



**KIMMERIDGE OIL & GAS LIMITED
BROADFORD BRIDGE EXPLORATORY WELL SITE**

PLANNING STATEMENT

PROPOSAL:	AMENDMENT OF CONDITION 1 OF PLANNING PERMISSION REF: WSCC/029/17/WC EXTENDING THE PERMISSION BY 18 MONTHS TO ENABLE THE COMPLETION OF PHASE 4 SITE RETENTION AND RESTORATION.
LOCATION:	WOOD BARN FARM, ADVERSANE LANE, BROADFORD BRIDGE, BILLINGSHURST, WEST SUSSEX RH14 9ED
DOC REF:	KOGL-BB-PA-2018 S73-1.1
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APPROVAL LIST

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APPENDIX 1: SITE LOCATION PLAN

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1. INTRODUCTION

1.1 Planning History

Kimmeridge Oil & Gas Limited (“KOGI”) (“the Applicant”) is a wholly-owned subsidiary of UK Oil & Gas Investments PLC (“UKOG”), an investment company focused on oil and gas assets in the Weald Basin.

On 11th February 2011 the Mineral Planning Authority, West Sussex County Council (“WSCC”), consented a temporary borehole for the exploration, testing and evaluation of hydrocarbons at Wood Barn Farm, Adversane Lane, Broadford Bridge, Billingshurst, West Sussex (referred to hereafter as the “original consent”)¹.

Following the discharge of conditions attached to the original consent, a 4-phase programme of works commenced on 16th September 2014. Having completed *Phase 1: Construction*, the programme was put on hold by the then operator Celtique Energie Weald Limited (“CEWL”). UKOG completed acquisition of CEWL in August 2016, which included the developed site. CEWL was renamed Kimmeridge Oil & Gas Limited. The Applicant then progressed rapidly and *Phase 2: Mobilisation and Drilling* commenced in May 2017.

Due to sidetracking of the exploration well *Phase 3: Testing* did not commence until 6th September 2017 pushing the testing operations beyond the 15th September 2017 time limit of the original consent. To authorise the works an amendment application was approved by WSCC extending Condition 1 of the original consent to 15th September 2018 (referred to hereafter as the “amendment consent”)².

Phase 3: Testing was completed in March 2018 and since this date the site has been held in *Phase 4: Retention* mode allowing the Applicant to review the considerable technical data obtained from the Broadford Bridge-1/1z (“BB-1/1z”) exploratory borehole and sidetrack, plus related boreholes in the area. Prior to consent expiry on 15th September 2018 the Applicant anticipated two outcomes:

- an unfavourable review of the data would trigger *Phase 4: Restoration* and the site would be returned to its original use;
- or,
- a favourable review of the data would result in a new planning application seeking to authorise either further testing or a further sidetrack of BB-1/1z at the site.

However, in spite of the Applicant’s best efforts to act expeditiously, it has become clear that the technical well review process will not be completed within the consented timeframe.

1.2 The Need for Further Authorisation

As stated above, the future use of the site will be informed by data retrieved from BB-1/1z and from other boreholes drilled into similar rock strata targeting similar reserves within the wider Weald Basin formations. To date, the most relevant information has come from the exploratory borehole Horse Hill-1 (HH-1) located north of Gatwick Airport in Surrey. Similar to BB-1/1z, the Horse Hill

¹ West Sussex County Council planning consent reference WSCC/052/12/WC.

² West Sussex County Council planning consent reference WSCC/029/17/WC

borehole was designed to penetrate Kimmeridge Limestones and initial findings indicate that the two sites may access the same continuous oil deposit.

On 1st November 2017 Surrey County Council granted planning consent for a further 3 years of appraisal and flow testing of HH-1³. In addition, a second borehole (HH-2) was authorised and drilling is due to commence in 2018 with well data review and evaluation in 2019.

Given the similarities between the two sites, the information derived from Horse Hill (regarding drilling techniques, borehole deviation and flow rates) will be material to the future productive use of Broadford Bridge. In this context, the commencement of *Phase 4: Restoration*, would be premature while the site offers the potential for hydrocarbon production.

Evaluation of the new data derived from HH-1 and HH-2 is anticipated to complete within 2019. For the avoidance of doubt, *Phase 4; Retention* does not allow for any further drilling or testing activities and the operations at the well site have been suspended. The 12-month period of review would be followed immediately by *Phase 4: Restoration* commencing and completing within the planting season (October 2019 - March 2020).

1.3 The Proposal

The Applicant is therefore seeking to vary the wording of amendment consent *Condition 1* (referred to hereafter as “the proposal”) to read as follows:

- 1. This permission shall be for a limited period expiring on 31st March 2020, by which date all operations shall have ceased, all buildings, plant and machinery, including foundations and hard standings shall have been removed and the site restored in accordance with the approved restoration and aftercare schemes.*

The purpose of this Planning Statement is to consider the acceptability of the proposal, adopting an assessment approach consistent with the *Planning and Compulsory Purchase Act 2004*, section 38(6).

1.4 Site and Surroundings

The site comprises a worked farm that accommodates a well site in retention mode. Temporary earth bunding delineates a stable, flat and drained well pad formed of crushed stone overlaying an impermeable membrane. A concrete chamber (“well cellar”) sunk into the ground holds a conductor pipe, through which the BB-1/1z well and sidetrack were drilled.

Upon completion of *Phase 3: Testing* BB-1/z was suspended and permanent barriers to flow installed within the borehole. All operational plant and machinery is being removed and the stone surface cleaned and retained along with the perimeter drainage ditches. A standard shipping container has been installed over the wellhead assembly and all valves closed.

The well site and its crushed stone access track back to the B2133, are enclosed by a boundary fence which was authorised under a separate planning permission⁴. This has been retained along with entrance gates and on-site security cabins deterring unauthorised access.

³ West Sussex County Council planning consent reference WSCC/037/14/WC issued 3rd September 2014 and extended for a further 12 months by WSCC/032/17/WC issued 11th October 2011.

The site is within the Parish of West Chiltington approx. 7km south-east of Horsham and 3km south of Billingshurst. The surrounding area is characterised by gently undulating farmland, mature hedgerows and woodland blocks restricting visual access (see *Appendix 1: Site Location Plan*).

1.5 Environmental Impact Assessment

The Environmental Statement (ES), dated July 2012, that informed the original consent assessed the likely effects of hydrocarbon exploration, testing and evaluation at the site. The current proposal amounts to an “*extension of time*” that constitutes “*Schedule 2 development*” under the terms of *The Town and County Planning (Environmental Impact Assessment) Regulations 2017*⁵. Therefore, the likelihood of significant adverse effects arising from the development as extended must be considered.

The ES established that if significant adverse effects were to occur they would be largely experienced within *Phase 1: Construction* and *Phase 2: Mobilisation and Drilling*⁶ and not *Phase 3: Testing* or *Phase 4: Retention & Restoration*. Consistent with this 2012 finding, extending the window of time within which *Phase 4: Retention & Restoration* can complete in 2018-19 is not likely to give rise to any significant adverse effects. The proposal would not materially change the nature or duration of the effects assessed as acceptable by WSCC when issuing the original consent.

The site has been developed subject to further mitigation secured by planning conditions. The environmental impacts that are monitored (i.e. noise, traffic and transport effects, groundwater protection and surface water run-off) do not depart from the acceptable outcomes predicted within the ES. In March of 2018, the Applicant performed a Phase 1 Habitat Survey and an updated Ecological Appraisal (report attached at *Appendix 2*). It found the habitat surrounding the site to be unchanged from that assessed in the 2012 ES prior to development. Upon completion of *Phase 3: Testing* all plant and machinery was removed and operations ceased which significantly reduces the magnitude of impacts introduced by the development across all environmental topic areas when in *Phase 4 Retention* mode.

Taking account of these findings, the development, as extended, would not give rise to any new or additional significant effects beyond those previously considered and found to be acceptable. Accordingly, the Applicant finds the proposal does not constitute EIA development.

1.6 Structure of this Statement

Adopting an assessment approach consistent with section 38(6) of *The Planning and Compulsory Purchase Act 2004*, this Planning Statement is structured accordingly:

- **Chapter 2: Development Description**
A detailed description of the operational development and the nature of the activity.
- **Chapter 3: Compliance with The Development Plan**
Recognising the Development Plan as the starting point.
- **Chapter 4: The Influence of Other Material Planning Consideration**

⁴ Surrey County Council planning consent reference RE16/02556/CON

⁵ Town and County Planning (Environmental Impact Assessment) Regulations 2017, Schedule 2(1) table row No.13: Changes and Extension (b).

⁶ Broadford Bridge-1 Exploratory Well Site ES (July 2012) – Chapter 15: Statement of Significance, para 15.4.

- **Chapter 5: Overall Conclusion**
Performing a final planning balance of the material planning consideration.

2. DEVELOPMENT DESCRIPTION

2.1 Retention

Consistent with the site description above, the site would be held in retention mode for a further period of 12 months up to September 2019. Within this period, if it becomes clear that the site is to be restored the well would be plugged and abandoned consistent with *Oil and Gas UK Guidelines for the Abandonment of Wells*. A workover rig would return to site and install cement plugs at strategic points to isolate and seal the well. The steel casing would be cut approximately 2.5m below the surface and the well capped with a steel plate. The rig would be demobilised, any remaining plant and machinery removed and the site cleaned.

2.2 Restoration

Restoration would commence with the well site, concrete and crushed stone being broken up and removed for off-site recycling. The access track crushed stone would then be removed consistent with the details agreed to discharge original consent *Condition 11 & 14: Landscaping*, namely:

- *“Methodology for the removal and reinstatement of the access track and no-dig surfacing at the access of Adversane Lane”*;
- *“Tree Protection Plan Methodology”*⁷ and the accompanying *“Tree Protection Plans”*; and,
- *“Landscape Proposals”*⁸.

Areas of compaction would be lifted prior to the replacement and re-grading of soil stored within earth bunds. Disruption to land or field drains would be addressed and new systems installed if necessary. There are no water courses adjacent to the well site but the ditches around the field perimeter would be cleaned if necessary.

Restoration would complete within the first available planting season following retention. The works would be consistent with the *“Landscape Proposals”* allowing for:

- **Tree and Hedgerow Planting:** the introduction of young whips and the infilling of existing hedgerows with native variety plants to replace and restore lost vegetation;
- **New Wooden Post & Rail Fencing:** to be installed with rabbit netting to deter rodents and protect freshly worked soils from damage and disruption;
- **Grass Seeding:** all areas will be checked prior to seeding within the planting season to ensure weed-free growth. Hand tools shall be used around trees and the seed mix and specification will be designed to return the well site and access track to permanent pasture.

All highway signage would be removed upon completion of the works.

⁷ Details agreed to discharge condition 11 of App Ref: WSCC/052/12/WC which were then secured as part of the development consented by App Ref: WSCC/029/17/WC by condition 9.

⁸ Details agreed to discharge condition 14 of App Ref: WSCC/052/12/WC which were then secured as part of the development consented by App Ref: WSCC/029/17/WC by condition 9.

2.3 Aftercare

This period would extend 5 years from the completion of restoration and would be sub-contracted to the local farmer (also the landowner) to ensure the works are timed to suit farming operations and the growing season. It would allow for:

- Annual Inspections of Re-seeded Grassland: to be made in August/September of each year for three years with the Landowner/Agent to review the progress and productivity of the restored areas. The works would allow for weed control, watering and the replacement of failed areas to the original specification in the planting season following failure. Mowing of re-seeded areas would be carried out using approved machinery to maintain a vegetation length of approx. 30mm-50mm April-August and 50mm-70mm outwith this period;
- Annual Inspections of New/Replacement Hedge Planting: to be made in August/September of each year for three years with the Landowner/Agent to review the progress and hedgerow recovery across the restored areas. All new and replacement planting to receive annual pruning and hedges/groundcover to be trained and edged twice a year;
- Annual inspections of New/Replacement Tree Planting: to be made in August/September of each year for a period of five years with the Landowner/Agent to review the progress and woodland recovery across the restored areas. The works would allow for the replacement of failures to the original specification in the planting season following failure.

The schedule for re-seeded grassland management would be as follows:

Year 1	
<i>Task</i>	<i>Description</i>
1	Initial treatment will be carried out as described above.
2	The site will be rolled with a light, grassland roller and spread with a fertilizer if necessary to promote growth.
3	The grass will be cut across the year as described above. Alternatively, it may be grown for silage or hay, cut in May/June and subsequently grazed.
4	Any weeds will be sprayed with an appropriate weed killer.
5	All stock/cattle will be removed in adverse weather conditions to prevent damage.
6	Areas of failure to be identified and re-seeded within the planting season.
Year 2 & 3	
<i>Task</i>	<i>Description</i>
1	Annual inspection.
2	Carry out additional restoration and compensate the owner or the land user for any loss.

The schedule for new/replacement tree and hedge management would be as follows:

Year 1-3	
<i>Task</i>	<i>Description</i>
1	Annual pruning of trees.
2	Bi-annual trimming of hedge/ground cover.
3	All stock/cattle will be removed in adverse weather conditions to prevent damage.
4	Areas of failures identified and re-planted within the planting season.
Year 4 – 5 Trees	
Perform an annual inspection and replace losses if required.	

3. COMPLIANCE WITH THE DEVELOPMENT PLAN

The Development Plan for the site comprises:

- West Sussex Mineral Local Plan (2003); and
- Horsham District Planning Framework (2015).

3.1 West Sussex Mineral Local Plan

When dealing with a type of development for which there are bespoke policies, it is logical to take that policy as the starting point in the determination process. While the Development Plan must be read as a whole, it follows that the greatest weight should be attributed to bespoke policies. The dominant policies for consideration in this case is ***Oil and Gas Policy: 26 and 27***.

3.1.1 Compliance with Dominant Policy: Oil and Gas Policy 26 and 27

Mineral Local Plan (MLP) Oil and Gas Policy 26 states that proposals will be permitted where they present the “*best option*” for development in comparison with other alternative sites within an area of search. When granting the original consent, WSCC considered an Environmental Statement (ES) that accompanied the original application. *ES Chapter 5: Need and Alternative Sites* recorded seven alternatives locations, applying a range of technical, environmental and planning policy constraints. The developed site emerged as the best option, having adopted a site selection approach consistent with the principle of *Policy 26*.

The site was assessed as being of “*low*” ecological value⁹. The ES recorded that the ecological integrity and conservation status of protected would not be compromised¹⁰. Further mitigation derives from adherence to the original consent *Condition 10: Ecology* and the implementation of a “*Tree Protection Plan*” secured by the original consent *Condition 11: Landscaping*. In March of 2018, the Applicant performed an Ecological Habitat Assessment (report attached at *Appendix 2*). This established that the baseline ecological environment has not materially changed since the commencement of development. Taking account of these findings, the proposal would not compromise countryside resources consistent with *criterion (A) of Policy 26* and National Planning Policy Framework (NPPF) para 144¹¹.

WSCC Highway Department found the traffic and transport effects assessed within *ES Chapter 10: Transport and Access* to be “*imperceptible*”¹² and a temporary extension of time would not materially change this finding, particularly as there are expected to be no HGV’s arriving at or leaving the site during the retention period. The developed site has been constructed consistent with consent *Conditions 18 and 19: Access/Highways*, that secure satisfactory standards of access and the routing of HGV’s was agreed with WSCC Highways in discharging the original consent *Condition 20*, prior to the commencement of development. Taking account of these findings, the highway network can acceptably accommodate a temporary extension of time consistent with *criterion (B) of Policy 26*.

⁹ Broadford Bridge-1 Exploratory Well Site ES (July 2012) - Chapter 7: Ecology, para 7.135.

¹⁰ Broadford Bridge-1 Exploratory Well Site ES (July 2012) - Chapter 7: Ecology, para 7.126.

¹¹ WSCC Decision Notice WSCC/052/12/WC - Permitting Exploration, Testing & Evaluation at Broadford Bridge: Reasoned justification for Condition 11: Ecology.

¹² WSCC Planning Committee Report dated 5th February 2013, Agenda Item 8: Exploration, Testing & Evaluation at Broadford Bridge: para 9.6.

Having considered *ES Chapter 8: Landscape and Visual Impact* and *ES Chapter 9: Noise* WSCC found residential amenity effects to be “minimal”¹³, given the separation distances involved. The developed site has been constructed consistent with the original consent *Condition 6: Hours of Operation* and *Conditions 7-9: Noise* that secured a Noise Management Plan designed to protect the amenity of residents. Taking account of these findings, the proposal would not compromise residential amenity consistent with *criterion (C) of Policy 26*.

The site is not constrained by public footpaths or bridleways so *criterion (D) of Policy 26* is not engaged. *ES Chapter 11 Ground and Groundwater Protection* found there to be no major aquifers present and a limited local reliance on groundwater supplies¹⁴. The risk of groundwater pollution is therefore inherently “low” and has since been further reduced by the implementation of mitigation secured by the original consent *Conditions 22 and 23: Groundwater Protection/Drainage*, protecting water quality in compliance with the NPPF¹⁵. Of fundamental importance is the fact that the exploration drilling and flow testing of the potential oil & gas reservoir have already been completed during Phases 2 and 3, with the well now left in a fully safe condition. Taking account of these findings, the proposal would not compromise the water environment consistent with *criterion (E) of Policy 26*.

The proposal is in compliance with *Policy 26* with no material conflict identified.

MLP Oil and Gas Policy 27 engages “duration” and the “area of activity” as material planning considerations. The extension of time would not change the nature or duration of effects assessed within the original ES; they would remain temporary and reversible. The developed site occupies a small footprint, screened by mature woodland adopting best available techniques to minimise the scope for adverse effects. Taking account of these findings, the proposal’s compliance with *Policy 26*, when combined with the above assessment of acceptability, is sufficient to demonstrate compliance with *Policy 27*.

3.1.2 Compliance with Other Policies

MLP Countryside Policy 14 calls for the physical characteristics of the land to be restored “to what they were when the land was last used for agriculture”. The agreed programme of restoration (as at para 2.2 above) and the proposed programme of aftercare (as at para 2.3 above) address the policy requirement in full.

MLP Landscaping Policy 53 has been satisfactorily addressed by virtue of the “*Tree Protection Plan*” agreed to discharge original consent *Condition 11: Landscaping*. The proposal would not compromise the mitigation already committed on site. Consistent with *criterion (B) of Landscaping Policy 53* and the relevant criteria of ***MLP Soil Policy 58***, soil has been appropriately handled and stored on site. Excavated soil has not been taken off site and the bunding currently in place will be utilised for reclamation purposes consistent with the “*Landscaping Proposals*” agreed to discharge original consent *Condition 14: Landscaping*.

¹³ WSCC Planning Committee Report dated 5th February 2013, Agenda Item 8: Exploration, Testing & Evaluation at Broadford Bridge: para 9.13.

¹⁴ Broadford Bridge-1 Exploratory Well Site ES (July 2012) - Chapter 11: Ground and Groundwater Protection, para 11.86.

¹⁵ WSCC Decision Notice WSCC/052/12/WC - Permitting Exploration, Testing & Evaluation at Broadford Bridge: Reasoned justification for Condition 22 & 23: Groundwater Protection/Drainage.

Consistent with **MLP Noise Policy 60**, the proposal would be subject to the same limits and obligations secured by original consent *Conditions 7 & 9: Noise* and the mitigation measured embedded within the Noise Management Plan, secured by original consent *Condition 8*.

The development site has progressed adopting working practices and best available techniques that ensure the scope for environmental harm is minimised. Moving forward, measures to conserve and enhance the environment will be incorporated as part of the sites restoration. None of these benefits and concessions would be lost as a result of the proposal consistent with the core planning principle of **MLP Policy 1: Sustainable Development**.

3.2 Horsham District Planning Framework

The Horsham District Planning Framework (HDPF) does not contain dominant policy designed to address oil and gas development. It does contain policies designed to promote sustainable development and protect natural and built heritage. The relevant policies are considered below.

HDPF Policy 1: Sustainable Development, establishes that local decision-takers will apply the NPPF's "**presumption in favour of sustainable development**"¹⁶. Having established compliance with the MLP when read as a whole the proposal is "*sustainable development*". The decision taking guidance of **HDPF Policy 1** and the NPPF will inform the final planning balance.

ES Chapter 13: Socio-Economics, found that indirect economic vitality would be introduced to the District through the procurement of locally supplied services and materials¹⁷. Moreover, agricultural diversification would be supported by virtue of the steady income stream that would supplement the existing agricultural business. The proposal would not compromise these benefits, consistent with **HDPF Policy 10: Rural Economic Development**.

Having established compliance with **MLP Oil and Gas Policy 26**, the proposal is consistent with the relevant criteria of **HDPF Policy 24: Environmental Protection** and **HDPF Policy 31: Green Infrastructure and Biodiversity** policies, designed to protect the District's high-quality environment by minimising its exposure to pollutants and maintaining/enhancing its natural heritage. Similarly, compliance with **MLP Landscaping Policy 53**, is sufficient to establish consistency with the relevant criteria of **HDPF Policy 25: The Natural Environment and Landscape Character** and **HDPF Policy 30: Protected Landscapes**.

Having demonstrated the developed site to be the "*best option*" consistent with **MLP Oil and Gas Policy 26**, the proposal is in compliance with **HDPF Policy 26: Countryside Protection**, which recognises the "*extraction of minerals*" (*criterion 2*) as being appropriate development outside built-up area boundaries. In addition, it would be consistent with the siting and design criteria of **HDPF Policy 33 Development Principles**. In accordance with both policies, the proposal would not lead to a significant increase in the overall level of activity in the countryside and nor would it compromise its key features or wider landscape character.

3.3 Overall Assessment of Compliance

The predicted environmental effects of the proposal are low and further reduced by their temporary and reversible nature. The proposal gives rise to no new or additional effects beyond those

¹⁶ National Planning Policy Framework (2012), para 14, page 4 – the '**bold type**' derives from the Framework.

¹⁷ Broadford Bridge-1 Exploratory Well Site ES (July 2012) - Chapter 13: Socio-Economics, para 13.60.

previously considered acceptable and therefore no new policy conflicts arise. When read as a whole, the proposal is in overall compliance with the Development Plan. This is a benefit which attracts significant weight in favour of the proposal.

4. THE INFLUENCE OF OTHER MATERIAL PLANNING CONSIDERATION

Section 38(6) of *The Planning and Compulsory Purchase Act 2004* provides for the influence of other material considerations.

4.1 National Energy Policy and The Need for Oil and Gas Developments

Government energy policy is set out in the following primary legislation and policy statements.

4.1.1 The Energy White Paper: Meeting the Energy Challenge (2007)

The Government used the paper to set out its international and domestic energy strategy in response to climate change, rising fuel prices and the need for substantial new investment in the UK's energy generating infrastructure. It promotes a diverse energy mix within which fossil fuels will continue to play an *"essential role"*¹⁸. To ensure security of the supply, a crucial element of the Government's energy strategy is to maximise production of our domestic energy sources.

4.1.2 Overarching National Policy Statement for Energy (EN-1) (2011)

The Government states that fossil fuel plays a *"vital role"* in providing reliable electricity supplies and is an *"important role"*¹⁹ in our energy mix as the UK makes the transition to a low carbon economy. It finds the UK's domestic gas market to be robust but warns that the risk of shortfalls in supply *"cannot be ruled out nor that there may need to be significant rises in wholesale gas prices to balance the market"*²⁰. It concludes that further infrastructure (beyond that which exists) is needed²¹.

4.1.3 Annual Energy Statements (AES) (2012, 2013 and 2014)

AES 2012 states the Government continues to develop a fiscal regime that encourages *"investment in indigenous oil and gas production for the economy and security of supply"* and will *"support new ways of tapping our indigenous resources"*²². The policy framework aims to *"bring forward investment in every aspect of our energy infrastructure"* which includes *"maintaining UK oil and gas production"*²³.

AES 2013 confirms that oil and gas remain *"key elements of the energy system for years to come"*. And that the Government is committed to *"maximising indigenous resources"*²⁴. AES 2014 states *"UK*

¹⁸ The Energy White Paper: Meeting the Energy Challenge (2007) - Maximising economic production from our domestic fossil fuel reserves, page 20.

¹⁹ Overarching National Policy Statement for Energy (EN-1) (2011), para 3.6.1, page 30.

²⁰ Overarching National Policy Statement for Energy (EN-1) (2011), para 3.8.8, page 38.

²¹ Overarching National Policy Statement for Energy (EN-1) (2011), para 3.8.8, page 38.

²² Annual Energy Statement 2012: Department of Energy & Climate Change, para 1.8, page 7.

²³ Annual Energy Statement 2012: Department of Energy & Climate Change, para 1.9, page 8.

²⁴ Annual Energy Statement 2013: Department of Energy & Climate Change, para 3.69, page 39.

*oil and gas continues to make a substantial contribution to our economy, supporting around 450,000 jobs in the wider UK economy and supplying the equivalent of more than half the UK's oil and gas*²⁵.

4.2 National Planning Policy

4.2.1 National Planning Policy Framework

The purpose of the planning system is to *“contribute to the achievement of sustainable development”*²⁶. To aid the achieve of this goal, the NPPF provides core planning principles that are transposed into topic specific policies across paragraphs 18-219. This constitutes *“the Government's view of what sustainable development in England means”*. At its heart is a *“presumption in favour of sustainable development”*, which is a *“golden thread”* running through decision taking.

Minerals *“are essential to support sustainable economic growth and our quality of life”* and that it is important that there is a *“sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs”*²⁷. Decision-takers are guided to *“give great weight to the benefits of the mineral extraction, including to the economy”*²⁸.

4.2.2 Draft Revised National Planning Policy Framework

The revised framework of March 2018 maintains that decision-takers should attribute *“great weight to the benefits of the mineral extraction, including to the economy”*²⁹. Bespoke guidance for oil and gas states that Minerals planning authorities should recognise the benefits of exploration and extraction for the *“security of energy supplies and supporting the transition to a low-carbon economy”*³⁰.

4.3 Emerging Development Plan Policy - West Sussex Joint Minerals Local Plan

4.3.1 Vision and Strategic Objective 12: Oil and Gas

The Joint Minerals Local Plan (Regulation 19 – dated January 2017) (JMLP) is predicated upon a *“Vision”* for West Sussex in 2033. It provides the direction of travel for sustainable minerals development. The relevant statements for consideration are that West Sussex:

- *Will be a place where minerals are produced in ways which conserve and enhance the beautiful outdoors of West Sussex... for the benefit of current and future generations.*
- *Will have contributed to the supply of minerals, in particular... oil and gas, to support growth in West Sussex.*
- *Will be a place where the production and transportation of minerals does not detract from it having thriving communities and being a special place to live and visit.*
- *Will ensure minerals have been produced in a manner that protects and enhances the historic and natural environment, and contributes to a low carbon, circular economy.*

²⁵ Annual Energy Statement 2014: Department of Energy & Climate Change, para 197, page 51.

²⁶ National Planning Policy Framework (2012), para 6, page 2.

²⁷ National Planning Policy Framework (2012), para 142, page 32.

²⁸ National Planning Policy Framework (2012), para 144, bullet point No.1, page 34.

²⁹ Draft Revised National Planning Policy Framework (2018), para 201, page 56.

³⁰ Draft Revised National Planning Policy Framework (2018), para 204, criterion a), page 58.

- Will be a place where mineral sites are restored to the highest standards³¹

The vision is transposed into sector specific *Strategic Objectives*. The Oil and Gas objective reads:

Strategic Objective 12: *To protect the environment and local communities in West Sussex from unacceptable impacts of any proposal for oil and gas development, whilst recognising the national commitment to maintain and enhance energy security in the UK³²*

The strategic objective is transposed into the bespoke **JMLP Policy M7a: Hydrocarbon development not involving hydraulic fracturing**, which is the dominant policy for consideration.

4.3.2 Compliance with Dominant Policy: JMLP Policy M7a: Hydrocarbon Development not Involving Hydraulic Fracturing

Criterion (a) states that proposals for exploration and appraisal “including extensions of time” to existing sites will be permitted subject to criteria compliance. The proposal is in compliance with the spatial guidance of *criterion (a)(i)* and *(ii)*, having demonstrated the site to be the “best option” consistent with *MLP Oil and Gas Policy 26* (based on an assessment approach that accounted for the impacts of “on... and off-site activities including HGV movements”).

ES Chapter 15: Statement of Significance, records that the exploration, testing and evaluation of hydrocarbons would have a “negligible” environmental effect overall³³. Extending the window of time within which the outstanding phases of work can complete would not materially change the nature or duration of the effects assessed within the ES. Again, this is particularly the case given that only retention and restoration activities remain to be completed. Therefore, the proposal would not give rise to any new or additional material effects beyond those previously considered acceptable. Accordingly, the proposal would not give rise to any unacceptable impacts across the range of environmental topics recorded within *criterion (a)(iii)*.

High-quality aftercare would be secured by the proposed programme (as at para 2.3 above) consistent with *criterion (a)(iv)* and appropriate ground and groundwater pollution prevention measures have been embedded within the developed site to ensure no unacceptable impacts arise from on-site storage/treatment of fluids consistent with *criterion (a)(v)*.

4.3.3 Compliance with Other Policies

Having established compliance with *MLP Countryside Policy 14* and *MLP Soil Policy 58*, the proposal is consistent with the **JMLP Policy M15: Air and Soil** and **JMLP Policy M24: Restoration and Aftercare** and relevant criteria. The procedures described within *Phase 4a: Restoration* would ensure no unacceptable impacts on the intrinsic quality or quantity of the soil with appropriate mitigation delivered by the proposed aftercare programme (as at para 2.3 above).

Having established compliance with *MLP Oil and Gas Policy 26 criterion A* (relating to countryside resources) and *MLP Landscaping Policy 53*, the proposal is consistent with **JMLP Policy M23: Design and Operation of Mineral Developments** and relevant criteria. The remote and secluded location of the developed site minimises the potential for conflict with pre-existing land-uses and areas

³¹ West Sussex Joint MLP: Proposed Submission Draft (Regulation 19) (January 2017) page 15.

³² West Sussex Joint MLP: Proposed Submission Draft (Regulation 19) (January 2017) page 2.3.13, page 19.

³³ Broadford Bridge-1 Exploratory Well Site ES (July 2012) – Chapter 15: Statement of Significance, para 15.4.

recognised for the natural heritage consistent with *JMLP Policy M23(a)* and ***JMLP Policy M17 Biodiversity and Geodiversity***. *ES Chapter 8: Landscape and Visual Impacts* paid proper regard to the local context and landscape character of the site, which then informed the assessment of effects and the nature of the mitigation brought forward consistent with *JMLP Policy M23(b)* and ***JMLP Policy M12: Character***. None of these benefits or concessions would be lost as a result of the proposal.

Having established compliance with *MLP Oil and Gas Policy 26 criterion B* (relating to access and the routing of transport vehicles) and *criterion C* (relating to residential amenity), *MLP Noise Policy 60* and *JMLP Policy M7a: Hydrocarbon development not involving hydraulic fracturing; criterion (a)(iii)*, the proposal is consistent with ***JMLP Policy M18: Public Health and Amenity***. The proposal would not give rise to any unacceptable effects with regard to lighting, noise, dust, odours, vibration or emissions derived from traffic generation consistent with *criterion (a)*.

Having established compliance with *MLP Oil and Gas Policy 26 criterion E* (relating to the water environment), the proposal is consistent with ***JMLP Policy M16 Water Resources***. Consistent with ***JMLP Policy M22 Cumulative Impact***, the proposal would not give rise to an unreasonable level of disturbance to the environment, residents, businesses and visitors resulting from adverse effects experience in isolation or cumulatively with other sites operating simultaneously and/or successively.

4.3.4 Overall Assessment of Compliance

The predicted environmental effects of the proposal are low and further reduced by their temporary and reversible nature. The proposal gives rise to no new or additional effects beyond those previously considered acceptable and therefore no new policy conflicts arise. When read as a whole, the proposal is in overall compliance with the emerging plan.

4.4 Conclusion

The proposal demonstrates a high degree of consistency with EN-1 and NPPF core planning principle. Consistent with *NPPF Chapter 13: Facilitating the sustainable use of minerals*, the benefits of the proposal are attributed “*great weight*”³⁴ and NPPF “*presumption in favour of sustainable development*” is engaged with full force.

The proposal is in compliance with emerging national and local planning policies that contain the most up-to-date spatial and design guidance relevant to oil and gas development. Consultation for the Revised Draft NPPF completed in March 2018 and the West Sussex Joint Minerals Local Plan is likely to be the subject modifications prior to its adoption³⁵. Accordingly, the benefit of compliance which emerging policy at the national and local level is attributed limited weight given the likelihood of change.

5. OVERALL CONCLUSION

The Applicant has established the proposal to be “*sustainable development*” in principle and design, consistent with the Development Plan and engaging the NPPF’s “*presumption in favour of sustainable development*”. There are other material considerations in this case, namely:

³⁴ National Planning Policy Framework (2012), para 144, bullet point No.1, page 34.

³⁵ West Sussex County Council web page “Minerals Local Plan public examination” as at June 2018.

- National Energy Policy: the proposal is consistent with the Energy White Paper: Meeting the Energy Challenge (2007), the Overarching National Policy Statement for Energy (EN-1) (2011) and the Annual Energy Statements (2012, 2013 and 2014);
- National Planning Policy Framework: the proposal is consistent with NPPF core planning principle and relevant policy within *NPPF Chapter 13: Facilitating the sustainable use of minerals*; and
- Emerging Planning Policy: the proposal is consistent with the most up-to-date spatial guidance and design guidance contained within the emerging West Sussex Joint Minerals Local Plan and the Draft Revised National Planning Policy Framework.

In conclusion, the proposal is consistent with the Development Plan and no other material planning considerations indicate that planning permission should be withheld. Accordingly, the Applicant respectfully requests that planning permission be consented.



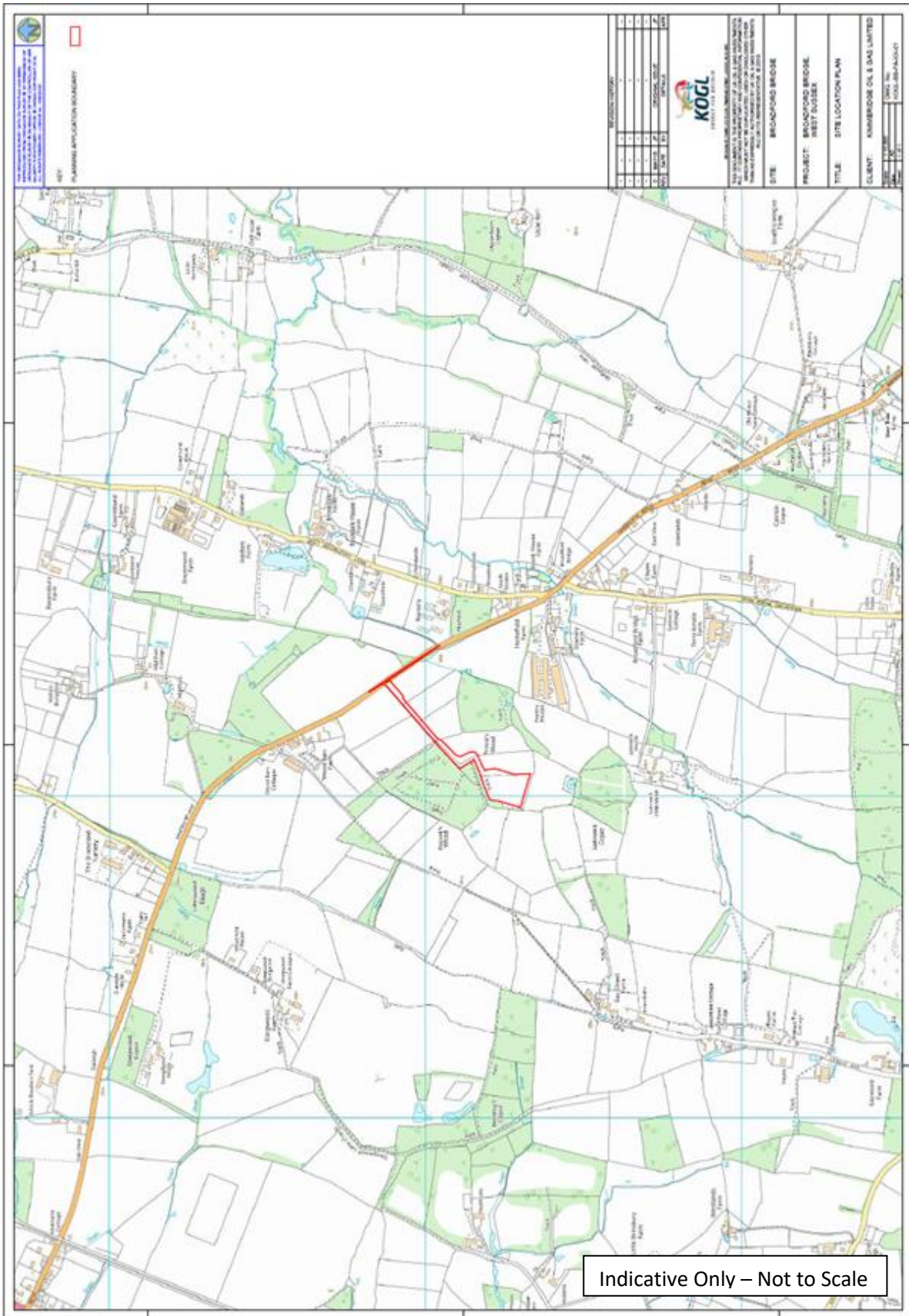
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APPENDIX 1: SITE LOCATION PLAN



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APPENDIX 2: ECOLOGICAL HABITAT ASSESSMENT 2018 REPORT



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Broadford Bridge Well Site

Updated Ecological Appraisal

Prepared for: Kimmeridge Oil & Gas Limited

Project number: 60555556

June 2018

Quality information

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The methodology adopted and the sources of information used by AECOM in providing its services are outlined in this Report. The work described in this Report was undertaken between March and June 2018 and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances. AECOM disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to AECOM's attention after the date of the Report.

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Executive Summary

AECOM was instructed by Zetland Group on behalf of Kimmeridge Oil & Gas Limited (KOGGL) to carry out a Phase 1 Habitat survey and an updated Ecological Appraisal of its existing Broadford Bridge well site, which is located north-west of the village of Broadford Bridge off Adversane Lane (B2133) in West Sussex (central grid reference: TQ 090 217).

KOGGL wishes to retain the well site and extend the lifetime of the planning permission for a further 18 months (the 'Proposed Development') to enable completion of Phase 4: retention followed by restoration.

Previous ecology surveys of the site, including a Phase 1 Habitat survey, and surveys for bats, great crested newt (GCN) and dormouse were undertaken by URS (now AECOM) in 2011 and 2012 to support the planning application for the construction of the well site. Consent was granted by West Sussex County Council in 2013, and construction of the well site and access track, and drilling and testing of the Broadford Bridge exploration well have since been completed. That 2011/12 ecological assessment concluded that the original development would not result in any significant adverse effects on ecological features, and there were no objections to the development in this respect.

An updated Phase 1 Habitat survey was undertaken in March 2018 to determine whether there had been any significant changes in the period since the previous ecology surveys were undertaken that would be material to the consideration of the application to extend the time for retention of the existing well. The only real change over this timeframe has been as a result of the construction of the well site in 2014, which has resulted in an area of bare ground within the well pad and a crushed stone access track being constructed. These habitats do not have any potential to support protected or notable species. All other habitats surrounding the Proposed Development remained as previously reported.

The Proposed Development will not result in any changes in the footprint of the well site or access track, or any changes in the consented operations, because the application is limited to an extension of time for retention of the well site. The updated ecological appraisal has concluded that the Proposed Development will not result in any impacts on designated sites or protected or notable species. This is consistent with the findings of the previous assessment. Consequently no ecological mitigation is considered necessary.

The previously agreed site restoration plan will remain applicable to the Proposed Development. As part of this process, KOGGL has committed to infilling of the gaps in the hedgerow on the north side of the access track with native tree and shrub species to enhance the structure of the habitat for foraging bats, and for nesting and foraging birds. Additional biodiversity enhancements will be achieved by the installation of bird and bat boxes as part of the restoration process.

1. Introduction

1.1 Background

AECOM was instructed by Zetland Group on behalf of Kimmeridge Oil & Gas Limited (KOGGL) to carry out a Phase 1 Habitat survey and an updated Ecological Appraisal of its existing Broadford Bridge well site (the 'well site'). The well site is located north-west of the village of Broadford Bridge off Adversane Lane (B2133) in West Sussex. The approximate central grid reference for the site is TQ 09053 21750 and the boundary of the well site is shown on Figure 1.

Planning consent was granted to Celtique Energy Weald Ltd by West Sussex County Council in February 2013 for the construction of Broadford Bridge well site and included permission for a single borehole and associated above ground infrastructure including temporary welfare and office cabins, site drainage and lighting, access track and boundary enclosure (Planning Ref.: WSCC/052/12/WC & WSCC/037/14/WC).

Permissions were granted by West Sussex County Council in September 2017 for a variation to conditions to allow for a further 12 months of continued operations to enable the completion of Phase 3 (testing) and Phase 4 (retention or restoration) and the retention of other infrastructure (Planning Ref.: WSCC/029/17/WC & WSCC/032/17/WC).

To date the Broadford Bridge well site has been constructed and the exploratory well drilled and tested. An access track was constructed through the arable field off the B2133. Following the completion of Phase 3: testing, there would be no mobilisation of additional equipment to the site, and no change in the footprint.

1.2 Site Description

The well site occupies approximately 2.1 ha and includes a single borehole, with associated above ground infrastructure including temporary welfare and office cabins, site drainage and lighting as well as a pre-existing access track.

The well site is located within farmland consisting of a network of woodland copses and pasture fields, west of Broadford Bridge village in West Sussex. The access track runs north-east from the well site through an arable field linking it to Adversane Lane (B2133). The well site is situated between two woodland copses; Pocock's Wood to the west and Prince's Wood to the east and is surrounded by pasture fields. Prince's Wood is listed on the Ancient Woodland Inventory as 'ancient semi-natural woodland'.

The Broadford Bridge well site was constructed in 2014. Topsoil was removed from the site and stored along the eastern site boundary in a bund, and the site was securely fenced with steel palisade fencing. A geo-synthetic clay liner (a bentonite filled composite membrane of the type typically used to provide containment in landfill sites) is laid across the well site and ditch and then overlaid with crushed stone to form the well pad surface. A ditch was excavated around the perimeter of the site to capture and clean surface water run-off from the well site prior to its discharge into a local watercourse.

1.3 Previous Ecological Surveys

A summary of the ecology surveys and reports prepared to date for the Broadford Bridge well site are summarised in Table 1.1 below.

A Phase 1 Habitat survey and ecological appraisal were originally completed by URS (now AECOM) at the Broadford Bridge well site in September 2011 to support the original planning application for construction of the well site (URS, 2012a). This was supported by a suite of protected species surveys, a summary of which is provided in Table 1.1. An addendum to the ES was submitted later in 2012 to address changes in the proposed timing of construction from that originally assessed (URS,

2012b). No significant ecological constraints were identified and standard mitigation measures were recommended to minimise impacts to ecological features during construction of the well site.

No objections on the grounds of ecology were received from statutory consultees in response to the 2012 application for construction of the well site (Planning Ref: WSCC/052/12/WC & WSCC/037/14/WC).

No objections on the grounds of ecology were received from statutory consultees in response to the 2017 application for a 12-month extension of time for retention of the well site and other infrastructure (Planning Ref: WSCC/029/17/WC & WSCC/032/17/WC). The council ecologists confirmed in their consultation response to the application that *'There is no reasonable expectation of harm to local biodiversity, thus requesting repeat-ecological surveys at this stage would not be proportionate to the risk of harm'*.

Table 1.1: Summary of Ecology Work to Date at Broadford Bridge Well Site

Survey/ Report	Date	Report Ref	Comments
Extended Phase 1 Habitat Survey and Ecological Appraisal	Sept 2011	URS, 2012a	Phase 1 Habitat survey, desk study and ecological appraisal for planning application for the exploratory well site (including drilling of well) (Planning Ref: WSCC/052/12/WC). Further surveys were recommended for badger, dormouse, bats and great crested newts.
Environmental Statement Volume 2: Chapter 7 (Ecology)	July 2012	URS, 2012a	Ecological impact assessment concluded that there would be significant ecological effects.
Badger survey	Sept 2011 – July 2012	URS, 2012a	Results confidential (See Appendix C).
Dormouse survey	Sept 2011 – July 2012	URS, 2012a	No dormice recorded.
Bats (bat roost potential survey of trees)	Sept 2011	URS, 2012a	One tree with low/ moderate bat roost potential approximately 200m north of well site.
Bats (activity survey)	Sept 2011	URS, 2012a	Static detectors deployed for 5 nights recorded low/ moderate levels of bat activity dominated by common and soprano pipistrelle, with some records of brown long-eared and <i>Myotis</i> (possibly Natterer's) bats.
Great crested newt survey	Spring 2012	URS, 2012a	One suitable pond identified approximately 130m south of the well site. Small population of GCN present.
Environmental Statement: Chapter 7 Ecology Addendum	Nov 2012	URS, 2012b	Update to ecological impact assessment following changes in programme for construction of the well site.
Grassland Management Plan for GCN	Jan 2013	URS, 2013	Precautionary mitigation for GCN. Method statement for keeping grassland within proposed well site construction area short, to deter GCN.

One planning condition relating to ecology was made with the original planning permission for the Broadford Bridge well site (Planning Ref: WSCC/052/12/WC):

"Condition 10: No removal of hedgerows or trees shall be carried out on site between March to August inclusive in any year, unless otherwise approved in writing by the County Planning Authority. Where vegetation must be cleared during the bird breeding season a check for nesting birds by a suitably qualified ecologist will be required. Any vegetation containing occupied nests will be retained until the young have fledged. The location details of the compensatory nesting provision are to be supplied to the County Planning Authority for approval prior to their erection."

The site was constructed in 2014 consistent with this planning condition.

1.4 Quality Assurance

All AECOM ecologists follow the Chartered Institute of Ecology and Environmental Management (CIEEM) code of professional conduct when undertaking ecological work and many are Full or Fellow Members. They are appropriately qualified and will conduct their work using all reasonable skill and care. Many senior AECOM ecologists are also Chartered Environmentalists or Ecologists. All staff members are committed to maintaining our certification to the international standards BS EN ISO 9001:2008 and 14001:2004 and BS OH SAS 18001:2007.

1.5 Purpose of This Document

This report has been prepared to accompany the planning application for an extension of time application for retention of the existing well site. It represents an update to reports prepared for the original planning application for the construction and drilling of the well at Broadford Bridge well site, which was originally consented in 2013.

The scope of the updated assessment has been informed by the limited potential for the Proposed Development to result in new, previously unexamined, ecological effects to those considered for the exploration well drilling and testing phases. The Proposed Development will not result in any new impacts on semi-natural habitats because the well site and access track have already been constructed, and all continuing works would be undertaken within the existing footprint of the constructed well site.

Given that a substantial period of time has elapsed since the original Phase 1 Habitat survey was undertaken in 2011, and further protected species surveys were undertaken in 2011/12, it was considered prudent to undertake a review of the baseline ecological data to establish whether there had been any changes in the interim period that would be material to the determination of the application.

The scope of works reported in this document therefore comprises:

- Updated desk study – to identify any additional protected sites or protected species records within a 1 km radius of the site since the previous reports were completed that might alter the conclusions of the original assessments.
- Updated Phase 1 Habitat survey – to determine whether there had been any changes from the established 2011/12 baseline habitat conditions and whether or not these changes would materially alter the conclusions of the original assessment.
- Updated ecological appraisal – to identify whether the Proposed Development would result in any new impacts on habitats or protected species that were not assessed at the time of the original application. Where the habitat survey confirms that there has been no significant change in the habitat conditions present it is highly unlikely that any new impacts would be identified. This is because, without habitat change, it is unlikely that the habitat and species value of the site would have substantively changed over the intervening period. Regardless, the proposed development would not result in any additional habitat losses as it would be confined to the existing well site.
- Consideration of any additional ecological mitigation/ compensation requirements – based on the outcome of the updated Phase 1 Habitat survey and the ecological appraisal.
- Updated restoration proposals – updates to restoration proposals where necessary as influenced by changes to the baseline ecology conditions.

2. Wildlife Legislation and Planning Policy

2.1 Wildlife Legislation

There have been no significant changes in relevant legislation apart from the EU Invasive Alien Species Regulation (2014). The following wildlife legislation remains potentially relevant to the Proposed Development:

- Wildlife and Countryside Act (WCA) 1981 (as amended)
- Countryside and Rights of Way (CRoW) Act 2000
- Natural Environment and Rural Communities (NERC) Act 2006
- The Conservation of Habitats & Species Regulations 2017 (the Habitats Regulations)
- Protection of Badgers Act 1992
- The Hedgerow Regulations 1997

The EU Invasive Alien Species Regulation (2014) lists a number of plant and animal species of EU concern for which measures are in force should certain statutory agencies deem it necessary to control a given species in a particular site or location. None of these species of EU concern was found at or in the environs of the well site.

Further information on the requirements of the above legislation is provided as Appendix A.

2.2 National Planning Policy

The National Planning Policy Framework (NPPF) was published on 27th March 2012 and details the Government's planning policies for England and how these are expected to be applied.

The NPPF states the commitment of the UK Government to minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. It specifies the obligations that the Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how this is to be delivered in the planning system. Protected or notable habitats and species can be a material consideration in planning decisions and may therefore make some sites unsuitable for particular types of development, or if development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required. Development should also plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.

Further information on the relevant parts of the NPPF is provided as Appendix A.

2.3 Local Planning Policy

Relevant local planning policies are detailed in the Horsham Local Plan 2015, and a summary of the policies relevant to nature conservation is provided in Table 3.1:

Table 2.1: Summary of Local Planning Policies

Document	Planning policy	Purpose
Horsham District Planning Framework 2015	Policy 24 – Environment Protection	All new developments must be mitigated appropriately to prevent damage to the environment and human health The quality of watercourses will be either maintained or improved.
	Policy 25 – District Character and the	The Natural Environment and landscape character of the District, including the landscape, landform and development

Natural Environment	<p>pattern, together with protected landscapes and habitats will be protected against inappropriate development.</p> <p>The Council will support development proposals which:</p> <ul style="list-style-type: none"> • Maintain and enhances the Green Infrastructure Network and addresses any identified deficiencies in the District. • Maintains and enhances the existing network of geological sites and biodiversity, including safeguarding existing designated sites and species, and ensures no net loss of wider biodiversity and provides net gains in biodiversity where possible. • Conserve and where possible enhance the setting of the South Downs National Park.
Policy 26 – Countryside Protection	<p>Outside built-up area boundaries, the rural character and undeveloped nature of the countryside will be protected against inappropriate development. Any proposal must be essential to its countryside location, and in addition meet one of the following criteria:</p> <ul style="list-style-type: none"> • 1. Support the needs of agriculture or forestry; • 2. Enable the extraction of minerals or the disposal of waste; • 3. Provide for quiet informal recreational use; or • 4. Enable the sustainable development of rural areas. <p>In addition, proposals must be of a scale appropriate to its countryside character and location. Development will be considered acceptable where it does not lead, either individually or cumulatively, to a significant increase in the overall level of activity in the countryside, and protects, and/or conserves, and/or enhances, the key features and characteristics of the landscape character area in which it is located, including;</p> <ul style="list-style-type: none"> • 1. The development pattern of the area, its historical and ecological qualities, tranquility and sensitivity to change; • 2. The pattern of woodlands, fields, hedgerows, trees, waterbodies and other features; and • 3. The landform of the area.
Policy 30 – Protected Landscapes	<p>The natural beauty and public enjoyment of the High Weald AONB and the adjoining South Downs National Park will be conserved and enhanced and opportunities for the understanding and enjoyment of their special qualities will be promoted.</p> <p>As such proposals for plans in these areas must demonstrate how key features will be conserved or enhanced. This includes maintaining local distinctiveness and the setting of protected landscapes, as well as preparing compensation or mitigation if needed.</p>
Policy 31 - Green Infrastructure and Biodiversity	<p>Development will be supported where it can demonstrate that it maintains or enhances the existing network of green infrastructure.</p> <p>Development proposals will be required to contribute to the enhancement of existing biodiversity and should create and manage new habitats where appropriate.</p> <p>Where felling of protected trees is necessary, replacement planting with a suitable species will be required.</p> <p>Particular consideration will be given to the hierarchy of sites and Habitat. Where development is anticipated to have a direct or indirect adverse impact on sites or features for biodiversity, development will be refused</p>

unless it can be demonstrated that:

- The reason for the development clearly outweighs the need to protect the value of the site; and,
- That appropriate mitigation and compensation measures are provided.

Any development with the potential to impact Arun Valley SPA or the Mens SAC will be subject to a HRA to determine the need for an Appropriate Assessment. In addition, development will be required to be in accordance with the necessary mitigation measures for development set out in the HRA of this plan.

3. Methods

3.1 Updated Desk Study

An updated desk study was carried out to identify nature conservation designations and protected and notable habitats and species including invasive non-native species potentially relevant to the well site and Proposed Development.

A stratified approach was taken when defining the desk study area, based on the likely zone of influence of the Proposed Development on different ecological receptors; and, an understanding of the maximum distances typically considered by statutory consultees. Accordingly, the desk study identified any international nature conservation designations within 10 km of the site boundary¹; other statutory nature conservations designations within 2 km of the site boundary; and, local non-statutory nature conservation designations, and protected and notable habitats and species within 1 km of the site boundary.

The desk study was carried out using the data sources detailed in Table 3.1. Protected and notable habitats and species include those listed under Schedules 1, 5 and 8 of the WCA; Schedules 2 and 5 of the Habitats Regulations; species and habitats of principal importance for nature conservation in England listed under section 41 (s41) of the NERC Act; and other species that are Nationally Rare, Nationally Scarce or listed in national or local Red Data Lists and Biodiversity Action Plans.

Table 3.1: Desk Study Data Sources

Data Source	Date	Data Obtained
Multi-Agency Geographic Information for the Countryside (MAGIC) website	March 2018	International statutory designations within 10 km Other statutory designations within 2 km Ancient woodlands and notable habitats within 1 km Higher Level Environmental Stewardship agreements applied to the Site Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints
Sussex Biodiversity Record Centre Data Search	16 th April 2018	Non-statutory designations within 1 km Protected and notable species records within 1 km (records for the last 10 years only)
Ordnance Survey 1:2500 Pathfinder maps and aerial photography	March 2018	Information on habitats and habitat connections (based on aerial photography) relevant to interpretation of planning policy and assessment of potential protected and notable species constraints
Previous ecology surveys and reports for the original planning application	2011/ 12	Information on habitats and protected species relevant to the well site.

3.2 Updated Field Survey

An updated Phase 1 habitat survey was completed by a suitably qualified and experienced AECOM ecologist on 20th March 2018 during suitable weather conditions (overcast, dry, light wind). The survey covered all accessible areas within approximately 20m of the well site boundary to map habitat types, where access permission had been granted in advance of survey or this land was visible from within the site boundary or from public rights of way, or other publicly accessible areas.

¹ The previous ecological assessment only considered a search radius of 2 km for international statutory designated sites; this has been extended to 10 km for the updated assessment due to the potential for air quality impacts.

The standard Phase 1 Habitat Survey methodology (JNCC, 2010) was used to identify and map all habitat types and other associated ecological features present within the identified survey area. Any notable or otherwise relevant ecological features were marked on the map using target notes. Typical and notable plant species were recorded for each habitat type present, where necessary. The Phase 1 Habitat survey is not intended to be a comprehensive inventory of the plant species present, as this is not required for the purposes of habitat survey. The survey also included an assessment of the presence of any invasive, non-native plant species as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), such as Japanese knotweed (*Fallopia japonica*), where identified. Any areas of invasive non-native species found were mapped and target noted.

An updated appraisal was also made of the potential suitability of the habitats to support protected and notable species of plants or animals, including any invasive non-native plants or animals, to determine whether there were any material changes since the previous application was submitted. Field signs, features with potential to support protected species, and evidence of their presence were recorded when encountered, but no detailed surveys were carried out for any particular species.

3.3 Limitations

The aim of a desk study is to help characterise the baseline context of a Proposed Development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitats or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Proposed Development.

The recording of plant species (both native and invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act) was constrained by the time of year that the survey was undertaken. Some of these species are not visible or cannot be reliably mapped outside the growing season (May to September), and some species are only apparent during certain months. Populations of annual plant species may fluctuate markedly between years dependent on the growing conditions present in any given season.

Where habitat boundaries coincide with physical boundaries recorded on OS maps the resolution is as determined by the scale of mapping. Elsewhere, habitat mapping is as estimated in the field and/or recorded by hand-held GPS. Where areas of habitat are given they are approximate and should be verified by measurement on site where required for design or construction.

4. Results

4.1 Nature Conservation Designations

4.1.1 Statutory Designations

Four internationally designated nature conservation sites were identified within the 10 km study area; The Mens Special Area of Conservation (SAC), and the Arun Valley SAC, Special Protection Area (SPA) and Ramsar. The Mens SAC and Arun Valley SAC/SPA/Ramsar have a number of component Sites of Special Scientific Interest (SSSI) with boundaries that are within/overlapping with the European designations, but none were within the 2 km study area for national designations.

There were no nationally designated SSSIs within the 2 km study area.

A summary of the qualifying features for each of the internationally designations, and the relationship of the designation to the Site is provided in Table 5.1.

Table 4.1: Sites with Statutory Designations for Nature Conservation

Designation	Reason(s) for Designation	Relationship to the Site
Internationally Designated Sites within 10 km of Well Site		
The Mens SAC (205.16ha)	An extensive area of mature beech (<i>Fagus sylvatica</i>) woodland rich in lichens, bryophytes, fungi and saproxylic invertebrates, and is one of the largest tracts of Atlantic acidophilous beech forests in the south-eastern part of the habitat's UK range. The SAC supports a population of barbastelle bat (<i>Barbastella barbastellus</i>), which is a qualifying feature but is not a primary reason for the selection of the site as an SAC.	Approx. 6.2 km north-west
Arun Valley SAC (487.48ha)	Supports one of the three main population centres for the Annex II species Ramshorn Snail (<i>Anisus vorticulus</i>) in the UK.	Approx. 6.9 km south-west
Arun Valley Ramsar (530.42ha)	The Arun Valley consists of three component SSSIs. Together these sites comprise an area of wet meadows on the floodplain of the River Arun between Pulborough and Amberley. The neutral wet grassland, which is subject to winter and occasional summer flooding, is dissected by a network of ditches. The site meets Ramsar criteria 2 and 3 for its invertebrate and nationally rare and scarce plant species. The site meets criterion 5 for its internationally important assemblage of wintering waterfowl. Key species for the site include pintail (<i>Anas acuta</i>), wigeon (<i>Anas penelope</i>), teal (<i>Anas crecca</i>), shoveler (<i>Anas clypeata</i>) and ruff (<i>Philomachus pugnax</i>). The site is also important for its assemblage of breeding waders.	Approx. 8.2 km south
Arun Valley SPA (530.42ha)	Designated for its wintering population of Bewick's swan (<i>Cygnus columbianus bewickii</i>), which represents 1.6% of the GB wintering population, as well as its internationally important assemblage of overwintering waterfowl.	Approx. 9.2 km south-west

4.1.2 Non-statutory Designations

Table 4.2 details the non-statutory nature conservations designations identified by the desk study based on the method given in Section 3.1 of this report.

One locally designated Local Wildlife Site (LWS) was identified in the desk study area; Cattlestone Farm LWS. Four areas of ancient woodland listed on the Ancient Woodland Inventory (AWI) were also identified in the desk study area.

Table 4.2: Sites with Non-Statutory Designations for Nature Conservation

Designation (and Size)	Reason(s) for Designation	Relationship to the Well Site
Locally Designated Sites within 1 km of Well Site		
Cattlestone Farm LWS (9.8ha)	Unimproved grassland meadows and pastures that are traditionally managed.	Approx. 1.9 km south-east
Ancient Woodland Inventory Sites within 1 km of Well Site		
Gatewick Copse	Ancient and semi-natural woodland	Approx. 195 m south
Prince's Wood	Ancient and semi-natural woodland	Approx. 200 m east
Steepwood Rough	Ancient and semi-natural woodland	Approx. 950 m north-west
Beedings Copse	Ancient and semi-natural woodland	Approx. 980 m west

4.2 Habitats

4.2.1 Phase 1 Habitat Types

The Phase 1 Habitat Survey undertaken on 20th March 2018 recorded a comparable suite of habitats to those present in September 2011, when the Phase 1 Habitat survey for the original application for the construction of the well site was undertaken.

Other than the loss of around 2 ha area of pasture field as a result of the construction of the well site and access track, the ecological baseline remains unchanged from that reported in the initial Phase 1 habitat survey in 2011 (reported in URS, 2012a). The well site is located within a pasture field and comprises mostly hard standing with a topsoil storage bund along the eastern boundary. The well site is surrounded by a steel security fence.

A short section of mature hedgerow (approximately 8 m) along the roadside boundary with Adversane Lane had been removed when the well site was constructed in 2013 to create an access track to the well site. This had not resulted in any impacts on the overall structure of the hedgerow, which other than the short section removed, remained as previously reported.

Table 4.3 below provides a summary of the habitats recorded on site in the 2011 and 2018 habitat surveys, allowing comparison of the current and previous habitat baselines for clarity. Further details on the habitats recorded are provided in the text below. The Phase 1 Habitat plan illustrating their location and extent is included as Figure 2. Photographs referenced in the text are included in Appendix B.

The surrounding land use has not changed in the intervening period since the 2011 habitat survey was undertaken in 2011, remaining in agricultural use. The woodland copses to the north, east and south have also remained unchanged.

Table 4.3: Summary of Updated Phase 1 Habitat Survey

Phase 1 Habitat Type	Brief Description 2011 ²³	Brief Description from Updated Survey in 2018
Hard standing	Not present	All areas within the well site operational boundary comprise hard-standing (stone overlaid on an impermeable geo-synthetic clay liner). The well site is surrounded by a steel palisade fence. The access track comprises crushed stone (Appendix B, Photograph 1).
Spoil heap	Not present	The topsoil removed from the well site has been stored in a bund along the eastern boundary of the well site.
Improved grassland	The Application Site is predominantly improved grassland containing dominant species of perennial rye-grass (<i>Lolium perenne</i>), and annual meadow grass (<i>Poa annua</i>) with common chickweed (<i>Stellaria media</i>), spear thistle (<i>Cirsium vulgare</i>), prickly sow-thistle (<i>Sonchus asper</i>), common nettle (<i>Urtica dioica</i>), dandelion (<i>Taraxacum officinale</i> aggregate), white clover (<i>Trifolium repens</i>) and scarlet pimpernel (<i>Anagallis arvensis</i>).	Improved grassland habitat is no longer present within the well site boundary, having been replaced with hardstanding on the well pad. The surrounding landscape remains dominated by improved grassland fields, likely used for grazing (Appendix B, Photograph 6). The grassland is dominated perennial rye-grass bent (<i>Agrostis</i> sp.) and meadow grass species (<i>Poa</i> sp.). Herbaceous plants were limited and included white clover, creeping buttercup (<i>Ranunculus repens</i>), broad-leaved dock (<i>Rumex obtusifolius</i>) and redshank (<i>Persicaria maculosa</i>).
Arable	A large arable field was recorded north-east of Pocock's Wood.	The wider site boundary included three areas of arable planting in addition to the field north-east of Pocock's Wood. One was a large, ploughed field in the north-west corner. The second was a large area of planting on the western boundary, presumed to be cover crop for game birds (this was also accompanied by feeders). A smaller area of similar planting was present along a field margin perpendicular to the western boundary of Pocock's Wood.
Broad-leaved woodland	Pocock's Wood is directly adjacent to the north of the Application Site and consists of semi-natural broad-leaved woodland. Prince's Wood is situated over 50m to the east and south-east and is designated ancient woodland. Species recorded within Pocock's Wood and Prince's Wood included beech (<i>Fagus sylvatica</i>), pedunculate oak (<i>Quercus robur</i>), hazel (<i>Corylus avellana</i>), holly (<i>Ilex aquifolium</i>), hawthorn (<i>Crataegus monogyna</i>), field maple (<i>Acer campestre</i>), buckthorn (<i>Rhamnus cathartica</i>), blackthorn (<i>Prunus spinosa</i>) and wild service tree (<i>Sorbus torminalis</i>).	The woodland habitat associated with Pocock's Wood and Prince's Wood remained as previously reported. These two woodland areas form part of a larger network of woodland copses, tree lines and hedgerows throughout the wider landscape (Appendix B, Photographs 5 and 8). Both woods contained a good number of woodland ground flora species, potentially due to the coppiced hazel understorey and general lack of encroachment by bramble (<i>Rubus fruticosus</i> aggregate) or nettle. Woodland ground flora species recorded included: primrose (<i>Primula vulgaris</i>), lords-and-ladies (<i>Arum maculatum</i>) and dog's mercury (<i>Mercurialis perennis</i>).

² From URS, 2012 URS (2012a) Broadford Bridge-1 Exploratory Well Site – Environmental Statement Chapter 7: Ecology..

³ URS (2012b) Memorandum: Broadford Bridge (aka Woodbarn Farm and Willow-1 – Ecology Addendum: updated timings of works, ecology survey results and recommendations.

Phase 1 Habitat Type	Brief Description 2011 ²³	Brief Description from Updated Survey in 2018
Standing water	<p>All waterbodies within 500m were assessed using the Habitat Suitability Index (HSI) assessment method to determine their suitability for breeding GCN.</p> <p>One pond approximately 130m to the south of the well site (referred to as WB2) was identified as suitable (HSI score of 0.69 (Average suitability)) and was subsequently surveyed for the species. All other ponds were scoped out for GCN on the basis that they were highly seasonal and unable to support breeding GCN.</p>	<p>WB1 is a pond approximately 130 m to the north-west of the well site (Appendix B, Photograph 3).</p> <p>WB2 is a pond approximately 130 m to the south of the well site (Appendix B, Photograph 4).</p> <p>No change in the habitat of these pond or their surroundings within 500m other than the installation of the well site and its access track..</p>
Intact species-poor hedgerow and trees	<p>A blackthorn hedgerow is located between Pocock's Wood and the proposed access route into the Application Site from the north-east field boundary. This hedgerow is species-poor and defunct, and heavily grazed by cattle.</p>	<p>The access track runs alongside (and to the south of) this field boundary hedgerow. There have been no changes to the hedgerow since the last survey was undertaken.</p>
Species-rich hedgerow and trees	<p>The hedgerow alongside the road and the proposed access track to the north-east is predominantly bramble and blackthorn, and contains mature standard oak trees. The hedgerow is species-rich.</p>	<p>A short section of this hedgerow was removed to create the site access (approximately 8 m). However, this has not result in any material changes to the species-composition or structure of the hedgerow and its mature standard trees (Appendix B, Photograph 2).</p>
Scattered trees	<p>Two large mature oak trees were present between Pocock's Wood and Prince's Wood.</p>	<p>These oak trees remain present and have not been affected by the construction of the site access track which had been routed to avoid impacting upon them.</p>

4.2.2 Invasive Non-native Plants

The desk study returned records of Japanese knotweed (*Fallopia japonica*) and Indian balsam (*Impatiens glandulifera*) within the desk study area.

However, no invasive non-native plant species (as listed on Schedule 9 of the Wildlife and Countryside Act 1981) or as species of EU concern (EU IAS Regulation (2014)) were recorded within the field survey area, and this is consistent with the findings of the 2011 survey.

4.3 Protected and Notable Species

A summary of the potential protected species constraints identified is provided below and a summary is provided in Table 3.4, along with a summary of the previously reported constraints from the 2011 survey for ease of comparison.

The well site itself does not support any habitats that are suitable for protected species because it is entirely hard standing.

4.3.1 Great Crested Newt

There is no suitable habitat for GCN within the Proposed Development boundary.

The ponds previously assessed for GCN remain present but the fields surrounding the well site are of low suitability for foraging GCN because the grassland is grazed short by cattle. The high-quality habitats provided by the woodland copses and the connecting hedgerows have not been affected by the construction of the well site, and there has been no severance or fragmentation of habitat connectivity between the existing ponds in the area and high quality terrestrial habitat.

4.3.2 Bats

There is no suitable habitat for foraging/commuting or roosting bats within the Proposed Development boundary.

The updated desk study returned several records of bats within the study area; whiskered bat (*Myotis mystacinus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bat (*Plecotus auritus*).

The desk study results are consistent with the findings of the bat surveys undertaken by URS in 2011 for the original planning application, which recorded low/moderate activity by a near identical suite of bat species in the habitats surrounding the (then proposed) well site. Given that the habitats surrounding the well site have not changed in the intervening period since the bat survey was undertaken, it is reasonable to assume that similar levels of foraging/ commuting activity by these species has continued to occur in these habitats.

One mature tree approximately 200 m north of the well site (north of Pocock's Wood) was identified as having low/moderate bat roost potential in 2011. This tree remains present although is scoped out from further survey to support the Proposed Development because it is separated from the well site by the woodland, and thus there are no pathways by which the tree (and potential bat roost) could be affected by noise/ visual disturbance.

4.3.3 Reptiles

There is no suitable habitat for reptiles within the Proposed Development boundary.

The updated desk study returned no records of reptiles within the desk study area. Limited habitat for reptiles is available across the survey area, given the closely grazed and mown character of the improved grassland. The most suitable areas for reptiles were the woodland edge areas and hedgerow areas which contain the transitional habitat areas (from dense scrub and shrub for sheltering to more open grass mosaic areas for basking and foraging) required by reptiles. The ditches within Pocock's Wood and the two ponds identified within 250m of the well site may be suitable for foraging grass snake (*Natrix helvetica*). However, these habitats were not affected by the

construction of the well site, and a survey for reptiles was therefore not considered necessary to support the original planning application. These areas will also remain unaffected by the Proposed Development. On this basis no further consideration is given to reptiles in this updated appraisal.

4.3.4 Breeding birds

There is no suitable nesting habitat for birds within the Proposed Development boundary.

The woodland, hedgerows and open arable fields surrounding the well site could support a diverse assemblage of breeding birds, including ground nesting species and an assemblage of species of conservation importance associated with agricultural farmland. However, given the limited footprint of the well site, no specific breeding bird surveys were undertaken to support the original planning application. These habitats have not been impacted by the construction of the well site, and will similarly remain unaffected by the Proposed Development.

4.3.5 Schedule 1 Breeding Birds

There is no suitable nesting habitat for Schedule 1 birds within the Proposed Development boundary.

The updated desk study returned records of red kite (*Milvus milvus*), hobby (*Falco subbuteo*), barn owl (*Tyto alba*) and nightingale (*Luscinia megarhynchos*). These species may nest in nearby woodland.

4.3.6 Hazel Dormouse

There is no suitable habitat for hazel dormouse within the Proposed Development boundary.

Although habitat adjacent to the well site is potentially suitable for dormouse due to the presence of hazel coppice woodland and hedgerows, no dormouse were found during previous surveys in 2012. The habitats surrounding the well site have not changed since the 2012 survey was undertaken, and given the lack of desk study records there is no reason to suspect that dormouse is likely to have colonised the site in the intervening years. Regardless of this, the Proposed Development will not result in any impacts on woodland or hedgerow habitats that may support hazel dormouse. On this basis no further consideration is given to hazel dormouse in this updated appraisal.

4.3.7 Badger

In accordance with industry best practice, information pertaining to badgers is kept out of the public domain to reduce the risk of illegal persecution to badgers and their setts.

See Confidential Appendix C.

4.3.8 Other Notable Species

The updated desk study returned records of the NERC S41 species hedgehog (*Erinaceus europaeus*) within the 1 km study area. There is no suitable habitat for this species within the Proposed Development boundary and it is therefore not considered further in this updated appraisal.

The updated desk study also returned a number of records of notable terrestrial invertebrate species within the desk study area including purple emperor (*Apatura iris*), dingy skipper (*Erynnis tages*), grizzled skipper (*Pyrgus malvae*), shaded broad-bar moth (*Scotopteryx chenopodiata*) and cinnabar moth (*Tyria jacobaeae*). There is no suitable habitat for these butterfly and moth species within the Proposed Development boundary and therefore they are not considered further in this updated appraisal.

Table 4.4. Summary of Updated Protected and Notable Species Appraisal

Species	Site Appraisal 2011⁴	Updated Site Appraisal March 2018
GCN	Grazed pasture within proposed development boundary was evaluated to be of negligible suitability for foraging and dispersing GCN. Small population of GCN present in one pond 130 m to the south; all other ponds within 500m scoped out of further survey on the basis of habitat unsuitability.	No suitable habitat within well site boundary. Surrounding woodland and hedgerows provide habitat for GCN foraging, dispersal and refuge/ hibernation.
Bats (foraging/ commuting)	No suitable habitat within proposed well site boundary. Low/ moderate bat activity (common species) in woodland edge habitat and hedgerows in the surrounding area.	No suitable habitat within well site boundary. Surrounding habitat remains unchanged from that previously reported and therefore is considered likely to support the same level of bat activity by the same species.
Bats (roosting)	No suitable habitat within proposed well site boundary. One mature tree in Pocock's Wood identified as low/ moderate bat roost potential.	No suitable habitat within well site boundary. Previously identified tree was not re-assessed for bat roost potential, but will not be affected.
Reptiles	Not identified as a potential constraint.	No suitable habitat within well site boundary. Surrounding cattle-grazed pasture is of negligible suitability. Drains and pond in Pocock's Wood, and pond to the south of the site may be suitable for grass snake.
Breeding birds	Application Site was appraised to be of limited value to nesting birds due to it being predominately improved grassland. Surrounding woodland likely to support a good assemblage of nesting woodland species.	No suitable habitat within site boundary. Arable habitat in the wider local area is suitable for ground nesting species, with breeding success likely to be dependent upon the agricultural regime in a particular season. Nesting birds may also be present in the surrounding woodlands and hedgerow.
Schedule 1 Species: red kite	Not identified as a potential constraint.	Not present within site boundary although may be present in woodland in the wider local area.
Schedule 1 Species: hobby	Not identified as a potential constraint.	Not present within site boundary although may be present in woodland in the wider local area.
Schedule 1 Species: barn owl	Not identified as a potential constraint.	Not present within site boundary although may be present in woodland in the wider local area. May hunt over adjacent arable and pasture fields.
Schedule 1 Species: nightingale	Not identified as a potential constraint.	Not present within site boundary although may be present in woodland in the wider local area.
Hazel	Not present within proposed well site	Not present within site boundary.

⁴ From URS, 2012a

Species	Site Appraisal 2011 ⁴	Updated Site Appraisal March 2018
dormouse	boundary or surrounding habitats.	
Badger	See Appendix C.	See Appendix C.

4.4 Evaluation

The baseline habitat and species conditions associated with the well site remain broadly as described and assessed in the 2012 report (URS, 2012a), but the site itself has reduced in biodiversity value following construction of the consented Broadford Bridge well site in 2014.

There are no habitats within the Proposed Development boundary that are suitable to support any protected or notable species. No further species-specific surveys are therefore considered necessary to accompany the application for an extension of time for retention of the well site, and the nature conservation value of the well site is assessed as negligible.

Consideration of the potential for indirect effects on protected and notable species in habitats within the zone of influence of the Proposed Development are considered in the ecological impact assessment section of this report (Section 5).

5. Potential Effects on Flora and Fauna

5.1 Summary of Potential Effects

The application seeks planning permission for retention of the well site and a continuation of existing consented operations for a further 18 months. There will be no changes in the footprint of the well site, or the extent and nature of consented operations, and therefore the potential for any additional pathways for impacts on protected or notable habitats and species is negligible.

No additional protected species constraints were identified in updated Phase 1 Habitat survey. However, for completeness, potential impacts have been re-examined and the assessment updated as appropriate to demonstrate that a robust consideration of all potential source-receptor pathways has been completed for relevant ecological features.

5.2 The Mens SAC and Arun Valley SAC/ SPA/ Ramsar

The Proposed Development will not result in any direct or indirect impacts on The Mens SAC.

The original ecological assessment limited the desk study area to 2 km, and therefore did not consider potential effects on The Mens SAC. However the updated appraisal considered a search radius of 10 km for any European sites, primarily due to the potential sensitivity of such sites to indirect effects from air quality impacts, and the larger zone of influence over which changes in air quality can occur. This extension included The Mens SAC; however, the Proposed Development will not give rise to any material emissions to air over and above what is currently consented for the well site. There is therefore no pathway by which the Proposed Development could impact upon on The Mens SAC as a result of changes in air quality. Similarly, there is no potential for the Proposed Development to impact upon on the Arun Valley SAC/ SPA/ Ramsar sites.

Potential pathways for impacts on The Mens SAC and the Arun Valley SAC/ SPA/ Ramsar sites as a result in changes in hydrology and surface water quality have also been scoped out on the basis of the distance between the designated sites and the well site (all these designated sites are in excess of 6 km from the well site).

Given that there are no pathways by which the Proposed Development could impact upon the European designated sites within 10 km of the well site, a Habitats Regulations Assessment (HRA) is not required.

5.3 Non-statutory Sites

5.3.1 Ancient Woodlands

The nearest non-statutory designated sites are the AWI sites at Gatewick Copse and Prince's Wood, which are approximately 195 m south and 200 m east of the well site respectively. The Proposed Development will not result in any material changes in emissions to air from those currently consented, and therefore there is no pathway by which the Proposed Development could give rise to adverse effects on the ancient and semi-natural woodland habitat as a result of changes in air quality.

The well site is underlain by an impermeable membrane that captures and contains surface water run-off. There is therefore no potential, under normal operational usage, for surface water pollution to habitats outside the well site boundary including the nearby areas of ancient woodland.

5.3.2 Cattlestone Farm LWS

The meadows and pastures of the Cattlestone Farm LWS are approximately 1.9 km south-east of the well site. At this distance, it is reasonable to conclude that there will be no source-receptor pathways by which the Proposed Development could give rise to any adverse effects on the designated habitats.

5.4 Habitats

The Phase 1 Habitat survey confirmed that there were no changes in the baseline ecological environment that could result in material changes to the conclusions of the assessments previously undertaken. However, the Proposed Development will in any case not result in any adverse effects on habitats through habitat loss, because the footprint of the existing operational well site will not change. As discussed above in respect of GCN and bats, there is no potential for the Proposed Development to give rise to any impacts to habitats beyond the well site boundary through surface water pollution or nocturnal lighting disturbance pathways.

It is therefore also reasonable to conclude that there will be no disturbance to nocturnal foraging mammals such as badgers, bats and owls in habitats beyond the well site boundary, as a result of nocturnal lighting of the well site.

5.5 Great Crested Newts

There is no potential for the Proposed Development to give rise to direct impacts on individual great crested newts. This is because there is no suitable habitat for this species within the well site boundary, which contains only hardstanding and temporary portacabins.

The construction of the well site has not resulted in any impacts on high quality GCN terrestrial foraging, dispersal or hibernation habitat associated with the woodlands and hedgerow surrounding the well site. There has been no fragmentation or isolation of breeding ponds. The Proposed Development will similarly not impact on any habitat that may be used by foraging, dispersing or hibernating newts, because the existing footprint will not change.

There is no potential for any surface water pollution to the ponds, because the well pad is underlain with an impermeable membrane and all site surface water drainage is contained and collected within the operational area. There is therefore no reasonable risk of polluted surface water entering ponds and causing damage to breeding habitats.

Further survey work in respect of GCN is not considered necessary because there is no potential for the Proposed Development to adversely affect this species.

5.6 Bats

The Proposed Development will not result in any changes to the existing consented nocturnal lighting of the well site.

Any bats foraging/ commuting through the surrounding habitat do so in the context of the presence of the existing well site, to which it is assumed they are habituated. Even if bats chose to avoid habitats immediately surrounding the well site, there is a large amount of undisturbed habitat in the wider local area to which the bats have access for foraging. Therefore, even if there were disturbance effects, any disruption to bats foraging in the vicinity of the wellsite would not be expected to result in significant adverse effects on local bat populations or their local conservation status.

The potential for disturbance to bat roosts as a result of the construction and operation of the consented well site were examined as part of the original application and found to be not significant. There will be no changes to the consented activities on the well site for the Proposed Development, and therefore the outcome of the previous assessment remains valid.

Further survey work in respect of bats is unnecessary because there is no potential for the Proposed Development to adversely affect bats.

5.7 Breeding Birds

The Proposed Development will not result in any impacts on nesting birds, because there is no suitable habitat within the operational area of the well site. Any birds nesting in the woodland surrounding the well site (including Schedule 1 species that the desk study indicated are present within 1 km of the site (red kite, barn owl, hobby and nightingale)), or foraging in habitats surrounding the well site, do so in the context of the current operational well site. The Proposed Development will

not change the baseline environment in terms of noise or visual impacts, and therefore it is reasonable to conclude that a continuation of consented operations would not adversely affect nesting (or foraging) birds.

Further survey work in respect of nesting birds is unnecessary because there is no potential for the Proposed Development to adversely affect nesting birds.

5.8 Badger

See confidential Appendix C.

6. Mitigation and Enhancement

6.1 Embedded Mitigation

6.1.1 Well Integrity

Well integrity is managed mainly by the Health and Safety Executive (HSE), through review of the well design and construction, and then through the Environment Agency via a submission under the Water Resources Act 1991 Section 199. These processes ensure best practice in terms of well integrity and protection of aquifers through the drilling of a borehole. During borehole drilling, cement bond logging and Formation Integrity Testing provide documented evidence that the borehole is constructed and sealed appropriately. If required, monitoring of groundwaters through the installation of groundwater monitoring boreholes would be under the remit of any issued environmental permit, regulated by the Environment Agency.

6.1.2 Surface Water Drainage

As discussed above in the impact assessment, there is embedded mitigation in the drainage design to collect and contain surface water run-off within the well site, due to the impermeable membrane that is beneath the well pad.

6.2 Habitat and Protected Species Mitigation

Mitigation for the original construction of the Broadford Bridge well site was limited to the avoidance of the removal of hedgerows or trees within the nesting bird season (or a check for nesting birds prior to commencement of works), as set out in Condition 10. Given that the well site has already been constructed, this condition is not applicable to the Proposed Development.

The Proposed Development will not result in any significant effects on ecological receptors, and therefore no ecology mitigation is required.

6.3 Biodiversity Enhancement

A restoration plan for the well site was prepared by Terrafirma in 2013 and agreed with West Sussex County Council, and remains applicable to the Proposed Development; drawing reference 1377-3001 '*Wood Barn Farm Broadford Bridge – Landscape Proposals*'. The restoration plan will deliver habitat enhancement through the infilling of hedgerow gaps along the north side of the access track. Native tree and shrub species have been included in the landscape plan to provide nesting habitat for birds, and a winter berry food source for wintering birds.

The improvements to the hedgerow structure will also enhance its value to foraging and commuting bats, once the hedgerow has successfully established. The hedgerow will be infilled with specimens of field maple (*Acer campestre*), hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), beech (*Fagus sylvatica*), holly (*Ilex aquifolium*), privet (*Ligustrum vulgare*) and dog-rose (*Rosa canina*).

The following additional habitat enhancements are also proposed that are considered proportionate to the scale of the Proposed Development and that it will not result in any adverse effects on ecological features:

- Installation of five bird nest boxes on mature trees in surrounding woodland (subject to landowner consent); and
- Installation of five bat boxes on mature trees in surrounding woodland (subject to landowner consent).

7. Assessment of Residual Effects

The previous assessment completed for the construction of the Broadford Bridge well site did not predict any residual adverse effects on ecology and nature conservation receptors. The updated residual effects assessment similarly concludes that the Proposed Development will result in no residual adverse effects on ecology.

8. References

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Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal, 10(4), 143-155.

URS (2012a) *Broadford Bridge-1 Exploratory Well Site – Environmental Statement Chapter 7: Ecology*. Prepared by URS (now AECOM) for Barton Willmore on behalf of Celtique Energie Weald Limited.

URS (2012b) *Memorandum: Broadford Bridge (aka Woodbarn Farm and Willow-1 – Ecology Addendum: updated timings of works, ecology survey results and recommendations*. Prepared by URS (now AECOM) for Barton Willmore on behalf of Celtique Energie Weald Limited.

URS (2013) *Memorandum: Woodbarn Farm (Previously Broadford Bridge and Willow-1) Great Crested Newt Grassland Management Plan*. Prepared by URS (now AECOM) on behalf of Celtique Energie Weald Limited.

Appendix A Wildlife Legislation and Planning Policy

The Conservation of Habitats & Species Regulations 2017 (as amended)

The Habitats Regulations consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations came into force on 30th October 1994. In Scotland the Habitats Directive is transposed through a combination of the Habitats Regulations 2017 (in relation to reserved matters) and the 1994 Regulations. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland. Various amendments over this period were consolidated when the 2017 Regulations were adopted.

The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

Under the Regulations, competent authorities i.e. any Minister, Government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the EC Habitats Directive.

The Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species (listed in Annexes I and II of the Habitats Directive respectively) to the European Commission. Once the Commission and EU Member States have agreed that the sites submitted are worthy of designation, they are identified as Sites of Community Importance (SCIs). The EU Member States must then designate these sites as Special Areas of Conservation (SACs) within six years. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs) classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites form a network termed Natura 2000.

The Regulations enable the country agencies to enter into management agreements on land within or adjacent to a European site, in order to secure its conservation. If the agency is unable to conclude such an agreement, or if an agreement is breached, it may acquire the interest in the land compulsorily. The agency may also use its powers to make byelaws to protect European sites. The Regulations also provide for the control of potentially damaging operations, whereby consent from the country agency may only be granted once it has been shown through Appropriate Assessment that the proposed operation will not adversely affect the integrity of the site. When considering potentially damaging operations, the country agencies apply the precautionary principle' i.e. consent cannot be given unless it is ascertained that there will be no adverse effect on the integrity of the site.

In instances where damage could occur, the appropriate Minister may, if necessary, make special nature conservation orders, prohibiting any person from carrying out the operation. However, an operation may proceed where it is or forms part of a plan or project with no alternative solutions, which must be carried out for reasons of overriding public interest. In such instances the Secretary of State must secure compensation to ensure the overall integrity of the Natura 2000 system. The country agencies are required to review consents previously granted under the Wildlife and Countryside Act 1981 for land within a European site, and may modify or withdraw those that are incompatible with the conservation objectives of the site.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Regulations make special provisions for the protection of European marine sites, requiring the country agencies to advise other authorities of the conservation objectives for a site, and also of the operations which may affect its integrity. The Regulations also enable the establishment of management schemes and byelaws by the relevant authorities and country agencies respectively, for the management and protection of European marine sites.

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 is the major domestic legal instrument for wildlife protection in the UK, and is the primary means by which the following are implemented:

- The Convention on the Conservation of European Wildlife and Natural Habitats ('the Bern Convention'); and
- The Council Directive 79/409/EEC on the Conservation of Wild birds (the 'Bird Directive')

Wild Birds

The Act makes it an offence (with exception to species listed in Schedule 2) to intentionally:

- kill, injure, or take any wild bird,
- take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006), or
- take or destroy an egg of any wild bird.

Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate Areas of Special Protection (subject to exceptions) to provide further protection to birds. The Act also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.

Other Animals

The Act makes it an offence (subject to exceptions) to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Flora, Fungi and Lichens

The Act makes it an offence (subject to exceptions) to intentionally pick, uproot or destroy:

- any wild plant listed in Schedule 8, or
- unless an authorised person, to intentionally uproot any wild plant not included in Schedule 8,
- to sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Non-native Species

The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

Countryside and Rights of Way (CRoW) Act 2000

The Countryside and Rights of Way Act 2000 applies to England and Wales only. Part III of the Act deals specifically with wildlife protection and nature conservation.

The Act places a duty on Government Departments and the National Assembly for Wales to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

Schedule 9 of the Act amends the SSSI provisions of the Wildlife and Countryside Act 1981, including increased powers for their protection and management of SSSIs. The provisions extend powers for entering into management agreements; place a duty on public bodies to further the conservation and enhancement of SSSIs; increase penalties on conviction where the provisions are breached; and include an offence whereby third parties can be convicted for damaging SSSIs.

Schedule 12 of the Act amends the species provisions of the Wildlife and Countryside Act 1981, strengthening the legal protection for threatened species. The provisions make certain offences 'arrestable', include an offence

of reckless disturbance, confer greater powers to police and wildlife inspectors for entering premises and obtaining wildlife tissue samples for DNA analysis, and enable heavier penalties on conviction of wildlife offences.

Natural Environment and Rural Communities (NERC) Act 2006

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act required the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list was drawn up in consultation with Natural England, as required by the Act.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the (now withdrawn) UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and subtidal sands and gravels.

There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the (now withdrawn) UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. In addition, the hen harrier has also been included on the list because without continued conservation action it is unlikely that the hen harrier population will increase from its current very low levels in England.

Protection of Badgers Act 1992

Badgers and their setts (burrows) are protected under the Act. This makes it an offence to kill or take a badger, to cruelly ill-treat a badger, or to interfere with a badger sett, including disturbing a badger while it is occupying a sett.

Licences to permit otherwise prohibited actions can be granted under section 10 of the Act for various purposes. This includes licences to interfere with a badger sett for the purpose of development as defined by section 55(1) of the Town and Country Planning Act 1990.

Licences may be granted in order to close down setts, or parts of setts, prior to development or to permit activities close to a badger sett that might result in disturbance. A licence will be required if a sett is likely to be damaged or destroyed in the course of development or if the badger(s) occupying the sett will be disturbed.

Licences can be applied for at any time, but a licence for development will not normally be issued unless full planning permission has been granted. The closure of setts under licence is normally only permitted during July to November, inclusive.

The Hedgerow Regulations 1997

The intention of the Act is to protect important countryside hedges from destruction or damage. The Act does not apply where planning permission has been granted. There are various other exemptions under the Act, including:

- To make a new opening in substitution for an existing one that gives access to land. For example, a gate. However, the old opening must be filled in within 8 months;
- To obtain access to land where other means are not available or are only available at disproportionate cost;
- For the proper management of the hedgerow. This means real management, such as coppicing. But if the hedgerow is deliberately 'over-managed' this might qualify as removal.

If the proposed works are not exempt or subject to a current planning permission then the landowner must serve a Hedgerow Removal Notice in writing on their local planning authority. The authority then has 42 days (which period can be extended if the applicant agrees) to determine whether or not the hedge is considered 'important' under the regulations, and if so, whether or not to issue a Hedgerow Retention Notice. The local authority does not have to issue a Retention Notice, even if the hedgerow counts as important. If they do not issue a notice for an important hedge this is often on condition that certain things are done, e.g. reinstatement or replanting to a certain standard, or creation of an equivalent boundary elsewhere.

National Planning Policy Framework

The NPPF came into being in March 2012, relevant sections are as follows:

Section 11 of the NPPF relates specifically to “Conserving and Enhancing the Natural Environment”. Paragraph 109 states that “*The planning system should contribute and enhance the natural and local environment by:*

- *Protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *Recognising the wider benefits of ecosystem services;*
- *Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and*
- *Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”*

Paragraph 113 states that “Local Planning Authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks”. Referenced here is ODPM Circular 06/2005, which provides further guidance re the hierarchical approach and the Circular remains extant in its entirety within the NPPF.

Paragraph 118 states that “*When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:*

- *if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site’s notified special interest is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;*
- *development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;*
- *opportunities to incorporate biodiversity in and around developments should be encouraged;*
- *planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and*
- *the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas and possible Special Areas of Conservation; listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.”*

Paragraph 119 states “*The presumption in favour of sustainable development (paragraph 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directive is being considered, planned or determined”.*

Appendix B Site Photographs



Photograph 1: Access track and Hedgerow 1 looking towards Adversane Lane



Photograph 2: Hedgerow 2 along Adversane Lane viewed from within fields



Photograph 3: Pond WB1 viewed from the south



Photograph 4: Pond WB2 with surrounding trees



Photograph 5: Within Pocock's Wood showing coppiced Hazel trees



Photograph 6: Within pasture fields looking to Well Site from the east.



Photograph 7: Access track heading towards Well Site

Photograph 8: Looking into Princes Wood

Appendix C Badgers

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Figure 1 Site Location Plan

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LEGEND

- Proposed Site
- Wider Site Boundary



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Client: ZETLAND GROUP PLC

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Drawing Title: SITE LOCATION PLAN

Drawn: VC	Chk'd: MRW	App'd: MW	Date: 01/06/2018
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Figure 2 Statutory and Non-statutory Designations Plan

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- LEGEND**
- Red Line Boundary
 - Wider Site Boundary
 - 2km Buffer Zone
 - 10km Buffer Zone
 - Ramsar
 - Site of Nature Conservation Importance (SNCI)
 - Special Protection Area (SPA)
 - Site of Special Scientific Interest (SSSI)
 - Ancient & Semi-Natural Woodland
 - Ancient Replanted Woodland
 - Special Area of Conservation (SAC)

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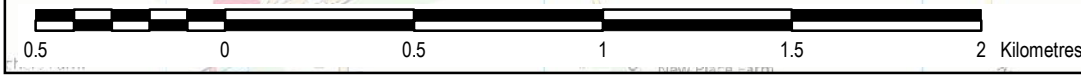
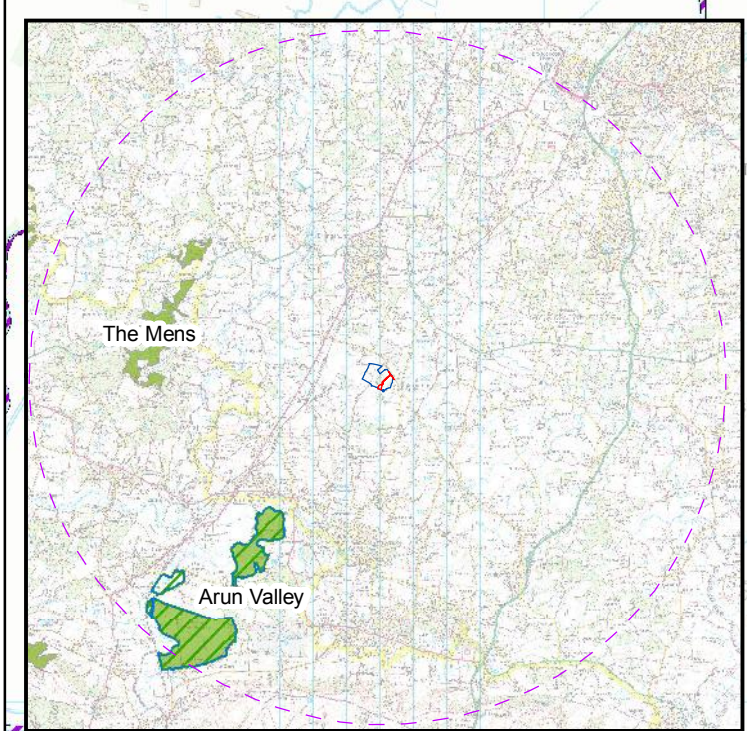
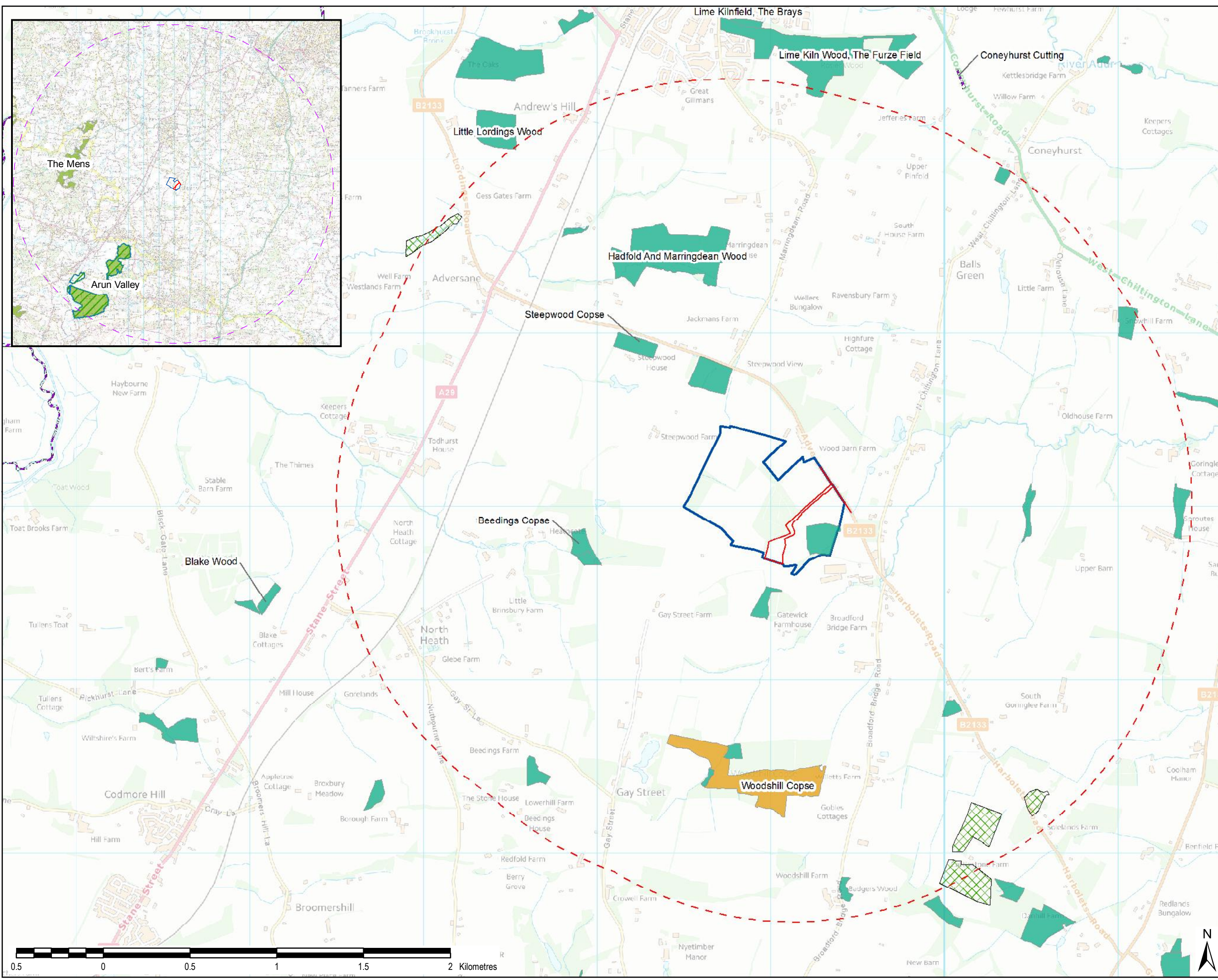
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Figure 3 Phase 1 Habitat Map

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LEGEND

- Proposed Site
- Wider Site Boundary
- Phase 1 Habitat
- Individual Broad-leaved Tree
- Defunct Hedge - Species-poor
- Dry Ditch
- Earth Bank
- W Hedge With Trees - Native Species-rich
- H Hedge With Trees - Species-poor
- Intact Hedge - Species-poor
- Broadleaved Woodland - Semi-natural
- Buildings
- A Cultivated/ Disturbed Land - Arable
- Hard Standing
- I Improved Grassland
- Marsh/ Marshy Grassland
- Other Tall Herb and Fern - Ruderal
- Running Water
- Standing Water

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Drawing Title:
PHASE 1 HABITAT MAP

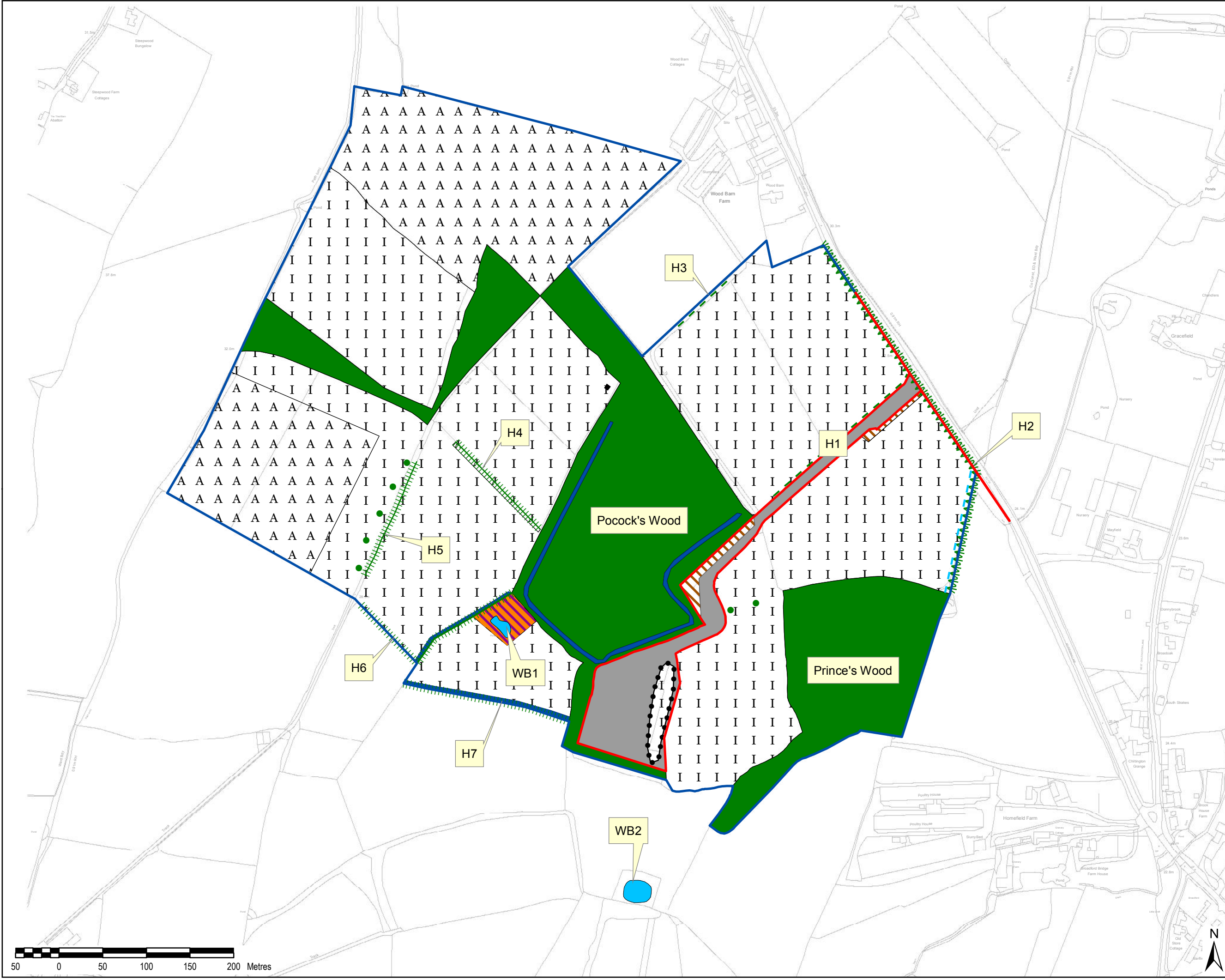
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