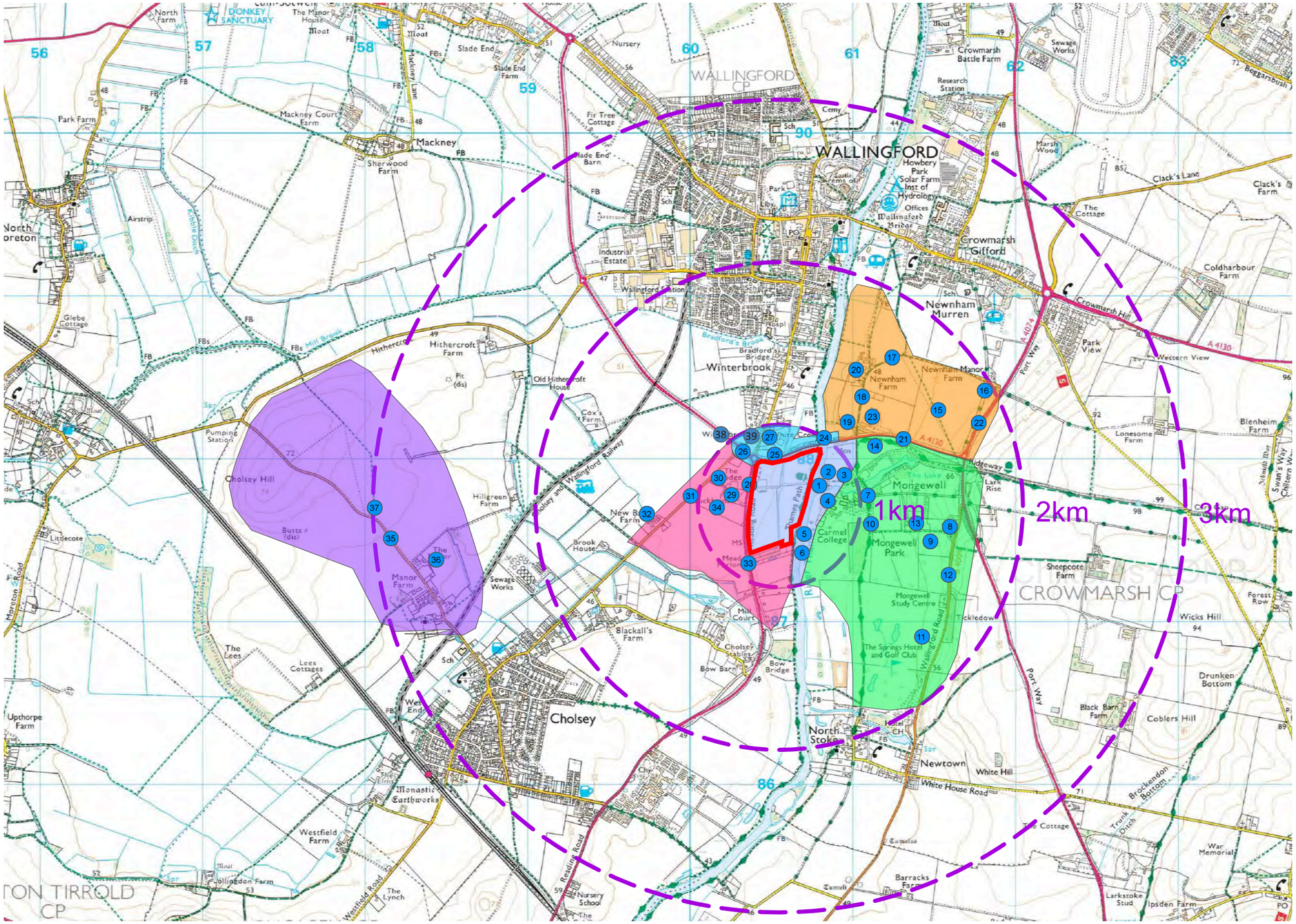
>3.0°	Areas where views of the development are likely to have ***higher*** magnitude of impact
1.0-3.0°	↑
0.3-1.0°	
0.2-0.3°	
0.1-0.2°	↓
0.0-0.1°	Areas where views of the development arelikely to have ***lower*** magnitude of impact

This computer method helps define the measure of visual impact the proposed scheme might have by linking potential visual impact to the vertical angle subtended at the viewpoint by the top and bottom extremities of the area being viewed. This gives a measure of how much of a given field of view is occupied by the area when viewed from different locations.This method automatically takes into account what effect distance has on impact (ie. an object close to the viewer occupies a far greater vertical angle than something hundreds of metres away).

The computation also takes account of the curvature of the earth. The ZVI values were calculated on a 25m grid across the study area and points of the same value were linked to produce "contours" of potential 'visual magnitude'. The computation utilises Terrain 5 data, with woodland blocks and buildings acting as visual barriers. The 'actual' Zone of Visual Influence will be modified by the effects of intervening trees, hedgerows, other structures, minor landform features and atmospheric conditions.

SCALE - 1:35,000 @A3

*White Cross Farm - Proposed Sand & Gravel Quarry: **Visual Assessment Zones & Receptor Locations***



Legend

Application Site

Visual Receptor Zones

- Zone 1 - Located within the Thames River Corridor
- Zone 2 - Located to the East of the site
- Zone 3 - Located to the North/North East of the site
- Zone 4 - Located along the A4130 Nosworthy Way
- Zone 5 - Located to the West/South West of the site
- Zone 6 - Located on higher ground to the West (Chorley Hill)

11 Visual Receptor Location Points

Receptor Views looking towards the site

SCALE - 1:25,000 @A3

White Cross Farm - Proposed Sand & Gravel Quarry: ***Photosheet 1***

Photograph A - Receptor views from entrance of PROW 181/36 and St Johns The Baptist Church - grounds of Carmel College.

Photograph B - Receptor view looking west fromt he environs of The Boat House towards the site. View restricted by existing trees/vegetation and PROW 181/36.

Photograph C - Receptor view from the Thames Pathway adjacent to the site- travelling south. Receptors have open wide river corridor and panoramic views of the site.

Zone 1 - River Thames Corridor

White Cross Farm - Proposed Sand & Gravel Quarry: ***Photosheet 2***

Photograph D - Residential receptors with view westwards of the River Thames Valley towards the site.

Photograph E - View from this zone/PROW 181/43, looking over Porkland down towards woodland blocks in the mid ground, screening the River Thames and the site. Longer distance view towards Cholsey Hill.

Photograph F - Receptor view from users of C-Class road off Wallingford Road to Carmel Collage.

Photograph G - Receptor views towards the site from the Spring Hotel and Golf Club. No views of the site.

Zone 2 - Mongewell Park Area: located ~500m to 1.5km east of the site

Photograph H- Newham Farm building. No view of site

Photograph I - Receptor view looking south-west of the Plain towards the site, PROW 181/30. The site is screened by intervening vegetation, the Wallingford elevated Bypass and intervening build structures.

Photograph J - Receptor views from the Ridgeway PROW 181/35 towards the site which is screened by the CABI development and vegetation.

Photograph K- Receptor views from users of the Thames Pathway, PROW 187/16, immediately north of the site looking beneath the elevated section of the A4120 Nosworthy Way (Bridge).

Zone 3 - Newham Manor Farm and Plain: ~5m0m to 1.5km north-east

Photograph L - Receptor view looking southwards from pathway adjacent to Nosworthy Way "bridge section" as it panes over the River Thames.

Photograph M - Receptor view looking south eastwards from footpath adjacent to Nosworthy Way through a break in planting overlooking the site to Carmel College/Boat House

Zone 4 - Elevated section of the A4130 Nosworthy Way

Photograph N - Receptor view looking south eastwards towards the site's north western boundary adjoining the A4130 Nosworthy Way, Reading Road at Winterbrook Road.

Photograph O - Receptor view looking east off Reading Road towards the site's western hedged/tree boundary.

Zone 5 - Reading Road & Land to the west of site

Photograph P - Receptor view looking east off Reading Road towards the site's western hedged/tree boundary.

Photograph Q - Receptor view taken from Church Road/bridge over rail line at Cholsey looking north eastwards towards the site.

Zone 5 - Reading Road & Land to the west of site

Photograph R - Visual Receptor from Bright Horizons Day Nursery and Pre-school looking east over Reading Road towards the site.

Photograph S - Hedgerow to western boundary of the site to be strengthened by new planting

Photograph T - Available views to visual receptors traveling north along Reading Road and residents of Windword House. Site is set behind vegetation to the left of the photograph.

Zone 5 - Land to the west of the site: adjacent and up to ~1km from the site

Photograph U - Receptor view looking east towards and over the site and the high ground beyond.

Photograph V - Receptor view looking east from high ground off Church Road.

Zone 6 - Chorley Hill: located to the west of the site

Photograph B(i) Summer View - Receptor view looking west from the environs of the Boat House / St John the Baptist's Chruch towards the site. View restricted by existing trees / vegetation from PROW 181/36

Photograph C(i) - Receptor view from the Thames Pathway adjacent to the site - travelling north

Photograph W (Receptor 38) - Users of the A4130 roadway adjacent to the entrance to Grundon New Barn Farm Quarry, looking east towards the proposed White Cross Farm Quarry site, screened by distance and vegetation

Photograph X - View from centre of the site looking north towards Wallingford and the new Barchester Waterside Court Care Home, set down and screened by existing landform and vegetation structure

Photograph Y (Receptor 39) - View from the A4130 roundabout with Winterbrook Road adjacent to the Barchester Waterside Court Car Home, set behind existing vegetation

APPENDIX C METHODOLOGY

Assessment Approach

1. This assessment makes use of the methodology as set out within the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition published jointly by The Landscape Institute and Institute of Environmental Management and Assessment, 2013, as well as those as set out within the Landscape Character Assessment. Guidance for England and Scotland published jointly by The Countryside Agency and Scottish Natural Heritage, 2002.

2. GLVA 3 defines the definition of what the term 'landscape' means. Paragraph 2.2 states Since the European Landscape Convention (ELC) in 2002 which the UK has signed and ratified, the ELC adopts a definition of landscape that is now being widely used in many different situations and is adopted in this guidance: 'Landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors' (Council of Europe, 2000). GLVA 3 carries on to state that the inclusive nature of landscape was captured there [GLVA 2] in a paragraph stating that: *Landscape is about the relationship between people and place. It provides the setting for our day-to-day lives. The term does not mean just special or designated landscapes and it does not only apply to the countryside. Landscape can mean a small patch of urban wasteland as much as a mountain range, and an urban park as much as an expanse of lowland plain. It results from the way that different components of our environment - both natural (the influences of geology, soils, climate, flora and fauna) and cultural (the historical and current impact of land use, settlement, enclosure and other human interventions) - interact together and are perceived by us. People's perceptions turn land into the concept of landscape. (Swanwick and Land Use Consultants, 2002: 2)*

3. The assessment process is intended to provide an objective method of establishing the significance of effect of a proposed development on an areas landscape character and visual amenity. The sensitivity nature of landscape receptors to change, combines with a judgement of the magnitude or nature of effect a particular development is likely to cause, to provide an assessment of the potential significance of effect the proposed development may have on local landscape character and visual amenity.

4. GLVA 3 at paragraph 5.1 defines the assessment of landscape effects as being: *An assessment of landscape effects deals with the effects of change and development on landscape as a resource.*

5. GLVA 3 at paragraph 6.1 defines the assessment of visual effects as being: *An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity.*

6. This study identifies and evaluates and quantifies the main landscape and visual effects associated with the proposed development are quantified, however the nature of landscape and visual impact assessment requires interpretation by professional judgement. In order to provide a level of consistency to the assessment, the prediction of magnitude and assessment of significance of the residual landscape and visual impacts have been based on pre-defined criteria.

Landscape and Visual Baseline

7. GLVA 3 at paragraph 3.15 states that the initial step in LVIA is to establish the baseline landscape and visual conditions. The information collected will, when reviewed alongside the description of the proposed development, form the basis for the identification and description of the changes that will result in the landscape and visual effects of the proposal: *For the landscape baseline the aim is to provide an understanding of the landscape in the area that may be affected - its constituent elements, its character and the way this varies spatially, its geographic extent, its history..., its condition, the way the landscape is experienced, and the value attached to it. For the visual baseline the aim is to establish the area in which the development may be visible, the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity at those points*.

Establishing the Landscape Baseline

8. GLVA 3 at paragraph 5.3 states that Baseline studies for assessing landscape effects require a mix of desk study and fieldwork to identify and record the character of the landscape and the elements, features and aesthetic and perceptual factors which contribute to it. They should also deal with the value attached to the landscape.

9. In addition, GLVA 3 at paragraph 5.4 states *that In rural landscapes..., Landscape Character Assessment (LCA) is the key tool for understanding the landscape and should be used for baseline studies. There is a well-established and widely used method for LCA, which is set out in current guidance documents. This should be used to identify and describe: The elements that make up the landscape in the study area, including*

- *physical influences - geology, soils, landform, drainage and water bodies;*
- *land cover, including different types of vegetation and patterns and types of tree cover;*
- *the influence of human activity, including land use and management, the character of settlements and buildings, and pattern and type of fields and enclosure;*
- *the aesthetic and perceptual aspects of the landscape - such as, for example, its scale, complexity, openness, tranquillity or wildness;*
- *the overall character of the landscape in the study area, including any distinctive Landscape Character Types or areas that can be Identified, and the particular combinations of elements and aesthetic and perceptual aspects*

that make each distinctive, usually by identification as key characteristics of the landscape.

Establishing the Visual Baseline

10. With regard to the Visual Baseline the assessment process concentrates on the publicly accessible areas. To this end a series of viewpoints were selected for use in verifying the potential effects of the proposed development upon the visual amenity of the study area.

11. GVLA 3 at paragraph 6.20 states, the selection of the final viewpoints used for the assessment should take account of a range of factors, including:

- the accessibility to the public;
- the potential number and sensitivity of viewers who may be affected;
- the viewing direction, distance (i.e. short-, medium- and long-distance views) and elevation;
- the nature of the viewing experience (for example static views, views from settlements and views from sequential points along routes);
- the view type (for example panoramas, vistas and glimpses);
- the potential for cumulative views of the proposed development in conjunction with other developments.

12. Typically, receptors considered to be representative of viewpoints within the study area include:

- Residential receptors;
- Recreational/leisure receptors including anglers, walkers, water users and cyclists; and
- Road and rail users.

13. GVLA 3 at paragraph 6.24 states that the visual baseline should focus on information that will help to identify significant visual effects.... *A baseline report should combine information on:*

- *the type and relative numbers of people (visual receptors) likely to be affected, making clear the activities they are likely to be involved in;*
- *the location, nature and characteristics of the chosen representative, specific and illustrative viewpoints, with details of the visual receptors likely to be affected at each;*
- *the nature, composition and characteristics of the existing views experienced at these viewpoints, including direction of view;*
- *the visual characteristics of the existing views, for example the nature and extent of the skyline, aspects of visual scale and proportion, especially with respect to any particular horizontal or vertical emphasis, and any key foci;*
- *elements, such as landform, buildings or vegetation, which may interrupt,*

filter or otherwise influence the views.

14. GLVA 3 at paragraph 6.3 states that Baseline studies for visual effects should establish*..., the area in which the development may be visible, the different groups of people who may experience views of the development, the viewpoints where they will be affected and the nature of the views at those points. Where possible it can also be useful to establish the approximate or relative number of different groups of people who will be affected by the changes in views or visual amenity, while at the same time recognising that assessing visual effects is not a quantitative process. In addition, GLVA 3 at paragraph 6.4 also states that These factors are all interrelated and need to be considered in an integrated way rather than as a series of separate steps...*

15. GLVA 3 at paragraph 6.6 states that *Land that may potentially be visually connected with the development proposal - that is, areas of land from which it may potentially be seen - must be identified and mapped at the outset.... Visibility mapping is an important tool in preparing the visual effects baseline but does not in its own right identify the effects. It can also play an important part in the different stages of the iterative design process. It can, for example, contribute to the early stages of site design and assessment to determine the potential visibility of a site.... It can also be used to help in the consideration of concept layout and design alternatives in response to the potential visibility of different options.*

The Assessment Process

16. GLVA 3 at paragraph 4.16 states that *the characteristics of projects, and hence the possible landscape and visual effects they may have, are likely to vary throughout the life of the project. The construction, operation, decommissioning and restoration/reinstatement phases of a development are usually characterised by quite different physical elements and activities. A separate, self-contained description of the development at each stage in the life cycle is therefore needed to assist in understanding the scheme and then in prediction of landscape and visual effects.*

17. The landscape and visual assessment process consists of a number of stages as set out below:
    - Identification of the source/aspects of the development likely to give rise to effects during the different stages in the life of the project (construction, operation, decommissioning and restoration phases).

    - Identification of components/receptors most likely to be affected by the development (this will vary during the different stages in the life of the project).

    - Description of the interaction of the receptors with aspects of the development (this will vary during the different stages in the life of the project).

- Assessment of the Nature of the Landscape and Visual Receptors (Sensitivity) in relation to the identified aspects of the development.

- Assessment of the Nature or Magnitude of Effects in light of both the primary and secondary Mitigation Measures adopted (see below).

- Assessment of the Significance of Residual Effects. Nature or Sensitivity of Landscape Receptors

Nature of Sensitivity of Landscape Receptors

18. Assessment of receptor sensitivity involves an evaluation of the 'Nature of the Receptor' (Sensitivity), in respect of the identified aspects of the development likely to give rise to effects. The receptors Sensitivity is considered to be dependent upon the susceptibility to change of the receptor with respect to the permitted or proposed development and on the value attached to either the landscape (landscape assessment) or view (visual assessment).

19. Susceptibility to change can be defined as being the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation.

20. The Value of a landscape or view can be defined as consisting of a number of factors that help identify how a particular landscape can be valued. This can include, but not limited to:

    - <u>It's quality or condition</u> as a measure of the physical state of the landscape. <u>Scenic quality</u> used to describe landscapes that appeal primarily to the senses (primarily visual).
    - <u>Rarity</u> or the presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type.
    - <u>Representativeness</u> and whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
    - <u>Planning Designations and Conservation Interests</u> where value attached to particular landscapes are recognised through International, National or Local designations including the presence of features of wildlife, earth science or archaeological, historical or cultural interest which can add to the value of the landscape.
    - <u>Recreational Value</u> where the physical experience of the landscape is important.
    - <u>Perceptual Aspects</u> where a landscape may be valued for its perceptual qualities, such as wildness and/or tranquillity.

- Physical or Literary Indicators/Associations where landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the natural beauty of the area, or the value attached to particular locations/views are recognised, for example through appearances in guidebooks or on tourist maps, or the provision of facilities for their enjoyment such as parking places, sign boards and interpretive material.

21. Criteria used to determine the degree of susceptibility of landscape receptors to change and their perceived value are given below in Tables A-1 and A-2 respectively. NOTE: These scales are generic and therefore capable of being modified by the type of development being assessed, including size, scale and distance.

22. An assessment was made of both susceptibility and value based on a five point textual scale: *Very Low, Low, Medium, High and Very High*. This information is then combined to arrive at an overall sensitivity of the receptor as a whole which is also expressed as a five-point textual scale Very Low to Very High. See Table A-5 below.

Table A-1: Criteria used to determine the Susceptibility of the Landscape Receptor

Landscape Receptor	**Susceptibility to Change**
Very open, expansive and cohesive landscapes with long views allowing views into and out of the landscape. Landscapes that are uncluttered with natural skylines without man made elements. Landscapes which retain a high degree of intactness, in very good condition and high quality which are not subject to change. Landscapes often associated with rural and/or a historic character and of cultural importance. These types of landscape may be subject to or contain various historic or nature conservation designations. Small scale landscape units with simple and / or complex components where a single development could change the receptor's character,	Very High 
Open cohesive landscapes with medium to long views allowing views into and out of the landscape. Landscapes that are generally uncluttered with mainly natural skylines without man made elements. Landscapes which retain a degree of intactness, in good condition and quality and which are infrequently subject to change. Landscapes may be associated with some degree of rural and/or a historic character and of cultural importance.	
Complex rural landscapes and/or suburban areas with medium to distant scale views – containing both open and enclosed aspects generally intact and in good condition. Settlement and built form are elements of the landscape with few man- made structures such as power lines and telecommunication masts present.	
Simple rural landscapes and/or suburban areas with local to medium scale views – containing both open and enclosed aspects somewhat intact and	

in medium condition. Settlement and built form common elements of the landscape with manmade structures such as power lines and telecommunication masts present.	
Dynamic, complicated landscapes in which change frequently occurs and generally in poor condition and no strong vernacular style. Long views are limited and often truncated. Landscapes may have complex skylines and/or dominated by man-made structures and subject to frequent change. These types of landscape are often, although not exclusively associated with industrial and/or urban areas/fringes.	Very Low

Table A-2: Criteria used to determine the Value of the Landscape Receptor

Landscape Receptor	**Susceptibility to Change**
Internationally valued landscapes such as World Heritage Sites, nationally valued landscapes (National Parks, Areas of Outstanding Natural Beauty, National Scenic Areas or other equivalent areas).	Very High 
Locally valued landscapes, for example local authority landscape designations or landscapes assessed as being of equivalent value (Special Landscape Areas), or strong presence other designations linked to historic, natural or cultural elements (Scheduled Ancient Monuments, Historic Parks and Gardens, Ancient Semi Natural Woodlands, Conservation Areas, Listed Buildings).	
Local landscapes that are not nationally or locally designated but are valued as a resource for recreation, outdoor activities and scenic value.	
Local landscapes that are not nationally or locally designated, or judged to be of equivalent value, but are nevertheless valued at a community level.	
Degraded and industrial landscapes. Landscape dominated by commercial development and communications networks.	Very Low

Nature or Sensitivity of Visual Receptors

23. As described in the previous section above, the nature or sensitivity of visual receptors is again dependent upon the susceptibility to change of the receptor with respect to the proposed development and on the value attached to the view.

24. These two aspects can include a number of factors such as:

    a. Location and context of the viewpoint;

    b. Expectation, occupation or activity of the receptor;

    c. The value placed on the landscape within which the receptor is located

    d. The importance of the view (which may be determined with respect to its popularity or numbers of people affected, its appearance in guidebooks, on tourist maps and in the facilities provided for its enjoyment); and

    e. Whether the receptor is static or transitory and likely speeds they are likely to be travelling in relation to the latter.

25. Those receptors most susceptible to change include local residents, particularly those dwellings that have been designed to maximise views across the surrounding landscape, such as large gardens, patios, conservatories, picture windows etc. Other highly susceptible receptors include users of outdoor recreational facilities including strategic recreational footpaths and cycleways, Open Access Areas and other Rights of Way, where their attention is likely to be focused on the landscape and/or important landscape features with physical, cultural or historic attributes. Users of viewpoints of importance to the setting or enjoyment of residential environments or located at beauty spots or picnic areas may also be highly susceptible to change.

26. Those receptors less likely to be susceptible to change include pedestrians not focused on the landscape or views and people travelling through the landscape on roads, trains or other transport routes.

27. Those receptors considered to have the least susceptible to change include people engaged in outdoor sports or other activity based recreation, or those focused on work activities.

28. Criteria used to determine the degree of susceptibility of visual receptors to change and their perceived value are given below in Tables A-3 and A-4 respectively. NOTE: These scales are generic and therefore capable of being modified by the type of development being assessed, including size, scale and distance.

Table A-3: Criteria used to determine the Susceptibility of Visual Receptor Groups

Receptors		Comments	Susceptibility
Residential Buildings			
Housing/Isolated dwellings/ Farms	**Ground Floor/ Upper Floors/ Gardens**	Containing windows on ground or upper floors designed to take advantage of specific views, such as living rooms, dining rooms and/or kitchens where people may spend significant periods of waking time. Gardens likely to be used for leisure purposes.	**High**
Other Buildings			
Schools	**Classrooms**	Windowsill heights often limit views out of classrooms	**Medium**
	Grounds/ Playing Fields	Primarily sport orientated but may have views out towards countryside	**Medium**
Hospitals	**Wards**	Windowsill heights often limit views out of wards	**Medium**
	Grounds	Some wards may have windows designed to exploit particular views.	**Medium**
Places of Worship and Public/ Guest Houses/ Hotels	**Ground Floor, Upper Floors, Gardens/ Grounds**	Unlikely to be particularly sensitive to off-site views but may include grounds/gardens for outdoor activities and/or enjoyment.	**Medium**
Commercial Premises			
Industrial Units		Unlikely to be sensitive to off-site views	**Very Low**
Retail Units and Offices		Unlikely to be overly sensitive to off-site views but may contain aspects where outward looking views are possible.	**Low**
Transport/ Recreational Routes/ Public Open Space			
Footpaths, Bridleways, Commons and Open Access Areas		Rural paths/bridleways heavily influenced by residential areas and/or major transport routes and/or with limited views used for general recreational access to the open countryside.	**Low**
		Rural paths/bridleways used for general recreational purposes capable of gaining views across open countryside.	**Medium**
		Rural paths/bridleways/open access land used for general recreational	**High**

		purposes capable of gaining elevated views across open countryside or subject to additional levels of designation such as AONBs or NSAs.	
		Rural paths/bridleways/open access land used for general recreational purposes capable of gaining elevated views across open countryside and within promoted landscapes or subject to additional high levels of designation such as NPs.	**Very High**
Public Open Space- Rivers/ Urban Parks/ Golf Clubs/ Car Parks/ Beaches etc.		Open Space that is primarily used for sporting activities and subject to intermittent use.	**Low**
		Open Space that is primarily used for sporting activities and subject to continuous daily use.	**Medium**
		Public Open Space that may have views out towards the open countryside and subject to continuous daily use.	**High**
Cycleway/ Roads/ Railway	**National Cycle Routes**	Roads and/or tracks within a rural location and promoted as a national route for the enjoyment of the open countryside and to take in panoramic views	**High**
	Unclassified/ Minor Roads/ Local Rail Network/ Private Drives	Rural location and relatively slow traffic speeds, possibly in conjunction with greater use by cyclists or walkers may influence sensitivity to visual impacts.	**Medium**
	Unclassified/ Minor Roads/ main Roads/ Trunk Roads/ Motorways/ High Speed Rail links	Traffic speed and primary use likely to limit sensitivity to visual effects.	**Low**

Table A-4: Criteria used to determine the Value of Visual Receptor Groups

Visual Receptor/ Nature of View	Value
Open and long range views associated with promoted landscapes, public viewpoint associated with heritage assets, coastlines etc. Close range views associated with historical and or townscape settings. Views over designated landscapes and landscapes with international/national cultural associations.	**Very High**  **Very Low**
Open, generally unrestricted long range views over open countryside, seascapes or open parkland including public open space, open access land and footpaths and/or with local/national cultural associations.	
Partially restricted and/or oblique views over open countryside, seascapes or parkland. Partially restricted or oblique views of open streetscapes, avenues and boulevards and/or with local cultural associations.	
Restricted and/or oblique views over open countryside, seascapes or parkland. Restricted or oblique views of narrow streetscape, truncated views of urban built environments or longer distant views over Industrial/ commercial landscapes communications networks etc.	
Very restricted views over open countryside, seascapes or parkland. Restricted views over very degraded rural landscapes and/or close range views of industrial/ commercial landscapes.	

29. As with the Nature of Landscape Receptors described above, an assessment of the Nature or Sensitivity of Visual Receptors was made of both susceptibility and value based on a five point textual scale: Very Low, Low, Medium, High and Very High. This information is then combined to arrive at an overall sensitivity of the receptor as a whole which is also expressed as a five-point textual scale Very Low to Very High. See Table A-5 below.

Table 5 A-5: Landscape and Visual Receptors: Overall Nature of Receptor (Sensitivity)

		Value of the Landscape/ Visual Receptor				
		Very High	**High**	**Medium**	**Low**	**Very Low**
	Very High	Very High	Very High	High	Medium	Medium
	High	Very High	High	High	Medium	Medium

Susceptibility of the Landscape/ Visual Receptor.	**Medium**	High	High	Medium	Medium	Low
	Low	High	Medium	Medium	Low	Low
	Very Low	Medium	Medium	Low	Low	Very Low

Nature or Magnitude of Change

30. Following an assessment of the nature or sensitivity of the landscape/visual receptor an assessment was made of the nature or magnitude of effects associated with the proposed development. Those elements of the development that may affect landscape character and visual amenity can be defined as occurring during two main stages of the development and can be either associated with direct or indirect effects.

31. Direct and indirect effects on the landscape and visual amenity of an area potentially affected by the development can be defined as comprising:

32. Direct physical changes to the actual fabric of the landscape, including loss or changes to individual elements such as landform, agricultural fields, trees, hedges, ditches, paths etc.

33. Direct or indirect effects caused by the development to the overall character of the landscape and changes to the key characteristics that help define and create the distinctiveness of the local landscape, including aesthetic and/or perceptual aspects.

34. In relation to those elements of the development that may affect landscape character and visual amenity during two main stages of the development occur either:

- During the operational life of the quarry, including site preparation works and
- Following progressive and/or final restoration.

35. Differing components of the development will cause differing and varying levels of effect during these two stages of the development.

36. Those components of the development most likely to affect landscape character and visual amenity are identified and an assessment made as to likely interactions between the landscape and visual receptors identified and these components.

37. The level of interaction identified enables an assessment to be made as to the

nature, or magnitude of effects associated with those aspects of the development as identified.

38. In relation to Magnitude of effects GVLA 3 at paragraph 5.48 states that Each effect on landscape receptors needs to be assessed in terms of its size or scale, the geographical extent of the area influenced, and its duration and reversibility.

39. The assessments in relation to Size/Scale is expressed in terms of Neutral or Very Small or Small or Medium or Large or Very Large; Geographical Extent is expressed in terms of Neutral or Very Small or Small or Medium or Large or Very Large; Duration is expressed as either Short or Medium or Long or Permanent; and Reversibility is expressed as either Fully or Partially or Permanent.

40. These results were then combined to arrive at an evaluation of the overall nature or magnitude of effects on individual receptors or character areas/types. The effects were considered according to whether they were adverse, neutral or beneficial. These effects were again based on a five point textual scale: Very Low, Low, Medium, High and Very High.

41. The criteria for this overall assessment are detailed in Table A-6 below:

Table A-6: Nature of Effects (Magnitude) on Landscape Receptors

Summary of Effect	Criteria
Very High Adverse 	The proposed site is very damaging to the landscape in that: • At considerable variance with the landform, scale and pattern of the landscape. • It is likely to degrade, diminish, or even destroy the integrity of a range of characteristic features and elements and their setting. • It is substantially damaging to a high quality or highly vulnerable landscape, causing it to change and be considerably diminished in quality. Likely to be in a High sensitive landscape. • It is unable to be mitigated. • It is in serious conflict with policy in respect to enhancing landscape character and set out in current or emerging LDP's. • Very High Adverse • The cumulative operations of other developments results in an unacceptable loss or detriment to character. • It is adverse to several of the key issues/priorities or strategies for the LCA.
	The proposed site is damaging to the landscape in that: • At variance with the landform, scale and pattern of the landscape. • It is likely to degrade or diminish the integrity of a range of characteristic features and elements and their setting. • It is damaging to a high quality or highly vulnerable landscape, causing it to change and be diminished in quality. Likely to be in a High sensitive landscape.

	• It is unable to be adequately mitigated. • It is in conflict with policy in respect to enhancing landscape character and set out in current or emerging LDP's. • The cumulative operations of other proposed sites results in a substantial loss or detriment to character. • It is adverse to some of the key issues/priorities or strategies for the LCA.
 Very low Adverse	The site is out of scale with the landscape, or at odds with the local pattern and landform in that: • Probably not possible to fully mitigate for, that is mitigation will not prevent the scheme from scarring the landscape in the longer term as some features of interest will be partly destroyed or their setting reduced or removed. Likely to be in a High or Medium sensitive landscape. • In conflict with policy to respect and enhance landscape character across a range of character themes, or current or emerging LDP's. • The potential cumulative operations of other proposed sites results in a moderate loss or detriment to character. • Adverse to a few (at least 2) of the issues/priorities or strategies for the LCA. •
	The site does not fit the landform and scale of the landscape in that: • The proposal can probably not be completely mitigated for because of the nature of the proposal itself or the character of the landscape it is in. Likely to be in a High or Medium sensitive landscape. • In conflict with policy to respect and enhance landscape character across few character themes and set out in current or emerging LDP's. • There is a potential of some cumulative impacts of other proposed sites. • At variance with some aspects of the LCA descriptions.
	The site does not quite fit the landform and scale of the landscape in that: • The proposal can almost be completely mitigated for because of the nature of the proposal itself or the character of the landscape it is in. Likely to be in a Medium or Low sensitivity landscape. • In partial conflict with policy to respect and enhance landscape character across few character themes and set out in current or emerging LDP's. • There is a very slight potential of cumulative operations of other proposed sites. • At variance with some minor aspects of the LCA descriptions.
Neutral Effect	The proposal is likely to be able to complement and fit the scale, landform and pattern of the landscape in that: • Mitigation measures are likely to ensure that the scheme will blend in

	well with surrounding landscape character components. • Will probably maintain existing landscape character with specific planning conditions and in a Medium to Low sensitivity landscape. • Likely to be in a degraded landscape or one with a restoration objective (identified in LCA assessments). • Likely to be an isolated, or small site with no cumulative effect from neighbouring operations.
Very Low Beneficial   **High Beneficial**	The proposal will probably fit in the landform, pattern and historical use of the area. • By incorporating measures for mitigation, it will ensure that landscape character is marginally enhanced and improved, such as habitat creation, restoration of previously degraded landscape. Likely to be in a Medium or Low Sensitivity Landscape. • Could partially incorporate policy to enhance landscape character (on restoration) as set out in current or emerging LDP's. • Likely to be isolated or small site with no likely cumulative effect from neighbouring operations.
	The proposal will probably fit well in the landform, pattern and historical use of the area. • By incorporating measures for mitigation, it will ensure that landscape character is enhanced and improved, such as habitat creation, restoration of previously degraded landscape. Likely to be in a Medium or Low Sensitivity Landscape. • Could incorporate policy to enhance landscape character (on restoration) as set out in current or emerging LDP's. • Likely to be isolated or relatively small site with no cumulative effect from neighbouring operations.
	The proposal will fit well in the landform, pattern and historical use of the area. • By incorporating measures for mitigation, it will ensure that landscape character is materially enhanced and improved, such as habitat creation, restoration of previously very degraded landscape. Likely to be in a Medium Sensitivity Landscape. • Incorporates a wide range of policies to enhance landscape character (on restoration) as set out in current or emerging LDP's. • Likely to be an isolated or small site with no cumulative effect from neighbouring operations.
	The proposal will fit well in the landform, pattern and historical use of the area. • By incorporating measures for mitigation, it will ensure that landscape character is materially enhanced and improved, such as habitat creation, restoration of previously very degraded landscape. Likely to be in a High Sensitivity Landscape. • Incorporates a wide range of policies to enhance landscape character (on restoration) as set out in current or emerging LDP's. • Likely to be an isolated or small site with no cumulative effect from

	neighbouring operations.

Nature of Effects (Magnitude) on Visual Receptors

42. The magnitude of effects in relation to identified visual receptors was determined according to the criteria set out in Table A-7 below.

Table A-7: Nature of Effects (Magnitude) on Visual Receptors: Definitions

Adverse			**Neutral**	**Beneficial**	
Very Higt/ High	**Medium/ Low**	**Very Low/ Minor**	**Neutral**	**Very Low/ Low**	**Medium/ High**
Permanent alteration of key elements such that it significantly and detrimentally affects local or wider character or amenity. Views are open, from close proximity and detrimentally affected in a pronounced or very pronounced manner. Forms a significant or very significant element in the landscape.	Permanent (or long term) or temporary change in a key element or permanent change in less important element, creating negative effects on character or amenity. Detrimental views are partially screened and/or viewed as part of the wider landscape.	Permanent (or long term) or temporary change of minor element, causing a minor or very minor negative alteration in character or amenity. Detrimental views are screened and/or are at oblique angles and/or at a great distance.	No perceived change in character or amenity or changes are not perceived to be either adverse or beneficial in nature	Permanent or temporary alteration of minor element, causing a minor improvement in local character or amenity. Views are improved but screened and/or are at oblique angles.	Permanent or temporary change in a key element or permanent change in less important element, noticeably improving local character or amenity. Views are improved but partially screened and/or viewed as part of the wider landscape.

Mitigation of Landscape and Visual Effects

43. GLVA 3 at paragraph 4.21 states that In accordance with the EIA Regulations, measures proposed to prevent/avoid, reduce and where possible offset or remedy (or compensate for) any significant adverse landscape and visual effects should be described. In practice, such mitigation measures are now generally considered to fall

into three categories:

a. Primary measures, developed through the iterative design process, which have become integrated or embedded into the project design;
b. Standard construction and operational management practices for avoiding and reducing environmental effects;
c. Secondary measures, designed to address any residual adverse effects remaining after primary measures and standard construction practices have been incorporated into the scheme.

44. The scheme as proposed generally incorporates primary measures which have been incorporated as an integral part of design process. Secondary measures include additional landscape enhancement including extensive tree/hedgerow planting/infilling works to be undertaken within adjacent land that seeks to integrate the restoration of the site into the surrounding landscape.

Significance of Residual Effects

45. Following the assessment of the Nature of Effect (Magnitude) an assessment of the Overall Significance of Effects was carried out by combining the level of the Nature of Effect with the assessed values of the Nature of Receptor (Sensitivity) present. This is presented in the form of a matrix table (see Table A-8). The table was used to provide an indication of the level of the Overall Significance of Effects resulting from the development in relation to the localities landscape character or visual amenity. The effects were considered according to whether they were adverse, neutral or beneficial.

Table A-8: Significance of Impacts: Correlation of Nature of Effect with Nature of Landscape or Visual Receptors

			NATURE of the Landscape/ Visual Receptor (Sensitivity)				
			Very High	**High**	**Medium**	**Low**	**Very Low**
NATURE OF Effect (magnitude)	Adverse	**Very High**	Severe	Major	Notable	Notable / Moderate	Moderate
		High	Major	Notable	Notable / Moderate	Moderate	Slight
		Medium	Notable	Notable / Moderate	Moderate	Slight	Very Slight
		Low	Notable / Moderate	Moderate	Slight	Very Slight	Minimal
		Very Low	Moderate	Slight	Very Slight	Minimal	Negligible
	Neutral	**Neutral**	Neutral	Neutral	Neutral	Neutral	Neutral

	Beneficial	**Very Low**	Moderate	Slight	Very Slight	Minimal	Negligible
		Low	Notable	Moderate	Slight	Very Slight	Minimal
		Medium	Substantial	Notable	Moderate	Slight	Very Slight
		High	Major	Substantial	Notable	Moderate	Slight

46. The above matrix is not used as a prescriptive tool and the methodology and analysis of potential effects at any particular location must allow for the exercise of professional judgement. Thus, in some instances a particular parameter may be considered as having a determining effect on the analysis.

47. Where the landscape or visual impact has been classified as notable and above, this is considered to be equivalent to a significant effect as referred to in the Environmental Impact Assessment (Scotland) Regulations 2011.

Zone of Theoretical Visibility

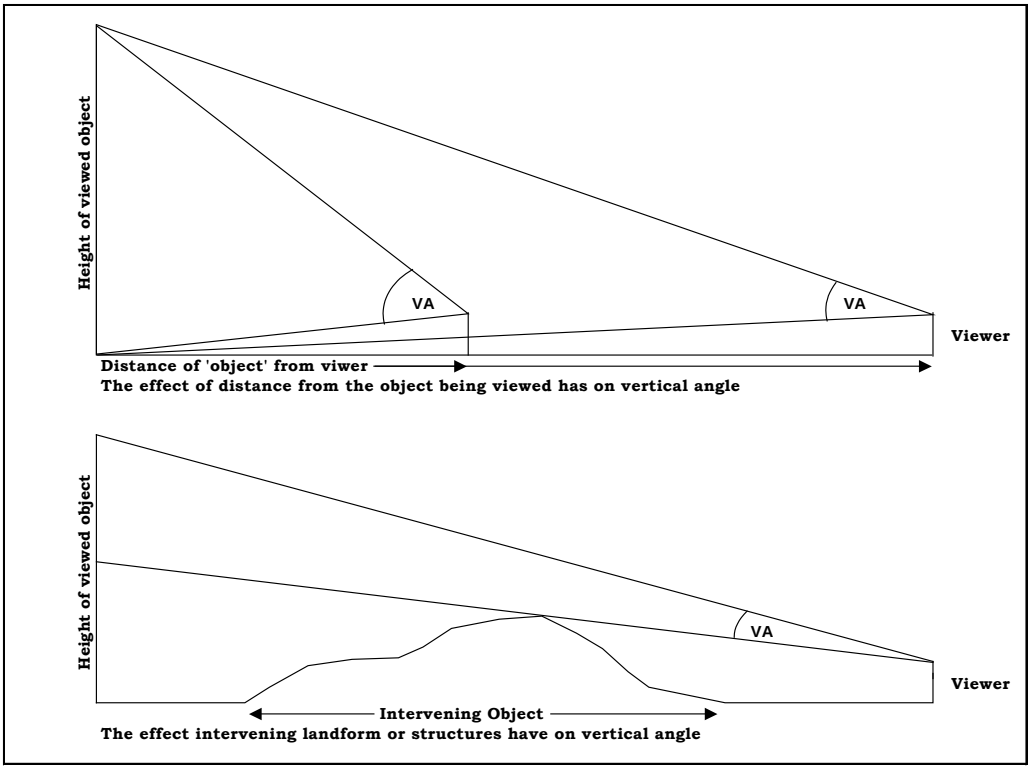
48. Computer based studies were used to establish the site's potential visual envelope. These studies used both Ordnance Survey 3D Terrain 5 Digital Terrain Modelling (DTM) data, as well as Getmapping 2m Aerial Photograph Derived Digital Surface Modelling (DSM) data. The former dataset shows in 3D the physical landform without any built structures or vegetation, based on a 10m grid of levels. The latter dataset shows in 3D all topographic features present within the landscape, including individual trees and woodland blocks, buildings, road and railway embankments and cuttings based on a 2m grid of levels.

49. Computer models used specialised software (LSS, McCarthy Taylor Systems Ltd) to generate digital models of the landform to determine the site's Zones of Theoretical Visibility (ZTV), based on mathematically generated vertical angles of view. Both landform only (DTM) and surface modelling (DSM) data was used to ascertain both the landform only ZTV, as well as modelling the surface ZTV based on existing topographic features to highlight those elements that generally obscure views where they intervene between the viewer and the viewed object. The former ZTV therefore shows a maximum effect scenario, with many of the predicted views, particularly low lying distant ones, not likely to be present. The latter ZTV therefore shows an 'actual' zone of visibility likely to be experienced by the surrounding visual receptors.

50. The computer study helps to objectively define the magnitude of visual effects the proposed development might have, by linking potential impact to the vertical angle subtended at the viewpoint by the top and bottom extremities of the object that is viewable, from which a 'contour' model is generated. This gives a visual measure of how much of a given vertical field of view is occupied by the object when viewed from different locations. This method automatically takes into account effects of distance from the site (i.e. an object close to the viewer occupies a greater vertical angle [field of view] than a feature further away). Where a zero value is returned, the viewpoint lies outside or on the edge of the Visual Envelope, delineating the areas from which views are not thought to be possible (uncoloured).

Figure A.1: A Diagram to Illustrate Vertical Angles

51.



52. The following table shows how vertical angles of viewed objects relate to a person's vertical field of view and the potential for an object to impact on the viewer. This

table shows the mathematical relationship between a 12 metre high object, its distance from the viewer and the vertical angle it would subtend compared to the main vertical field of view of the viewer.

Table A-9: Mathematical Table to Show the Vertical Angle a 12 metre High Object Would Visually Subtend at Various Distances

Distance from viewer of 12m high object	**Vertical Angle Subtended (Total Field of View = @ 90 *o***
10.0 Km	0.07 °
6.8 Km	0.1°
3.5 Km	0.2°
2.3 Km	0.3°
1.0 Km	0.7°
0.7 Km	1.0°
0.5 Km	1.4°
0.2 Km	3.0°
0.1 Km	6.8°

53. Based on experience, photographic studies and the mathematical table, certain 'contour' values were assessed as potentially indicating differences in magnitude of effect. A classification system using six ‘contour’ values was used to relate vertical angles to levels of magnitude. These classifications were used to inform the assessment process to help distinguish possible differences in magnitudes of effect from various locations within the Study Area - those where the angle of view subtended the largest angle being likely to receive the highest magnitudes of effect. Conversely, those where the angle of view subtended the smallest angle being likely to receive the lowest magnitudes of effect.

APPENDIX C OF LANDSAPE & VISUAL IMPACT ASSESSMENT REPORT

Historic Visual and Setting Assessment

Proposed Sand and Gravel Extraction
from Land at White Cross Farm,
off Reading Road, South of Wallingford, Oxfordshire

August 2021

For

London Rock Supplies UK Ltd
Unit 5 Delta Court
Manor Way
Borehamwood
Hertfordshire
WD6 1FJ

Contents *Page*

1.0 INTRODUCTION

1.1 This document s a visual and historic setting appraisal in respect of proposals for Sand and Gravel Extraction from Land at White Cross Farm, off Reading Road, South of Wallingford, Oxfordshire (the site). See Drawing No. KD.WLF.D.001 within Appendix A (Figure 1).

1.2 The report has been prepared by Kedd Limited, Landscape Architects and environmental design and planning consultants, with experience in working with and assessing the visual setting of historic assets.

1.3 The report being produced in accordance with Historic Environment Good Practice Advice in Planning 3 (GPA3) – The Setting of Heritage Assets, which forms on of three supplementary documents produced by Historic England.

2.0 THE PROPOSED DEVELOPMENT

2.1 The proposed development is for the temporary development involving the extraction of sand and gravel with the progressive restoration of disturbed land back to the same / similar above Ordnance Survey datum levels and landforms as existing, with additional landscaping and habitat establishment.

2.2 Drawing No. KD.WLF.D.002 to D.010, contained within the Planning Statement, describe and illustrate the proposals, with KD.WLF.D.003 summarising the limit of Block Mineral Extraction and the location of proposed access points and the plant site (see Appendix A – Figure 2)
.

2.3 In essence, mineral extraction will commence in the north-western corner of the site. The extracted void will be restored utilising imported inert materials. A mineral processing plant will then be established in this area, and processing will start. Mineral will then be extracted with subsequent direct restoration utilising both imported inert materials and on-site soils, in a clockwise direction. This will ensure the minimum amount of land is disturbed at any one point in time. The final restoration of the site being to wildlife enhanced agricultural land, comprised of locally observed landscape character elements and features, to the same / similar land levels and gradients as existing. The Concept Restoration being illustrated on Drawing No. KD.WLF.D.010, within Appendix A (Figure 3).

3.0 BASELINE INFORMATION IN RESPECT OF SITE / LOCAL HERITAGE ASSETS

3.1 There are no designated or non-designated built heritage assets or Registered or Non-Registered Parks and Gardens within the Site. There are, however, designated, and non-designated heritage assets located in the vicinity of the Site which may experience impact from the proposed development. These principally include the Grade II listed ruins of St John the Baptist Church, the Grade II* listed Julius Gottlieb Boathouse and Gallery, the non-designated Elizabeth House and Wet Boathouse within Mongewell Park. Elizabeth House and the Wet Boat House have been included within this assessment as they may be perceived by members of the public as being of historic note, given their design / pastiche. See Drawing No. KD.WLF.D.011 (Appendix A – Figure 4)

Descriptions:

Grade II Listed Ruins of St John the Baptist Church (~80m to the east of the site):

3.2 The now ruinous St John's Church was originally constructed in the twelfth century with the nave and chancel remodelled and then restored in 1791 and in 1880 by L. Wyatt (Plate 5). The Church is now ruinous with just the tower and walls of the nave and chancel remaining. The building was constructed in flint with stone dressings. A Gothic tower has a round base and "*hexagonal battlemented top*" (listing description).

Grade II Listed Julius Gottlieb Gallery and Boathouse (~ 100 metres to the east of the site):

3.3 Built as an exhibition gallery and boathouse in 1969-70 by Sir Basil Spence, Bonnington and Collins, and designed by architect John Urwin Spence, this built heritage asset comprised a "*plinth of curving brick walls"* serving the boat house at ground level with the gallery element built, using reinforced concrete in a pyramidal arrangement above the southern end of the boathouse and rising to fourteen metres in height.

Elizabeth House (Non-Designated) located ~70m to the west of the site:

3.4 Buckland House (latterly Elizabeth House) was built in the mid to late nineteenth century as a detached residential property, set within moderate gardens. It is constructed from what appears Bath stone ashlar on the ground floor and rendered brick on the upper floors. The building is irregular in plan to a height of three storeys with a central four-storey tower on the front elevation, facing west towards the Site. A rear wing is also present constructed in what appears to be red brick to a similar height.

Wet Boathouse within Mongewell Park (Non-Designated) located ~50m to the east of the site:

3.5 The Wet Boathouse appears on historic mapping to have been constructed after the Second World War in a pastiche of sixteenth and seventeenth-century design, with elements from the nineteenth-century. It is suggested that this was built in the 1950s following acquisition by the College of Mongewell Park. It may have been part of the initial development work to provide facilities for the pupils and was designed in such a way to complement the main house which initially may have been the principal building for the College.

3.6 The boathouse is understood to pre-date the Thomas Hancock Masterplan of the 1960s for the wider development of the Mongewell Park grounds and, as such, cannot be said to share any group value with the post-modernist designated heritage assets which fall within this later planned development. Whilst the boathouse presents a positive visual addition to the wider surroundings, it presents very little if any heritage value and as such is not considered to be worthy of non-designated heritage asset status.

3.7 Please see Figure 5 for photographic images of the assets

4.0 METHODOLOGY

Introduction

4.1 The setting of a heritage structure, site or area can be defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character. The National Planning Policy Framework (NPPF) defines setting 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.

4.2 Historic Environment Good Practice Advice in Planning: 3 – The Setting of Heritage Assets, which forms one of three supplementary documents produced by Historic England to supersede, Planning Policy Statement 5: Planning for the Historic Environment (PPS5), goes further to define setting, in accordance with the NPPF, as:

- Setting does *not have a fixed boundary and cannot be definitively and permanently described for all time as a spatially bounded areas or as lying within a set distance of a heritage asset because what comprises a heritage asset's setting may change as the asset and its surroundings evolve or as the asset becomes better understood or due to the varying impacts of proposals.*
- *The setting of a heritage asset may reflect the character of the wider townscape or landscape in which it is situated, or be quiet distinct from it, whether fortuitously or by design (e.g. a quiet garden around a historic almshouse located within the bustle of an urban street-scene).*
- *The contribution of setting to the significance of a heritage asset is often expressed by reference to views, a purely visual impression of an asset or a place which can be static or dynamic, including a variety of views of, across, or including that asset, and views of the surrounding from or through the asset, and may intersect*

4.3 It goes on to note that:

- *Setting is not a heritage asset, nor a heritage designation, though land within a setting may itself be designated. Its importance lies in what it contributes to the significance of the heritage asset. This depends on a wide range of physical elements within, as well as perceptual and associational attributes pertaining to, the heritage asset's surroundings.*
- *Where the significance of a heritage asset has been compromised in the past by unsympathetic development affecting its setting, to accord with NPPF policies, consideration still needs to be given to whether additional change will further detract from, or can enhance, the significance of the asset. Negative change could include severing the last link between an asset and its original setting; positive change could include the restoration of a building's original designed landscape or the removal of structures impairing views of a building.*
- *Sustainable development under the NPPF can have important positive impacts on heritage and their settings, for example by bringing an abandoned building back into use or giving a heritage asset further life. However, the economic and social viability of a heritage asset can be diminished if accessibility from or to its setting is reduced by badly designed or insensitively located development. For instance, a new road*

scheme affecting the setting of a heritage asset, while in some cases increasing the public's ability or inclination to visit and/or use it, thereby boosting its social or economic viability and enhancing the options for the marketing or adaptive re-use of a building, may in others have the opposite effect.

4.4 The setting of heritage structures and assets can be assessed in two ways:

- overall ***cultural value;*** and
- ***visual sensitivity*** to change resulting from the type of proposed development.

4.5 We have evaluated both below.

Cultural value

4.6 Cultural value is defined as the cultural worth or importance of a heritage asset. The extent of the value is determined by establishing its capacity to inform present or further generations about the past. This definition is readily accepted by heritage professionals both in Britain and Internationally. This definition was first fully articulated in the Burra Charter (ICOMOS 1999), which states that cultural significance or cultural heritage value means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Visual sensitivity

4.7 A heritage asset's visual sensitivity refers to its capacity to retain its ability to inform this and future generations in the face of changes to its setting. For example, monuments with high visual sensitivity will be vulnerable to changes in their setting and even slight changes may reduce their information content. Less visually sensitive assets will be able to accommodate fairly drastic changes without losing their ability to inform.

4.8 Impacts resulting from proposed development can be both direct and indirect. Direct impacts are those that physically impact on overall cultural value. Indirect impacts are those that are nonphysical but have an impact on visual sensitivity. Factors which define heritage asset's cultural value are outlined in Table 1 below.

Direct impacts

Table 1. Criteria for Rating Cultural Value

Cultural Value	**Criteria**
International and National	World Heritage Sites *or* Iconic Sites and Monuments; *or* Scheduled Ancient Monuments (Actual and Potential); *or* Category I Listed Buildings; *or* Remains of national or international importance, or fine, little altered examples of some particular period, style or type
Regional and National	Category II / II* Listed Buildings*;* *or*

	Remains of regional or more than local importance, or major examples of some period, style or type, which may have been altered. Remains of national importance that have been partially damaged.
Local	Category C(S) Listed Buildings *or* Remains of local importance, lesser examples of any period, style or type, as originally constructed or altered, and simple, traditional sites, which group well with other significant remains, or are part of a planned group such as an estate or an industrial complex. Cropmarks of indeterminate origin. Remains of regional importance that have been partially damaged or remains of national importance that have been largely damaged.
Neighbourhood	Relatively numerous types of remains, of some local importance; findspots of artefacts that have no definite archaeological remains known in their context. Remains of local importance that have been largely damaged; Isolated findspots; On-designated structures.

4.9 The magnitude of the physical impact upon a heritage asset caused by a potential development has been rated using the classifications and criteria outlined in Table 2 below.

Table 2. Criteria for Classifying Magnitude of Physical Impact

Physical Impact	Criteria
High	Major loss of information content resulting from total or large scale removal of deposits from a site whether or not the site is associated with a monument. Major alteration of a monument's baseline condition. Any physical alteration to a Scheduled Ancient Monument. Any alteration to a Grade I/Category A Listed Building, massive alterations to a Grade II / Category B or Category C (S) Listed Building.
Medium	Moderate loss of information content resulting from material alteration of the baseline conditions by removal of part of a site whether or not the site is associated with a monument. Slight alteration of a monument's baseline condition.
Low	Minor detectable impacts leading to the loss of information content. Minor alterations to the baseline condition of a monument.
Marginal	Very slight or barely measurable loss of information content; Loss of a small percentage of the area of a site's peripheral deposits. Very slight and reversible alterations to a monument.
None	No physical impact anticipated.

4.10 The predicted significance of impact on each heritage asset is determined by considering its sensitivity in conjunction with the magnitude of impact predicted upon it. The method for deriving the significance of impact classification is shown in table 3 below.

Table 3. Method of Rating Significance of Impact on heritage assets by the proposed Development

	Cultural Value				
Magnitude of Impact	Negligible	Local	Regional	National	International
High	Minor – Moderate	Moderate	Moderate - Major	Major	Extreme
Medium	Minor	Minor – Moderate	Moderate	Moderate - Major	Major
Low	Negligible	Minor	Minor – Moderate	Moderate	Moderate - Major
Marginal	Negligible	Negligible	Minor	Minor – Moderate	Moderate
None	Neutral	Neutral	Neutral	Neutral	Neutral

Indirect impacts

4.11 The predicted significance of visual impact upon heritage assets is determined by considering its relative visual sensitivity in conjunction with the magnitude of visual impact predicted on the asset. The method used for establishing relative visual sensitivity is outlined in table 4 below.

Table 4: Criteria for Establishing Relative Visual Setting Sensitivity

Sensitivity*	**Definition**
High	A monument which retains an overtly intended or authentic relationship within its visual setting and the surrounding landscape. In particular ritual monuments which have constructed sightlines to and/or from them or structures intended to be visually dominant within a wide landscape area i.e. castles, tower houses, prominent forts etc. A monument, the current understanding of which relies heavily on its modern aesthetic setting regardless of whether or not this was intended by the original constructors or authentic users of the monument.
Medium	A monument which had overtly intended authentic relationship with its visual setting and the surrounding landscape but where that relationship has been moderately compromised either by previous modern intrusion to the setting or landscape or whereby the monument itself is in such a state of disrepair that the relationship cannot be fully determined. A monument, the current understanding of which, relies partially on its modern aesthetic setting regardless of whether or not this was intended by the original constructors or authentic users of the monument.
Low	A monument which had overtly intended authentic relationship with its visual setting and the surrounding landscape but where that relationship has been significantly compromised either by previous modern intrusion to the setting or landscape or whereby the monument itself is in such a state of disrepair that the relationship cannot be determined.

	A monument whose placement within the landscape was not determined by visual setting but by some other factor whether that be social, religious, political, industrial, agricultural or simply functional etc.**
Marginal	A monument whose placement within the landscape was not determined by visual setting but by some other factor whether that be social, religious, political, industrial, agricultural or simply functional etc; and it is additionally in such a state of disrepair that its relationship to its setting cannot be determined.
None	A site whose remains are located fully below the current ground surface (i.e. crop mark sites), and subsequently for which neither the full extent nor significance of the site itself nor its setting can be determined without archaeological investigation.
* Note that the determination of a monument's / asset's sensitivity is first and foremost reliant upon the determination of its setting; i.e. a country house may have a high sensitivity within its own landscaped park or garden but its level of sensitivity may be less when considered within the wider landscape area. **While the immediate setting of such monuments is clearly significant, their relationship to the wider landscape is less sensitive to visual change. Where the immediate setting of such sites is to be impacted by development this will be taken into consideration.	

4.12 The method for classifying the magnitude of visual impact is shown in table 5 below.

Table 5. Criteria for Classifying Magnitude of Visual Impact

Visual Impact	Criteria
High	Direct and substantial visual impact on a significant sightline to or from a ritual monument or prominent fort; Major alteration to the penumbral or close settings of a Scheduled Ancient Monument; Major visual imposition within a Cultural Landscape; Major visual imposition within or affecting an Iconic Site or Monument.
Medium	Oblique visual impact on an axis adjacent to a significant sightline to or from a ritual monument but where the significant sightline of the monument is not obscured. Glacis of a prominent fort (based on the proportion of the glacis that would be obscured). Significant alteration to the setting of a SAM without its penumbral setting or significant alteration to the setting of a Grade I / Category A, Grade II / Category B or C(S) Listed Building beyond its curtilage. Significant but not major visual imposition within a Cultural Landscape.
Low	Peripheral visual impact on a significant sightline to or from a ritual monument. Insignificant alteration to the setting of a SAM without its penumbral setting or insignificant alteration to the setting of Grade I / Category A, Grade II / Category B or C(S) Listed Building beyond its curtilage.

	Minor visual imposition with a Cultural Landscape.
Marginal	All other visual impacts.
None	No intervisibility.

4.13 The predicted significance of visual impact upon heritage assets can be determined by considering its visual sensitivity in conjunction with the magnitude of visual impact predicted on the asset. The method for deriving the significance of impact classifications is shown in table 6 below.

Table 6. Significance of the Effects of Visual Impacts on the Cultural Value of Monuments

	Visual Sensitivity				
Magnitude of Impact	None	Marginal	Low Medium	High	International
High	None	Minor	Minor	Moderate	Major
Medium	None	Negligible	Minor	Moderate	Moderate
Low	None	None / Negligible	Negligible	Minor	Minor
Marginal	None	Negligible	Minor	Negligible	Minor

4.14 The assessment of significance of impacts was undertaken using a desk-based survey and field survey. A walkover survey was undertaken to research potential heritage setting interest not identified as part of the desk assessment.

5.0 ASSESSMENT OF LANDSCAPE & VISUAL SETTING

5.1 The potential effects on landscape and visual historic setting of the proposed development on identified heritage assets have been assessed in respect of Cultural Value and Visual Setting.

Cultural Value Assessment

5.2 St John the Baptist's Church is a Grade II Listed Building with the Julius Gottleb Gallery and Boathouse being a Grade II* Listed Building. Using the methodology, both are therefore of Regional Cultural Value. Elizabeth House is a non-designated heritage asset as is the Wet Boathouse (Mongewell Park). These assets being considered as of cultural value. Please refer to Table 7.

5.3 Using the criteria for classifying magnitude of physical impact set out within Table 2, the level of magnitude will be None for all four assets, as the proposed development with Not physically change / impact upon them.

5.4 Table 7 (below) summarises the proposed development assessed effect on the physical setting of the historic assets.

Table 7. Assessed Effect on Physical Setting

Ref	Historic Asset	Assessed Cultural Value	Magnitude of Physical Impact from the Proposed Development	Overall Significance of Effect / Impact
1	St John the Baptist Church	Regional	None	Neutral
2	Julius Gottleb Gallery and Boathouse	Regional	None	Neutral
3	Elizabeth House	Neighbourhood	None	Neutral
4	Wet Boathouse (Mongewell Park)	Neighbourhood	None	Neutral

Visual Sensitivity Assessment

5.5 The general nature of the visual setting of each of the heritage assets is described below with an assessment of the magnitude of effect resulting from the proposed development – please refer to Table 8, which summarises the assessed level of Effect / Impact.

Table 8. Assessed Effect on Visual Setting

Ref	Historic Asset	Assessed Visual Sensitivity	Magnitude of Visual Impact from the Proposed Development	Overall Significance of Effect / Impact
1	St John the Baptist Church	Low	Low Adverse	Negligible Adverse
2	Julius Gottleb Gallery and Boathouse	Medium	Medium Adverse	Minor Adverse
3	Elizabeth House	Medium	Low Adverse	Negligible Adverse
4	Wet Boathouse (Mongewell Park)	Medium	High Adverse	Moderate Adverse

5.6 The considered visual sensitivity of St. John Baptist Church is Low. The reasons for this being that this asset is contained and enclosed on all sides / boundaries, by woodland and shrubland. It is an asset which is "discovered", set within, and enclosed by adjacent surrounding woodland. The magnitude of effect from the proposed development on visual setting is also considered Low. The reasons being the proposed developments operations, are generally set down / at ground levels when in proximity to the church, on the opposite bank of the River Thames, and as can be seen on Photograph 003 within Figure 5 (Appendix A). , the church is set behind vegetation. When combining the assets visual sensitivity with magnitude of visual effect on setting, a Negligible Significance of Effect / Impact is predicted. This is Not a Significant Effect.

5.7 The considered visual sensitivity of the Julius Gottleb Gallery and Boathouse is considered Medium. The reasons for this being its overall wider containment and association with Mongewell Park House and the collegiate setting, principally to its east (away from the site). To the west, the visual envelope and setting of this asset is restricted by existing immediate vegetation and the linear structural vegetation cover of the River Thames Corridor, on its right bank in proximity to the asset. The Thames itself being an element and part barrier to the Gallery and Boathouse setting. On the left bank, due west of this heritage asset, and screening areas of the site, is a dense block of bankside scrubland, linking into the site. The magnitude of effect from the proposed development on visual setting is considered Low. The reasons being that the proposed development will be set behind a layered set of vegetative screening, between it and the heritage asset. This is illustrated on Photograph 001 within Figure 5 (Appendix A). This limits the westwards visual setting of the asset. When combining the assets visual sensitivity with magnitude of visual effect on its setting, a Minor Adverse Significance of Effect / Impact is predicted. This is Not a Significant Effect.

5.8 The considered visual sensitivity of Elizabeth House is Low. The reasons for this being the majority if the building is set down behind / screened by existing separate blocks of vegetation. The asset itself being contained within a triangle of land bordered by the Reading Road, Wallingford Road, the A42130 Nosworthy Way roundabouts and agricultural land to the south. Additional new built structures are also in close proximity to the north as well as a small solar farm. The magnitude of effect resulting from the proposed development on visual setting is considered Low to Medium. The reasons being that the proposed development's temporary taller elements i.e., the mineral processing plant (~14m) combined with plant site activities and stocking (up to ~10m) are located in relative proximity to the asset (~80m plus) will be visible to the upper storey buildings setting. This is illustrated on Photograph 002 within Figure 5 (Appendix A). The visual setting from the asset at the higher elevations is more expansive over the site to both the Parkland and Estates, Open Rolling Downs and River Thames Corridor, and the wider Flat Flood Plain Pasture character area setting. When combining the assets visual sensitivity with magnitude of visual effect on setting, a Minor Adverse Significance of Effect / Impact is predicted. This is Not a Significant Effect.

5.9 The considered visual sensitivity of the non-designated Wet Boathouse (Mongewell Park) is High. The reasons for this being that this asset retains and overtly intended relationship with its visual setting and the assets use as a boathouse adjacent to the River Thames. The visual sensitivity principally relating to the river corridor but also including the adjacent (site)flat flood plain pasture and Mongewell Park building / parkland. The magnitude of effect from the proposed development on visual setting is considered Medium. Although the immediate river corridor setting will not be changed or disturbed, the wider western site flood plain / terrace area will be subject to progressive mineral extraction and restoration. The plant site and associated activities will also be within the visual setting of this asset. To reduce / mitigate the potential adverse effects, it is proposed to retain the western bankside vegetation within the site, which will screen the majority of operations within Phases 2 and 3 of the development. This will be combined with sequential restoration following on directly after mineral extraction to limit the time land is disturbed. It is also proposed to place agricultural straw bales ~30m in from the western bank of the river, including opposite to this asset. Although these will temporarily foreshorten the visual setting of this non-designated heritage asset, they will screen quarry operations. When combining the assets High sensitivity with a low to Moderate magnitude of effect, a Minor to Moderate Adverse Significance of Effect / Impact is predicted. This is Not a Significant Effect.

5.10 In respect of all four heritage assets at Post Restoration, when land has been returned to the same / similar levels and landscape structure planting and enhanced habitat / Biodiversity species have established, it is considered that the change / significance of visual setting will be either None or Beneficial.

Conclusion

5.11 In conclusion, it is assessed that the proposed development will be a short-term temporary operation which will not physically alter the Cultural Value of historic assets or indirectly significantly adversely affect the Visual Setting of the identified historic assets.

APPENDICES

White Cross Farm, Wallingford

Location Plan

LEGEND

Planning Application Boundary

Greenfield enviro

KEDD Limited

PROJECT:
White Cross Farm, Wallingford

TITLE:
Location Plan

REF NO:
KD.WLF.D.012

DATE:
September 2021

SCALE:
1:25,000 @ A3

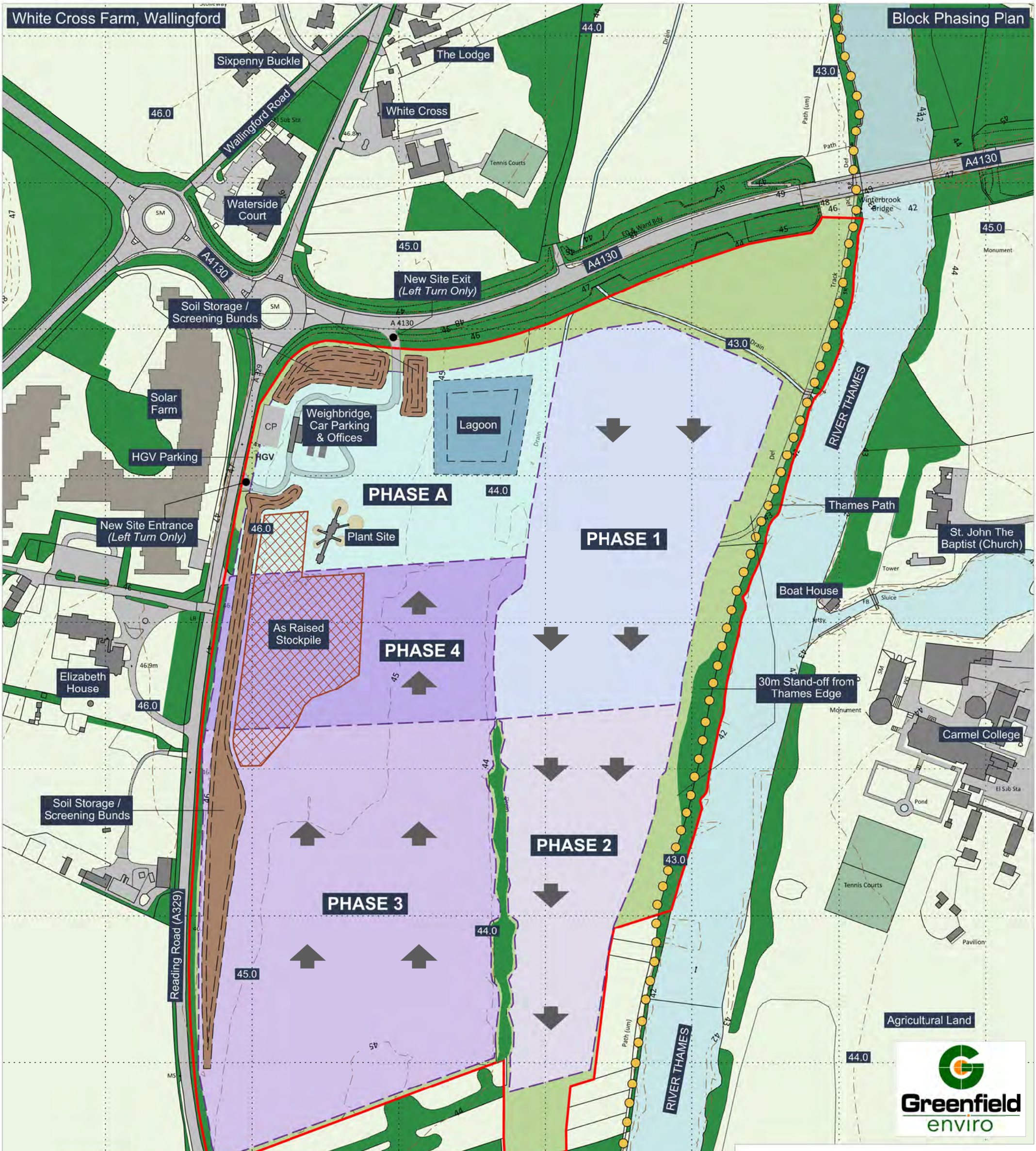
STATUS:
FINAL

N

Fox Studio, Much Wenlock, Shropshire TF13 6BL

White Cross Farm, Wallingford

Block Phasing Plan



LEGEND

- Planning Application Boundary
- Agricultural Land within the Application Boundary
- Existing Woodland / Hedgerows
- Existing Water Bodies / Courses
- Buildings, Roads & Tracks
- 80.0 Existing Contours (1m intervals) & Spot Heights m AOD
- Proposed Limit of Extraction
- Proposed Phased Mineral Extraction & Direction of Working
- Proposed Soil Storage / Screening Bunds
- Proposed As Raised Stockpile
- Proposed Operational Lagoon

This drawing illustrates the proposed Site development in sequential phases (stages) of access, plant site establishment, screening and stocking along with progressive soil stripping, mineral extraction and subsequent restoration utilising both in-situ soils and overburden and imported inert materials.

It should be noted that all land within the Site will not be disturbed at any one point in time. Progressive restoration will take place concurrently as land becomes available once mineral has been extracted.

Drawing N° KD.WLF.D.004 to 008 illustrate and describe the sequence of the proposed scheme.

Materials Audit

The table below summarises the release of soils / overburden and mineral on a phase by phase basis, together with the volume of required imported inert material to help restore the Site back to near original ground levels.

Site / Phase	Area (Ha)	Soils / Overburden (m^3)	Release of Mineral (tonnes)	Imported Inert Materials (m^3)
Undisturbed Land	3.43			
Plant Site (Phase A)	2.65	46,000	152,000	87,000
Phase 1	3.51	78,000	117,000	67,000
Phase 2	2.07	43,000	56,000	32,000
Phase 3	5.24	83,000	177,000	101,000
Phase 4	2.07	33,000	126,000	72,000
TOTAL	**15.54**	**283,000**	**628,000**	**359,000**

KEDD Limited

PROJECT: White Cross Farm, Wallingford

TITLE: Block Phasing Plan

REF NO: KD.WLF.D.003

DATE: September 2021

SCALE: 1:2,500 @ A3

STATUS: FINAL

N

Fox Studio, Much Wenlock, Shropshire TF13 6BL

Greenfield enviro

White Cross Farm, Wallingford

Concept Restoration

Sixpenny Buckle
The Lodge
White Cross
Wallingford Road
Waterside Court
Tennis Courts
A4130
Permissive Path
Winterbrook Bridge
Monument
Solar Farm
Retained Site Access for Management Purposes
Barn
EPHEMERAL LAGOON, DAMP WOODLAND & REEDBEDS
RIVER THAMES
Gate / Stile
Track
Gate
Thames Path
St. John The Baptist (Church)
Boat House
Damp Meadow with Shallow Scrapes - *Wildlife Habitat*
New Native Hedgerow Planting
Elizabeth House
Retained Extraction Face for Water Management & Habitat
Carmel College
Land Restored to Best & Most Versatile Characteristics
Reinstated Ditch with Planting of Black Poplar & Willow Species
Native Hedge / Tree Planting - *Wildlife / Landscape Structure* and Corridor
Reading Road (A329)
Agricultural Land
Mead Furlong
Riverside

LEGEND

- Planning Application Boundary
- Agricultural Land within the Application Boundary
- Existing Woodland / Hedgerows / Scrub
- Existing Water Bodies / Courses
- Buildings, Roads & Tracks
- Existing Contours (1m intervals) & Spot Heights m aOD
- Thames Path
- Enhanced Amenity Experience along the Thames Path
- Additional Section of Permissive Public Pathway away from the A4130 to Wallingford
- Creation of Damp Meadow Habitat
- Creation of Ephemeral Lagoon, Damp Woodland & Reedbed Habitat
- Strengthening and New Native Planting of Hedgerow
- Reinstatement of all Best & Most Versatile Agricultural Land
- Beat up / Strengthening of Existing Hedgerow / New Planting - Native Species Rich
- Proposed Barn

KEDD Limited

PROJECT:
White Cross Farm, Wallingford

TITLE:
Concept Restoration

REF NO:
KD.WLF.D.010

DATE:
September 2021

SCALE:
1:2,500 @ A3

STATUS:
FINAL

N

Fox Studio, Much Wenlock, Shropshire TF13 6BL

White Cross Farm, Wallingford

Heritage Assets

Elizabeth House

St. John the Baptist Chruch (Grade II Listed)

Wet Boathouse (Mongewell Park)

Julius Gottleb Gallery & Boathouse (Grade II*)

LEGEND

Planning Application Boundary

Greenfield enviro

KEDD Limited

PROJECT:
White Cross Farm, Wallingford

TITLE:
Heritage Assets **(FIGURE 4)**

REF NO:
KD.WLF.D.011

DATE:
July 2021

SCALE:
1:2,500 @ A3

STATUS:
FINAL

N

Fox Studio, Much Wenlock, Shropshire TF13 6BL

Photograph 001 - Visual Setting from the Wet Boathouse & Julius Gottleb Gallery and Boathouse, in respect of the site

Photograph 002 - Visual Setting from Elizabeth House in respect of the site

Photograph 003 - Visual Setting from St. John the Baptist Church in respect of the site