

Delivering Land at Webheath | *Redditch Borough*

August 2011



**BARTON
WILLMORE**
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environmental planning

**COOPER
PARTNERSHIP**


BARRATT
HOMES

**Taylor
Wimpey**

Barton Willmore LLP
Regent House
Prince's Gate
4 Homer Road
Solihull
B91 3QQ

Tel: 0121 711 5151 Ref: 12917/A5/KV
Fax: 0121 711 5152 Date: August 2011
Email: kathryn.ventham@bartonwillmore.co.uk

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1. Introduction

This Delivery Document has been prepared specifically to demonstrate that land at Webheath is a suitable, available, achievable and ultimately deliverable site in the context of the emerging Redditch Core Strategy. This document summarises all technical work undertaken to date and sets out the vision and concept proposals for the site which are to be taken forward as the masterplan evolves following consultation and engagement. The document will act as a briefing document for the assembly of a planning application that allows for the logical development of the site in the future.

Our Vision

1.1 Land at Webheath will create an inclusive, balanced, sustainable and social environment. Our guiding principles are to:

- Create a high quality environment which works with the environmental characteristics of the site.
- Achieves quality in layout, built form, public realm, landscape and green space settings.
- Provide a wide range of wide range of house types in terms of size, type and tenure.
- Provision of a small retail outlet or community facility, the composition of which will be subject to further discussion with residents.
- To enhance the established ecological and woodland features of the site including water courses and trees.
- To enhance the open spaces on site to protect against any visual impact.

Location and Site Description

1.2 Land at Webheath totals 12.85 hectares and currently forms part of the wider Webheath ADR, totalling 28 hectares. Barratt and Taylor Wimpey have historically promoted the Webheath ADR in its entirety, however it is now felt that this revised smaller site area forms a more deliverable site and for this reason, the extent of land promoted for development is reduced to that contained within this document. The site is located on the western edge of Redditch and extends from Church Road to the east to the administrative boundary with Bromsgrove District to the west. To the north, the site is bounded by Pumphouse Lane, beyond which is a modern housing development, completed by David Wilson Estates and Taylor Woodrow Developments Ltd. The southern boundary of the site adjoins an existing watercourse and woodland area, beyond which are open fields which adjoining the rear boundaries of residential properties which front Crumpfields Lane.

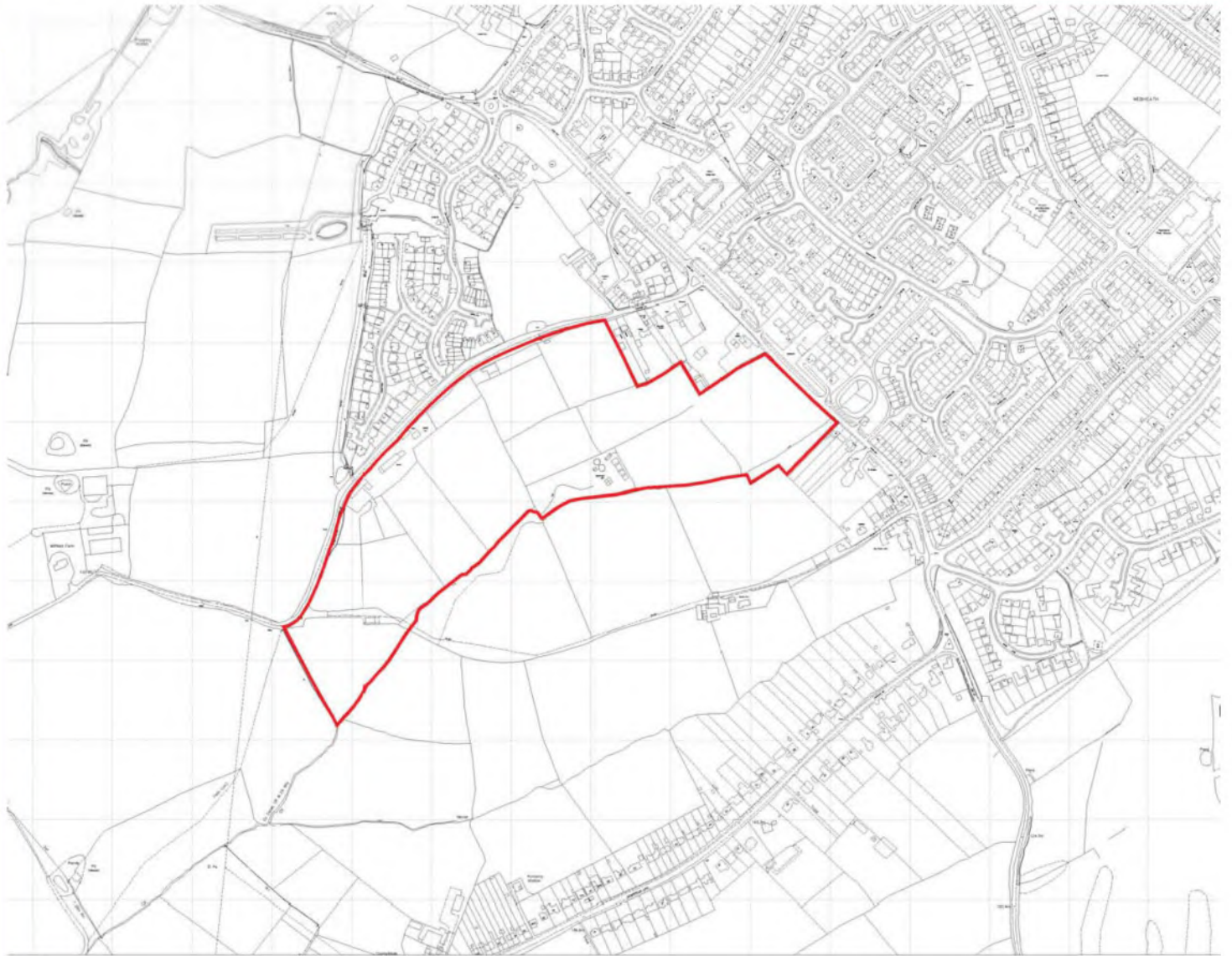


1.3 The site is currently predominantly agricultural grassland used for grazing, although there are some small scale farm buildings on the site and a disused sewage works.


1.4 The site is bordered by the Green Belt to the west and southwest. There are a number of hedgerows and Tree Preservation Orders (TPO's)

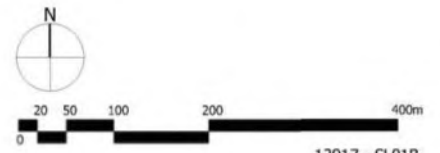
across the site. A bridleway crosses part of the site east to west from Hilltop Lane to Pumphouse Lane to the west. A natural watercourse runs east to west along the southern site boundary. The site does not contain nor is it located near to any nature reserves or Sites of Special Scientific Interest (SSSI).

Figure 1. Site Plan



Legend

 Site Boundary
12.85 Ha / 31.75 Ac



12917 - SL01B

Planning History

1.5 There are no planning applications which are of relevance to this site, however the site has an extensive planning history through the Local Plan / Local Development Framework process and this is set out below:

September 1991

- Deposit Draft Local Plan No. 2 (September 1991): Draft Policy H2 allocated 174 hectares of land at Norgrove (Webheath) for 1,900-2,100 dwellings, a first school, local shopping facilities and community and health provision. This site included the current ADR site and extended southwards, beyond Crumpfields Lane, to Sillins Lane.

February 1993

- Local Plan Inspector's Report (February 1993): The Inspector considered the Council should not rely on Norgrove to provide at least 1,900 dwellings by 2001, as he concluded the land to the south of Crumpfields Lane should be protected by Green Belt policy. He acknowledged, though, the suitability of land north

of Crumpfields Lane (i.e. the current ADR site) for development, particularly as it is well contained, and considered there was scope for a substantial amount of new residential development within this area. He therefore accepted the principle of residential development on the site. However, due to concerns that the potential requirement for new or improved accesses could not be completed before the end of the Local Plan period, thereby enabling the full potential of the site to be delivered, the Inspector allocated only the area to the north of Pumphouse Lane for development within the Plan period (this site is now built out). He also recommended that the area to the south of Pumphouse Lane and north of Crumpfields Lane – the current ADR site – should be identified as an Area of Development Restraint.

January 2004

- Proposed Modifications to Local Plan No. 2 (1994): In the Proposed Modifications to the Plan, the Council proposed an increased allocation at Webheath, of 523 dwellings. This was

based on further work undertaken by the Highway Authority further to the Local Plan Inquiry and in the context of the Inspector's concerns, which concluded that 600-700 dwellings could satisfactorily be accommodated at Webheath without the need for new highway infrastructure.

May 1995

- Proposed Modifications Inquiry Inspector's Report (May 1995): The Inspector recognised the suitability of the site for housing and endorsed the previous Inspector's recommendation relating to the allocation of land north of Pumphouse Lane. With regard to the issue of a larger allocation, the Inspector concluded that the existing highway network and the junctions on the network could cope with predicted traffic volumes resulting from a scheme of about 526 dwellings. Notwithstanding his view that the site was appropriate for development, the Inspector did not however endorse the larger allocation on the basis he did not consider it was required to meet the housing requirement at that time.

April 2004

- First Deposit Local Plan (March 2004): In April 2004, Barton Willmore Planning submitted representations to the First Deposit Local Plan (March 2004) in relation to the Webheath ADR site (proposed to be retained as ADR) promoting the site for development.

December 2004

- Second Deposit Plan (November 2004): In December 2004, Barton Willmore Planning submitted further representations to the Second Deposit Plan (November 2004) in relation to Webheath ADR seeking its allocation for housing on the basis that insufficient land had been allocated for housing.

April 2006

- Local Plan Inspector's Report (2006): The Local Plan Inspector's Report was published. The Inspector concluded that there was no requirement for the release of any of the 3 ADR sites. In addition in respect of Webheath, he confirmed that there were no exceptional circumstances which warranted inclusion of the Webheath ADR in the Green Belt.

June 2008

- Redditch Core Strategy Issues and Options (2008): The Redditch Issues and Options Core Strategy was published for consultation. This identified a number of options for development and included reference to the potential for the ADR sites to assist in meeting housing need.

October 2008

- Redditch Core Strategy Preferred Option (2008): The Redditch Core Strategy Preferred Option was published along with an accompanying Sustainability Appraisal; Growth Study (carried out by White Young Green) and Green Belt / ADR review document. The

White Young Green Report concluded that the Webheath ADR was not a suitable or deliverable site on the basis of landscape and visual impact and drainage matters. Similar conclusions were reached for the remaining 2 ADR sites. The report concluded that Webheath ADR should be included within the Green Belt and on this basis the Core Strategy Preferred Option proposed that all 3 ADR sites be identified as Green Belt. Conversely the Green Belt Study confirmed that there was no justification for the inclusion of the site within the Green Belt. The Council also proposed that Bromsgrove take the bulk of the Redditch housing numbers through the delivery of Green Belt sites within Bromsgrove but on the boundary with Redditch (this was not supported by Bromsgrove DC).

June 2009

- West Midlands RSS Examination in Public (2009): Barton Willmore appeared at the West Midlands RSS EIP in respect of matters relating to the distribution of housing numbers between Bromsgrove and Redditch. Whilst not dealing with site specific matters, the

Webheath ADR became the subject of discussion. Redditch BC concluded that they could not deliver their requisite housing numbers in their District and therefore needed to use Green Belt land in Bromsgrove. Bromsgrove supported Barton Willmore and others confirming that if the ADR sites were used, then Redditch could deliver more housing. In addition, Bromsgrove confirmed that whilst they jointly commissioned the WYG report, they were sceptical about the scope of the report and the robustness of it, and did not support the conclusions reached.

September 2009

- West Midlands RSS Panel Report (2009): The West Midlands RSS Panel Report was published. This concluded that there appeared to be no good reason to overturn the results of the 2008 Green Belt study and there appeared to be no exceptional circumstances which warranted returning the ADR's to the Green Belt. The Panel concluded that Redditch should deliver at least 4,000 dwellings within its own boundaries.

February 2010

- Core Strategy Development Options (2010): Redditch BC published a revised Core Strategy Development Options which proposed delivery of 4,000 dwellings within its own boundaries and included the Webheath ADR as a preferred option for development.

January 2011

- Draft Core Strategy (2011): This document concluded that Redditch need deliver only 3,200 dwellings in the period 2006 – 2026 and raised questions about the Webheath ADR in highway and drainage terms. Green Belt allocations are proposed instead along with one other ADR (Brockhill). Barratt & Taylor Wimpey have submitted objections to this document.

Land Control

1.6 The site as currently shown is capable of delivery within the early part of the plan period. Barratt Strategic and Taylor Wimpey are committed to the delivery of this site.



2. Context

The Development Plan

2.1 The starting point for the consideration of any planning application on the site is the Development Plan. This currently comprises:

1. The Regional Spatial Strategy for the West Midlands (2008);
2. The Saved Policies of the Worcestershire Structure Plan (1996 – 2011); and
3. The Saved Policies of the Redditch Borough Local Plan Review (No. 3) (2006).

Regional Spatial Strategy for the West Midlands (2008)

2.2 The Coalition Government announced the revocation of Regional Strategies on 6th July and as such, the Regional Strategies (RS) were considered to no longer form part of the Development Plan. However, the recent successful Judicial Review by Cala Homes on the decision to revoke the RS on 10th November 2010 means that the RS now forms part of the Development Plan until such time as the Localism Bill is enacted to abolish it.

2.3 Given the historic nature of the Adopted RS (it being based on the 1996 household projections, themselves based on the 1991 census), it is appropriate that as the Phase Two Revision of the Regional Spatial Strategy reached an advanced stage, having been subject to an Examination in Public and the Panel report has been published, appropriate weighting should be applied to the conclusions reached.

Review of the Regional Spatial Strategy

2.4 The West Midlands Regional Spatial Strategy (WMRSS) has been the subject of a three phase review. Phase 1, which related to the Black Country has now been completed and a revised version of the WMRSS was adopted in January 2008. The Phase 2 review, which related primarily to matters of housing and employment distribution, was progressed to an advanced stage. The Phase 2 review documents have been the subject of an independent examination and the Panel Report has been published.

2.5 The Preferred Option version of the review was published in December 2007. The most relevant policies are summarised below:

- i) RR1 – Rural Renaissance: states that rural areas should be regenerated by, amongst other things, an improvement of choice in housing.
- ii) CF2 – Housing Beyond Major Urban Areas: Areas outside the MUA and not identified as Settlements of Significant Development will accommodate housing development on a smaller scale within and adjacent to urban areas and market towns. These settlements should be capable of creating balanced opportunities for housing and employment and should have a range of local services.
(NB: Redditch was identified as a Settlement of Significant Development however this was not supported by the Panel)
- iii) CF3 – Level and Distribution of New Housing Development: Table 1 of this Policy sets a revised housing target for the region covering the period 2006 – 2026. This requires the delivery of 6,600 dwellings (net) in Redditch Borough in this period, which equates to an annual average of 330 dwellings.
- iv) CF4 – Phasing of new development: This policy seeks to ensure that development is phased so that there is an increase in housing provision in the period up to 2016.
- v) CF7 – Delivering affordable housing: Across the West Midlands as a whole Local Planning Authorities should aim to deliver 6,000 affordable dwellings (gross) per annum. The indicative minima target for the Southern Housing Market Area (HMA) which comprises Stratford District, Malvern Hills, Redditch, Bromsgrove, Warwick, Worcester City, Wychavon and Wyre Forest is 1,000 dwellings per annum.
- vi) CF10 – Managing Housing Land Supply: requires development plans to include measures to manage the release of housing land in a manner consistent with the implementation of the Regional Spatial Strategy and the house build rates set out in Table 1, and the phasing requirements of Policy CF4.

Figure 2. Aerial Site Plan

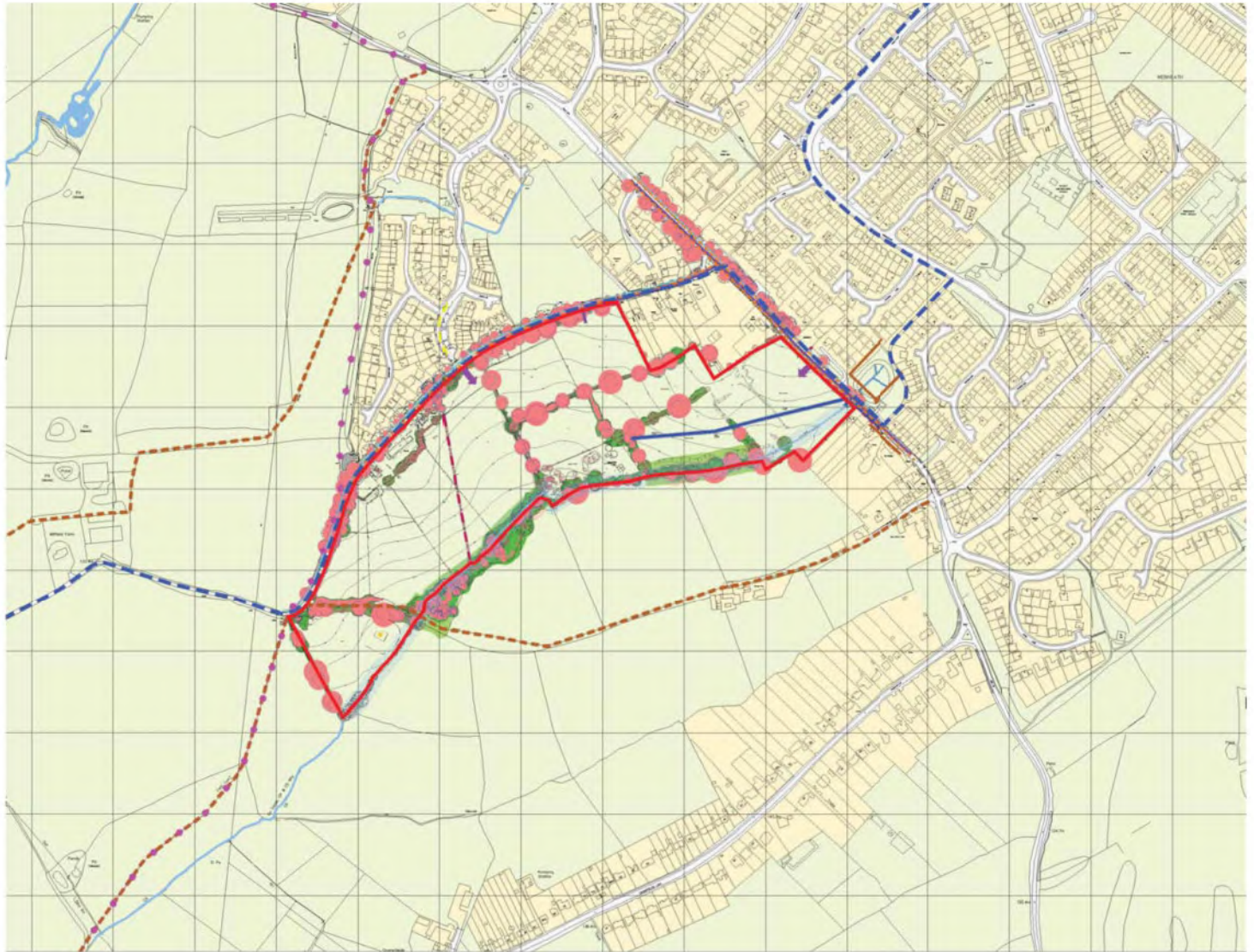


Legend
Site Boundary
12.85 Ha / 31.75 Ac



3. Site Review

Figure 3. Constraints Plan



Legend

- | | | | |
|---|--|---|---|
| Site Boundary
17.80 Ha / 43.98 Ac | Severn Trent Water public foul sewer and pump station | Tree Protection Area (RPA) | Public footpath |
| M-EC Survey Information | Severn Trent Water - Water Main between 2 and 4 inch in size | Area of Archaeological features | National Cycle Network (No. 5) |
| Severn Trent Water S104 sewers to be adopted after maintenance period | Tree Category A 1, 2, or 3 - Trees of high quality and value | Hedgerow and associated woodland | National Trail - Monarch's Way |
| Central Network Electricity Plant | Tree Category B 1, 2, or 3 - Trees of moderate quality and value | Hedgerow and associated woodland of importance | Proposed foul pumping station with 15m stand off to dwellings |
| BT Plant | Tree Category C 1, 2, or 3 - Trees of Low quality and value | Hedgerow and associated woodland of borderline importance | Existing Newt Pond |
| National Grid Gas Mains | Tree Category R - Trees to be removed | Watercourse with 8m stand off from top of bank | Proposed access |
| Severn Trent Water public surface water sewer and 5m easement | | | 0 20 50 100 200 400m
12917 - SL03A |

Flood Risk and Surface Water Drainage

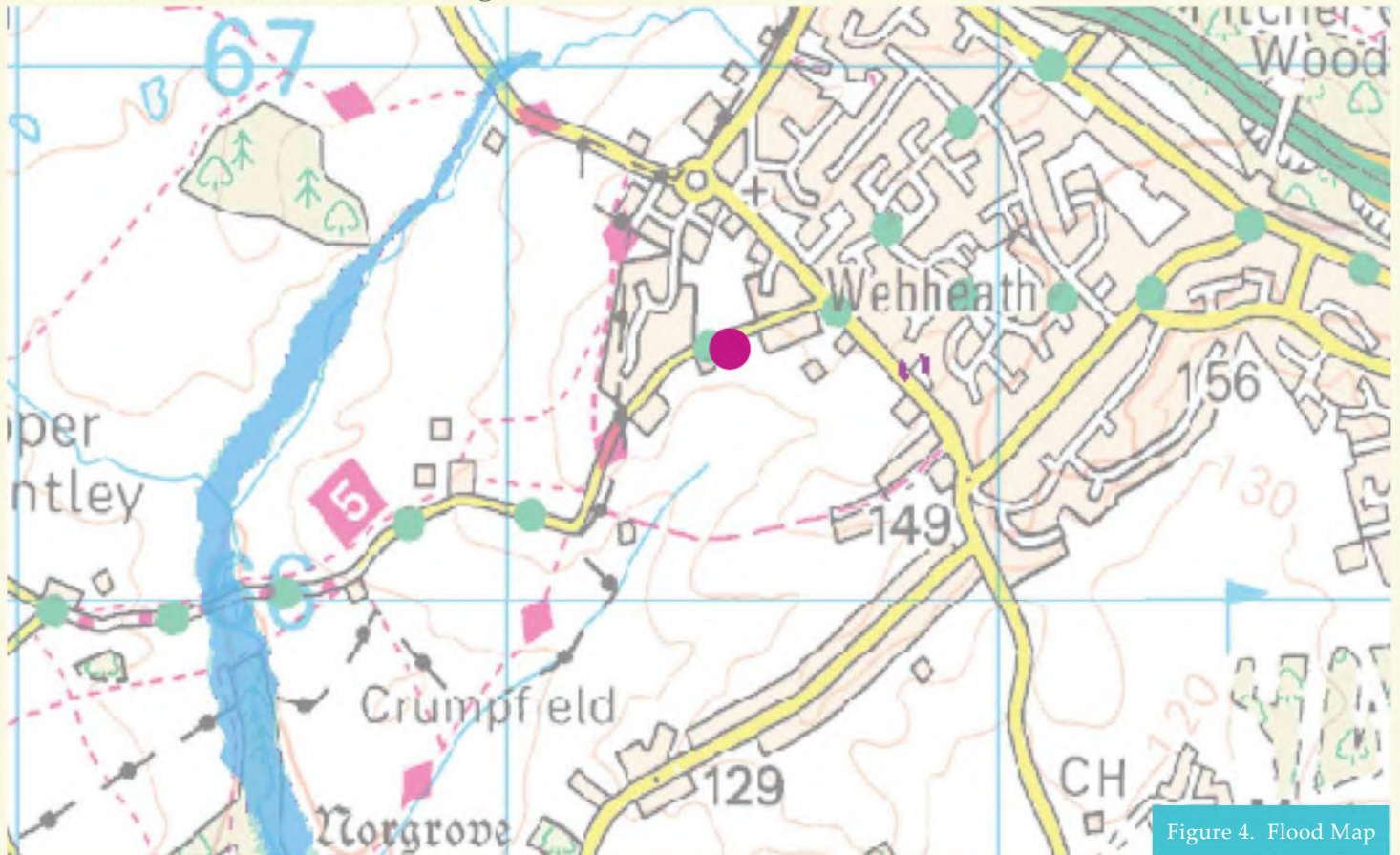



Figure 4. Flood Map

 SITE LOCATION


Flood map key:

Dark blue  this is the area which may be designated as flood Zone 3. Areas falling into this classification may fall into one of two categories.

Flood Zone 3a – this area may be flooded from sea, having a 0.5% (1 in 200) or greater chance of occurrence each year. It may

also flood from a river having 1% (1 in 100) or greater chance of occurrence each year.

Flood Zone 3b – this may be defined as functional floodplain or where water may be stored in times of flood. Typically this is defined as being liable to flood with frequency of 5% (1 in 20) or greater.

Light blue  shows the additional extent of an extreme flood from rivers or a sea, defined as Flood Zone 2 these areas are likely to be affected by events with a 0.1% (1 in 1000) or greater chance of occurrence each year.

Areas without any blue shading can be classified as Flood Zone 1 and have an annual probability of Flooding of less than 1 in 1000 (<0.1%).

3.1 In accordance with Environment Agency Standing Advice, sites over 1ha require a Flood Risk Assessment to be prepared in accordance with the requirements of Planning Policy Statement 25 (PPS25) 'Development and Flood Risk' (Dec 2006). This section outlines the findings following the preparation of a Flood Risk Assessment to consider the development at Webheath, Redditch.

3.2 The report is based on the following information:

- British Geological Survey Mapping
- Basic Flood Zone Maps from the Environment Agency website.
- Site walkover survey and investigations

- Topographical Survey undertaken by NJC Surveys Ltd
- Correspondence and sewer plans from Severn Trent Water
- Correspondence from the Environment Agency and Redditch Borough Council
- Envirocheck Report

3.3 For development proposals on sites comprising 1ha or above the vulnerability to flooding from other sources as well as from rivers and sea flooding, and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off should be incorporated in a Flood Risk Assessment. Developers

and local authorities should seek opportunities to reduce the overall level of flood risk in the area and beyond through the layout and form of the development, and the appropriate application of sustainable drainage techniques.

Site Description

3.4 A detailed topographical survey has been completed across the site and this shows the topography of the site varies between 142.94m AOD and 114.63 AOD. The general fall of the site is from east to west. The site falls from the northern and southern boundaries towards the watercourse. Within the catchment area to the north of the watercourse the levels fall from 142.94m AOD at the east to 125.07 to

the west along the northern boundary, at an average fall of 1 in 13 from the site boundary to the watercourse. At the highest point to the south of the watercourse the levels fall from 138.44m AOD, adjacent to the footpath, down to the watercourse at an average gradient of 1 in 10.

3.5 The 1:50,000 British Geological Survey (BGS) map, sheet 183 shows the site is underlain with boulder clays with a length of pale grey green mudstone and siltstone along the watercourse. To the south west of the site there are also traces of Limestone imbedded with grey mudstone.

3.6 The site has been checked against the Environment Agency Flood Maps which are available from the Environment Agency website and the results are shown on page 13:



3.7 The flood map on the previous page shows the site is located within Flood Zone 1, with a flood risk of less than 1 in 1000 year annual probability of flooding from fluvial rivers. The proposed development is to consist of residential dwellings and therefore using table D.2 Flood Risk Vulnerability and Flood Zone ‘Compatibility’ from PPS25 the development is classified as ‘more vulnerable’. Table D.3 in PPS25 (see below) states ‘more vulnerable’ development is sequentially acceptable in Flood Zone 1 and therefore an exception test is not required.

and the following comments were provided. M-EC have provided comments where relevant in italics below:

- A spring-fed ordinary watercourse is located within the site area, which passes under Church Road and this eventually discharges to Swan’s Brook.

(Any water related feature is to be protected, whether it is an ordinary watercourse or a ditch and only limited proposals would be considered for necessary consents for any culverting and/or diversions)

(It is not envisaged any vehicle crossings over the watercourse will be provided. Further consultation will take place with Redditch Borough Council in due course)

3.8 As part of the drainage investigations discussions have taken place with relevant officers at Redditch Borough Council with respect to the site

- Surface Water run-off must be limited to green-field levels and an appropriate off-line balancing pond will be required at the downstream limit of the site. The design of any controlling feature must take into account both hydraulic and future maintenance requirements.

(Appropriate attenuation will be provided and this will be outlined in more detail in due course).

- The site is also subject to stringent criteria in respect of foul sewerage from both Environment Agency and Severn Trent Water and the capacity of the local network must be investigated to ensure the development proposals can be accommodated.

(Hydraulic modelling has been completed by Severn Trent Water which confirms capacity is available for the proposed development in the existing pumping station on Church Road).

Assessment of Watercourse

3.9 An existing watercourse flows from east to west along the southern site boundary. In order to consider further whether this watercourse will generate flooding within the site hydrological calculations have been undertaken.

3.10 The hydrological calculations have been undertaken to investigate whether the watercourse has sufficient capacity to accommodate flows from the catchment area up to a 1 in 1000 year storm event (0.1%). The calculations show sufficient capacity is available within the watercourse however some out-of-bank flooding does occur around existing culverts to the extent of 5m into the site area.

3.11 In accordance with Environment Agency standing advice all structures including ponds, garden areas and buildings should be offset by a minimum of 8m from the top of the watercourse bank. Therefore the development will be located outside of any flooding which may occur up to the 1 in 1000 year storm event.

Extract of Table D.3 (Flood Risk Vulnerability and Flood Zone ‘compatibility’) from PPS25

Flood Risk Vulnerability classification (see Table D2)	Essential Infrastructure	Water compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception Test Required	✓	✓
Zone 3a	Exception Test required	✓	x	Exception Test required	✓
Zone 3b ‘Functional Floodplain’	Exception Test Required	✓	x	x	x

Key:
 ✓ Development is appropriate
 X Development should not be permitted

Additional Flooding Considerations

3.12 Other potential sources of flooding to be considered are summarised below:

- The surrounding agricultural land to the north, east and south all falls away from the site and therefore does not pose a flood risk to the development. Webheath centre to the east of the development along Church Road falls towards the site, as this area is positively drained it should pose little flood risk to the development. Should any over land flow enter the site from the developed area the watercourse will channel water away from the proposed development area. Any overland flow will be directed to the watercourse as this is continuously the lowest point along the site.

- The River Arrow to the east of the site is approximately 40m lower than the lowest level of the site and therefore does not pose a flood risk to the site. The Worcester and Birmingham Canal to the northwest of the site does not pose a flood risk to the site due to the topography of the land between the Canal and the site.
- The existing residential developments and infrastructure to the north east of the site along Church Road fall towards the site and therefore pose a risk of flooding to the site. These areas are positively drained to the watercourse located within the proposed development area. The existing development area is included in the catchment of the watercourse and has

therefore been considered as part of hydraulic modelling to consider the impact storm events up to the 1 in 1000 year.

- To the east of the site two adopted sewers discharge to the watercourse within the site. There are no reported incidents of flooding from these sewers.
- There are no obvious depressions on the site and the site slopes steeply towards the watercourse and therefore rainfall ponding is unlikely to occur.
- The site is not coastal and is not affected by coastal or tidal flooding.

- The Environment Agency website suggests the site is not in a groundwater protection zone.

3.13 Below are Environment Agency maps showing the site is not located on an aquifer and identifying secondary undifferentiated, superficial deposits designation along the line of the watercourse. This is assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

Figure 5. Aquifer Maps



Surface Water Drainage

3.14 The Environment Agency Standing Guidance states that in order to demonstrate that the development is of low risk, a Flood Risk Assessment should show:

- That it will be feasible to balance surface water run-off to the Greenfield run-off rate for all events up to the 1 in 100 year storm (including a 30% allowance for climate change) and set out how this will be achieved.
- How sustainable drainage techniques (SUDs) will be used with any obstacles to their use clearly justified.

3.15 The primary flood risk generated by the new development is most likely to be the risk posed to others by surface water runoff. The vast majority of the existing site area is entirely greenfield and therefore the proposed new development will increase the impermeable area of the site by approximately 7.38 ha. The impermeable area has been calculated as 60% of the development area and this will generate large flows and volumes of water which will need to be attenuated and discharged accordingly.

3.16 There are a number of options to cater for surface water drainage from the proposed development:

- Soakaways for roof run-off and permeable surfacing for the car park
- Infiltration trenches and swales
- Discharge to public sewer, utilising pipe storage and attenuation features
- Discharge to public sewer
- Discharge to drains and ditches

3.17 The first option to be considered for surface water disposal for all proposed development must be soakage into the ground. Even when there are alternative sewer connections or watercourses available soakage must still be utilised unless it is unfeasible. To identify whether the ground has a suitable infiltration rate, percolation testing is undertaken. Where the underlying soil conditions are relatively impermeable, for example clay, the infiltration rate may be too low for soakaways to be designed adequately to cope with large storm events.

3.18 Infiltration testing undertaken by M-EC on the 6th October 2010 indicated soakaways would not be a viable drainage solution. All five of the tests undertaken on the day were undertaken in accordance with BRE Digest 365. In accordance with Figure 6 of BS8004:1986, it is considered that soils should have a minimum coefficient of permeability of 5×10^{-6} m/s for the strata to be given consideration for soakaway drainage. Each of the five tests failed to soak and therefore the ground is not suitable for the use of soakaways.

3.19 It is considered a pond could be used for attenuation purposes on land to the west of the site. These facilities require large areas of open space to accommodate them and allow easy maintenance. The development proposals involve providing areas of open space and landscaping areas where these facilities could be located. Access into the land can be made through the proposed adoptable highways.

3.20 In order to prevent an increase in flood risk to adjacent land and downstream of the site it will be necessary to restrict the surface water discharge from the development to the equivalent Qbar Greenfield runoff from the site. Using the ICP methodology in Micro Drainage software the following equivalent Greenfield runoff rates have been calculated for the site:

Greenfield run-off rates

Return Period (years)	Greenfield runoff (l/s)
Qbar	54.1
1	44.9
30	106.1
100	139.1

3.21 Annex F of PPS25 deals with the use of Sustainable Urban Drainage Systems and covers the whole range of sustainable approaches to surface water drainage management including:

- source control measures including rainwater recycling and drainage;
- infiltration devices to allow water to soak into ground, that can include individual soakaways and communal facilities;
- filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns;
- filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed; and
- basins and ponds to hold excess water after rain and allow controlled discharge that avoids flooding.

3.22 Each of the five SUDS considerations listed above is discussed with reference to their suitability for the proposed development.

Suitability of SUDS techniques

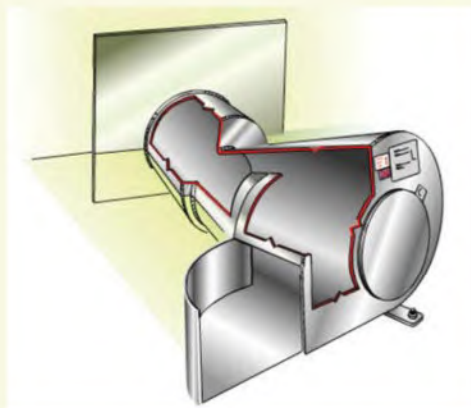
SUDS Group	Technique	Likely suitability	Notes
Source Control	Rainwater Harvesting	Y	Due to no infiltration on site, use required in properties designed to Code Level 3 upwards to meet requirements of SUR1. Rainwater butts can be used to save water use.
	Permeable paving	Only for attenuating run-off	Unsuitable due to clay soils not suitable when used with infiltration however can be used with limited benefit for attenuation and water quality, but increased maintenance issues.
Infiltration Devices	Infiltration trenches and basins	N	Unsuitable due to clay sub soils with limited infiltration capability.
	Soakaways	N	Unsuitable due to clay sub soils with limited infiltration capability.
Filtration	Open Swales	Y	Use for attenuation, evaporation and water quality and will fit with linear nature of site. Will have limited infiltration capability and storage capacity due to site topography.
	Filter Strips	N	Unsuitable due to clay sub soils with limited infiltration capability.
Retention/ Detention	Basin	Y	Suitable for controlling discharge to watercourse via a pipe outfall, evaporation and treatment of run-off. Adoption and future maintenance should be discussed with Local Planning Authority and Sewerage Undertaker.
	Ponds	Y	Suitable for controlling discharge to water courses via a pipe outfall, evaporation and treatment of run-off. Adoption and future maintenance should be discussed with Local Planning Authority and Sewerage Undertaker.

3.23 The preferred drainage solution is to drain the development with a piped system outfalling to the existing watercourse via an attenuation pond located at the western extent of the site. The surface water run-off from the dwellings, roads and hard pavings will be connected into a piped network. Discharge rates from the pond will be restricted to the equivalent Q_{bar} rates of 54.1 l/s. The storage pond will have a capacity of approximately 4,225m³ to accommodate up to a 1 in 100 year plus 30% climate change storm event and an additional 600mm freeboard.

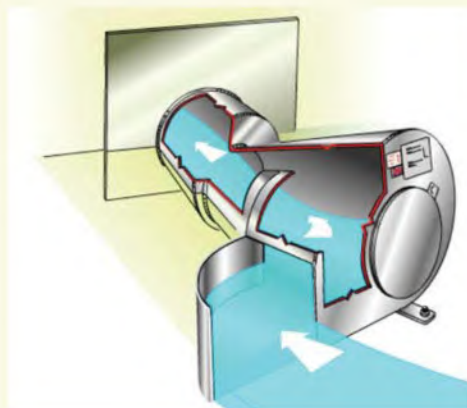
3.24 Discharge rates into the watercourse will be controlled through the use of a Hydrobrake or similar flow control device. A Hydrobrake is self-activating vortex flow control device which activates when flow increases. The velocity of the water induces an air-filled core with resulting back pressure that reduces the discharge. An example of how the Hydrobrake operates is detailed below.

3.25 A preliminary drainage strategy is detailed overleaf. It should be noted that the drainage design and calculations are for strategy purposes only and may be subject to change as part of the detailed design.

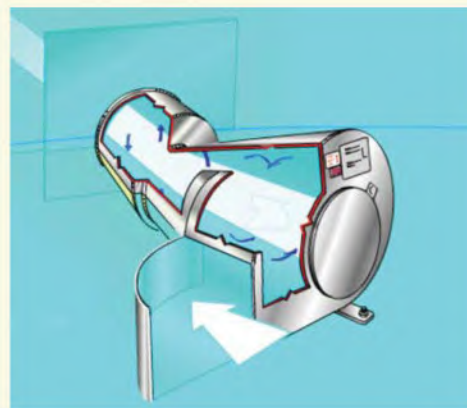
3.26 All surface water sewers will be offered for adoption to Severn Trent Water and the balancing pond will be offered to Redditch Borough Council with appropriate commuted sums paid by the developer as part of the Section 106 Agreement.



Hydrobrake with no flows

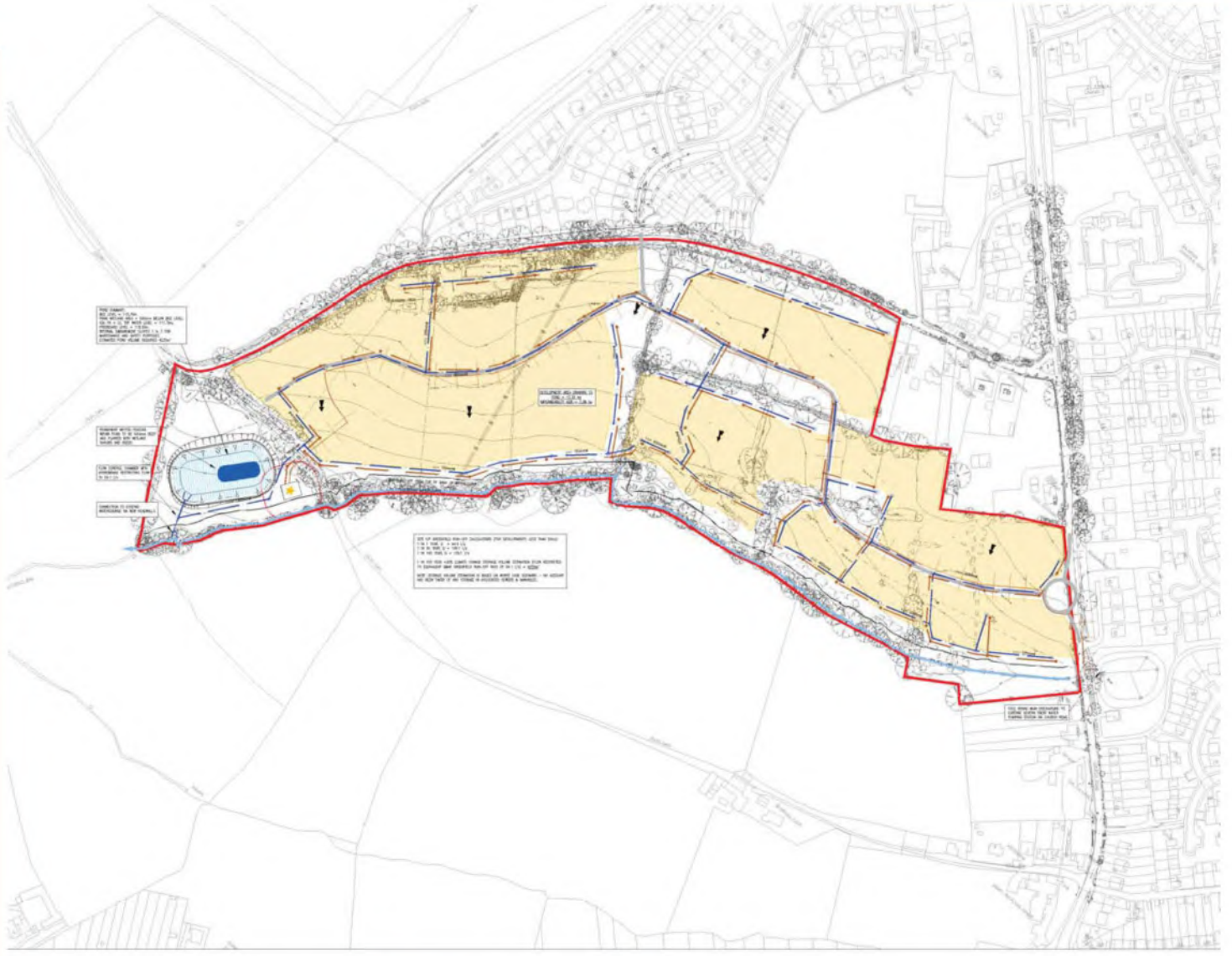


Hydrobrake with low flows and therefore discharge controlled by the size of the outlet i.e. narrow outlet results in restricted discharge



Hydrobrake in high storm event. Central vortex is created which displaces water to further control discharges rates.

Figure 6. Drainage Strategy Plan



NOTES

1. THIS DRAWING IS BASED ON TOPOGRAPHICAL SURVEY PROVIDED BY NAC SURVEYS LTD. ALL LEVELS ARE IN METRES AND CO-ORDINATES ARE BASED ON THE SURVEY GRID. REFER TO TAYLOR WIMPEY UK LTD FOR SURVEY STATION DATA.
2. ALL SERVICE INFORMATION IS TAKEN FROM STATUTORY UNDERTAKERS PLANS. REFERENCE SHOULD BE MADE TO THESE PLANS FOR FURTHER INFORMATION.
3. ALL DIMENSIONS ARE IN METRES UNLESS SPECIFIED OTHERWISE.
4. THIS DRAWING IS FOR DISCUSSION PURPOSES ONLY AND IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.
5. PIPE SIZES SHOWN RELATE TO PROPOSED SURFACE WATER SEWERS THEY ARE INDICATIVE ONLY AND SUBJECT TO DETAILED DESIGN. PROPOSED FOUL WATER SEWERS ARE TO BE A MAXIMUM OF 225mm.

KEY

	SITE BOUNDARY		PROPOSED DEVELOPMENT AREA
	EXISTING WATERCOURSE		MAIN SPINE ROAD
	FOUL PUMPING STATION WITH 15m STAND OFF TO DWELLINGS		OVERLAND FLOW ROUTES
	PROPOSED SURFACE WATER SEWER		
	PROPOSED FOUL SEWER TO PUMPING STATION		
	PROPOSED RISING MAIN FROM NEW PUMPING STATION TO PUMPING STATION IN CHURCH ROAD		

Foul Water Drainage

3.27 It is critical that sufficient capacity is available within the network and at the Sewage Treatment Works to ensure the environmental impact from development is managed. Failure to accurately consider the impact of the foul drainage network can lead to surcharging of existing sewers which can affect properties and human health and a breach of the discharge consent at the Sewage Treatment Work can lead to pollution and enforcement action from the Environment Agency.

3.28 Foul drainage is perceived to be a problem in the local area with a number of parties including local residents and Redditch Borough Council raising concerns about the ability of the local network to accommodate development in Webheath.

3.29 In correspondence received from Redditch Borough Council the following comments were made:

“The site is also subject to stringent criteria in respect of foul sewerage from both EA and STW. Although the site lies within the Priest Bridge WRW Drainage Area, no connections for sites of this size will be permitted for foul drainage to the existing Priest Bridge sewer network (none

nearby) either by EA and STW. Owing to limits of size/capacity, connections to either the existing site to the north (currently private, subject to S104 agreement) or Church Road sewers will be permitted as these are both served by existing pumping stations. It may be possible to provide oversized storage for ‘foul’ within the site prior to pumping to either of these or some other system. The capacity of sewers downstream of these facilities is believed to be limited, if non-existent. An alternative scenario for foul sewerage maybe to requisition a suitable foul sewer outfall sewer from STW (WIA 1991), thereby forcing them to consider proper arrangements for serving this site and other areas taking into account sustainability and carbon footprint factors”.

3.30 Severn Trent Water are the statutory wastewater provider for the Redditch area and therefore any capacity issues within the foul drainage network should be explored with Severn Trent Water. A Developer Enquiry was issued to Severn Trent Water in 2009 and their response stated that further investigations would be required and hydraulic modeling should be undertaken which would determine whether the existing infrastructure was adequate for the proposed development.

3.31 Following receipt of this advice Severn Trent Water were commissioned in August 2010 to review and consider the options for connecting foul water flows for up to 350 dwellings into the existing foul water sewerage systems located adjacent to the site in Church Road & Crumpfields Lane. Based on a development of 350 dwellings this would generate a peak flow of 8.1 litres per second.

3.32 Further descriptions on the existing foul water situation are outlined below:

- **Church Road:** There is an existing foul water pumping station located at the east of the site in Church Road which has two submersible pumps with a maximum pumping capacity of 24 l/s. There is also an additional emergency storage tank located adjacent to the wetwell. This pumping station lifts the flows to a 225mm diameter gravity sewer located Springvale Road. Flows eventually discharge into the Sernal Sewage Treatment Works.

- **Crumpfields Lane:** There is an existing foul water pumping station located to the south of the site in Crumpfields Lane which has two submersible pumps, on a duty/standby arrangement, with a maximum pumping capacity of 5 l/s. This pumping station lifts the flows to a 150mm dia. gravity sewer located at the upper part of Crumpfields Lane. Flows eventually discharge into the Priest Bridge Sewage Treat Works.

3.33 The Severn Trent Water modeling report tests 3 options which are outlined below:

- Option 1 - Hydraulic Performance of Church Road Foul Water Sewer
- Option 2 - Hydraulic Performance of Springvale Road Foul Water Sewer
- Option 3 - Hydraulic Performance of Crumpfields Lane Foul Water Sewer

3.34 The results of the model suggests that the existing foul water sewer and pumping station in Church Road do have limited available spare capacity however the report acknowledges that sufficient capacity is available for a development up to 350 dwellings. It is advised that a connection from the proposed development is allowed to connect to the existing public foul water sewer at either Church Road or Springvale Road, subject to a maximum allowable peak discharge rate of 8.1 litres per second.

3.35 It should be noted that Severn Trent Water are independent of the development and so their recommendations are based on an analysis of the facts available to them.

3.36 Based on the information received from Severn Trent Water it is our preference to connect the foul drainage flows into the foul water sewer in Church Road as this is the closest point of connection. Due to the site topography it is not possible to achieve a gravity

drainage system connecting into Church Road and therefore the proposed foul drainage strategy for the development will include the provision of a new pumping station on site.

3.37 The new foul pumping station would be positioned to the far west of the site, where the land is lowest. The site would drain by gravity to this pumping station and flows would be pumped via a rising main to a suitable connection point on Church Road at a rate no greater than the agreed 8.1 litres per second.

Land Contamination

3.38 A Phase I Environmental Risk Assessment (desk-top study) has been completed for the proposed development and this section provides a summary of the findings from this work. The information to inform this section has been obtained following completion of a detailed site walk over and from receipt of relevant environmental information obtained from Redditch Borough Council and other third parties.

Site Description

3.39 The site is occupied by a Sawmills, Farmhouse and Horse stables/ménage towards the north of the site with the remainder of the site currently comprising open fields. A number of the open fields to the north of the site are used as horse paddocks and sheep pens whereas the fields towards the south of the site are currently unoccupied, grassed fields.

3.40 The topography of the site generally falls from east to west with a level difference of 27 metres between the east and west boundaries. A watercourse runs along the southern boundary of the site from east to west.

Site Walkover

3.41 A walkover of the site was carried out by M-EC on 6th October 2010. During this walkover, the following key observations were made with regard to the current and previous site activities

Waste Materials

3.42 There was evidence of large stock piles of wood stored at the Sawmills site. A number of old oil drums were also located within the Sawmills

site although there was no evidence of waste oil storage on the site. There are a number of old heavy plant machines (for lifting and excavating) located within the Sawmills site and it should be noted the Sawmills site is still operational but is not operating at full capacity.

3.43 There was no evidence of fly-tipped construction waste at the site.

Burning

3.44 Towards the centre of the site close to the public right of way crossing the site there is a former storage shed that is in a bad state of repair and has evidence of being burnt. Discussions with the landowner have determined that the shed was recently burned down by vandals and has been left in its current dilapidated state.

3.45 There was no evidence of other burnt areas at the site.

Asbestos Containing Materials (ACMs)

3.46 There are potential ACMs observed in the building materials used at the Sawmills site. Further survey work is required to determine the content of roof sheeting in some of the storage buildings.

Other Relevant Information

3.47 There are existing overhead electricity cables crossing the site from north to south. The overhead cables terminate close to the Farmhouse at the Sawmills site. A Foul Drainage pit is located to the south of the farmhouse in the northern field where the wastewater from the Farmhouse currently drains to. Discussions with the landowner have determined the pit has to be cleared regularly.

3.48 A Sewage Treatment Works used to be located within the site. Observations of this area show there are no building structures located within this area.

3.49 There was pile of garden waste and tree cuttings located close to the access of the field on the south western boundary and discussions with the landowner confirmed this was to be burnt as a bonfire on the

5th November 2010. A review of the pile confirmed there were no aerosols, paint tins, oil drums, plastic, rubber tyres or other materials that could produce toxic fumes.

3.50 There is an old shipping container located in one of the fields located to the south which is used for storage of wood and other materials by the landowner.

Public Record Information

3.51 Information on potentially significant environmental issues and controls at the site and surrounding area may be held on public records by regulatory authorities. This information is sourced directly from the regulatory authorities and from the Envirocheck database (taken within a 1 km radius of the site centre). A summary of the significant environmental issues and controls in the Envirocheck database is provided below.

Publicly Recorded Information

Public Record	On site or Off site	Features	Potential Contaminants
Pollution Incidents to Controlled Waters	Off-site	There is one pollution incident to controlled waters located within 250m of the site. This occurred 210m NE of the site dated October 1996 for the deliberate disposal to drain of vehicle washing and waxing wastewater. This was a category 3 minor incident.	Range of contaminants inc pH, hydrocarbons, pathogens and other biological contaminants
Local Authority Pollution Prevention and Control	-	There are no LAPPC sites located within 250m of the site.	-
Historic Landfill Sites	Off-site	There is a historic landfill site located 196m S of the site at Land off Pool Farm, Crumpfield Lane. The licence holder was S.E Davis & Son Ltd with last input July 1987. The deposited waste included inert waste.	Landfill gases (including methane and carbon dioxide)
Local Authority Recorded Landfill Sites	-	There are no local authority recorded landfill sites within 250m of the site.	-
Contemporary Trade Directory Entries	Off-site	Seven contemporary trade directories are located within 250m of the site. The closest is located 42m E of the site and is an active site. The site is Woodyard Garage under the Garage Services classification.	Heavy metals (particularly zinc), sulphur, sulphate, hydrocarbons including PAHs, anti-oxidants, solvents (including benzene), asbestos

Regulator Consultations

3.52 Redditch Borough Council have been contacted in order to obtain a local authority land contamination search for the site. The table below summarises the information.

3.53 The site history has been assessed by reviewing historical Ordnance Survey Maps provided as part of the Envirocheck Report by Landmark. We summarise this finding:

Regulatory Responses

Consultee	Comments
Redditch Borough Council (RBC)	<p>RBC has indicated the following uses occurred on or adjacent to the site within the periods shown;</p> <p>1905 – Unknown filled ground (pond/marsh/river/stream)</p> <p>1938 – Quarrying of sand & clay, operation of sand and gravel pits</p> <p>1955 – Sewage works and unknown filled ground (pond/river/marsh/stream)</p> <p>1967 – Tank</p> <p>1973 – Tank</p> <p>1991 – Sewage and unknown filled ground</p> <p>A search of their departmental records failed to identify any pollution incidents or confirm any investigation of potential contamination relating to the site. Although the land has been identified as land of potential concern, there are currently no plans to carry out any further investigation of the land.</p>

- **1884** – The earliest maps available from 1884 show there are building structures present in the area of the Sawmills site. Potential contaminants from Sawmills/ Industrial use from heavy metals (particularly zinc), sulphur, sulphate, hydrocarbons including PAHs, anti-oxidants, solvents (including benzene) and asbestos.
- **1885** – The maps from 1885 show a number of ponds located on-site towards the northern boundary. Maps from 1904 show some additional ponds now present close to the northern boundary.
- **1927** – A Sewage Treatment Works is now shown on-site adjacent to the watercourse. A number of tanks and filter beds are shown as part of the Sewage Treatment Works. Potential for a range of contaminants including pathogens, heavy metals, pH and hydrocarbons from the Sewage Treatment Works.
- **1973** – A building is now located adjacent to the public right of way crossing the site. On-site observations show this to be the storage shed that has been recently burned. Building structures to the north of the site are now labelled as Holborne Farm and Sawmills. The majority of ponds present from the earliest maps are no longer present. Potential contaminants from Infilled ponds through ground gases (methane and carbon dioxide).
- **1978 to 1984** – During this period the residential developments to the north of the site and Church Road have been developed. Further residential development to the north and north east of the site takes place between 1984 and 1991.
- **1990** – The sewage works located on-site are now labelled as disused.
- **1993** – The map shows there are no ponds present on site and this is supported by on-site observations. Potential contaminants from Infilled ponds through ground gases (methane and carbon dioxide).

Environmental Setting

Geology

3.54 The site is underlain with boulder clays with a length of pale grey green mudstone and siltstone located along the line of the watercourse. To the south west of the site there are also traces of Limestone imbedded with grey mudstone.

Hydrogeology

3.55 The Groundwater Vulnerability map of England indicates that the stratum beneath the site is classified as a non aquifer (negligibly permeable). The site is not situated on a Source Protection Zone, but is located within a Nitrate Vulnerable Zone.

Hydrology

3.56 The watercourse flowing through the site is a tributary to Swans Brook and ultimately appears to feed the River Avon to the south west of the site. The River Arrow is located approximately 4.5km to the east of the site. 8km to the north west of the site is the Worcester and Birmingham Canal.

Conceptual Model

3.57 The potential sources identified at the site are summarised below:

- Presence of fly-tipped materials and waste – unknown materials potentially causing localised contamination of the soils. Heavy metals, PAHs, hydrocarbons, potential asbestos containing materials.
- Former Sewage works located on-site. The sewage works, constructed in 1927 and labelled as disused from 1990, comprised numerous filter beds and tanks. Potential for direct risk to controlled waters from the migration of contamination (including but not limited to heavy metals, hydrocarbons and pathogens).

- Historic landfill site located within 250m of the site. Potential for the migration of ground gases (methane and carbon dioxide).
 - A number of infilled ponds located on-site close to the northern boundary (present on historic maps from 1884 – 1993). No information available as to whether the ponds were infilled and the materials used unknown. Potential for heavy metal, hydrocarbon and asbestos contamination to be present within area of the infilled ponds. Potential for the generation of ground gases (methane and carbon dioxide).
 - Sawmills site located adjacent to northern boundary. Potential for elevated heavy metals and elevated speciated PAH's. Potential for migration of contaminants.
- 3.58 Identified receptors and possible pathways in relation to the site include:
- Future residential occupiers at the site – possible direct contact with contaminated soils, inhalation of dust and consumption of vegetables grown in contaminated soils if private gardens proposed. Exposure to potential explosive and asphyxiating ground gases.
 - Construction workers during site clearance and redevelopment works – direct contact with contaminated soils and inhalation of dust. Exposure to potential explosive and asphyxiating ground gases.
 - Surface Water – Watercourse present through centre of site.
 - Groundwater – Although site is classed as a non-aquifer with negligible permeability.
 - Future buildings, underground structures and services – chemical attack on below ground structures and accumulation of potentially explosive and asphyxiating ground gases.
 - Ecological receptors (fauna) – landscaped gardens, potential for vegetation die back from phytotoxic metals via root uptake and ground gases.

3.59 It is recommended a Phase II land quality assessment, planning conditions and financial security assessment is undertaken. This will be primarily to assess geotechnical issues and to assist in the design of any foundations, drainage, underground services, roads etc however it is suggested that confirmatory environmental testing be completed to assess the site conditions and to obtain sufficient data to further refine the conceptual model and environmental risks for submission to the local planning authority. Any Phase II Ground Investigation work can be conditioned and is unlikely to be necessary as part of the planning application.

3.60 It is recommended that environmental sampling is undertaken comprising surface water monitoring of the watercourse crossing the site and gas monitoring in the area of the infilled ponds, Sawmills site, and the area of the former Sewage Treatment Works. The results of the additional testing should be provided in a Phase II Ground Investigation report.

3.61 It is recommended that any waste materials should be appropriately managed and removed to be disposed at a suitable landfill site or recovered for recycling.

Services

3.62 Service enquires have been undertaken with all Statutory Undertakers in order to assess the ability to deliver up to 350 dwellings in the local area. Information received indicates there are no restrictions with capacity to serve the proposed development subject to suitable upgrades being implemented at the developers cost. Information on potential diversions been obtained for services located within the site boundary and in order to deliver the proposed access solutions form Church Road and Great Hockings Way/ Pumphouse Lane. A summary of the relevant responses is detailed in the adjoining table.

Provider	Supplies	Diversions
Severn Trent Water – Water	The water network surrounding the site is not capable of supplying the proposed development and therefore works both off site and on site are required which will need to be funded by the developers.	Water mains are located within Pumphouse Lane and Church Road which may need to be lowered/diverted to deliver the access solutions. This will be undertaken by the developer as part of the Section 278 works.
Severn Trent Water – Wastewater	This is discussed further in a separate section however hydraulic modelling completed by Severn Trent Water states the site can into the existing foul sewer system in Church Road. Due to the site topography connection to this system will be achieved through the provision of onsite pumping station located to the west of the development area.	No diversions are expected.
BT Openreach	BT have a statutory obligation to provide services on site and therefore extend their services required.	No diversions are required for the proposed access off Church Road. However, diversions are required for the proposed junction on Pumphouse Lane where existing overhead cables will be diverted underground. This cost will be borne by the developer.
National Grid	National Grid have confirmed the nearest main with spare capacity is situated approximately 580 metres form the site boundary and is a medium pressure main. A gas transportation company has provided a budget costs to serve a development and the quotation states off site works are required to connect to the existing mains with onsite works required to connect supplies to individual dwellings.	An existing main is located in Church Road and this will need to be lowered/diverted to deliver the access solution. This will be undertaken by the developer as part of the Section 278 works.
Central Networks	Central Networks have provided a budget contribution payable by the developers to deliver an electrical supply on site. In order to deliver this supply there is a requirement for 1 x 800kVA substation to be provided on site (location to be determined).	Budget contributions payable by the developer have been provided for the diversion and undergrounding of existing overhead apparatus. This will be undertake along Church Road in order to deliver the site access and within the site boundary to remove overhead cables extending from north to south.

Highways And Transportation

Introduction

3.63 Based on the DfT guidance for Transport Assessments, a Transport Assessment (TA) and Travel Plan (TP) are required for developments over 80 dwellings in size. As part of the transportation work developers should seek to ensure the proposed development can be delivered without adverse impact to the local highway network. This section provides further information following initial transportation work undertaken to date and following extensive discussions with Worcestershire County Council (WCC).

Consultations

3.64 Various meetings have taken place with WCC regarding the proposed development with the most recent meetings taking place in September 2010 and November 2010. The purpose of these discussions was to discuss the site in relation to sustainability, highway impact, access and any other highways related information.

3.65 The following comments were provided by WCC with M-EC responses provided in italics below where relevant;

- Accessibility and Traffic model being developed for Redditch area

- Local Perception of Accident problem in surrounding area. Accident Analysis to be undertaken and provided to Borough Council

(M-EC has undertaken an accident analysis (discussed later in this report) which has determined there is no existing accident problem within the local area. There have been no recorded accidents along Church Road within the previous 5 years).

- The development site should provide more sustainable Transport for the Webheath area – emphasis on Travel Plan, Public Transport, Pedestrian and Cycle provision.

- Accessibility Modelling – WCC can undertake baseline work and then test development scenarios to ensure improvements in sustainable transport provision and accessibility to local facilities.

- Bus Service to be provided ideally within 200m of dwellings.

(Proposed diversions of the local routes have been suggested to WCC).

- Primary Access from Church Road via a right hand turn is acceptable in principle. A speed survey is required. Appropriate signage/surfacing could be introduced to reduce speeds if necessary.



(Separate roundabout and right turn lane access options have been designed up and are discussed later in this document. Provision for vertical and forward visibility has been allowed for in the designs).

- National Cycle Network Route 5 on Church Road needs to be considered

(Provision will be made to ensure the route remains along Church Road and enhanced where feasible by the development proposals).

- Secondary access from Great Hockings Lane is acceptable in principle and would prefer staggered junction at meeting point with Pumphouse Lane.

(Two access options have been provided and are discussed later in this report).

- Designs for both access locations should be progressed to Stage 1/2 Road Safety Audit

3.66 In order for WCC to consider the development proposals in more detail a detailed and robust Transport Assessment and Travel Plan being submitted that demonstrates development can be delivered without adverse impact to the local highway network.

Existing Highway Network

3.67 The site is located south west of Redditch Town Centre and approximately 1.5km south-east from a major interchange with the A448 Bromsgrove to Redditch (Bromsgrove Highway).

3.68 There are a number of local distributor roads in the vicinity of the site including Church Road and access to the development site to the A448 is gained via Church Road by either Foxlydiate Road or Heathfield Road. The local highway network in relation to the site is considered to comprise of the following;

Church Road

3.69 Church Road to the north east of the site is a single carriageway road varying from 5.5m to 6m wide and is subject to a 30mph speed restriction. An existing public right of way (Bridleway no. 26) access is provided off Church Road and crosses part of the site. Access to the site is to be taken from Church Road.

Pumphouse Lane

3.70 Pumphouse Lane is an adopted single track road located to the north of the site. It is an essentially rural lane which varies in width



and serves a small number of dwellings and agricultural businesses. At its narrowest point Pumphouse Lane is 3.5m wide with grass verges varying in width from 0.5m to 3m. Pumphouse Lane runs from Church Road to Angel Street and forms part of the National Cycle Route 5.

Great Hockings Lane

3.71 Great Hockings Lane provides direct access into an existing residential estate from a conventional roundabout at the junction of Church Road/ Foxlydiat Land/Cur Lane. The roundabout has a large central overrun area to cater for larger vehicles.

3.72 Great Hockings Lane is approximately 5.5m wide and it is understood the road was originally designed to accommodate an extension into the proposed development site as it terminates close to the boundary hedge adjacent to Pumphouse Lane.

Heathfield Road/Blackstitch Road

3.73 Heathfield Road and Blackstitch Lane run parallel with each other between Middle Piece Drive and the Blackstitch Lane/Green Lane/Church Road/ Heathfield Road roundabout. Heathfield Road is constrained in places by on-street parking and other areas of on-footway

parking. Blackstitch Road is considered to be more suitable in geometry and safety terms to be utilised by development traffic.

3.74 Concerns have been raised over the presence of on street parking along Heathfield Road. On street parking is noted on Heathfield Road over approximately 400 metres although the predominance of the parking occurs to the south of Downsell Road over approximately 200 metres. The on street parking is contained to the western side of the carriageway with existing yellow lines prohibiting parking on the eastern side. Whilst the on street parking does delay

some traffic movement along this section the clear eastern side and gaps within the row of parked cars does allow traffic to manoeuvre along this route. The on street parking however does have the advantage of acting a traffic calming function slowing speeds down along this route. On site observations would suggest that the majority of any traffic routing in this location is car based with no public transport noted south of Downsell Road and few HGV's observed.



3.75 The proposed development is likely to have little impact on Heathfield Road with Blackstich Lane considered the desirable route for any development traffic as the road is a better standard, with few obstructions and it provides an easier link onto Middle Piece Drive which in turn provided links on to the B4504 and Birchfield Road which will be key destinations. Blackstich Road is also considered to offer the better option for the potential diversion of existing public transport services into the development area.

3.76 A detailed Transport Assessment will be prepared for the proposed development which will consider the routing of traffic in more detail and consideration will be given to any potential impact along Heathfield Road. If through consultation with Worcestershire County Council the impact on Heathfield Road is considered to be significant, consideration to improvements measures will be presented which may need to be implemented as a result of the development proposals. One such measure could be the

introduction of more formalised parking bays which will seek to contain parking to certain areas and help create gaps in the parking to allow vehicles to manoeuvre with greater ease.

3.77 Overall the on street parking along Heathfield Road is not considered to be a significant constraint with a more preferable route available along Blackstich Lane which will limit any impact from the proposed development.

Existing Sustainability

3.78 It has been agreed that baseline Accessibility Modelling will be completed by WCC to determine the existing baseline situation. The Accessibility Modelling will identify improvements for walking, cycling and public transport which can be tested in the model to ensure suitable, sustainable transport opportunities are developed.

3.79 A summary of the existing public transport, walking and cycling facilities is provided overleaf along with suggested improvements to be provided as part of the development.



Bus

3.80 There are two bus services currently operating within the Webheath area. The service numbers 68 and 55/56 currently operate Springvale Road and Tynsall Avenue to the north of the site. The service number 68 operates between Redditch and Crabbs Cross via Webheath on a 30 minute frequency with the 55/55a providing an hourly Sunday service.

3.81 There are currently no bus services available within 400m walking distance of the site with the closest bus stops located to the north on Springvale Road.

3.82 The table below provides a summary of the public transport services operating within Webheath.

3.83 In order to provide a bus service to the site, it is considered a diversion of the existing bus route will be required. Details of a proposed diversion have been provided to WCC for comment. The diversion would involve possible routing alterations to services 68 and 55A in order to incorporate the proposed development. The revised routing changes would bring the service within the site area via Church Road. The route could then either continue through the site and along Great Hockings Lane or turn within the site and exit back onto Church Road. Feedback on these proposed arrangements is currently awaited however it is generally considered a solution is available subject to further

discussions with WCC and the service provider (Arriva). It should be noted any proposed diversions would take account of existing residents and not seek to reduce or diminish their service provision.

3.84 Along with any diversion, improvements to and addition of local infrastructure (bus stops etc.) would be required along with possible improvements in service frequency.

3.85 An internal loop road connecting the 2 points of access will be provided and this will be 6.1m wide which is suitable to accommodate a bus route.

Rail

3.86 Redditch Train Station is approximately 3km from the site. Services are operated by Central Trains on the Redditch – Birmingham New Street line. This service enables access to wider, regional and national destinations. The Train Station is currently served by the bus service number 68 with the National Cycle Route 5 also providing access to the Train Station.

Summary of public transport services operating within Webheath

Service	Operating Time	Frequency	Route
68	06.53 – 23.00	30 minutes	Redditch – Webheath – Crabbs Cross
55/55a	10.09 – 18.29	Hourly	Redditch – Oakenshaw – Webheath

Existing Pedestrian Facilities

3.87 According to the National Travel Survey (Goodman et al, 1998), walking constitutes 29% of all journeys made in a year, on a national scale. Planning Policy Guidance 13 (PPG13) – Transport, states that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2km. The Department of Transport National Statistics, Personal Travel Fact Sheet No.4 – January 2003 – entitled “Walking in Great Britain” states that 4 out of 5 (77%) of walking trips were under a mile (1.6km) and only 8% were 2 miles or above in length.

3.88 There are a number of existing footways and footpaths within close proximity of the site providing access to various local services and amenities. A series of on and off road footways provide access to some of the local amenities. There is an existing footpath link from Church Road to Neighbrook Close to the north of the site that provides access to the schools on Springvale Road.

3.89 There is an existing Bridleway (number 26) that runs through the site from Church Road past Brownlas Farm to Pumphouse Lane in a north-east to south-west direction.

3.90 The following amenities and facilities are located within 2km walking distance from the site;

- Webheath First School
- Our Lady Mount Carmel Catholic School
- Children’s play area
- Post Office
- Church
- Village Hall
- Golf Course
- Convenience Store
- Public House

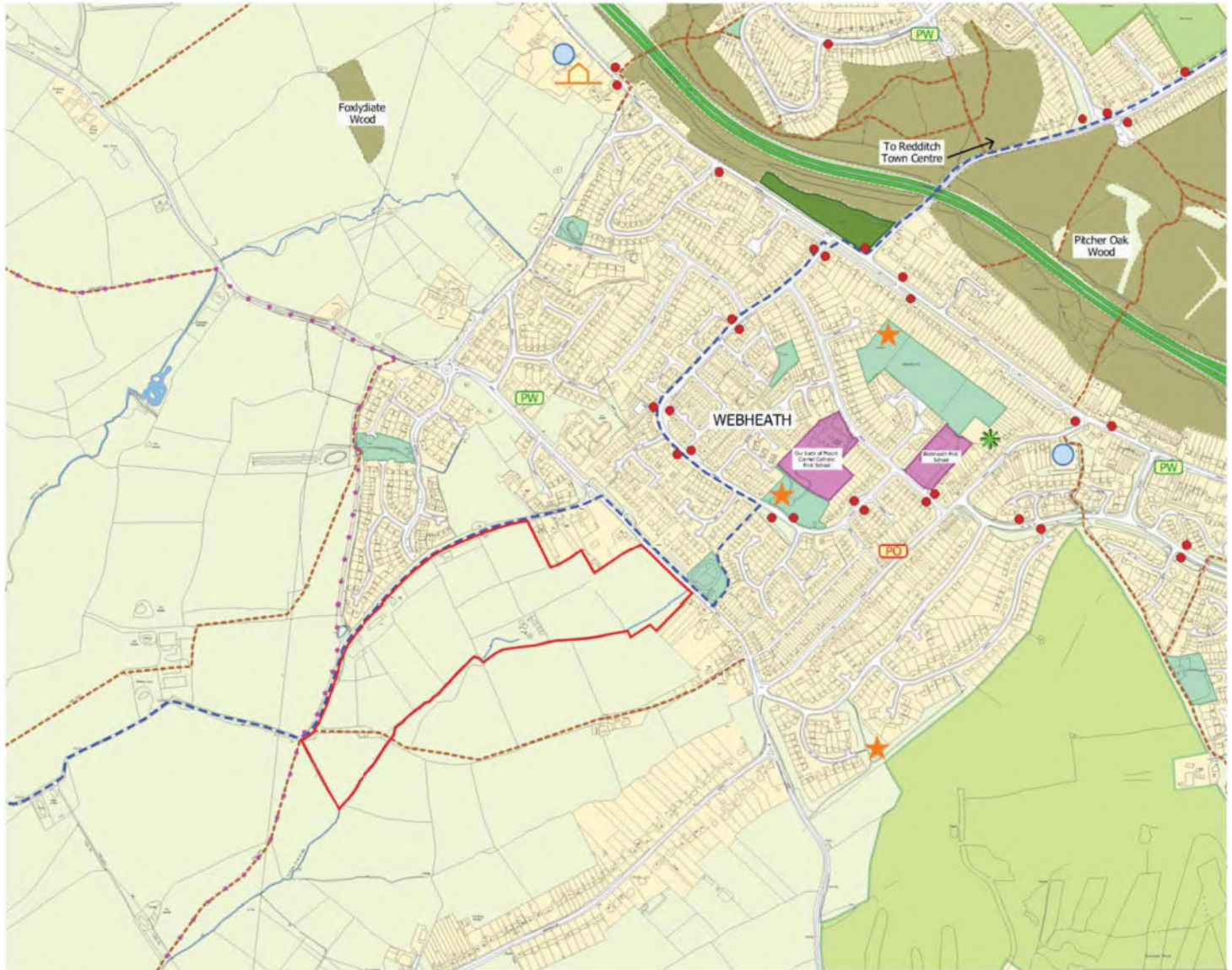
3.91 As part of the development proposals a local centre will be provided within the site close to Church Road. It is

considered the provision of these services would serve both new residents and the wider Webheath community as the local centre would be within 800m of the majority of the existing residential properties in Webheath.

Existing Cycling Facilities

3.92 PPG13 states that cycling has the potential to substitute short car trips, particularly those less than 5 km. The DoT National Statistics, Personal Travel Fact Sheet 5A – January 2003 – entitled “Cycling in Great Britain,” states that the average length of a cycle stage was 2.4 miles (3.86km) and that 10% of cycle trips were 5 miles (8km) or over in length.

Figure 7. Facilities Plan



Legend

- | | | | |
|--------------------------------------|---------------------------|-----------------------|--------------------------------|
| Site Boundary
12.85 Ha / 31.75 Ac | Primary School | Existing Woodland | Children's Play Area |
| A Road (A448) | Playing Fields/Open Space | Existing Watercourses | Bus Stops |
| B Road (B4504) | Sports Centre | Village Hall | Bridleway Footpaths |
| Place of Worship | Golf Course | Public House | National Cycle Network (No. 5) |
| Post Office | Allotment | Hotel | National Trail - Monarch's Way |



3.93 A review of the Sustrans website has determined that the West Midlands Cycle Route (part of National Cycle Route 5 Stratford upon Avon to Birmingham), runs adjacent to the site on Pumphouse Lane. Cycle Route No. 5 extends across Church Road from Pumphouse Lane and links into the residential area to the north off Springvale Road. This route is a signed on-road route (with short sections of off-road links) and provides a link to Redditch to the east and Bromsgrove to the west of the site. An extract from the Sustrans website is provided below.

Highway Impact

3.94 It has been agreed with WCC the following junctions will be assessed as part of the Transport Assessment with wider junctions covered in the WCC Transport Model for Redditch:

- Church Road/Great Hockings Lane/Cur Lane/Foxlydiate Lane roundabout
- Birchfield Road/Foxlydiate Lane junction
- Birchfield Road/Heathfield Road junction
- Windmill Drive/Middle Piece Drive roundabout

- Middle Piece Drive/Blackstitch Road junction
- Middle Piece Drive/Heathfield Road junction
- Blackstitch Road/Green Lane/Church Road/Heathfield Road roundabout

3.95 In due course, information relating to trip generation and distribution of growth will be made available to help inform the Transport Assessment and WCC model. Traffic counts will be undertaken at the appropriate time.

Figure 8. Sustrans Route



3.96 An estimation of trip rates and trip generation rates is provided below. The data has been determined from the TRICS database and 85th percentile trip rates have been used for robustness.

3.97 In terms of trip distribution, it is likely the majority of trips will distribute to/from the A448 Bromsgrove Highway to the north of the site. The development trips will then distribute to/from the east and west towards major employment attractors such as Redditch, Bromsgrove, Birmingham and Worcester. The trip distribution will be determined as part of the WCC modelling exercise.

3.98 The impact of the development will be fully assessed as part of a TA and the development will provide suitable mitigation measures to show nil detriment on the local highway network. Previous assessment work has highlighted the fact the development could be accommodated on the local highway network however this will be updated as the development proposals move forward.

Trip Rates derived from TRICS data (85th percentile rates)

Land Use GFA	AM Peak Hour Weekday (08.00 – 09.00)		PM Peak Hour Weekday (17.00 – 18.00)	
	Arrivals	Departures	Arrivals	Departures
	Residential	0.177	0.523	0.478
Total for Peak	0.700		0.726	

Trip Generation Rates for developments of 250 and 350 dwellings

Land Use GFA	AM Peak Hour Weekday (08.00 – 09.00)		PM Peak Hour Weekday (17.00 – 18.00)	
	Arrivals	Departures	Arrivals	Departures
	250 dwellings	44 trips	131 trips	120 trips
Total for Peak	175 trips		182 trips	
350 dwellings	62 trips	183 trips	167 trips	87 trips
Total for Peak	245 trips		254 trips	

Accident Data

3.100 Following comments made by local residents, Redditch Borough Council raised the issue of a perceived accident problem in the local area and principally along Church Road. We have obtained up-to-date accident data information from Worcestershire County Council and this confirms there are no accidents recorded on Church Road and a summary is provided below. The table overleaf provides a summary of accidents that have occurred within Webheath during the previous 5 years.

3.101 The table shows there have been no recorded accidents on Church Road within the previous 5 years. There have been two serious accidents within the previous 5 years occurring on Birchfield Road to the north of the development.

3.102 Based on the above it is not considered there is an existing accident problem close to the site and it is our understanding that the evidence presented within the accident data is not disputed by the highway authority.



Accidents occurring within Webheath north of Church Road

Year	Location	Conditions	Severity	Description
2005	Blackstitch Lane/Middle Piece Drive	Day/Wet	Slight	Vehicle 1 pulls out of minor road and collides with Vehicle 2 travelling on main road
2006	Downsell Road/Lyndenwood Junction	Day/Dry	Slight	Driver of vehicle 2 alights to speak to driver of Vehicle 1. Vehicle 1 drives away colliding with driver of Vehicle 2
2006	Birchfield Road	Day/Dry	Slight	Vehicle 1 (cycle) looks down, fails to see parked car and collides with rear.
2006	Birchfield Road	Day/Dry	Slight	Vehicle 1 followed by Vehicle 2 (moped) as Vehicle 1 moves to middle of road then turns left into driveway and collides with Vehicle 2
2006	Birchfield Road	Day/Dry	Slight	Driver of Vehicle 2 blinded by low sun and collides with Vehicle 1
2006	Springvale Road	Day/Wet	Slight	Vehicle 1 collides with Vehicle 2 which has moved to opposite side of road to overtake parked cars
2007	Bromsgrove Road	Dark/Ice	Slight	Vehicle 1 loses control on icy surface and collides with vehicle 2 travelling in opposite direction
2007	Middle Piece Drive/Dunstall close junction	Day/Dry	Slight	Vehicle 2 stopped to turn right and is hit from behind by Vehicle 1
2007	Birchfield Road/Tynsall Ave junction	Dark/Wet	Slight	Vehicle 2 turns right across the path of oncoming Vehicle 1 (cycle) resulting in collision
2007	Middle Piece Drive/Blackstitch Lane junction	Day/Wet	Slight	Vehicle 1 turning right onto main road in front of Vehicle 2 causing collision
2007	Green lane	Day/Dry	Slight	Vehicle 1 negotiating bend when confronted by Vehicle 2 on wrong side of road overtaking parked Vehicle causing collision
2008	Middle Piece Drive/Blackstitch Lane junction	Day/Wet	Slight	Vehicle 1 fails to stop at junction and collides with passing Vehicle 2
2008	Windmill Drive	Dark/Dry	Slight	Taxi drops off passenger and as vehicle moves away collision occurs with passenger
2008	Birchfield Road/Bromsgrove Road junction	Day/Dry	Slight	Vehicle 1 waiting to let HGV turn at junction, Vehicle 2 fails to see Vehicle 1 and collision occurs
2008	Middle Piece Drive/Blackstitch Lane junction	Dark/Dry	Slight	Vehicle 1 turns onto main road and fails to see Vehicle 2 resulting in collision
2009	Windmill Drive	Day/Dry	Slight	Driver of Vehicle 1 pulls to side of road due to frozen windscreen and is hit in the rear by Vehicle 2
2009	Birchfield Road/Tynsall Ave junction	Day/Ice	Slight	Vehicle 1 pulls out onto main road and collides with Vehicle 2
2009	Fenwick Close	Day/Dry	Slight	Rider of Vehicle 1 (motorcycle) loses control entering road and collides with tree
2009	Heathfield Road	Dark/Dry	Slight	Vehicle 2 stationary when struck in the rear by driver of Vehicle 1 distracted by mobile phone
2009	Windmill Drive/Middle Piece Drive roundabout	Dark/Dry	Slight	Vehicle 2 negotiating roundabout when Vehicle 1 pulls out and causes collision
2009	Birchfield Road	Day/Dry	Serious	Vehicle 1 travelling along road when pedestrian walks into road causing collision
2009	Birchfield Road/Middlepiece Drive junction	Day/Wet	Slight	Vehicle 1 collides with pedestrian who was inebriated
2010	Birchfield Road/Reynard Close junction	Day/Dry	Serious	Vehicle 1 and 2 travelling in opposite direction when unexplained Vehicle 1 moves to wrong side of road causing collision
2010	Middle Piece Drive/Blackstitch Lane junction	Day/Wet	Slight	Vehicle 2 fails to stop at junction and collides with Vehicle 1



Access

3.103 The main access points will be taken from Church Road and Great Hockings Lane and these locations have been agreed in principle with WCC. Two options have been provided for access from Church Road including a roundabout and a segregated right turn lane.

3.104 There are also two options for access from Great Hockings Lane. The first options links Pumphouse Lane east and west with the newly extended Great

Hockings Lane. The second option shows the western extent of Pumphouse Lane accessed from the extended Great Hockings Lane with the eastern section (where existing residential dwellings are located) being served in isolation and accessed from the existing junction off Church Road.

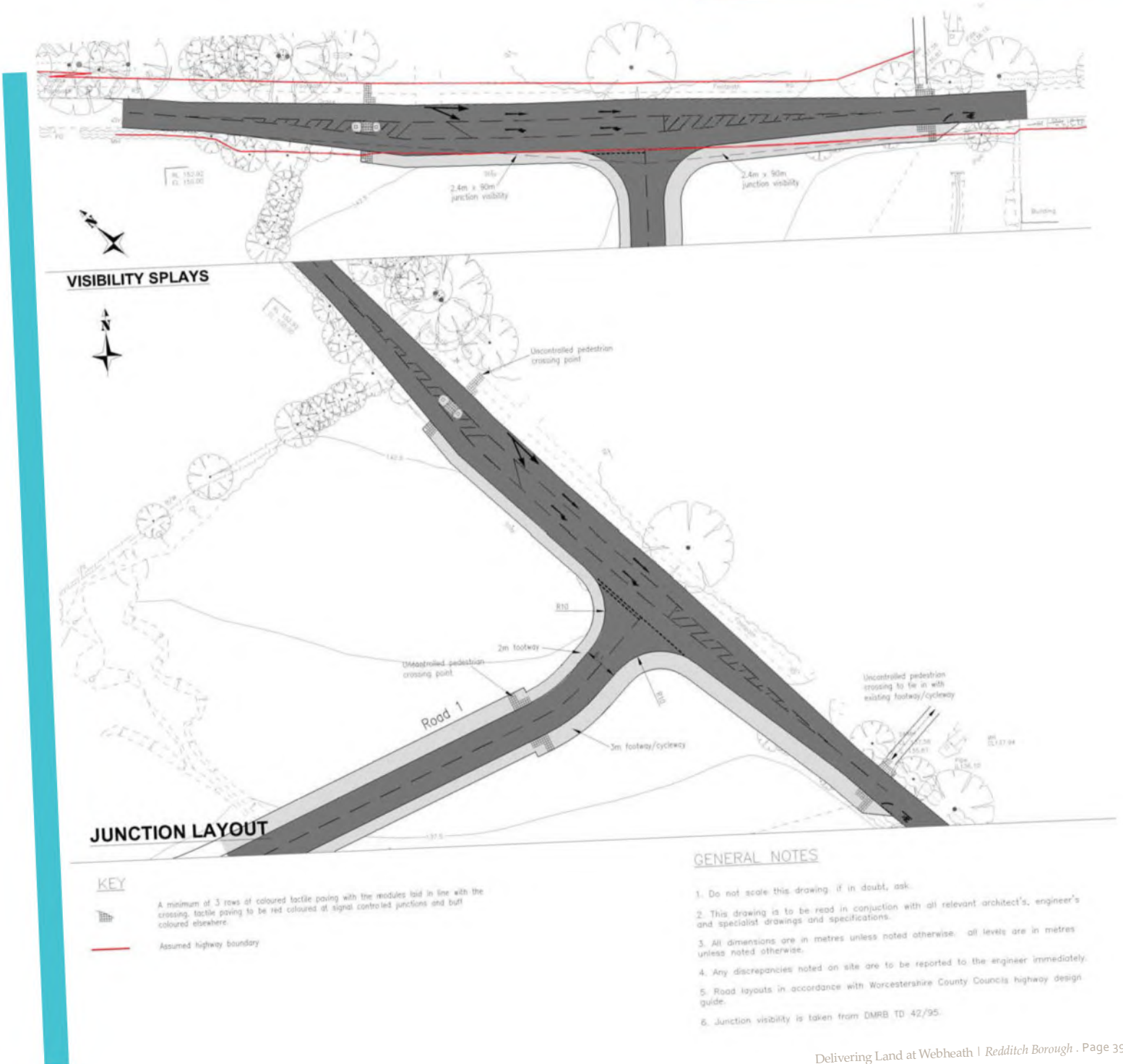
3.105 Additional comments on each access option are outlined below and relevant designs are attached;

Church Road

Right Turn Lane option

3.106 A right turn lane can be provided within the land fronting Church Road. The alignment of the junction can be accommodated within existing highway land with a 3m right turn lane provided to facilitate movements into the site. Visibility splays have been calculated based on the stopping sight distance formula in Manual for Streets 2. This is the preferred option as it retains the character of the existing road.

Figure 9. Church Road Right Turn Lane Option



Church Road

Roundabout option

3.107 A roundabout can be provided within the land available fronting Church Road. The alignment and geometry of the junction can be accommodated within the highway or land under the control of the developers and we have confirmed that forward visibility splays are not constrained.

Figure 10. Church Road Access



KEY



A minimum of 3 rows of coloured tactile paving with the modules laid in line with the crossing. tactile paving to be red coloured at signal controlled junctions and buff coloured elsewhere.

GENERAL NOTES

1. Do not scale this drawing. if in doubt, ask.
2. This drawing is to be read in conjunction with all relevant architect's, engineer's and specialist drawings and specifications.
3. All dimensions are in metres unless noted otherwise. all levels are in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Great Hockings Lane Option 1

3.108 The existing cul-de-sac will be extended into the site to provide a principle means of access. Option 1 will involve Pumphouse Lane east and west linking with the newly extended Great Hockings Lane. It is noted that a crossroad

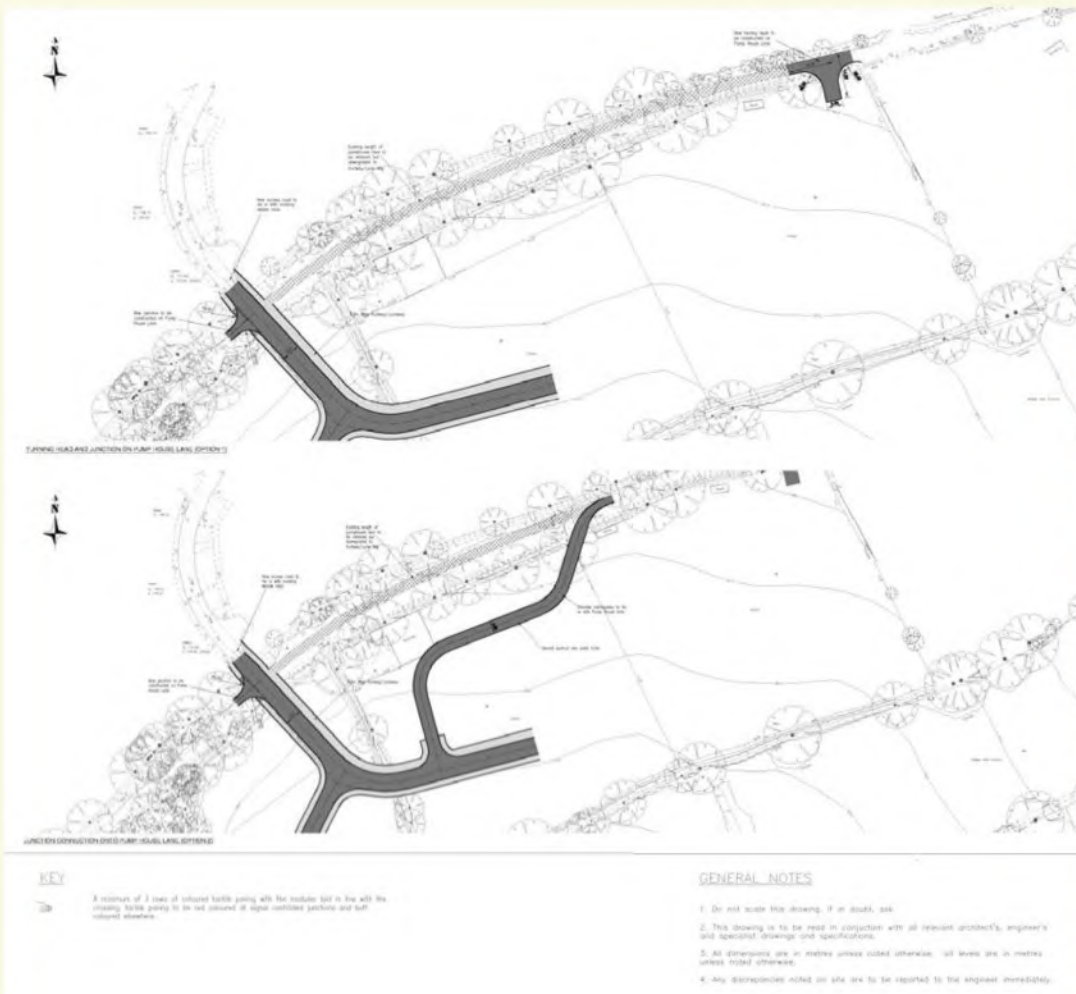
junction should not be created and so some realignment of Pumphouse Lane will be required.

Great Hockings Lane Option 2

3.109 This option would involve the western extent of Pumphouse Lane being accessed from the extended

Great Hockings Lane with the eastern section (where existing residential dwellings are located) being served in isolation and accessed from the existing junction off Church Road. The existing section of road between the two points would be downgraded to a footway/cycleway.

3.110 In due course a speed survey and traffic count data will be obtained for both access locations along with the preparation of Stage 1/2 Road Safety Audit. This information will be issued to and discussed with WCC in due course. Each access option will be assessed as part of the TA to ensure they can accommodate the development trips.



Option 1

Option 2



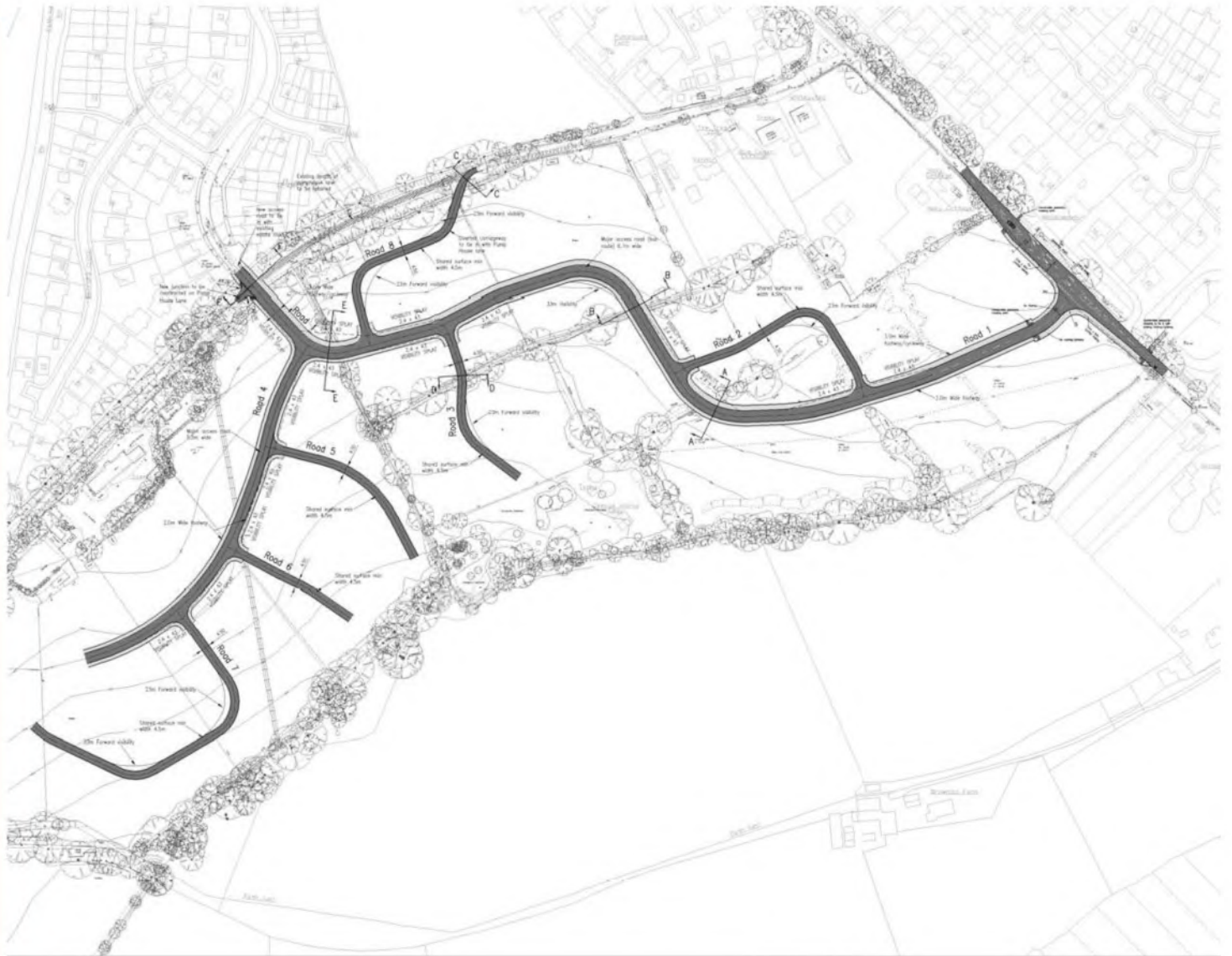


Internal Layout


3.111 A 6.1m spine road will be provided through the development site providing a link between Church Road in the east and Great Hockings Lane to the north. The road has been designed to 6.1m as requested by WCC to accommodate a bus route with a 2 metre wide footway on the southern side of the carriageway and a 3 metre wide shared footway/cycleway on the northern side of the carriageway. A 5.5m wide major access road is shown providing access to development in the west of the site and will form a priority T-junction with the main spine road.

3.112 A number of secondary shared surface access roads will be provided within the site a minimum width of 4.5m with 2.4m x 43m visibility splays provided at the junction of the secondary accesses with the main spine road.

Figure 11. Internal Road Layout



KEY

 A minimum of 3 rows of coloured tactile paving with the modules laid in line with the crossing, tactile paving to be red coloured at signal controlled junctions and buff coloured elsewhere.

GENERAL NOTES

1. Do not scale this drawing, if in doubt, ask.
2. This drawing is to be read in conjunction with all relevant architect's, engineer's and specialist drawings and specifications.
3. All dimensions are in metres unless noted otherwise. all levels are in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.
5. Road layouts in accordance with Worcestershire County Councils highway design guide.

Mitigation

3.113 Based on the information provided and following discussions with WCC, the following mitigation measures are deemed necessary to mitigate the impact of the development (note this is not an exhaustive list):

- In order to ensure the development has nil detriment on the highway network, the developers will be required to fund reasonable and related highway improvements deemed necessary by the highway assessment work.
- Provision of a local centre within the site to provide amenities and facilities directly to the proposed residents and the residents of the adjacent Great Hockings Lane residential estate. The local centre would also provide benefit to the existing residential areas within Webheath.
- In order to provide a bus service to the site it is considered a diversion of the existing bus route will be required. The revised routing changes would bring the service within the site area via Church Road. The internal spine road will be provided at 6.1m wide which is considered suitable by WCC to accommodate a bus route.
- A Travel Plan will be developed for the site in order to reduce travel to work by car and encourage use of sustainable transport modes. The TP will be produced following consultation with WCC and some of the key measures which may to be included within the Travel Plan are.
 - Welcome Packs (including temporary free bus passes for each household)
 - Walking Bus Scheme
 - Public Transport improvements and enhancements
 - Pedestrian and cycle improvements and enhancements
 - Promotion of Car share schemes
 - Staff Training
 - Assignment of a Travel Plan Coordinator

Conclusion and Recommendations

3.114 In order to consider the impact of the development in this location a detailed TA and TP will be produced to support any future planning application at the site and this should include Accessibility and Highways Modelling which will be undertaken by WCC to feed into these documents. It is however considered that following the investigations undertaken to date and following detailed discussions with WCC there are no insurmountable reasons why development cannot take place at Webheath if suitable and appropriate mitigation measures are provided.

Figure 12. Site Landscape Character

Landscape Character



LEGEND

- Site boundary
- Monarch's Way long distance footpath
- Bridleway
- Photograph locations
- Landscape Character Areas
- A: Open countryside
- B: Gently sloping par-enclosed agricultural
- C: Enclosed agricult
- D: Open agricultural remnant hedgerows
- E: Enclosed bridlows
- F: Pumphouse Lane lined avenue

Site Review

3.115 A comprehensive walkover assessment was carried out to establish the landscape character and the key landscape features to be retained. A visual appraisal of the site was also carried out.

3.116 The following text seeks to resolve issues relating to the retention of existing vegetation in relation to levels, impacts upon the local landscape character and visual implications as a result of the proposals.

Landscape Character at the Baseline

3.117 Landscape character is what makes an area distinctive, what gives it a sense of place and what makes it different from another landscape.

3.118 Natural England identifies the area as National Character Area 97: Arden, and is described below:

- well-wooded farmland landscape with rolling landform;
- ancient landscape pattern of small fields, winding lanes and dispersed, isolated hamlets;
- contrasting patterns of well-hedged, irregular fields and woodlands, interspersed with larger semi-regular fields on former deer parks and estates, and a geometric pattern on former commons;

Landscape Character Area A: Open countryside



Viewpoint A1: Gently sloping large scale fields with views to and from the east, crossed by low hedgerows and sparsely vegetated stream corridor



Viewpoint A2: Open views possible of surrounding countryside; from this elevated position

- numerous areas of former wood-pasture with large, old, oak trees often associated with heathland remnants;
- narrow, meandering river valleys with long river meadows;
- a north-eastern industrial area, based around former Warwickshire coalfield, with distinctive colliery settlements; and

- a north-western area dominated by urban development and associated urban edge landscapes.
- 3.119 At a regional level the site lies within the Mid-Worcestershire Forest Landscape Character Area as defined by Worcestershire County Council. This character area is extensive extending from Redditch and Bromsgrove down to Worcester and as far as the M50 near Tewksbury. Generally

a lowland region (mostly below 60m) with local pronounced undulating topography. There are remnants of Royal forests which include farmland and common land.

3.120 The site lies within the Principal Timbered Farmlands Landscape Character Type as defined by Worcestershire County Council. This landscape character type is described as:

- filtered views through densely scattered hedgerow trees;
- prominence of oak trees;
- organic pattern of winding lanes and hedged fields;
- irregularly shaped woods of ancient character;
- dispersed pattern of scattered farmsteads and wayside cottages; and
- rolling lowland with occasional steep-sided hills and low escarpments.

Landscape Character Area B: Gently sloping partially enclosed agricultural fields

Vegetation along stream corridor



Landscape Character Area B: Gently sloping partially enclosed agricultural fields

Viewpoint B1: Land falls from the south-east and north-west, towards densely vegetated stream corridor in the centre



Viewpoint B2: Densely vegetated stream corridor is dissected by overhead powerline. Farmhouse on Pumphouse has open views into character area



Viewpoint B3: Densely vegetated stream corridor is dissected by Stream corridor is rich in landscape, ecological and archaeological value

Local Landscape Character

3.121 A local landscape character assessment of the site was undertaken, and the site divided into six character areas as shown on Plan 2145/14. They are also illustrated on the character photosheets.

3.122 The character areas are:

- **Open Countryside:** (see viewpoint A1). This character area comprises one large open field on sloping land characterised by mature trees of high landscape value on its periphery and by a stream corridor on its south-eastern edge. It is overlooked by houses along Crumpfields Lane to the south east. The character of this area is similar to fields west and south-east of the site.
- **Gently sloping partially enclosed agricultural fields:** (see viewpoints B1 and B2). This character area comprises land gently sloping towards the densely vegetated stream corridor which runs along its southern edge. The farm is a feature along the northern edge, and the farmhouse has open views into the area. The stream corridor is a focus; rich in landscape, ecological and archaeological value.
- **Enclosed agricultural fields:** (see viewpoints C1-C3). This character area comprises a network of hedgerows containing trees of moderate and high landscape value defining a small field pattern. Backs of property gardens along Pumphouse Lane enclose the area to the north east.



Viewpoint C1: Land used for agriculture



Viewpoint C2: A network of hedgerows containing trees of moderate and high landscape value



Landscape Character Area C: Enclosed agricultural fields

Viewpoint C3: Landscape is enclosed to the south by trees in property gardens along Pumphouse Lane

- **Open agricultural land with remnant hedgerows:** (see viewpoint D1). This character area comprises a large open field edged by, and featuring remnant hedgerows, containing trees of moderate and high landscape value. A low clipped hedgerow defines its eastern edge, allowing views into the site from Church Road.

- **Enclosed bridleway:** (see viewpoints E1-E3). This character area comprises the most western stretch of the bridleway which is enclosed on all sides by the canopies of vegetation that line it. It is this line of mature trees and substantial shrubs that distinguish the bridleway when viewed from surrounding areas.

- **Pumphouse Lane – tree lined avenue:** (see viewpoints F1-F4) This character area is dominated by a mature avenue of trees which line Pumphouse Lane. The site can be seen between these trees to the south, and Pumphouse Lane is overlooked by houses in the vicinity of Great Hockings Lane.



Landscape Character Area D: Open agricultural land with remnant hedgerow

Viewpoint D1: Open grazed fields bound on its eastern edge by a low clipped hedgerow allowing views into the site from Church Road



For continuation see above

For continuation see below

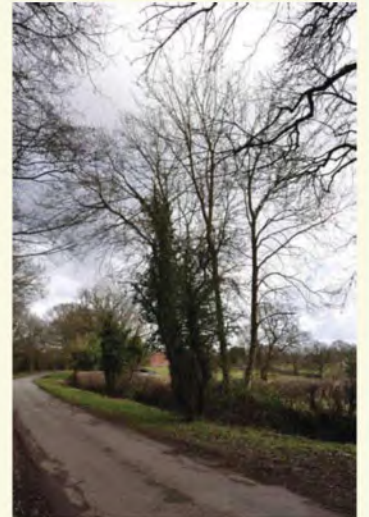
Landscape Character Area F: Pumphouse Lane - tree lined avenue



Viewpoint F1: The character of Pumphouse Lane is more enclosed in the vicinity of the farm



Viewpoint F2: A mature avenue of trees lines Pumphouse Lane



Viewpoint F3: The site can be seen between mature trees along Pumphouse Lane over existing hedgebank



Viewpoint F4: Pumphouse Lane is overlooked by backs of houses on Great Hockings Lane

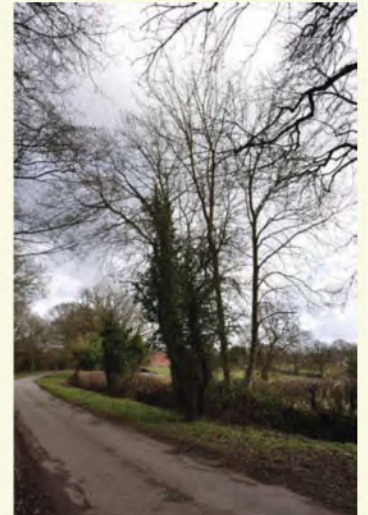
Landscape Character Area F: Pumphouse Lane - tree lined avenue



Viewpoint F1: The character of Pumphouse Lane is more enclosed in the vicinity of the farm



Viewpoint F2: A mature avenue of trees lines Pumphouse Lane



Viewpoint F3: The site can be seen between mature trees along Pumphouse Lane over existing hedgebank



Viewpoint F4: Pumphouse Lane is overlooked by backs of houses on Great Hockings Lane

Existing Features at the Baseline

3.123 The main landscape features of the site are shown on Plan 2145/13, and include:

- existing trees and hedgerows;
- the stream corridor; and
- the bridleway which runs through part of the site, and the long distance footpath which runs adjacent to the site.

3.124 The site lies on the edge of Redditch between Church Road, Pumphouse Lane and Crimpfields Lane with open countryside along the western boundary. The site is set within a number of medium sized irregular shaped fields with variable quality hedgerows. A stream runs through the centre of the site which is heavily treed on either side, and a pond for Great Crested Newts is located on the northern side of Pumphouse Lane. A mature avenue of oak trees lines Pumphouse Lane to the north of the site.

Figure 13. Landscape Features



LEGEND

Site boundary

Landscape Value of Trees and Hedgerows

High landscape value trees/ hedgerows

Moderate landscape value trees/ hedgerows

Low landscape value trees/ hedgerows

Grade R trees for removal due to arboricultural reasons

Existing Landscape Features

Public rights of way

Stream

Notes:

1. Trees and hedgerows outside the site boundary were not assessed, apart from trees along Pumphouse Lane

Vegetation

3.125 A visual survey of trees and vegetation was undertaken to identify their importance in terms of the contribution that they make to landscape character and visual amenity. This is shown on Plan 2145/13. This information was used to make decisions on the retention of trees and hedgerows.

3.126 The vegetation has been divided into the following categories:

- **High landscape value trees/hedgerows:** To be retained for their landscape importance and character.
- **Moderate landscape value trees/hedgerows:** Retain if possible. Trees making a contribution to the landscape setting and landscape character.
- **Low landscape value trees/hedgerows:** Tree groups/individuals which make little contribution to the landscape setting and character.
- **Grade R trees:** recommended for removal for arboricultural reasons.

3.127 In summary, the trees of high landscape value (the retention of which is most important) are:

- those along the stream corridor,
- those along Pumphouse Lane, and
- those within hedgerows that are characteristic of the more enclosed parts of the site.

3.128 Trees and hedgerows of low landscape value are predominantly located along Church Road, to the south of the farm on Pumphouse Lane, and along the stream corridor to the west.

Rights of Way at the Baseline

3.129 A bridleway runs east-west through part of the site from Hill Top connecting to Church Road to Pumphouse Lane. The location of this footpath is shown on Plan 2145/14.

3.130 The Monarch's Way long distance footpath runs in proximity to the western boundary of the site.

Visual Appraisal

3.131 The key aspects of the visual appraisal are summarised below.

3.132 Key are from:

- the farmhouse on Pumphouse Lane in the north of the site;
- a property adjacent to the northern site boundary on Pumphouse Lane;
- properties on Church Road to the east;
- the bridleway that runs through part of the site on elevated land to the east; and
- Monarch's Way long distance footpath to the west.
- More distant views of the site are possible in proximity to Hanbury, on local roads, and along parts of the long distance footpath further to the south west.

Figure 14. Visual Appraisal



LEGEND

-  Site boundary
-  Existing vegetation to be retained where possible
-  Enclosure by housing on three sides
-  Elevated land within the site with public access
-  Open countryside

-  Key views
-  Stream

Opportunities and Constraints

3.133 Landscape and visual opportunities and constraints are summarised below.

3.134 Potential opportunities include:

- the structure afforded by existing vegetation, creating enclosed areas suitable for development parcels;
- opportunities to provide a strengthened landscape network;
- incorporation of areas with an open countryside character, as open space within the development;
- enhancement of the stream corridor, including its landscape, ecological and archaeological value;
- integration of proposed development with existing housing located on all three sides of the site;
- use of the site to strengthen the footpath network in the local area; and
- improvement of access to the stream corridor, providing recreational opportunities.

3.135 Constraints include:

- the strong character of the sunken bridleway;
- houses adjacent to the site with views into the site;
- the stream corridor and the landscape, ecological and archaeological constraints that it presents;
- existing vegetation of high landscape value to be retained where possible;
- the western edge of the site with a character of open countryside (see local landscape character area A) that should be excluded from development.

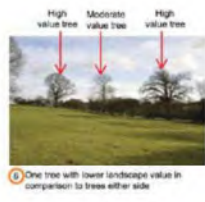
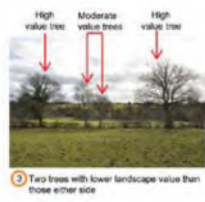
Road Access Options in Relation to Existing Trees

3.136 Using the information gathered from the site assessment and in conjunction with the constraints plan produced by CSa Environmental Planning, opportunities and options were put forward as to where best to breach hedgerows or to remove trees to best accommodate development.

3.137 The plan identifies the following:

- existing Grade A and B trees;
- existing trees to be removed for arboricultural reasons;
- suggested bridging of vegetation to accommodate access road;
- preferred route of access road;
- areas of vegetation of high landscape value, to be protected; and
- supporting photographs of existing vegetation, highlighting their landscape character and value.

3.138 The proposed route of the access road avoids areas of vegetation of high landscape value.



- LEGEND**
- Site boundary (to be confirmed)
 - Existing A and B grade trees (note 1)
 - Existing trees for removal due to arboricultural reasons (note 1)
 - Public rights of way
 - Suggested bridging of vegetation to accommodate access road

- Preferred route of access road
- Areas of vegetation of high landscape value, to be protected
- 2 Photograph of existing vegetation

Notes:
 1. Information taken from Ian Keen Limited Tree Constraints Plans 1-4 (Dwg No. 7482/01)
 2. Refer to CP plan 2145-13 for landscape value of trees and hedgerows

Figure 15. Road Access Options

Ecology

3.139 The ecological appraisal aims to:

- Undertake a desktop search for relevant biological records and assess their significance;
- Review the site in relation to its wider ecological context;
- Describe and map the habitats present at the site;
- Identify any potential protected or notable species issues;
- Evaluate habitats and species in line with standard methodologies;
- Present the findings of detailed species-specific survey/assessment work undertaken;
- Specify any more detailed survey work that may be required;
- Begin the process of assessing potential impacts; and
- Recommend appropriate mitigation or wildlife enhancement measures, where possible.

Methodology

3.140 Desktop Biological Records Search Information on statutory site designations is available online. The Multi-Agency Geographic Information for the Countryside (MAGIC) database was searched, looking for all relevant statutory sites within 5km of this development site.

3.141 A biological records search was also conducted for the area of land encompassing the proposed site and adjacent land within an approximate 1km radius. Worcester Biological Records Centre (WBRC) was contacted for records of non-statutory wildlife sites and protected / notable species within this radius. Results of the records search provided are discussed within the text where appropriate.

Site Survey

3.142 The site was visited on 08 and 09 July 2010 by Jamie Woollam AIEEM in order to undertake the field survey. The survey technique applied is commonly referred to as an 'extended Phase 1' survey. This is at a level intermediate between the Phase 1¹ survey (where standardised habitat mapping is undertaken together with making notes on dominant and notable species) and the more detailed (Phase 2) survey techniques that may be used to specifically record or survey particular habitats or species.

3.143 In this survey, the more obvious plant species observed within each habitat type are recorded and habitats are classified and mapped. Note is also taken of the more conspicuous fauna present during the survey, with particular attention paid to any evidence of, or potential for, the presence of protected or notable species. The Habitats Plan overleaf.

¹ Nature Conservancy Council (1990) Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC, Peterborough.

Figure 16. Habitat Plan



Legend		Target notes	
Species-poor semi improved grassland	Scattered tree	6 Horse paddocks and stables	7 Pond (off site)
Semi-improved grassland with species indicative of a more diverse sward	Scattered scrub	8 Disused sewage works	9 Large brush/log piles adjacent to dilapidated garden
Amenity grassland	Hedgerow	10 Old barn buildings (off site)	11 Standing water caused by heavy cattle trampling
Rough grassland	Gappy hedgerow	12 Brook (D1)	13 Outlier badger sett
Tall ruderal	Path	1 Delapidated metal shed	
Dense scrub	Ditch/Brook	2 Dry pond (off site)	
Broadleaved woodland	Ditch/Brook (dry)	3 Delapidated metal shed	
Building	Fence	4 Wet woodland area	
	Standing water	5 Garden/orchard habitat	
	Hardstanding		
	Badger path		
	Badger latrine		

Hedgerow Assessments

3.144 The detailed hedgerow surveys were conducted on 23 September 2010 by Kris Long MIEEM and Katie Critchley MIEEM. These were conducted using a standard hedgerow survey sheet to assess the importance of hedgerows as defined by the Hedgerows Regulations 1997² under Wildlife and Landscape Criteria.

² HMSO (1997) The Hedgerows Regulations 1997 – Statutory Instrument 1997 No. 1160.

The information collected and the methodology of the formal hedgerow assessments is based on the criteria within the Hedgerows Regulations 1997 and within the Department for Food and Rural Affairs (DEFRA) Hedgerow Survey Handbook³.

³ Department for Food and Rural Affairs (2007) Hedgerow Survey Handbook: A standard procedure for local surveys in the UK. Prepared on behalf of the Steering Group for the UK Biodiversity Action Plan for Hedgerows 2nd Edition. DEFRA London UK Biodiversity Action Plan for Hedgerows 2nd Edition. DEFRA London

3.145 In addition, the locations of the hedgerow sections were compared to 1839 Tardebigge tithe maps to ascertain their archaeology importance by establishing whether they were present prior to the Inclosures Act (1845). A Hedgerow Assessment Plan summarises the results below.



Figure 17. Hedgerow Survey Plan

It is understood that 28 of the 30 hedgerow sections meet the criteria for important hedgerows under archeological and

Preliminary Bat Activity Surveys

3.146 A preliminary bat activity survey was undertaken on 08 September 2010 during suitable weather conditions, as summarised in the table below. The purpose of the survey was

to gain an initial insight into bat activity at the site and the potential importance of the hedgerows as bat flight lines and foraging areas.

3.147 The activity survey was carried out by licensed bat workers Kris Long MIEEM,

Luke Casey MIEEM, Clare Caudwell MIEEM and Katie Critchley MIEEM. The survey was undertaken by walking transects of the site focussing on the hedgerows. The four 'walking' transects are shown on the Preliminary Bat Survey Transect Plan below.

Bat activity survey weather conditions

Survey date	Sunset (BST)		Time (hours)	Temp (oC)	Precipitation	Cloud cover (oktas)	Wind (Beaufort Scale)
08/09/10	19:43	Start	19:21	13.3	Dry	2/8	1
		End	21:43	13.0	Dry	7/8	0

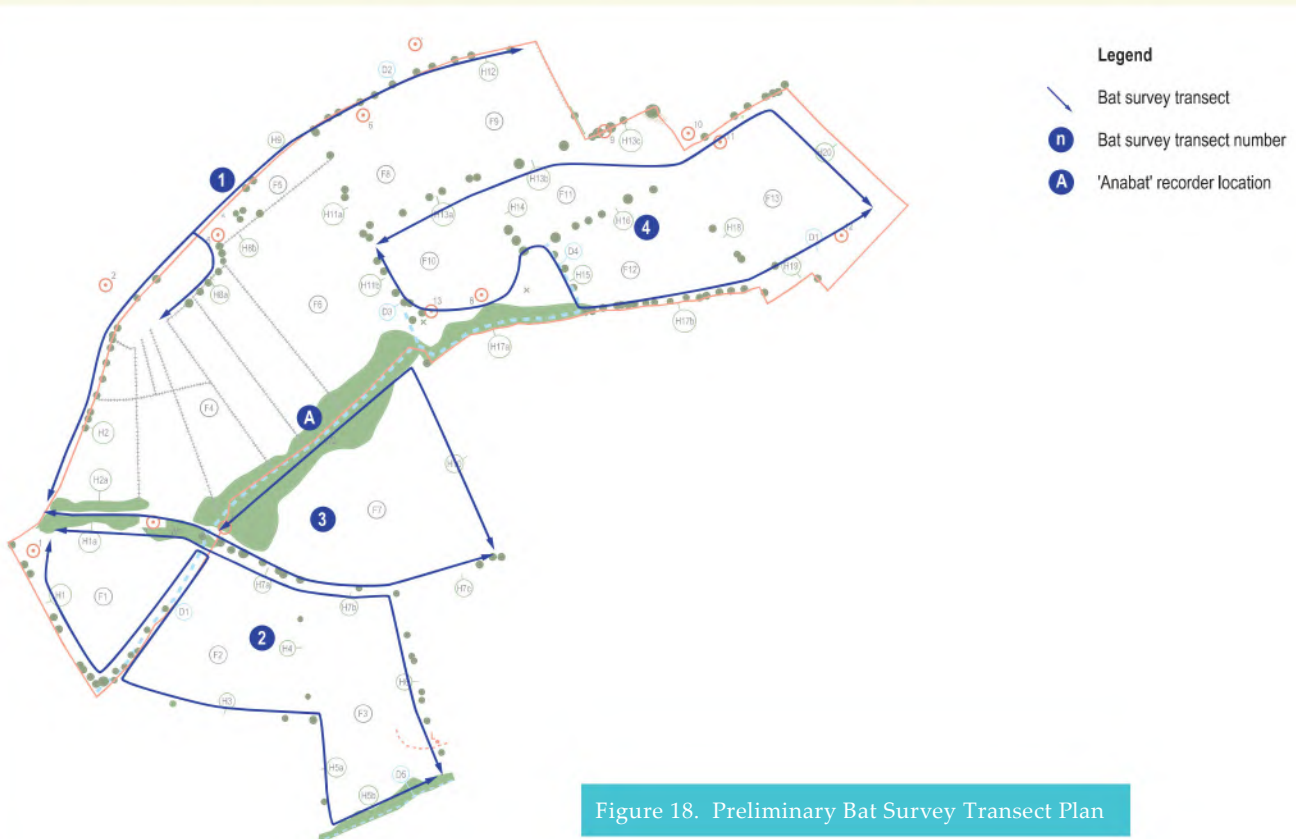
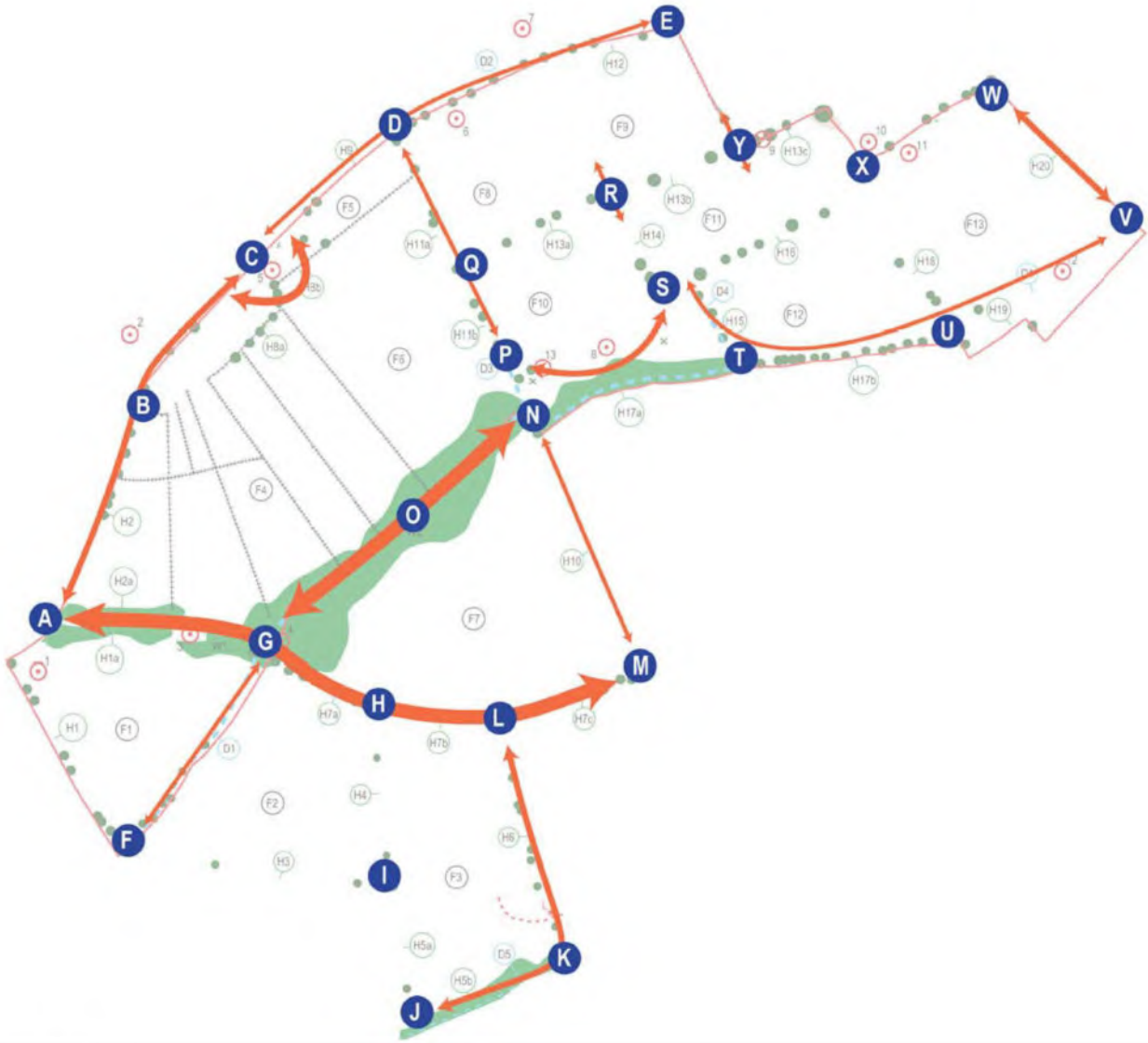


Figure 18. Preliminary Bat Survey Transect Plan

3.148 The survey started approximately 20 minutes prior to sunset and was terminated two hours after sunset in order to cover the main period of bat activity. During this time surveyors made observations of bat activity with the aid of broadband Batbox Duet and AnaBat SD1 detectors. Surveyors watched for any flying bats along transects and any bats entering or exiting trees and/or nearby buildings. The time of each bat pass, the species and information regarding behaviour was noted wherever possible. Bat calls were recorded with the AnaBat

detectors and these were subsequently downloaded and analysed using the computer software Analook v.3.37W to confirm species identification where possible. The use of Analook software functions, such 'slope' were used where possible to split closely related species (e.g. *Myotis* spp.). In addition, a static AnaBat recorder was located on a fence post approximately mid-way along the mature wooded strip as shown on the Preliminary Bat Survey Transect Plan. The key bat flight lines are shown on the Preliminary Bat Survey Results Plan overleaf.



Legend

- A** Bat activity locations
- Bat commuting and foraging routes
(note: weight of arrow denotes level of bat activity recorded between activity locations)

Figure 19. Preliminary Bat Survey Results Plan

Pond Assessments and Habitat Suitability Index (HSI)

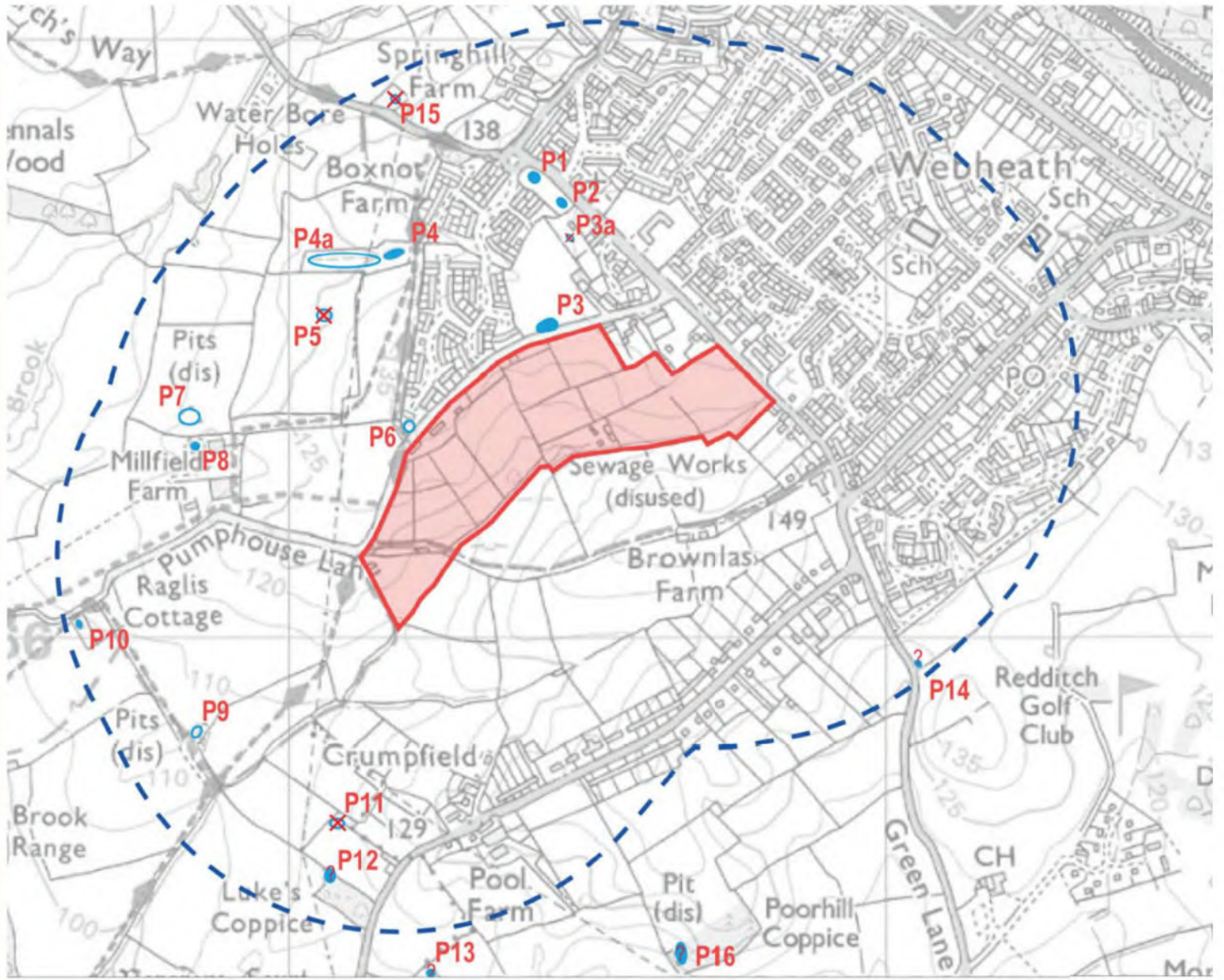
3.149 Natural England Guidelines⁴ suggest that all ponds within 500m of a proposed development area should be considered with respect to great crested newts. Several waterbodies were identified within 500m of the site from Ordnance Survey Maps and as a result of a ground-truthing exercise carried out by CSa.

3.150 With reference to OS maps there appears to be 18 potential ponds located within 500m of the site. Where access permission was obtained, the ponds were formally assessed against a set of standardised criteria considered to influence the use of ponds by great crested newt and a Habitat Suitability Index (HSI) calculation was undertaken, as set out by Oldham et al⁵. Where ponds were found to be no longer present or dry notes were made, although a HSI could not be calculated. The distance and locations of all potential ponds are referenced with a number to aid identification, and are shown on the Pond Location Plan overleaf.








⁴ English Nature (2001) Great Crested Newt Mitigation Guidelines. English Nature, Peterborough

⁵ Oldham et al. (2000) Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). Herpetological Journal 10: 143-155.

Figure 20. Pond Location Plan



Legend

- | | | | | | |
|---|---|---|--|---|---------------------------|
|  | Potential pond/open water feature (present) |  | Potential pond/open water feature (not assessed) |  | 500m radius from the site |
|  | Potential pond/open water feature (dry) |  | Potential pond/open water feature number |  | Site boundary |
|  | Potential pond/open water feature (absent) | | | | |

Winter Badger Activity surveys

3.151 A single hole outlier badger sett and other field signs indicating the presence of badgers has been identified on site. A winter badger survey was undertaken on 15 February 2011 by Kris Long MIEEM and Anna Price AIEEM to check for sett activity within hedgerows and woodland in order to be sure that all such features are identified. The survey was also used to identify prominent badger pathways and to gain an initial idea of the extent of badger activity within the site.

Formal Bat/Tree Assessments

3.152 With reference to the current masterplan proposals and tree survey information, all trees that have been indicated as requiring tree surgery works or will need to be removed to accommodate the development have been assessed for their potential to be used by roosting bats. Trees which have not been identified as requiring tree

surgery works but appear to occur close to new access roads, buildings or other potentially sensitive areas such as those along Pumphouse Lane were also assessed. The formal bat/tree assessments were undertaken on 15 February 2011 by Kris Long MIEEM and Anna Price AIEEM.

3.153 The trees were assessed from ground level using close focusing binoculars. The potential of each tree to support bats was assessed using the following criteria:

- High: tree supports obvious features that have the potential to support roosting bats, for example: woodpecker holes, crevices in bark, dense ivy growth, deadwood, cracked bark;
- Medium: tree supports features that may have potential to support roosting bats, similar to those described above, but due to their less optimal condition or location are considered to have less potential to support bats;

- Low: no obvious features are present with the potential to support roosting bats.

3.154 Where appropriate an intermediate category has been assigned (e.g. low – medium or medium – high) and notes have been made regarding bat roosting feature that occur.

Evaluation and Assessment

3.155 Ecological features are evaluated using the Guidelines for Ecological Impact Assessment 2006, produced by the Institute of Ecology and Environmental Management⁶. These guidelines promote a more scientifically rigorous and transparent approach to the ecological assessment process. This methodology provides a standardised approach, formulated from the views of a wide spectrum of ecological professionals.

3.156 The process of valuing ecological features and resources is complex and subjective. A number of factors need to be taken into account when applying professional judgement to value ecological features. These include the following:

- Designated sites and features;
 - Hedgerow Regulations;
 - Biodiversity value;
 - Potential value;
 - Secondary or supportive value;
 - Social/community value;
 - Economic value;
 - Legal issues; and
 - Multi-functional features.
- 3.157 Legal protection needs to be considered separately from value. Our assessment and reporting will highlight legal issues and the appropriate mechanism for dealing with any such constraint. However not all legally protected species are rare (e.g. badgers) so legal requirements and ecological value are separate considerations.

⁶ IEEM (Institute of Ecology and Environmental Management). (2006). Guidelines for Ecological Impact Assessment (EclA) – June 2006.

Geographic Frame of Reference

3.158 In assigning value to an ecological feature/ resource the following geographic frame of reference should be used:

- International;
- UK;
- National (i.e. England/ Northern Ireland/Scotland/ Wales);
- Regional;
- County (or Metropolitan – e.g. in London);
- District (or Unitary Authority, City, or Borough);

- Local or Parish; and
- Within zone of influence only (which might be the project site or a larger area).

3.159 The size, conservation status and the quality of features or species are all relevant in determining value. Furthermore the value of a species and/or habitat may vary depending on its geographical location.

Statutory sites

3.160 The MAGIC database search has revealed that there are no statutory wildlife site designations covering any part of the proposed development site. Five Sites of Scientific Interest (SSSI's), six Local Nature Reserves (LNR) and a National Nature Reserve (NNR) are located within an approximate 5km radius of the survey area. A brief description of each site is provided below. All distances provided are approximate.

Statutory designated sites within c.5km of the Webheath ADR site, Redditch

Site Name & Designation	Area (ha)	Distance & Direction from Survey Area	Brief Site Description
Hewell Park Lake SSSI	21.28	2.1km North	A shallow artificial lake surrounded by ornamental woodland in the grounds of Hewell Grange. Interesting ground flora and ornithological interest exist
Trickses Hole SSSI	2.91	2.3km SW	Two semi-natural mesotrophic (neutral) grassland fields are characterised by crested dog's-tail and common knapweed with Locally uncommon species present include saw-wort and pepper saxifrage
Foster Green Meadows SSSI & NNR	12.3	3.3km SW	This nationally important complex of ancient meadows is situated on the damp rich soils of the lias clays of north Worcester.
Rough Hill and Wire Hill Woods SSSI	50.8	3.6km SE	This site comprises contiguous areas of ancient woodland with an ancient bank and ditch separating Rough Hill Wood in Warwickshire from Wirehill Wood in Hereford and Worcester.
Dagnell End Meadow SSSI	2.1	4.1km NE	This area of ancient permanent pasture lies in the valley of the River Arrow. It represents one of the last surviving areas of such pasture in this part of Worcestershire
Redditch Woods: Foxlydiat Wood LNR	53.1	0.7km NE	A series of ancient semi-natural woodland with oak sessile and pedunculate oak and occasional yew with a diverse range of woody scrub species. Ponds present on site are known to contain common amphibians with a known great crested newt population present.
Redditch Woods: Pitcheroak Wood LNR	45.28	0.8km NE	
Redditch Woods: Walkwood Coppice LNR	11.3	1.1km SE	
Redditch Woods: Oakenshaw Wood LNR	12.95	2.2km E	
Proctor's Barn Meadows LNR	3.76	4.2km NE	Grassland habitat and part of the Redditch meadow trail. No further information available

3.161 Five non-statutory special wildlife sites (SWS) were provided by WBRC within 1km of the survey area including: Callow Farm Meadow; Foxlydiate and Pitcher Oak Woods (both sites also designated as LNRs); Walkwood Coppice (also designated as LNR), Downsell Wood and; Bow, Shell, Swan and Seeley Brooks.

Worcestershire Biodiversity Action Plan

3.162 The Worcestershire Biodiversity Action Plan (BAP) was launched in response to the UK BAP. A total of 16 Habitat Action Plans (HAPs) and 25 Species Action Plans (SAPs) are provided on the Worcestershire Biodiversity Partnership website⁷. Three additional actions plans have been drawn for up biodiversity in Worcestershire which relate to policy, grants and legislation, education awareness and involvement, and biological recording and information.

3.163 Of the Worcester HAPs those which may be of relevance to the survey area include ancient/species-rich hedgerows, lowland wet grassland, rivers and streams, semi-natural grassland, veteran trees with lowland wood pasture and parkland, wet woodland and woodland.

3.164 Of the Worcester SAPs those which may be of relevance to the survey area include, bats, farmland birds and great crested newt *Triturus cristatus*.

Non-statutory designated sites within c.5km of the Webheath ADR site, Redditch

Site Name & Designation	Area(ha)/ Length (km)	Distance & Direction from Survey Area	Brief Site Description
Callow Farm Meadow SWS	2.0ha	1.0km W	This site comprises a rectangular-shaped meadow with a pond at its south-west corner. Mostly a neutral meadow of common knapweed/crested dog's-tail sward type the furrows are less rich community.
Downsell Wood SWS	5.1ha	0.9km SE	This site comprises modified ancient semi-natural woodland dominated by oak <i>Quercus</i> sp. with wetter areas with willow and alder that conform more closely to a wet woodland community.
Bow, Shell, Swan and Seeley Brooks SWS	38km	0.75km W	Rising near Redditch these small watercourses flow south and west before draining via the Bow Brook into the River Avon at Defford. The Bow Brook in particular is known for its aquatic and emergent flora and also has an impressive invertebrate fauna including Scarce Chaser and White-legged Damselfly. Kingfishers have bred in several places and otters have been recorded along much of the corridor,

⁷ <http://www.worcestershire.gov.uk/cms/environment-and-planning/biodiversity.aspx>

Planning Policy Statement 9

3.165 Planning Policy Statement 9 (PPS9) sets out the Governments national planning policies on protection of biodiversity and geological conservation through the planning system. It includes the broad aim, that planning, construction and regeneration should have minimal impacts on biodiversity and should enhance it, wherever possible. It requires a strategic approach to conservation based upon up-to-date environmental information and the incorporation of beneficial biodiversity features within development plans. Key principles of this policy statement include:

“Development plan policies and planning decisions should be based on up-to-date information about the environmental characteristics of their areas. These characteristics should include the relevant biodiversity and geological resources of the area”;

“Plan policies and planning decisions should aim to maintain, and enhance, restore or add to biodiversity...”, and

“Where a planning decision would result in significant harm to biodiversity ... which cannot be prevented or adequately mitigated against, appropriate compensation measures should be sought. If that significant harm cannot be prevented, adequately mitigated against, or compensated for, then planning permission should be refused.”

Site Description and Evaluation

General Site Description

3.166 This site has a characteristic rural landscape character of grazing pasture with mature native hedgerows and an abundance of standard trees. The site spans a small valley bisected by a brook that runs centrally northeast to southwest, with several drainage ditches feeding into it. The brook along the valley bottom is associated with a narrow band of woodland.

3.167 A disused sewage works site is situated to the centre of the site (TN8). This area no longer contains any obvious structures and has been completely colonised by rank grassland, scrub and tall ruderal habitats.

Grassland

3.168 The site comprises a large number of grassland fields. It is understood that these fields have been in permanent pasture for the last twenty five years, with the exception of Fields F1-F7 which were once in arable use. In more recent times Fields F4-F7 have received limited improvement (some farmyard manure but no fertilisers) and have been grazed by sheep and horses.

3.169 The original seed mix used to establish this grassland is understood to have been fairly basic and, even now, the sward diversity is low. Fields F1-F3 have largely been unfarmed over the last two decades with annual topping of the grassland and occasional horse grazing the only management. Fields F8-F13 are understood to have been in permanent pasture for as long as can be remembered and are now grazed by horses or cattle.

3.170 These fields have the higher botanical potential than the rest but at the time of the initial survey only F8 was noticeably a little more species-rich. This field was uncut and was seen to support a greater diversity of broadleaved species than the other fields.

3.171 Overall, most of the fields at the site are classified as species-poor semi-improved grassland. Although F8 exhibits slightly greater diversity, the sward is still not considered to be species rich. An area of rank semi-improved grassland is also found within the disused sewage works area (TN8) associated with tall ruderal and dense scrub habitats. Within the garden habitat associated with Holborne Farm there is also a small area of amenity grassland.

3.172 Fields F1-F3 are becoming increasing rank through lack of management. Grasses present include abundant Yorkshire fog *Holcus lanatus* with false oat-grass *Arrhenatherum elatius*, sweet vernal grass *Anthoxanthum odoratum*, common couch-grass *Elytrigia repens*, cock's-foot *Dactylis glomerata*, perennial rye-grass *Lolium perenne*, meadow-grass *Poa sp.* and bent grass *Agrostis sp.* The herb content within these fields is relatively modest but species seen include ribwort plantain *Plantago lanceolata*, bristly oxtongue *Picris echioides*, red clover *Trifolium pratense*, yarrow *Achillea millefolium*, common bird's-foot trefoil *Lotus corniculatus*, dandelion *Taraxacum officinale* agg, creeping thistle *Cirsium arvense*, spear thistle *C. vulgare*, creeping buttercup *Ranunculus repens*, and broadleaved dock *Rumex acetosa*.

3.173 Fields F4-F7 are under one ownership and are used for grazing horses and sheep. Most of the species listed above are represented, with crested dog's-tail *Cynosurus cristatus* also seen and Yorkshire fog appearing to dominate, with frequent bent grass. At the time of survey F6 was being cut for hay and F4 which comprises various fenced paddocks was being grazed. F7 supported a longer sward at the time of survey and additional species seen within this field (which slopes down to the wooded brook corridor to the north) include red campion *Silene dioica*, goat's beard *Tragopogon pratensis*, foxglove *Digitalis purpurea* and lesser burdock *Arctium minus*.

3.174 Field F8 comprises a neutral semi-improved grassland with moderate diversity of grass and herb species. The meadow includes frequent sweet vernal grass and crested dog's-tail, occasional bent *Agrostis sp.* and meadow foxtail *Alopecurus pratensis*, with frequent common knapweed *Centaurea nigra* and occasional silverweed *Potentilla anserina*, ground ivy *Glechoma hederacea*, selfheal *Prunella vulgaris*, lesser trefoil *Trifolium dubium*, common bird's foot trefoil, musk mallow *Malva moschata*, creeping cinquefoil *Potentilla reptans*, red clover and white clover *Trifolium repens*. Occasional perennial

rye-grass is also present. Field F9 is currently tightly grazed by horses making the flora harder to appraise. However as this field enjoys the same aspect and location as F8 a similar sward may be anticipated.

3.175 Field F10-F13 show signs of heavy grazing by cattle. On casual inspection, species present reflect those listed previously, with no obvious areas of particular herb richness other than the presence of harebell *Campanula rotundifolia* in the east of field F13 near hedge H20. The sward within these fields include locally abundant spear thistle and broadleaved dock and several areas of tall ruderal habitat are also present on the edges of these fields.

3.176 Rank grassland has formed within the disused sewage works (TN8) and this area appears to experience damper conditions, as indicated by some of the species that are seen to occur. Abundant false oat-grass is found alongside frequent nettle and hogweed *Heracleum sphondylium* with occasional meadowsweet *Filipendula ulmaria*, creeping thistle, marsh thistle *C. palustre*, marsh woundwort *Stachys palustris*, common bird's-foot trefoil, horsetail *Equisetum sp.*, soft rush *Juncus effusus*, rosebay willowherb *Epilobium angustifolium*, tufted vetch

Vicia cracca, tufted hair grass *Deschampsia cespitosa*, cleavers *Galium aparine* and remote sedge *Carex remota*. The grassland areas are being encroached by scattered and dense scrub.

3.177 An area of short mown amenity grassland occurs within the Holborne farm area (target note 4) associated with the cottage garden.

Scrub and Tall Ruderals

3.178 Several areas of common nettle and other tall ruderals have established across the site within F1, F3, F4, F7 and particularly within the disused sewage works.

3.179 Within the disused sewage works large areas of bramble *Rubus fruticosus agg.* are present and elder *Sambucus nigra*, alder *Alnus glutinosa* and goat willow *Salix caprea* are colonising and encroaching on the more open areas.

3.180 The hedge and ditch-line at H4 is heavily encroached by bramble scrub which is spreading into fields F2 and F3.

Broadleaved Woodland

3.181 Certain field boundaries associated with a track/path in the eastern part of the site and with the brook (D1) consist of linear strips of broadleaved-woodland (W1 and W2). These are fairly thin wooded strips

of broadleaved native trees but as the woody components of these features are over 5m at the base they are not classed as hedgerows.

3.182 W1 is a small block of woodland which adjoins the southern end of Woodland W2 between hedgerows H1a and H7. The canopy includes semi-mature and mature native broadleaved trees with an understorey of younger trees and shrubs. W2 is a linear strip of mature woodland (that runs along the brook (D1) along the northern margin of field F7. These woodland areas contain both mature and semi-mature alder, ash *Fraxinus excelsior*, and pedunculate oak *Quercus robur*, with field maple *Acer campestre*, elder, hazel *Corylus avellana*, hawthorn *Crataegus monogyna*, crack willow *Salix fragilis*, goat willow *Salix caprea*, cherry *Prunus sp.*, crab apple *Malus sylvestris*, and bramble also present. Ground flora includes common nettle, lords and ladies *Arum maculatum*, bramble, dog's mercury *Mercurialis perennis*, hogweed, ivy *Hedera helix*, Himalayan balsam *Impatiens glandulifera* and hedge mustard *Sisymbrium officinale*.

3.183 W2 shows influence of periodic flooding from the brook, with various portions showing wet woodland characteristics. The southern most portion of W2 shows the most influence from flooding with species present including, marsh marigold *Caltha palustris*, Himalayan balsam, horsetails, pendulous sedge *Carex pendula* and reed sweet-grass *Glyceria maxima*.

Trees

3.184 A large number of mature trees are present across the site, nearly always associated with hedgerows, woodland strips and other field boundaries. Mature pedunculate oak trees dominate with frequent ash and frequent alder and willow in the valley bottom, where the brook (D1) makes conditions suitable. Overall a good range of native tree species are represented.

3.185 A number of planted trees occur within the Holborne Farm area. Several apple, pear *Pyrus sp.* and cherry trees are present to the east of the cottage building forming a small orchard area. Other trees planted within the Holborne Farm area include semi mature silver birch, ornamental trees including blue cedar *Cedrus atlantica spp.* and various other conifers.

Hedgerows

3.186 The site is characterised by its strong hedgerows with mature standard trees. Following the formal hedgerow assessment, the numbering of the hedgerows has been revised to reflect the separate hedgerow sections. A total of 30 hedgerow sections are identified within the site. The Hedgerow Assessment Plan clearly shows the important or borderline important hedgerows based on Wildlife and Landscape Criteria.

3.187 All 30 hedgerow sections within the proposed development site were assessed under Wildlife and Landscape Criteria. In addition, these hedgerows were also compared to 1839 Tardebigge tithe maps to ascertain their archaeology importance. Of the 30 hedgerow sections, thirteen hedgerow sections meet the criteria for 'Important' and four are considered to be of 'borderline' importance under the Hedgerows Regulations 1997, based on wildlife and landscape criteria. With reference to the 1839 tithe map, 28 hedgerow sections predate the Inclosures Act (1845) and are therefore considered to be 'Important' under Archaeology and History Criteria. The results of the formal hedgerow assessments are summarised.

Summary of hedgerow assessment results

Hedgerow number	Important under Wildlife and Landscape Criteria	Important under Archaeology and History Criteria
H1	Borderline	Important
H1a	Important	Important
H2	Important	Important
H2a	Important	Important
H3	Not important	Important
H4	Not important	Important
H5	Not important	Important
H5a	Important	Important
H6	Not important	Important
H7a	Important	Important
H7b	Important	Important
H7c	Important	Important
H8a	Not important	Not important
H8b	Not important	Not important
H9	Important	Important
H10	Not important	Important
H11a	Borderline	Important
H11b	Important	Important
H12	Important	Important
H13a	Important	Important
H13b	Not important	Important
H13c	Borderline	Important
H14	Not important	Important
H15	Not important	Important
H16	Not important	Important
H17a	Important	Important
H17b	Important	Important
H18	Not important	Important
H19	Not important	Important
H20	Borderline	Important

3.188 Hedgerows within the site are generally fairly species-rich, with a broad range of native woody species seen to occur. Species observed within these hedgerows include hawthorn, hazel, field maple, elder, blackthorn, plum *Prunus sp.*, wild cherry, alder, grey willow *Salix cinerea*, elm, elder, holly, poplar *Populus sp.*, silver birch *Betula pendula*, dog rose *Rosa canina* and ash. Many hedgerows exhibit semi-mature and mature trees.

Ditches and running water

3.189 D1 is a small brook running east to west across the site. At the time of survey the brook was flowing but very low (<100mm) at the eastern end. Recent ditch profiling works are evident along part of the section of D1 within F13, although a number of small alder trees remain associated with this section. Species present include, Himalayan balsam, brooklime *Veronica beccabunga*, wild angelica *Angelica sylvestris*, marsh marigold, common bird's-foot trefoil, bramble and great willowherb. As D1 joins D4 at the disused sewage works it dries completely with no aquatic vegetation present.

3.190 D2 is a drainage ditch that runs at the base of hedgerows H9 and H12. No aquatic or emergent vegetation was present at the time of survey.

3.191 D3 is a drainage ditch that runs at the base of hedgerow H11b into the brook (D1). This ditch was low (<200mm) but flowing at the time of survey but dried as it joined D1. No aquatic or emergent vegetation was present at the time of survey.

3.192 D4 is a short (c.50m) dry drainage ditch that runs at the base of H15. No aquatic or emergent vegetation was present at the time of survey.

3.193 D5 denotes a short section of a brook which runs east to west across the most southern border of the site and eventually joins D1 off site where it flows into the Swan Brook. No aquatic vegetation was recorded, presumably due to heavy shading from trees (H5a).

Standing water

3.194 A very small (c.2m x 2m) temporary body of standing water (TN11) has formed within a small depression in F13 adjacent to hawthorn scrub. This is subject to intensive trampling by cattle and whilst no aquatic vegetation is present the wetter areas have been colonised by species including brooklime and celery-leaved buttercup *Ranunculus sceleratus*.

3.195 During wet periods a small area of pooled water collects in a depression within W2 (as identified by TN4).

Off-site ponds.

3.196 Several ponds are present within 500m of the site. An assessment of these off-site ponds has been undertaken, where possible, and further information is provided in following sections of this report in relation to amphibians.

Buildings

3.197 Various buildings are located within the Holborne Farm complex including a cottage, several sheds/stables and three barns. The cottage building is a two storey brick building with a pitched tiled roof and several simple pitched-roof side extensions. A single storey pitched roof brick barn is located to the north of the cottage adjacent to Pumphouse Lane. The roof material consists of corrugated asbestos and metal sheets. Two pitched roof wood barns are located to the west of the cottage with a sawmill area and are in a semi-dilapidated state. A large open pitched-roof metal storage shed is also located within the sawmill area of the farm.

3.198 Two wooden horse stables, a large barrelled-roof metal agricultural shed and a small storage container-style office building are located to the north of field F8 and some redundant structures are also seen elsewhere, as marked on the Habitats Plan.

Bats

Records

3.199 WBRC has provided several records of bats within an approximate 5km radius of the survey area. All of these records relate to a single species, common pipistrelle bats.

3.200 The records include two common pipistrelle bat roosts one of which relates to a location within a residential building c.0.5km east of the site and the other relates to a roost within a tree c.0.25km southwest of the site. In addition to recorded bat roosts in the area, records of common pipistrelle bats in flight include those of 27 adults c.1.0km northeast and a single bat c.0.5km northeast of the site.

3.201 The cottage and farm building at Holborne farm (TN5) exhibit a small number of features which have potential to support roosting bats, including slipped roof and ridge tiles. The remaining agricultural buildings on site offer limited potential for roosting bats. The dilapidated barn located outside the survey area, to the northeast of the site (TN10) has good potential for bat roosting.

Bat/Tree assessment results

3.202 The site supports a large number of mature trees, many of which have medium or high bat roosting potential. A formal tree assessment has been undertaken on all trees that have been identified as requiring tree surgery works or removal and those trees that may potential be impacted by the proposals.

3.203 A summary of trees with significant potential to support bat roosts (i.e. greater than low potential) is summarised in the adjacent table. The tree numbers correspond to the tree survey.

Summary of bat/tree assessment results

Tree No	Species	Notes	Bat Roosting Potential
20	Wild cherry	Lots of lifted/loose bark and split limbs, scars and other crevices.	M/H
70	Ash	Twin stemmed mature tree and a mature alder. The ash tree exhibits dense mature ivy and a tear on fallen limb.	M
107	Group of Ash	Most are of negligible potential although one exhibits dense ivy which may provide opportunities for bats and may hide other features	L/M
110	Oak	Mature tree with bird box attached. A few minor crevices/holes and a split in a horizontal limb.	L/M
115	Oak	Mature tree with a few minor breakout wounds. A woodpecker hole on the underside of a limb on the east of the tree offers bat roosting potential.	L/M
116	Oak	Mature tree with a few minor breakout wounds and a large scar with potential roosting points where the tree is healing.	L/M
118	Oak	Mature tree with a few minor breakout wounds and a scar with potential roosting points where the tree is healing. The scar occurs above a limb on the east of the tree	L/M
123	Oak	Mature tree with dense mature ivy which may provide opportunities for bats and may hide other features	M
125	Oak	Mature tree with dense mature ivy which may provide opportunities for bats and may hide other features	M
131	Oak	Split along limbs on the northern side which offers potential	L/M
156	Ash	Semi-mature/mature with mature dead ivy stems which create potential bat roosting features	M
161	Ash	Large mature tree with tear/split on eastern side. Other tears/scars offer negligible potential.	M
168	Oak	Very mature tree with large splits in pruned/snapped limbs.	M/H
169	Two Oak	A very mature and a mature tree. There appears to be some potential on the north of the trees but the trees could not be viewed from off-site.	L/M
170	Oak	Very mature tree. Some breakout wounds and dense mature ivy which may provide opportunities for bats and may hide other features. Cannot be viewed from off-site	M
181	Oak	Very mature tree. Some breakout wounds. Hollow trunk with very large hole exposing the inside of the tree. Associated features offer potential.	M
191	Two Ash	Two ash trees, dense mature ivy on one tree which may provide opportunities for bats and may hide other features	M
194	Oak	At least three holes/fissures on the north side which offer potential bat roosting opportunities.	M
196	Ash	Dense ivy may hide features offering bat roosting opportunities.	L/M
197	Ash	Dense ivy may hide features offering bat roosting opportunities.	L/M
203	Willow	Very mature tree with pruning/breakout wounds and several woodpecker holes visible from the north.	M
214	Group of Ash	Mainly negligible to low potential but some exhibit occasional fissures, scars etc or dense mature ivy.	L/M
216	Group of willow	Some trees exhibit several breakout wounds and other features which offer potential	M

Bat activity survey results

3.204 Bat activity was found to be at a moderate level across most of the site with mature hedgerows and woodland habitats providing commuting and foraging opportunities. At least six species were confirmed during the survey, with a number of closely related *Myotis* species considered likely to occur. The first bat, a common pipistrelle, was recorded three minutes before sunset. Whilst no bats were observed to emerge from trees and/or buildings on site, the early and moderate bat activity on site suggest that bats are roosting on or in close proximity to the site.

3.205 Bat activity survey results are not presented in full within this report but the main flight lines and foraging areas are highlighted on the Preliminary Bat Survey Results Plan.

Badgers

3.206 WBRC has provided two records of badger *Meles meles* from within a 2km radius of the survey area. The first was recorded c.1.25km northeast and the second c.0.75km west of the site.

3.207 An outlier badger sett, comprising one hole, was found to be present in the disused sewage works area to the south of field F10 (Target Note 13)

during a site visit in September 2010. The sett entrance was clear with several guard hairs and badger footprints around the hole. A badger scat, pathway and snuffle holes were also identified in this area. The February 2011 visit revealed similar evidence around this hole although it was noted that fox and rabbits also appear to have recently investigated the hole. No other badger setts have been identified within the site.

3.208 The badger activity survey in February 2011 (and previous site surveys) found signs of badger activity within the site to be low. There are many mammal tracks within the wooded areas and along

many field boundaries although these are mainly attributable to rabbits *Oryctolagus cuniculus* with some also created by foxes *Vulpes vulpes*. The occasional badger pathway, confirmed by the presence of dung, latrines or guard hairs, was also identified. A badger latrine was seen within field F3 associated with hedgerow H6, and a separate badger scat was also found in the central area of field F3. Prominent badger pathways occur within this field with less prominent pathways also present fields F2, F7 and in woodland W2.



Dormice

3.209 WBRC have not provided any records of dormice *Muscardinus avellanarius* from within a 2km radius of the survey area. Furthermore, no records were retrieved from the NBN website within 10km of the site.

3.210 The woodland on-site is limited to linear semi-mature strips and contains a moderate amount of understorey. This habitat and the mature hedgerows at the site, many of which contain a good mix of species including hazel, could provide opportunities

for dormice if local populations exist. However, the site occurs on the outer range of the dormouse distribution in England and given the absence of local records for this species, it is considered unlikely that this species will be present within the site.

3.211 CSa have consulted with the Local Authority Ecologists at Worcestershire County Council and Warwickshire County Council and with a local dormouse recorder. The general consensus appears to support our view that dormice are unlikely to be present.

Water voles

3.212 WBRC have not provided any records of water voles *Arvicola amphibius* from within a 2km radius of the survey area. Furthermore, no records were retrieved from the NBN website¹⁰ within 10km of the site.

3.213 Riparian habitats on site are currently unsuitable for water voles due to the low water levels and heavy shading from woodland and scrub.





Otters

3.214 WBRC have not provided any records of otters *Lutra lutra* from within a 2km radius of the survey area. Furthermore, no records were retrieved from the NBN website¹⁰ within 10km of the site. Otter are known to use the Bow Brook which is situated downstream of the watercourses that run through the site but riparian habitats on site are considered to be suboptimal for otter. No signs of otter were seen.

Other Mammals

3.215 WBRC have provided 12 records of hedgehog *Erinaceus europaeus* from within a 2km radius of the site. No other records of mammal species were provided by WBRC within the local area.

3.216 Evidence of red fox, rabbit (including a large number of rabbit warrens) and deer (probably muntjac *Muntiacus reevesi*) activity were found in abundance across the site. A dead fox was found on top of a brash pile in field F1. A dead weasel *Mustela nivalis* was also found within the disused sewage works area.

Birds

3.217 WBRC, have provided a single record for breeding birds, a yellowhammer *Emberiza citrinella* c.0.75km east of the site.

3.218 Records of a large colony of reed warbler *Acrocephalus scirpaceus* and also great crested grebe *Podiceps cristatus* and sparrowhawks *Accipiter nisus* are noted at Hewell Park Lake SSSI (c.2.1km north). Additionally, within Foster Green Meadows SSSI & NNR (c.3.3km SW) there are records for curlew *Numenius arquata*, lapwing *Vanellus vanellus*, green woodpecker *Picus viridis* and greater spotted woodpecker *Dendrocopos major*.

3.219 A number of bird species were incidentally recorded during the survey including green woodpecker, song thrush *Turdus philomelos*, chiff-chaff *Phylloscopus collybita*, woodpigeon *Columba palumbus*, carrion crow *Corvus corone*, magpie *Pica pica*, swift *Apus apus*, jay *Garrulus glandarius*, blackbird *Turdus merula* and collared dove *Streptopelia decaocto*.

3.220 The woodland, hedgerow and meadow habitats on site are suitable for birds as they provide good nesting, refuge and foraging habitats. During wet periods of the year the brook and ditches present may also provide foraging opportunities for certain bird species. A range of farmland bird species may be anticipated to breed within habitats at this site.

⁸ www.nbn.org.uk/



Amphibians

3.221 WBRC have provided several amphibian records from within a 1km radius of the site including common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris* and great crested newt.

3.222 Great crested newts have been recorded c.1km southeast (8 adults, 1997) and c.0.25km north of the site (3 adults, 2002). Whilst no ponds are present on site, two damp depressions within W2 (TN4) and within F13 (TN11) may provide some opportunities for amphibians during wet periods, where breeding amphibians are present within the wider landscape. However, these features in themselves are not likely to provide breeding opportunities for amphibians.

3.223 Drainage ditches across the site (D1, D2, D3, D4 and D5) may provide foraging and dispersal opportunities for amphibians during wet periods, where breeding amphibians are present within the wider landscape. These features in themselves are not likely to provide breeding opportunities. Furthermore, the topography of the site may result in several of these ditches having a significant current, which would reduce their dispersal and foraging value for amphibians.

3.224 Nonetheless, the terrestrial habitat comprising the site, particularly the hedgerows, and dense areas of trees/scrub offer suitable opportunities for great crested newts if present in the wider area.

3.225 As previously mentioned, Natural England Guidelines suggest that all ponds within 500m of a proposed development area should be considered with respect to great crested newts. A total of 18 potential ponds/features have been identified within 500m of the site.

3.226 Efforts have been made to identify the owners of ponds and where possible to gain access permission for initial assessments. Where access permission has been obtained, HSI calculations have been carried out. The table overleaf summarises the results of these initial investigations and assessments.

Summary of pond assessment and HSI

Pond	Present/ Absent/ Dry	Distance from site	HSI	Further surveys required	Notes
1	Present	c.250m (North)	0.56 (Below average)	Yes	Built as a mitigation pond for nearby development. Now owned by Redditch BC. It is understood that GCN use this pond
2	Present	c.200m (North)	0.48 (Poor)	Yes	As above. The pond was damp but no water present. It is understood that GCN use this pond
3	Present	<10m (North)	0.54 (Below average)	Yes	Old farmland pond. Anecdotal evidence suggests GCN have used this pond historically.
3a	Absent/ Dry	c.150m (North)	N/A	No	Totally dry former pond. No real evidence of pond other than slight depression. Unlikely to hold water in Spring.
4	Present	c.230m (North west)	0.8 (Excellent)	Yes	Built as a mitigation pond for nearby development. Now owned by Redditch BC
4a	Dry	c.255m (North west)	N/A	N/A	A dry reedbed created as mitigation for nearby development. Now owned by Redditch BC. Totally dry.
5	Absent	c.240m (North west)	N/A	N/A	Arable field. No evidence of pond
6	Dry	c.20m (North)	N/A	N/A	Dry former pond. No real evidence of pond other than one Typha plant. Unlikely to hold water in Spring.
7	Dry	c.360m (West)	N/A	N/A	Totally dry former pit/pond. No aquatic or emergent plants present. Unlikely to hold water in Spring.
8	Present	c.320m (West)	0.52 (Below average)	Yes	A medium sized heavily shaded pond with very steep banks in parts
9	Dry	c.370m (South west)	N/A	N/A	Dry pond
10	Present	c.470m (West)	0.75 (Good)	Yes	Owner suggests that high numbers of Great Crested Newts breed in the pond.
11	Absent	c.335m (South)	N/A	N/A	No longer present. No evidence of previous pond
12	Not assessed	c.405m (South)	N/A	?	Medium sized pond on the edge of woodland/farmland. Awaiting access.
13	Not assessed	c.465m (South)	N/A	No	
14	Not assessed	c.490m (East)	?	?	Not visited. Awaiting access.
15	Absent	c.482m (North)	N/A	No	No evidence of pond present
16	Not assessed	c.500m (South)	?	?	Not visited. Awaiting access.

3.227 Four potential ponds could not be assessed as the owners could not be contacted or had not replied to enquiries at the time of survey. Three out of the 18 pond features were found to be absent with no indication of their previous existence. A further four ponds were totally dry with no/very little evidence of a previously existing pond and are considered unlikely to hold water in the spring although these ponds will be revisited in the spring to confirm.

3.228 In addition, a reedbed (P4a) appears to be a permanently dry feature although this is to be confirmed through checks during the spring.

3.229 Ponds P1 and P2, located approximately 250m and 200m respectively north of the survey site, were also created as part of a great crested newt mitigation package relating to the adjacent housing estate. These ponds sit within a small wildlife area which is now managed by Redditch Borough Council.

3.230 Anecdotal evidence also suggests that ponds 3 and 10 have been (and may still be) used by great crested newts. Pond P3 is located within 10m of the site, on the opposite side of Pumphouse Lane. It is understood that great crested newts were found to use this pond during historical survey work dating back nearly 20 years. The current state of the pond affords relatively poor opportunities for great crested newt breeding. Pond P10 occurs approximately 470m west of the site and conversations with the owner suggest the pond is used by high numbers of breeding great crested newts and the surrounding terrestrial habitat is used for foraging and hibernation.

Reptiles

3.231 WBRC have provided reptile records of grass snake *Natrix natrix* and slow-worm *Anguis fragilis* within the search area. Grass snakes have been recorded c.1km southwest of the site and within Hewell Park Lake SSSI c.2.1km north of the site. Slow-worms have been recorded c.0.8km west of the site.

3.232 Rank grassland, scrub and tall ruderal habitats within the site, often located along field boundaries, provide potential opportunities for widespread reptile species, such as slow-worm and grass snake.

Invertebrates

3.233 WBRC have provided a small number of records for butterflies and moths from within an approximate 1km radius of the survey area. Species recorded include the UK BAP species small pearl-bordered fritillary *Boloria selene* (c.0.7km NE), small heath *Coenonypha pamphilus* (c.0.7km NE), white admiral *Ladona camilla* (c.1km SW), white-letter hairstreak *Satyrion w-album* (c.0.15km W) and cinnabar moth *Tyria jacobaeae* (c.0.7km NE).

3.234 Several of the butterflies recorded with 1km of the site have larval food plants and nectar sources which were recorded during this survey e.g. white admiral like honeysuckle and white-letter hairstreak favours elm.

3.235 The wooded areas and mature hedgerows (including deadwood) and scrub habitats provide potential habitat for a range of invertebrates, including several of the UK BAP moth species recorded locally.

Evaluation of Ecological Features

3.236 With reference to the evaluation criteria set out within the methodology, a range of factors has to be considered when evaluating a site's features. The table below provides a checklist of potentially relevant factors set out in the IEEM evaluation guidelines and the features of this site are considered against each of these factors.

Evaluation Checklist

Factors	Present, Absent or N/A	Notes
Designated Sites and Features	Absent within 5km	-
Internationally important sites		
Nationally important sites	Present within 5km	Foster Green Meadows SSSI & NNR (3.3km), Hewell Park Lake SSSI (2.1km), North Dagnell End Meadow SSSI (4.1km), Trickses Hole SSSI (2.3km), Rough Hill and Wire Hill Woods SSSI (3.6km)
Sites of lower level importance	Present within 1km	Redditch Woods: Foxlydiat Wood LNR (0.7km), Redditch Woods: Putteroak Wood LNR (0.8km), Callow Farm Meadow SWS (1km), Downsell wood SWS (0.9km), Bow, Shell, Swan and Seeley brooks SWS (0.75km)
Hedgerows Regulations	Present.	Many of the hedges are considered to be important under wildlife and landscape criteria of the Hedgerows Regulations.
Biodiversity Value	Absent	-
Habitat designations		
Non-designated habitats of value or potential value	Present	Broadleaved woodland, wet woodland and associated brook. Hedgerows and mature trees.
HAPs	Present	Ancient/species -rich hedgerows, rivers and streams, semi-natural grassland, wet woodland and woodland.
Ancient Woodland	Absent	-
Protected species	Potentially Present	There is potential for reptiles, great crested newts, badgers, bats and breeding birds to use the site.
Rare species	None confirmed	Species found within 1km but not confirmed on site.
Species records	Absent	Species found within 1km but not confirmed on site.
SAPs	Potentially present	Several UK BAP species are potentially present including great crested newt, reptiles, bats, birds and invertebrate species.
Large populations/ important assemblages of species	Absent	None recorded
Injurious and legally controlled weeds	Present	Spur thistle and Himalayan balsam are present.
Potential Value	Present	Several hedgerows currently dilapidated could be improved. Grassland may be improved by changes to management.
Legal issues	Potentially present	Protected species issues are discussed herein.



3.240 The small scrub areas and tall ruderal margins of the fields are dominated by a few common species. There is no indication that these habitats are botanically diverse and they are considered to fall short of the criteria for features of ecological value. Nonetheless, these habitats still provide opportunities for a range of local wildlife, including protected species such as reptiles, great crested newts and nesting birds.



3.238 Whilst the wooded areas are not ancient in origin the linear woodland strips provides movement corridors for a range of wildlife, including bat species. Collectively, the wooded areas and associated brook are considered to be of ecological value at the local level.

3.239 The matrix of hedgerows that run through the site are relatively species-rich, and contain a large number of mature standard trees. These hedgerows provide movement corridors, foraging and shelter for wildlife, including bat species. The value of these hedgerows is further elevated by their association with large standard trees, ditches, connections to other hedgerows and other associated features. Thirteen hedgerow sections meet the criteria for 'Important' hedgerow under the Hedgerows Regulations 1997, based on wildlife and landscape criteria. In addition, four hedgerows are considered to be borderline. Twenty-eight of the hedgerow sections meet the criteria for 'Important' based on Archaeology and History criteria. In combination, the hedgerows are therefore considered to be of ecological value at the local level.

3.237 The site comprises habitats typical of a lowland agricultural landscape including pasture, semi-improved grassland, hedgerows, scrub and broadleaved woodland. The majority of the grassland at the site is relative species-poor and semi-improved. Whilst the neutral semi-improved grassland within F8 has moderate species diversity, the species present are still widespread and do not indicate that the grassland is of significant ecological value. This grassland is therefore assessed as being of ecological value at site level only.

Recommendations

Designated sites

3.241 No statutorily or non-statutorily designated wildlife sites are located within or adjacent to this site. The closest protected sites are Redditch Woods (four LNRs, the closest of which is c.0.7km away).

3.242 Several SSSIs are located over 2km from the development site and at this distance no direct impacts to the protected wildlife sites are anticipated as a result of development.

3.243 Three non-statutory designated sites have been identified within 1km of the site including Callow Farm Meadow SWS, Downsell Wood SWS, and Bow, Shell, Swan and Seeley brooks SWS. No direct impacts to Callow Farm Meadow SWS or Downsell wood SWS are anticipated as a result of development.

3.244 Several ditches and two brooks present on site flow into the Swan Brook and it is therefore possible that clearance and/or construction works could, without suitable precautions, result in impact to aquatic habitats and species downstream from the site. As such, care will need to be undertaken to prevent sediment and/or hazardous materials from entering the system via watercourses.



Grassland

3.245 The initial assessment of the grassland on site indicates that these areas are not of more than site level value. Opportunities exist to enhance or recreate more species-rich grassland alongside development. This may be possible within informal space along the valley bottom or within areas of retained grassland south of the brook.

Woodland

3.246 The linear strips of woodland along the brook (D1) are of ecological value with a number of semi-mature and mature trees present. Several areas along the brook contain species found in wet woodland habitats.

3.247 The current proposals retain the woodland areas as part of a broad swath of habitat along the southern edge of the site. The woodland and connecting habitats, provide important corridors through the site for wildlife. Retained woodland areas should be brought into suitable management to benefit their structure and diversity.

Hedgerows and trees

3.248 Hedgerows, mature and semi-mature trees provide a valuable landscape and wildlife resource and should be retained wherever possible.

3.249 The current masterplan has been developed to ensure the retention of hedgerows and trees wherever possible and this can be clearly seen within the proposals. Under current proposals all hedgerows will be retained, with the exception of a few short sections where opening are required to accommodate new access roads. Impacts will occur to three 'Important' hedgerows (H9, H12, H13a) and two hedgerows considered to be of 'borderline' importance (H11a, H20).

3.250 During construction a rigorous system of protection will be required to protect trees and hedgerows from accidental damage during construction. Arboricultural advice should be followed based on the guidance set out in BS 5837:2005, Trees in Relation to Construction⁹.

⁹ BSI (2005) British Standards. Trees in relation to construction – Recommendations. BS 5837:2005

Other habitats

3.251 Patches of tall ruderal and scrub vegetation at the site have limited ecological value in an overall site context, with the disused sewage works area (TN8) providing the only more substantial area of this habitat. This area also includes grassland with wetter characteristics. It is recommended that the detailed design of the development helps to recreate areas of wetland habitats (including wet grassland) at this site. A number of potential swales have been shown on current plans, as well as new water attenuation ponds. These features, together with the provision of a wide landscape buffer at the base of the valley, create opportunities for habitat creation, including wetland and wet grassland habitat.

Badgers

3.252 Badger setts are protected under the Protection of Badgers Act 1992. A single hole outlier badger sett in addition to other field signs has been identified within the site. The site provides foraging opportunities for badgers and must fall within a wider badger group territory. However, surveys have indicated fairly low badger activity within the site and there is no indication that badgers would be unduly impacted by the proposals.





Bats

3.253 It is clear from the preliminary bat activity survey that the site is of value to at least six species of bats present within the wider landscape. Whilst bat activity was moderate across much of the site, several key flight lines (hedgerows H1a, H2, H2a, H7(a-c), H9 and H10 and woodlands W1 and W2) were identified where increased activity was recorded. Increased foraging activity was also recorded around the Holborne Farm (TN5) and the disused sewage works (TN8).

3.254 Although no bats were recorded emerging from any buildings or trees on site, several buildings and trees present have potential to support bat roosts, such as the cottage at Holborne Farm (TN5). In addition, many properties just outside the survey area will have potential to support roosting bats. Hedgerows and wooded areas within the site boundary are being used for foraging and commuting by bats. The grassland and scrub habitats also provide potential foraging opportunities for certain bat species.

3.255 Mature trees within the site also have significant bat roosting potential. Of all the trees assessed, 23 trees were considered to offer greater than low potential for bat roosting. With the possible exception of one tree on the southern boundary which has been earmarked for removal on safety grounds, the other 22 trees exhibiting significant bat roosting potential will be retained, although they may be subject to tree surgery works. Where trees identified as offering significant bat roosting potential are to be impacted further bat related work will be undertaken. This may involve above ground inspections, precautionary soft-felling under an ecological watching brief and/or further bat activity surveys.

3.256 Following the preliminary bat activity surveys and assessment of trees further bat survey work will be undertaken to assess the potential impact of this development on local bat populations. This survey work will start with internal and external inspections of the buildings within the site. This survey work will be used to inform and direct subsequent bat activity and emergence surveys. Bat activity surveys will be completed in the core period of May-August to supplement the preliminary work completed at the end of last season.

3.257 Current masterplan proposals allow for the retention of potential flight-lines within and on the margins of the site and the connections through the site to the wider area will be maintained. The lighting design for the site will be informed by further survey work and should avoid unnecessary light spill onto hedgerows and woodland through the use of directional light sources and shielding where necessary.

3.258 All species of bats and their roosts are protected in the UK under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010. Amongst other things, this legislation make it illegal to intentionally or deliberately kill, injure or capture bats; deliberately or recklessly disturb bats or to damage, destroy or obstruct access to bat roosts. If bat roosts are identified within buildings or trees to be impacted by development it will be necessary to obtain an European Protected Species (EPS) licence from Natural England to authorise works that would otherwise be illegal.

Dormice

3.259 Dormice have not been recorded locally and the site occurs on the outer range of the dormouse distribution in England. Dormice are understood to occur in scattered populations in north Worcestershire and in surrounding counties and although their presence is considered to be unlikely, further investigations/consultation have been undertaken. The consensus of opinion is that dormice are unlikely to be present. However, given that dormice are a European Protected Species (EPS) like bats and great crested newts, a nest tube survey will be undertaken in 2011 to provide direct evidence of presence/absence.

Birds

3.260 The trees and scrub at the site offer potential nesting locations for a range of local bird species. There is no indication that the site is of significance for Schedule 1 bird species, although opportunities may exist for species such as barn owl. Given the farmland habitats seen it is possible that UK BAP species and declining farmland bird species may breed at this site. A breeding bird survey (March-June) will be undertaken to allow the extent of breeding bird interest to be investigated and fully considered.

3.261 All wild birds are protected from killing and injury, and their nests and eggs are protected from damage and destruction, under the Wildlife and Countryside Act 1981. Therefore, any clearance of trees, hedgerow or scrub at the site, or cutting of open long grassland area should avoid the period between March and August (inclusive) when nesting birds are most likely to be present.

Reptiles

3.262 Scrub, rank grassland and brash piles, particularly within the disused sewage works are considered to provide some basking, foraging and hibernation opportunities for widespread reptile species. Furthermore the brook and ditch habitats provide some foraging opportunities for grass snakes.

3.263 A reptile presence/absence survey will be undertaken across all suitable areas of habitat. This survey will be undertaken during periods of suitable weather between April and September. The survey involves the laying out of artificial refugia for reptiles, which are then checked on several occasions in combination with visual searches of the site.

3.264 All British reptile species are listed within Schedule 5 of the Wildlife and Countryside Act 1981 and are afforded protection against killing and injury under parts of sub-section 9(1) of the Act. In addition all British reptile species are priority species within the UK BAP. If reptiles were found to be present it is likely that the population could be accommodated within retained areas of habitat/open space at the site.

Amphibians

3.265 No waterbodies suitable for breeding great crested newts occur within the proposed development site. However, the habitat at the site could potentially be used by great crested newt if a population is present on adjacent land. Viable populations of this species typically rely on a network of connected ponds, and this situation appears to occur in this area with the closest pond approximately 20m from the northern site boundary (TN7).

3.266 Great crested newts and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010, which makes it an offence to intentionally or recklessly kill, injure or take a great crested newt or to damage, destroy or obstruct access to a place of shelter or to disturb a great crested newt whilst it is occupying such a place. Should further survey work confirm that great crested newts are present in close proximity to this development site a detailed mitigation strategy would need to be prepared and a European Protected Species (EPS) licence would have to be sought from Natural England before development could proceed.

3.267 Further to initial pond investigations and assessments a number of ponds have been identified which will be subjected to full pond based surveys for great crested newts in Spring 2011, in line with standard survey guidelines.

3.268 The presence of pre-existing great crested newt records for off-site ponds to the north and west and the absence of suitable on-site breeding opportunities, provides a fairly good indication of how this protected species issue may affect development. The current masterplan has been developed with this in mind and it is felt that this type of development approach will be able to cater successfully for the needs of great crested newts and the EPS licence requirements. The detailed surveys will inform this process further.

Invertebrates

3.269 A number of habitats on site are considered to provide suitable conditions for a range of invertebrate species. A number of UK BAP invertebrate species have been found within 1km of the site which may use habitats present on site. The current proposals allow for the retention of the habitats offering greatest opportunities for invertebrates particularly the woodland areas and hedgerows.

3.270 Where tree surgery works are required, felled deadwood should be left on-site as log piles within the base of retained hedgerows or within woodland to provide opportunities for saproxylic invertebrates.



Opportunities for Ecological Enhancement

3.271 In line with the guidance within PPS9, it is recommended that opportunities to provide ecological enhancements at this site be considered. Several potential key and additional recommendations for enhancement are provided below.

3.272 Retained hedgerows should be managed for their wildlife interest within the new development. Care must be taken with the scheme to ensure that the final layout does not compromise the structure, health and longevity of the retained hedgerows. As discussed previously, it is recommended that the detailed lighting design for the site be designed to minimise light spill onto hedgerows to benefit nocturnal wildlife.

3.273 Prescriptions for the ongoing wildlife friendly management of retained hedgerow, woodland and other habitats should be included within a detailed Landscape and Ecology Management Plan for the site.

3.274 Careful consideration should be given to the drainage design at the site, with a view to retaining and creating wetland habitats along the bottom of the valley. Attenuation ponds

should be designed to maximise biodiversity benefits. The former sewage works area has some interest for wet-loving plant species and it may be possible to retain and/or recreate some marshy grassland habitat, as part of a sustainable drainage solution.

3.275 Native plants of local provenance or other plants with known wildlife benefits should be incorporated into any new shrub and tree planting and planted beds. A list of suitable species is given in the Natural England leaflet Plants for Wildlife-Friendly Gardens¹⁰.

3.276 Bird and bat boxes could also be provided at the site to offer new potential nest/roost sites on buildings and trees. Other opportunities could also be created for BAP species such as hedgehogs and invertebrates. A range of suitable measures should ultimately be included within detailed mitigation and enhancement proposals for the site.

¹⁰ Plants for wildlife-friendly gardens available online at <http://naturalengland.communisis.com/naturalenglandshop/docs/NE29.pdf>

Summary and Conclusions

3.277 The proposed development site is not within or adjacent to any statutory or non statutory wildlife site. However, a brook that runs through the site (D1) flows into the Swan Brook SWS. Standard pollution control measures should be put in place to prevent accidental impacts to this brook during development. No further potential for significant impacts are identified to any wildlife sites within 5km of this proposal.

3.278 The majority of the site comprises relatively species-poor semi-improved grassland fields that are not considered of ecological value beyond the site level. Habitats associated with the brook, including bankside vegetation, woodland and scrub, provide locally valuable habitats and a valuable corridor for wildlife through the site.

3.279 The site contains a network of significant, well established hedgerows mostly associated with mature standards of oak and occasionally ash or willow, many of which meet the criteria for 'Important' hedgerow under The Hedgerows Regulations 1997. These hedgerows will largely be retained and recommendations are made for the retention, protection and appropriate future management of hedgerows at the site.

3.280 Further surveys will be undertaken to fully assess the ecological impacts from the development and inform any mitigation required. The following surveys are anticipated:

- Badgers – on going checks to monitor badger activity.
- Bats - inspection survey of buildings and further close inspections/surveys of certain trees if they are to be impacted. Additional summer bat activity surveys to inform proposals and assess potential impacts.
- Dormice – a precautionary dormouse nest tube survey within woodland and hedgerows.
- Birds - breeding bird survey.
- Reptiles – presence/absence survey within suitable habitats.
- Great crested newt - surveys of suitable local ponds to fully assess any newt constraints.

3.281 Subject to further surveys, the agreement and implementation of any subsequent mitigation and the production of a sensitive final masterplan that retains important habitat features, it is anticipated that this site can be developed without unacceptable impacts to local biodiversity.

Agricultural Land Classification

3.282 This section of the report sets out the national and local planning context in which to assess the opportunities and constraints to development at the Site in agricultural land quality terms.

National Planning Policy

3.283 National planning policy guidance on development involving agricultural land is set out in paragraphs 28 and 29 of Planning Policy Statement (PPS) No. 7 'Sustainable Development in Rural Areas (2004)'. Paragraph 28 of PPS7 states inter alia that:

'The presence of best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification), should be taken into account alongside other sustainability considerations (e.g. biodiversity; the quality and character of the landscape; its amenity value or heritage interest; accessibility to infrastructure, workforce and markets; maintaining viable communities; and the protection of natural resources, including soil quality) when determining planning applications. Where significant development of

agricultural land is unavoidable, local planning authorities should seek to use areas of poorer quality land (grades 3b, 4 and 5) in preference to that of a higher quality, except where this would be inconsistent with other sustainability consideration. Little weight in agricultural terms should be given to the loss of agricultural land in grades 3b, 4 and 5, except in areas (such as uplands) where particular agricultural practices may themselves contribute in some special way to the quality of the environment or the local economy. If any undeveloped agricultural land needs to be developed, any adverse effects on the environment should be minimised.'

3.284 Paragraph 29 of PPS7 states that it is for the local planning authority to decide if best and most versatile agricultural land, i.e. land classified as ALC grade 1, 2 or 3a, can be developed "...having carefully weighed the options in the light of competent advice".



Local Planning Policy

3.285 The Site falls under the local planning jurisdiction of Redditch Borough Council.

3.286 Under the new planning system introduced by the Planning and Compulsory Purchase Act 2004, Redditch Borough Council is currently developing a Local Development Framework (LDF). Until such time that the LDF documents are fully developed and adopted, certain 'saved policies' from the Borough of Redditch Local Plan No.3 (adopted on 31st May 2006) apply. There is no specific saved policy regarding agricultural land quality.

3.287 In the absence of specific local plan policy regarding development involving agricultural land, the national planning policy given in paragraphs 28 and 29 of PPS7 (2004) refers.

Best Practice Guidance

3.288 The Department for Environment, Food and Rural Affairs (DEFRA) recently published 'Safeguarding our Soils – A Strategy for England' (24th September 2009)¹¹. The Soil Strategy was published in tandem with a 'Code of Practice for the Sustainable Use of Soils on Construction Sites'¹².

3.289 The Soil Strategy for England, which builds on DEFRA's 'Soil Action Plan for England (2004-2006)', sets out an ambitious vision to protect and improve soil to meet an increased global demand for food and to help combat the adverse effects of climate change. At paragraph 6.14, the Strategy states that DEFRA and the Department for Communities and Local Government will review:

¹¹ DEFRA Soil Strategy for England, September 2009: available online at <http://www.defra.gov.uk/environment/quality/land/soil/sap/index.htm>

¹² DEFRA Code of Practice for Sustainable Use of Soil on Construction Sites, September 2009: available online at <http://www.defra.gov.uk/environment/quality/land/soil/built-environ/documents/code-of-practice.pdf>

'...the weight that should be given to protecting good quality agricultural soils from development. Planning policy on agricultural land requires local planning authorities to take account of the presence of best and most versatile agricultural land (BMV) (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) alongside other sustainability considerations (e.g. biodiversity and the quality and character of the landscape) when determining planning applications. We will also work together to review the effectiveness of the existing planning policy to protect soils and consider whether there is a need to update the policy.'

3.290 It is understood that the Government intends to publish a 'Soil Policy Tool Kit' to advise planners later in 2011.

The Site

Site Location and Land Use

3.291 The Site comprises agricultural land, which from aerial photography is mainly under grass¹³.

Methodology

3.292 Agricultural land quality has been assessed in this report using the Agricultural Land Classification (ALC)¹⁴ system developed by the former Ministry of Agriculture, Fisheries and Food (MAFF)¹⁵ in October 1988.

3.293 Natural England, the Government's advisor which maintains the national ALC database, was consulted in order to determine what level of information is currently available in connection with agricultural land at the Site and in the vicinity. ALC information provided by Natural England has been utilised in this study.

¹³ Aerial photograph of Webbeath. Available online @ <http://www.bing.com/s/?FORM=M MREDIR#JnE9LdlYmhlYXRoJTdlc3NOLjA1N2VwZy4xJmJiPTU2LjA1Njc1NzEzNjY5MDMIN2UxMC4xNzZmZk4NDM3NSU3ZTQ2LjQ2NDQxNjk1OTA5MjUIN2UtMTAuMTczMzM5ODQzNzU=>

¹⁴ Ministry of Agriculture, Fisheries and Food (MAFF), October 1988, 'Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land'.

¹⁵ The former Ministry of Agriculture, Fisheries and Food (MAFF) was integrated within the Department for Environment Food and Rural Affairs (DEFRA) in June 2001.

3.294 This desktop assessment of agricultural land quality at the Site has utilised published information on:

- topography (re Ordnance Survey contour information);
- climate, geology and soil (re Soil Survey of England and Wales provisional soil information given in 'Soils and their use in Midland and Eastern England' (SSEW Bulletin No.12, 1984, and accompanying soil map at a scale of 1:250,000); and
- Agricultural Land Classification (ALC) information produced by MAFF and ALC maps provided Natural England.

3.295 The current ALC system was devised by MAFF in October 1988. It is a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on agricultural use. The main physical factors influencing agricultural production are climate, site and soil. As distinct from MAFF provisional ALC information (pre-1988), the revised ALC guidelines provide a means to divide Grade 3 land in to subgrade 3a and 3b (i.e. necessary in order to determine 'best and most versatile agricultural land'.

Climate Factors

3.296 The Redditch area, including land off Pumphouse Lane, has a Median Accumulated Temperature above 0°C (January-June) of approximately 1400 day degrees Celsius and receives approximately 700 mm of precipitation per year (Average Annual Rainfall). According to Figure 1 'Grade According to Climate' of the MAFF Revised ALC Guidelines, this climate data indicates that there are no over-arching climate limitations to agricultural land quality at the Site (i.e. agricultural land quality could achieve Grade 1 where no other site or soil limitations exist).

3.297 The soils are estimated to be replete with water (Median Field Capacity Period) for approximately 151-175 days per year. This will influence 'interactive limitations' to agricultural land quality, namely soil wetness, and restricts the period over the year that the land could conceivably be accessed by farm machinery for cultivation, or by livestock for grazing.



Site Factors

3.298 In ALC terms, agricultural land quality is primarily limited by gradient (e.g. land with a gradient less than 7° is eligible for Grades 1, 2 and 3a), micro-relief (i.e. complex change in slope angle over short distances), and risk of flooding.

3.299 The Site is undulated and broadly slopes from higher ground in the north-east (i.e. approximately 149 m above mean sea level at Brownlas Farm) towards lower ground on the south-west boundary (i.e. approximately 115 m above sea level).

3.300 The land is drained via a narrow brook which flows from the north-east to the south-west through the Site, and leads to Swan's Brook approximately 0.5 km to the west.

3.301 From published information, gradient and micro-relief does not appear to be significantly limiting to agricultural land quality off Pumphouse Lane. It is possible that the land becomes wetter (i.e. due to a higher ground water table) adjacent to the brook/drain, and on lower ground in the south-west of the Site.

Soil Limitations to Agricultural Land Quality

3.302 Published information on soil (re Soil Survey of England and Wales provisional soil information from Sheet 3 'Midlands and Eastern England' at a scale of 1:250,000) indicates that land over most of the Site is underlain by soils grouped in the Brockhurst 1 Association. This group of soils are developed in Permo-Triassic reddish mudstone and glacial till, and comprises slowly permeable and seasonally waterlogged (Wetness Class III or IV) clay loam topsoil overlying clayey subsoil.

Pre-1988 ALC Information

3.303 During the 1960's and 1970's, MAFF produced a series of maps to show the provisional ALC grade of agricultural land over the whole of England and Wales at a scale of 1:250,000. These provisional ALC maps are suitable for strategic land use planning only, i.e. they appropriate for land areas greater than 80 ha. As the provisional ALC maps were produced at reconnaissance level before the current system of grading land came into force in 1988, they do not provide a definitive ALC grade for specific sites; this can only be achieved by carrying out an ALC survey in accordance with the current ALC guidelines¹⁴.

3.304 From the MAFF provisional ALC map of the Midlands and Western Region (1:250,000), agricultural land off Pumphouse Lane is classed as good to moderate quality, Grade 3 (not differentiated between Subgrade 3a or 3b). The remaining agricultural land around the perimeter of Redditch is provisionally classed as Grade 3 also.

Post-1988 ALC Information

3.305 In the absence of definitive ALC information (i.e. determined by a soil investigation), a prediction of ALC grades at the Site in accordance with current ALC Guidelines¹⁴ can be made by utilising the published information on climate, topography and soil given earlier in this report.

3.306 It is predicted that 'soil wetness' is the main limiting factor to agricultural land quality at the Site, as summarised in Table 1 below (based on Table 6 'Grade According to Soil Wetness – Mineral Soils' in the ALC Guidelines):

Predicted ALC Grade According to Soil Wetness

Wetness Class	Texture of the Top 25 cm	176-225 Field Capacity Days
III	Medium Clay Loam*	3a
	Heavy Clay Loam# Clay	3b 4
IV	Medium Clay Loam*	3b
	Heavy Clay Loam# Clay	4 4

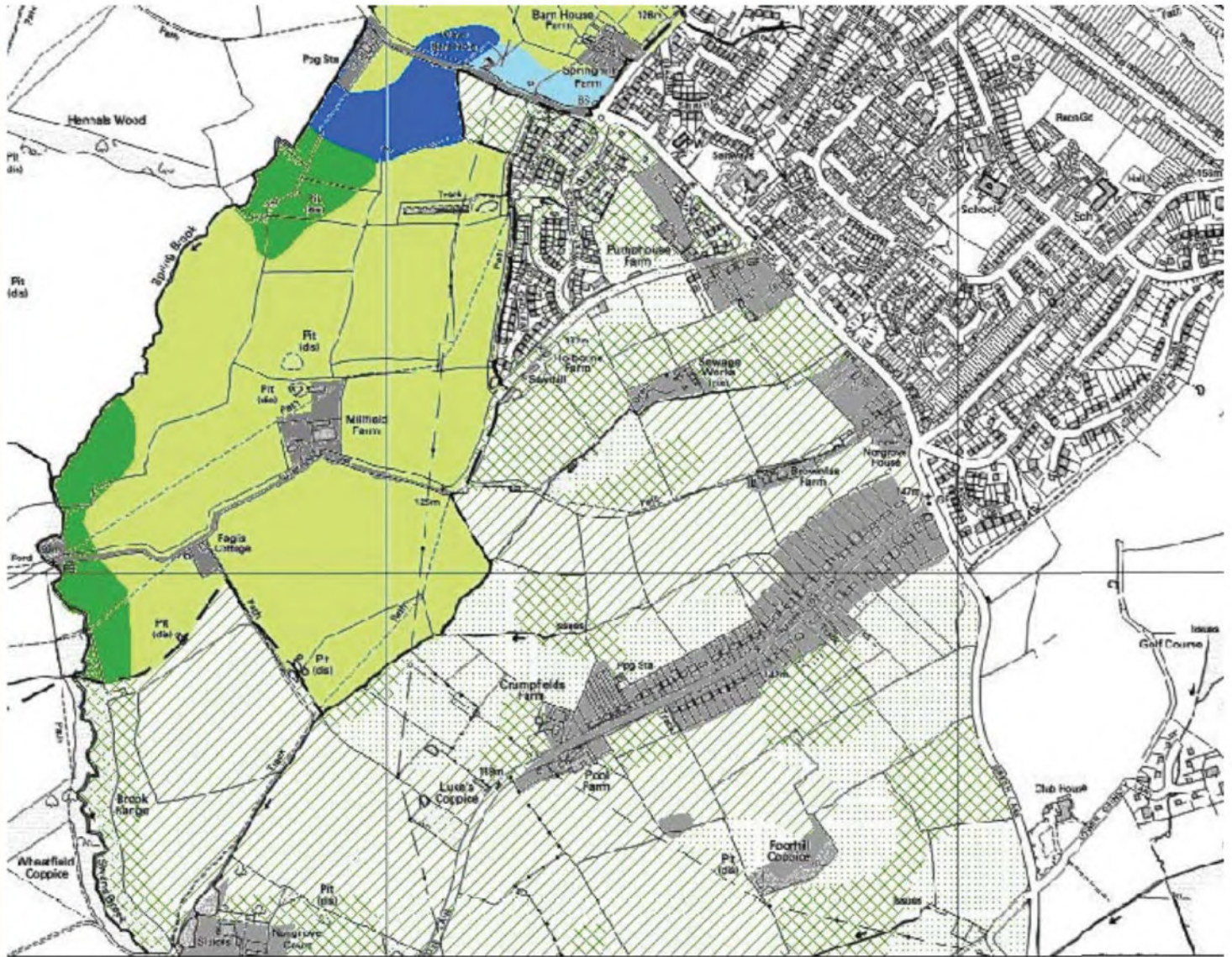
(key: * <27% clay; # >27%clay)

3.307 Natural England was consulted as part of this desktop study and has provided a composite map showing ALC information derived from a number of pre-1988 and post-1988 ALC surveys carried out by MAFF around the western outskirts of Redditch, including land off Pumphouse Lane (pre-1988 information). A copy of the composite ALC map provided by Natural England is provided on page 95.

3.308 The composite ALC map shows that MAFF has determined a mixture of Subgrade 3a, 3b and 3c agricultural land using the pre-1988 ALC system. Whilst this does provide a definitive ALC grading of the land in accordance with the current ALC guidelines, the MAFF pre-1988 ALC information does confirm the ALC grades predicted by this desktop study, i.e. a mixture of Subgrade 3 and Subgrade 3b.

3.309 MAFF has determined predominately Subgrade 3b (moderate quality) immediately to the north-west of the Site, using the current ALC Guidelines¹⁴ (i.e. post-1988).

Figure 21. Agricultural Land Classification Plan



ALC Grades - Post 1988

- Grade 1
- Grade 2
- Grade 3a
- Grade 3b
- Grade 4
- Not Surveyed

Other

ALC grades - Pre 1988

- Grade 1
- Grade 2
- Grade 3a
- Grade 3b

Grade 3c

- Grade 4
- Not Surveyed
- Other

ALC in a National, Regional and Local Context

Pre-1988 ALC Information

3.310 As described earlier, MAFF produced a series of provisional ALC maps covering England and Wales in the 1960s-1970s. The proportion of agricultural land in each of the ALC grades (derived from MAFF provisional, or pre-1988 ALC) in England, West Midlands, Worcestershire, and Redditch Borough is shown for comparison in the adjoining table.

3.311 MAFF provisional (pre-1988) ALC statistics in Table 2 indicates that the Borough of Redditch does not have any Grade 1 or Grade 2 agricultural land. With over one-third of the land area classified as 'urban', agricultural land available for development is classed mainly as Grade 3 (approximately 34.9% of the whole Borough), with the remainder classed as Grade 4 (poor quality).

Post-1988 ALC Information

3.312 Natural England has provided a composite map of ALC grades on the western-edge of Redditch. This map shows that agricultural land immediately to the north-

ALC Grade	England	West Midlands	Worcestershire	Redditch Borough Council
		Government Office	County	
1 (excellent)	2.7	1.1	2.8	0
2 (very good)	14.2	17.1	16.6	0
3 (good to moderate)	48.2	53.3	63.5	34.9
4 (poor)	14.1	14.6	9.8	22.8
5 (very poor)	8.4	2.5	0.2	0.0
Non-Agricultural	5.0	2.3	1.5	7.6
Urban	7.3	8.6	5.6	34.7

Table 2: Provisional ALC – National, Regional and Local Context (Proportion of ALC Grades as % of Total Land Area)¹⁶

(Footnotes)

¹⁶ DEFRA statistics, 2005: available online at https://statistics.defra.gov.uk/esg/index/list.asp?l_id=175

west of the Site is classed a predominately Subgrade 3b (moderate quality), in accordance with current ALC Guidelines¹⁴ (October, 1988).

Summary and Conclusion

3.313 In national, regional and local planning policy terms, where development on agricultural land is appropriate, Redditch Borough Council should seek development on the lowest quality of agricultural land available. It has been determined, in the light of MAFF pre-1988 and post-1988 ALC survey information, that much of the agricultural land off Pumphouse Lane would be limited in practical, agricultural terms by the preponderance of Subgrade 3b at the Site. National planning policy states that 'Little weight in

agricultural terms should be given to the loss of agricultural land in grades 3b...' (paragraph 28 of PPS7).

3.314 It is predicted there may be some Subgrade 3a agricultural land at the Site, where the topsoil is a medium clay loam and the soil profile is slowly permeable and moderately seasonally waterlogged (Wetness Class III). The definitive location and extent of ALC grades at the Site can only be determined by detailed survey in accordance with current ALC Guidelines 4.

3.315 Therefore, the loss of predominantly Subgrade 3b agricultural land at the Site, which is likely to be interspersed with some Subgrade 3a (which would be difficult to utilise separately from the Subgrade 3b), would not significantly harm national,

regional or local agricultural interests.

3.316 National and regional planning policy, and current best practice on the sustainable use of soil on construction sites should be considered. Opportunities exist to separately strip, store and re-use higher quality soil (i.e. medium clays) present on Site for more demanding end-uses such as residential gardens and prestige landscaping areas. Lower quality, heavy clay soils should be separately stripped, stored and replaced for less demanding uses, such as amenity grassland and general landscaping. The sustainable use of soil as part of construction at Pumphouse Lane could be achieved through a suitably worded condition of planning permission, as recommended in DEFRA's Code of Practice 12.

Archaeology

3.317 The site is located within a valley containing a small northeast to southwest aligned watercourse with topography varying from 140m AOD in the north-eastern corner to 120m in the south-western corner. The natural geology consists of Diamicton Till over Mercia Mudstone (<http://maps.bgs.ac.uk>) although alluvial deposits from the watercourse can also be expected. The site is mostly under pasture fields defined by hedges and paddocks although the watercourse is lined with trees and vegetation. A field containing a former sewage works was at the time of a site visit heavily overgrown. Holborne Farm, a sawmill and barn also front onto Pumphouse Lane which bounds the site to the north-west. The site is bounded to the north-east by residential properties and Church Road and to the south and south-west by houses off Church Road and further fields.

Methodology

3.318 This report has been produced in accordance with guidelines in the Standard and Guidance for Archaeological Desk-Based Assessment issued and subsequently revised by the Institute for Archaeologists (2001). It involved consultation of publicly available archaeological and historical information from documentary, cartographic and aerial photographic sources. The major repositories of information comprised:

- Worcestershire County Council Historic Environment Record (HER). This database was consulted for records of known archaeological sites and findspots within 600m of the application site;
- historic maps and documents held by Worcestershire Records Office;
- aerial photographs held by the National Monuments Record (NMR); and
- records made during a site visit on 23rd September 2010.

Planning Legislation and Guidance

3.319 A key piece of legislation relating to archaeology is the Ancient Monuments and Archaeological Areas Act (1979). However, this Act is most relevant to Scheduled Monuments of which there are none within or immediately adjacent to the application site.

3.320 The most relevant planning guidance concerning archaeology and other heritage assets is PPS5 Planning for the Historic Environment (2010). This contains Policies HE1-12 and advises on planning procedures for dealing with these assets. It covers designated heritage assets (World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Conservation Areas, Registered Parks & Gardens and Registered Battlefields) and non-designated heritage assets which are of heritage interest and therefore a material planning consideration. Policy HE6 states that local planning authorities should

require an applicant to provide a description of the heritage assets affected by proposed development and the contribution of their setting to that significance and, if necessary, desk-based research should be accompanied by a field evaluation.

3.321 This assessment represents the first phase in the site evaluation process and will inform consideration of future development proposals in accordance with PPS5.

Designated Heritage Assets

3.322 There are no designated heritage assets within the site boundary. However, two Grade II listed buildings are registered on the Worcestershire HER within 500m of the application site, namely the late 18th century Pumphouse Farm approximately 60m to the north and Crumpfields Farm, together with a Grade II listed barn and stable, approximately 140m to the south.

Non-Designated Heritage Assets

Assets within the application site

3.323 There are several non-designated heritage assets recorded within the application site on the Worcestershire HER. These were identified during a previous archaeological assessment carried out in 1995 which covered all but the two southernmost fields of the site together with a large area north of Pumphouse Lane. This assessment included a desktop study, walkover survey and geophysical survey. Although the results were not conclusive, possibly due to ground conditions. The results of the 1995 archaeological assessment can be summarised as follows:

- ridge and furrow earthworks were identified in several fields. These earthworks were all aligned with the existing field pattern, mostly northwest to southeast with one field aligned northeast to southwest. These earthworks are most marked in the field fronting Church Road. They were considered to be of local interest.
- the earthwork of a small possible house platform. This field was not accessed in the site visit due to the presence of a bull.
- water management features (ponds and channels with two possible dams). These were identified as post-dating the ridge and furrow earthworks and the 1995 report commented that the farmer recalled that many of the ponds were formerly used for growing watercress. These features are again most marked in the field fronting on to Church Road.
- water management features (dams). Three linear earthworks interpreted as dams were identified, although geophysical survey of fields adjacent to these features failed to record any associated buried features. However, the potential dams were interpreted as possibly providing a water supply for a mill or other industrial or agricultural purpose. The unproven potential for the dams to be of Medieval date and a possible association with the nationally important site of Bordesley Abbey was noted. In addition, the potential for the survival of sluices and occupation features was identified along with the potential for palaeo-environmental preservation in waterlogged deposits. However, it is possible that these earthworks were merely designed to retain water thus preventing flooding of the trackway (Green Lane) which lay directly to the south. These linear banks are currently largely obscured by vegetation.
- a hollow way which is still in use as a public footpath leading from Pumphouse Lane to Church Road. This was interpreted as being of local interest.
- fieldname evidence (Blackwell Meadow) on an 1844 tithe map may suggest the presence of an archaeological site.
- a sewage works.
- embanked field boundaries, again of local interest.

3.324 In conclusion the 1995 report recommended that archaeological trial trenching be carried out in the areas containing water management features and associated earthworks and that the earthworks be the subject of more detailed survey. No work was recommended over the remainder of the site.

Assets within 600m of the application site

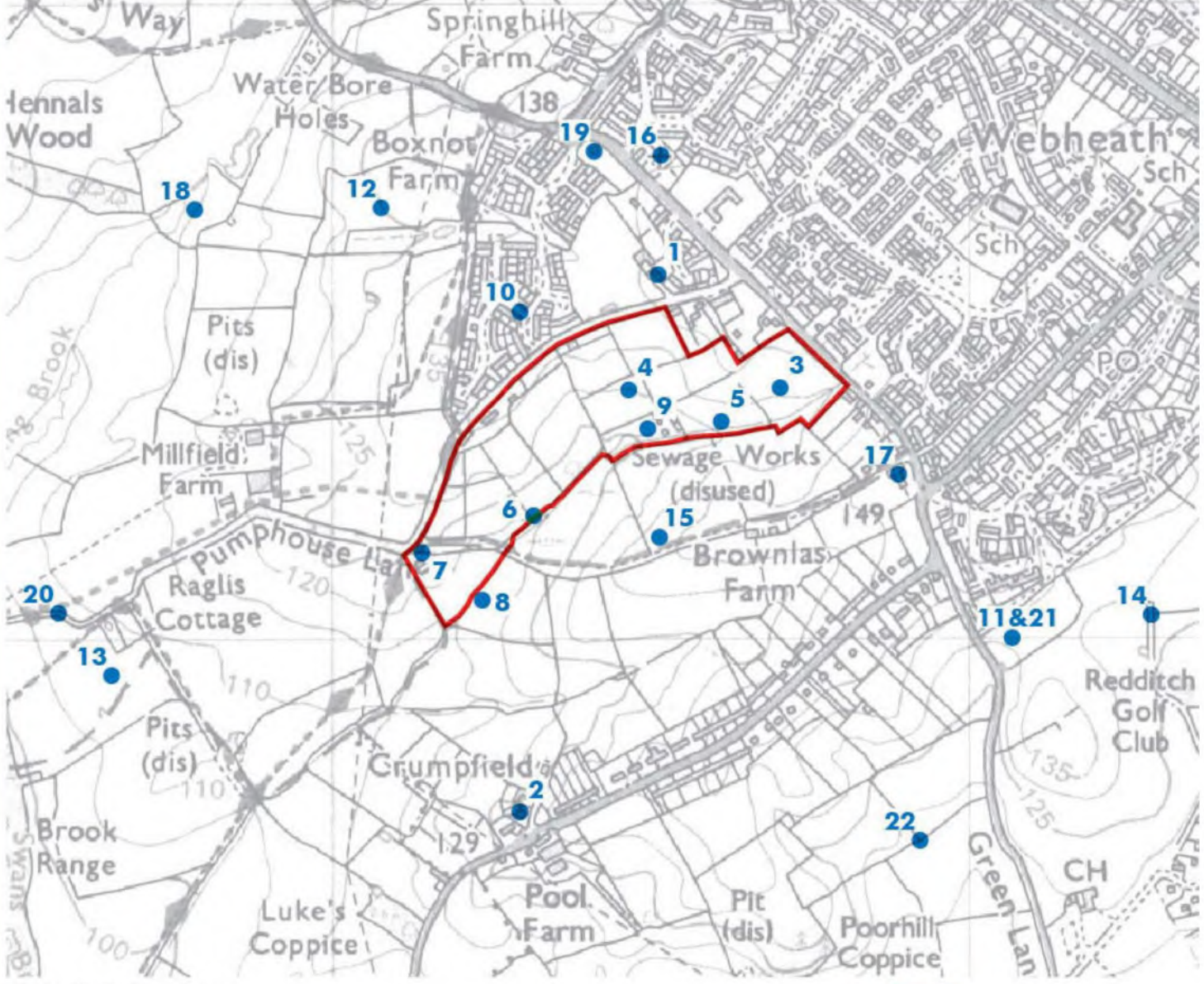
3.325 In addition there are several historic assets recorded within 600m of the application site on the HER. However, it should be emphasised that the HER is an incomplete record that is constantly being updated and should not be interpreted as a definitive list of all surviving archaeological remains. The recorded assets are as follows:

- a desk-based assessment directly to the north of Pumphouse Lane identified ridge & furrow, pond features, former field boundaries and a possible hollow way all relating to the Medieval landscape, along with possible Post Medieval pits (BUFAU 1997a). However, subsequent archaeological evaluation in the form of six trial trenches suggested that the ridge and furrow could be of Post Medieval date. A possible pond and an early 19th century hearth were also identified (BUFAU 1997b).
- ridge and furrow earthworks approximately 470m to the south-east.
- desk-based assessments have identified areas of Medieval and Post Medieval features with high potential for others to exist approximately 275m to the north and 470m to the west.
- a trackway marked as a road on a 1591 map approximately 600m to the south-east.
- a small quarry which survives as a slight earthwork directly to the south and east. It post-dates ridge and furrow earthworks but was disused by 1904.
- St. Phillips Church built in 1869-70 approximately 235m to the north.
- Upper Norgrove House, approximately 150m to the south, which is of late 19th century date although built on the site of an earlier structure. The presence of a number of fields with 'black' in their names just to the south and west also suggests occupation here. 'Black' field names are regularly associated with areas of intense archaeological occupation.
- Hennals Mill watermill and pond approximately 500m to the north-west.
- a pond marked on historic mapping approximately 260m to the north.
- a hollow way identified on historic mapping approximately 500m to the west, and
- fieldname evidence indicates possible sites of Roman to Medieval date approximately 450m to the south-east and 530m to the south.



The known and relevant archaeological resource within 600m of the site (taken from the Worcestershire HER)

Site no.	HER no.	Date	Description	Site no.	HER no.	Date	Description
Listed Buildings							
1	WSM31703	Post Medieval	Grade II listed Pumphouse Farm which is of late 18th century origin	13	WSM38554	Medieval to Post Medieval	Archaeological desk-based assessment established that the estate of Bentley Manor is first recorded in the Early Medieval period. Although the location of the manor house in the pre-modern period is unknown, a wet moat situated 1.3km to the north-west is considered a likely location
2	WSM10234 WSM31701 WSM00774	Post Medieval	Grade II listed Crumpfields Farm which is of early 17th century origin. A barn and stable are also Grade II listed. Also the site of a possible Medieval moat	14	WSM39903	Medieval to Post Medieval	Trackway marked as a road on a 1591 map. By the 1st Edition Ordnance Survey it appears to be a track running as far as Rushy Bottom
Undesignated archaeological sites							
3	WSM21764 WSM21765 WSM21774 WSM21775 WSM37535 WSM21770 WSM21771 WSM21772	Medieval	Ridge and furrow earthworks	15	WSM37539	Post Medieval	Small quarry identified during a 1995 archaeological assessment. Survives as a slight earthwork. Dating is conjectural, but the quarry post-dates the ridge and furrow and was out of use and sufficiently overgrown by the 1890s not to appear on the 1st Edition Ordnance Survey map
4	WSM37538	Medieval or Post Medieval	Earthwork of a small possible house platform identified during an archaeological assessment in 1995	16	WSM00020	Post Medieval	St. Phillips Church built in 1869-70
5	WSM37536 WSM21766 WSM21767	Medieval to Post Medieval	Water management system consisting of a series of pools, dams and leats identified during an archaeological assessment in 1995. These are also visible on late 19th century and later mapping	17	WSM40519	Post Medieval	Upper Norgrove House which is of late 19th century date. Built on the site of an earlier structure shown on the 1844 tithe map as 'homestead, garden etc', but is potentially much earlier as it lies on the corner of the crossroads between two Medieval roads, on the top of a rise and close to several moated sites. The presence of a number of fields with 'black' in their names just to the south and west also suggests occupation here. 'Black' field names are regularly associated with areas of intense occupation, usually Roman, as ploughing over these settlements brings up dark soil
7	WSM21768 WSM21769	Post Medieval	Trackway documented as part of a green lane on the tithe award and a bank or earthwork	18	WSM00029 WSM00031	Post Medieval	Hennals Mill watermill and pond
8	WSM34277	Undated	Fieldname evidence (Blackwell Meadow) on an 1839 tithe map may suggest the presence of an archaeological site	19	WSM21779	Post Medieval	Pond marked on historic mapping
9	WSM21773	Post Medieval	Sewage works	20	WSM37540	Post medieval	Hollow way identified on 1st Edition Ordnance Survey mapping. Dating is conjectural and may be much earlier. The road appears to run around the Medieval field system, suggesting that it post-dates the layout here
10	WSM30153 WSM30154	Medieval to Post Medieval	Archaeological desk-based assessment identified ridge & furrow, pond features, former field boundaries and a possible hollow way relating to the Medieval landscape, and possible Post Medieval pits. However, subsequent archaeological evaluation revealed the ridge and furrow to be of possible Post Medieval date	21	WSM30908 WSM30909 WSM30910 WSM30911	Undated	Fieldname evidence indicates a possible site of Roman to Medieval date
11	WSM04832 WSM39901 WSM39902 WSM39904 WSM39905 WSM39906	Medieval	Slight ridge and furrow earthworks aligned north-south and east-west	22	WSM30912	Undated	Fieldname evidence indicates a possible site of Roman to Medieval date
12	WSM26357	Medieval to Post Medieval	Archaeological desk-based assessment established an area of Medieval and Post Medieval landscape features with a high potential for further features				

Figure 22. Known Heritage Assets (from the HER)



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-  Site boundary
-  1 Known archaeological sites (from the HER)

Historic Mapping and Aerial Photography

3.326 The most informative source of information for the 19th century and later development of the application site comes from historic maps and, from the mid 20th century onwards, aerial photographs. In this regard, the earliest consulted map of the site was the Tardebigge Tithe Map of 1839. This map shows that the application site was under several enclosed fields cut by an east to west aligned Green Lane to the south which was joined by a further north-south aligned lane which ran north from Feckenham parish. A house and garden (no. 160) is marked close to the junction of the Green Lane and Pumphouse Lane. Fields within the application site are recorded on the tithe apportionment on page 105 as follows:

- 159 Blackwell Meadow (meadow)
- 161 Holborn (arable)
- 163 Pool Meadow (arable)
- 164 Calves Close (arable)
- 169 Greensword Hill (pasture)
- 170 Greensword Hill (pasture)

- 171 Heathy Close (arable)
- 174 Pear Tree Piece (pasture)
- 175 Greensword Hill (pasture)
- 177 Hundred Acres (pasture)
- 178 Lower Common Piece (pasture)

3.327 Of these Pool Meadow is a recognition of a former pond on the watercourse. Blackwell Meadow and adjacent fields Upper Blackwell (no. 157) and Piece adjoining Blackwell Meadow (no. 158) could be of significance as the fieldname black can on occasion refer to areas of intense archaeological occupation.

3.328 By the Ordnance Survey map of 1904 Holborne Farm had been constructed on the southern frontage of Pumphouse Lane and the field known as Holborn had been sub-divided into three northwest-southeast aligned fields. By the Ordnance Survey map of 1927 (page 105) a Bromsgrove Council Sewage Works, containing tanks and filter beds, had been constructed within the site north of the watercourse. A series of what appear to be water management features are also shown on both maps.

These consist of marshy areas, possible stream diversions and a possible bank. A further marshy area (possibly a pond) is shown on both maps on the Pumphouse Lane frontage east of Holborne Farm. A track runs from north to south from Pumphouse Lane east of this possible pond, around an earthwork feature, (possibly a mound or pond) before ceasing at a field boundary. Possible earthworks are also marked to the north-west and south of the application site.

3.329 An aerial photograph of 1961(not illustrated) shows the large field in the western part of the site under arable cultivation with the Green Lane to the south. The sewage works in the field to the east was still visible with two circular tanks in the north-eastern corner of the field, along with a filter bed and a water-filled pond. Pronounced ridge and furrow is also shown in the field to the east fronting Church Road. An aerial photograph of 1992 shows that the field containing the sewage works was heavily overgrown although the two circular tanks can still be seen in the north-eastern corner of the field.

Figure 23. Area of 1995 Geophysical Survey

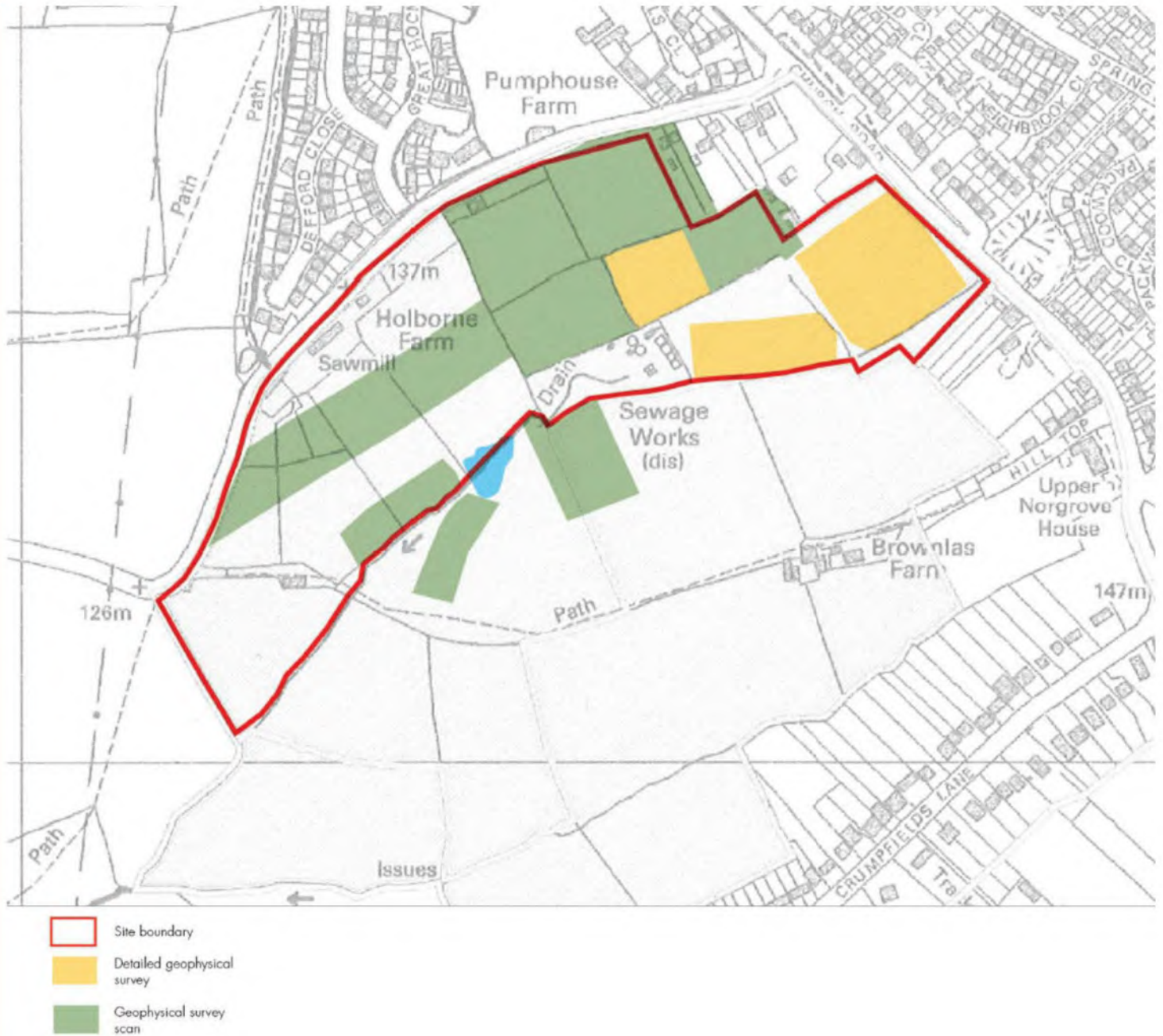
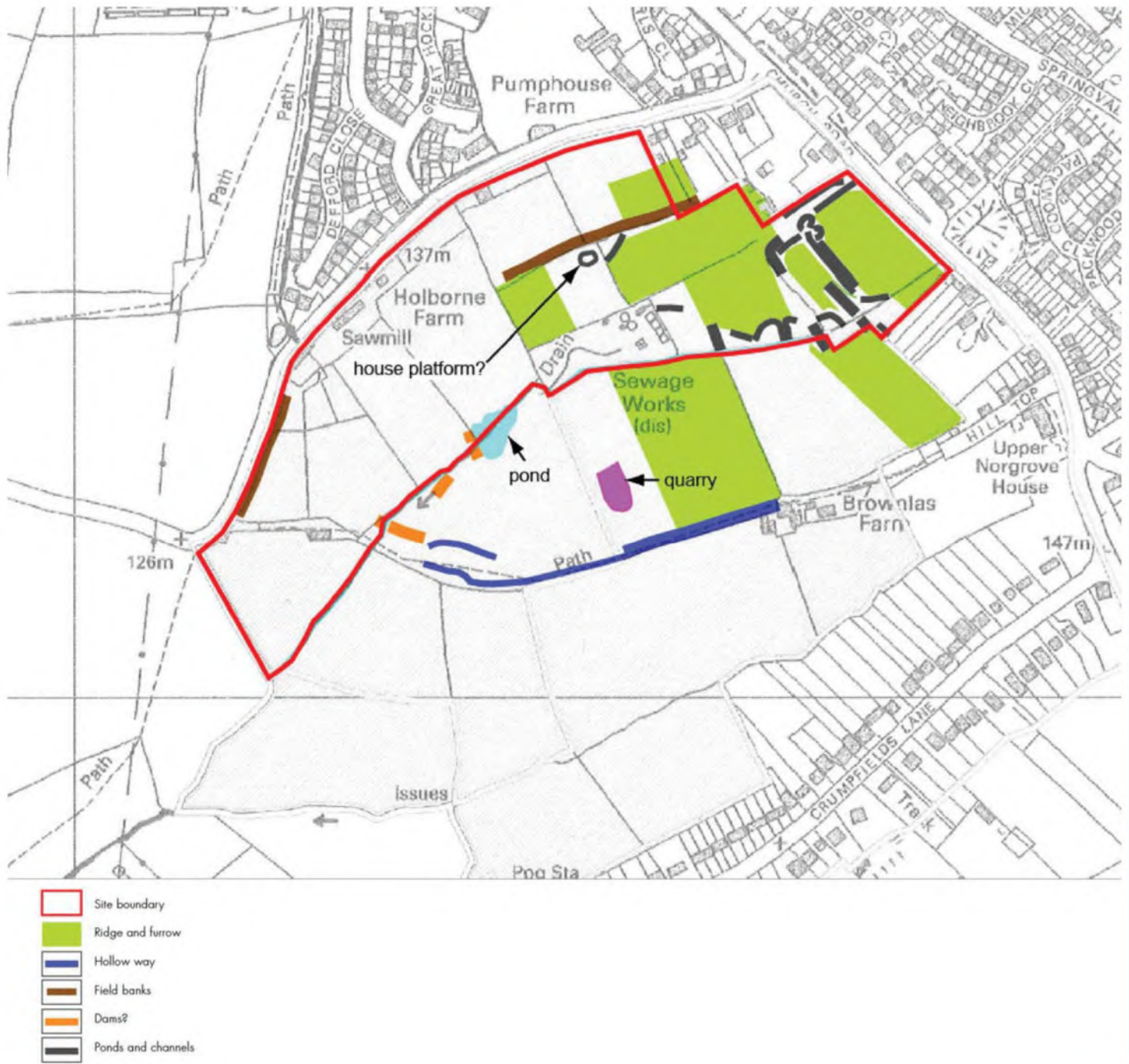


Figure 24. Earthwork Features Identified in 1995 Assessment



Extract from the 1839 Tardebigge tithe map



Ridge and furrow in field fronting Church Road (looking SE)



Ridge and furrow in field NE of former sewage works (looking N)

Extract from the 1927 Ordnance Survey Map



Conclusions

3.330 The application site is of archaeological interest because of the presence of the following heritage assets:

- Grade II listed buildings in the wider vicinity;
- ridge and furrow earthworks. These are most marked in the field fronting on to Church Road and the adjacent field to the north-west;
- the presence of the Green Lane, one of two former trackways shown on the 1839 tithe map;
- historic field boundaries which date back to at least 1839. These boundaries could be interpreted as important under the Hedgerows Regulations of 1997 as they form an integral part of a pre-1845 field system. In addition one of the hedgerows forms part of the historic parish boundary with Feckenham to the south. These field boundaries also form part of a historic agricultural landscape which lies to the south and west of the site;
- water management features in the form of ponds, channels and linear banks or dams. Again these features are most marked in the field fronting on to Church Road, although dams to the west can still be seen under dense vegetation. The purpose and precise date of these features is unknown;
- a small house shown at the junction of Pumphouse Lane and Green Lane on the 1839 tithe map;
- Holborne Farm, which dates back to at least 1885; and
- the potential for unrecorded archaeological remains. None were detected during the 1995 geophysical survey but this technique may not have been suitable for the ground conditions.

3.331 The general impression is that the application site and its surroundings contains visible elements (in the form of ridge and furrow earthworks, field boundaries and a former trackway) of a Medieval and Post Medieval agricultural landscape. The date of the water management earthworks is not known although those to the east are possibly of Post Medieval origin. Initial



Ridge and furrow in field fronting Church Road (looking SE)



Ridge and furrow in field NE of former sewage works (looking N)

consultations with the Historic Environment Planning Officer of Worcestershire County Council have established that there will be a strong presumption in favour of retaining and protecting these water management features alongside any development.

3.332 Although the application site does not contain any designated or known non-designated heritage assets that would prevent development, the presence of the important hedgerows, historic landscape (specifically the water management features) and listed buildings mentioned above are key considerations in the masterplan design.

3.333 It is noted that the current masterplan proposals (as of February 2011) allow for the retention of hedgerows alongside development, albeit with a minimal number of breaks created by new estate roads. Water management features along the valley bottom have been retained within areas of open space.

3.334 Although no buried archaeological sites are known within the application site this could well be due to the lack of intrusive archaeological research in the general area, with the exception of six small trenches excavated to the north of Pumphouse Lane. Therefore, a programme of

archaeological test pitting to identify potential artefact scatters will be required. It is recommended that when development proposals proceed, further consultation be carried out with the Historic Environment Planning Officer of Worcestershire County Council to agree an appropriate archaeological strategy.

4. Vision and Concept

‘Our vision is to create a new vibrant community that is well integrated into the area at the edge of Webheath set within a high quality and attractive environment, that responds to the unique landscape setting of the site.’

Wider Concept

1. Creation of a residential development sensitively integrated into the landscape and topography.
2. Provision of a small local centre at Church Road.
3. Creation of an accessible green corridor along the existing brook with linkages to the countryside.

4. Development of a permeable movement network with a public transport route.

Design Concept and Rationale

4.1 The following diagrams will explain and illustrate the design rationale that underpins the concept master plan.

Key Constraints and Opportunities

4.2 The existing landscape features and topography represent a key asset of the site, but they will also form challenges for the provision of a viable development. The design will retain important trees and hedgerows and minimise the impact on these features by development. The existing tree avenue along Pumphouse

Lane should be retained for its distinctive character. The densely vegetated brook forms a vital green corridor and retains archaeological features alongside it, which need to be protected. To mitigate impact on the new pond in the north, a development stand off should be considered. The main access to the site will be off Church Road and a link to Great Hockings Lane and its associated housing development will be provided.

Figure 25. Wider Concept Diagram

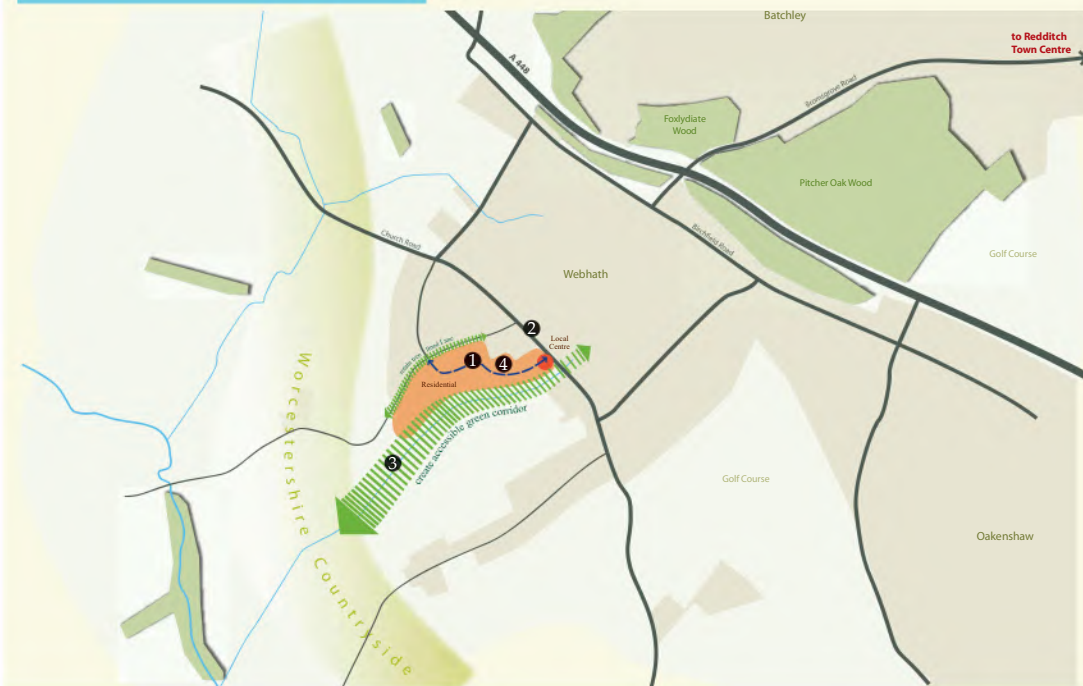


Figure 26. Key Constraints and Opportunities Diagram



Creating a network of green spaces

4.3 The existing key linkages and green corridors will be retained and enhanced forming a network of routes for wildlife. The main green corridors will also provide footpath linkages into the countryside for residents of Webheath. A play

area will be provided in the centre of the site well connected to the footpath network and overlooked by new properties. A balancing pond will be created on the field to the southwest.



Connecting the site and its surroundings

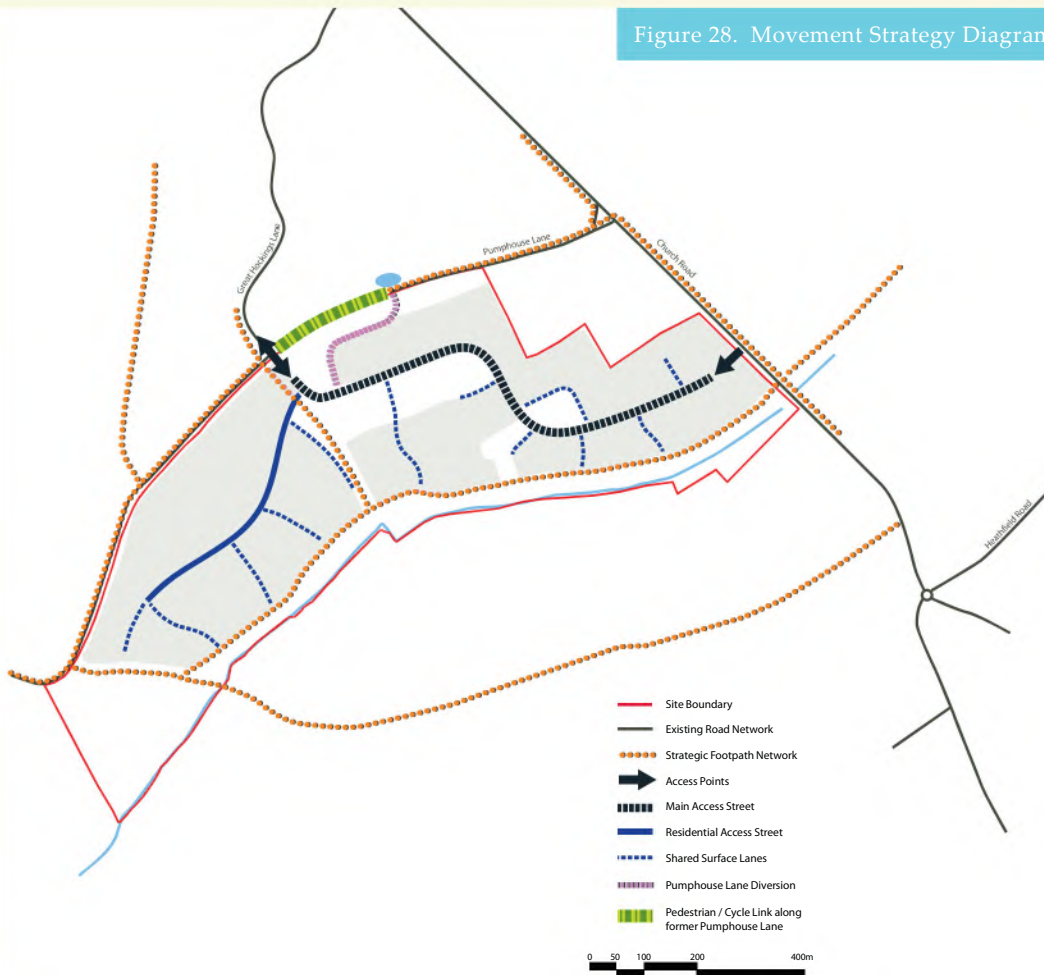
4.4 A main street will be provided linking Church Road with Great Hockings Lane. This will complete the access loop, making it viable for the provision of a bus route, herewith giving new and

existing residents better access to public transport. Pumphouse Lane will be diverted through the site, making parts of it a footpath/cycle link only.

4.5 The alignment of the main street and residential access street will take account of the topography and existing trees. Shared surface lanes will provide access to development parcels.

4.6 New footpaths are proposed along major green corridors. They will be connected to existing public rights of way forming an integrated and well connected footpath system.

Figure 28. Movement Strategy Diagram



Creating a variety of spaces

4.7 A series of distinctive urban and green spaces will provide variety and create a sense of place. The green spaces will use and enhance existing trees and hedgerows and create an appropriate setting for them, turning them into attractive features for the development. Development frontages will be provided to key spaces and landscape edges to ensure safety by overlooking.

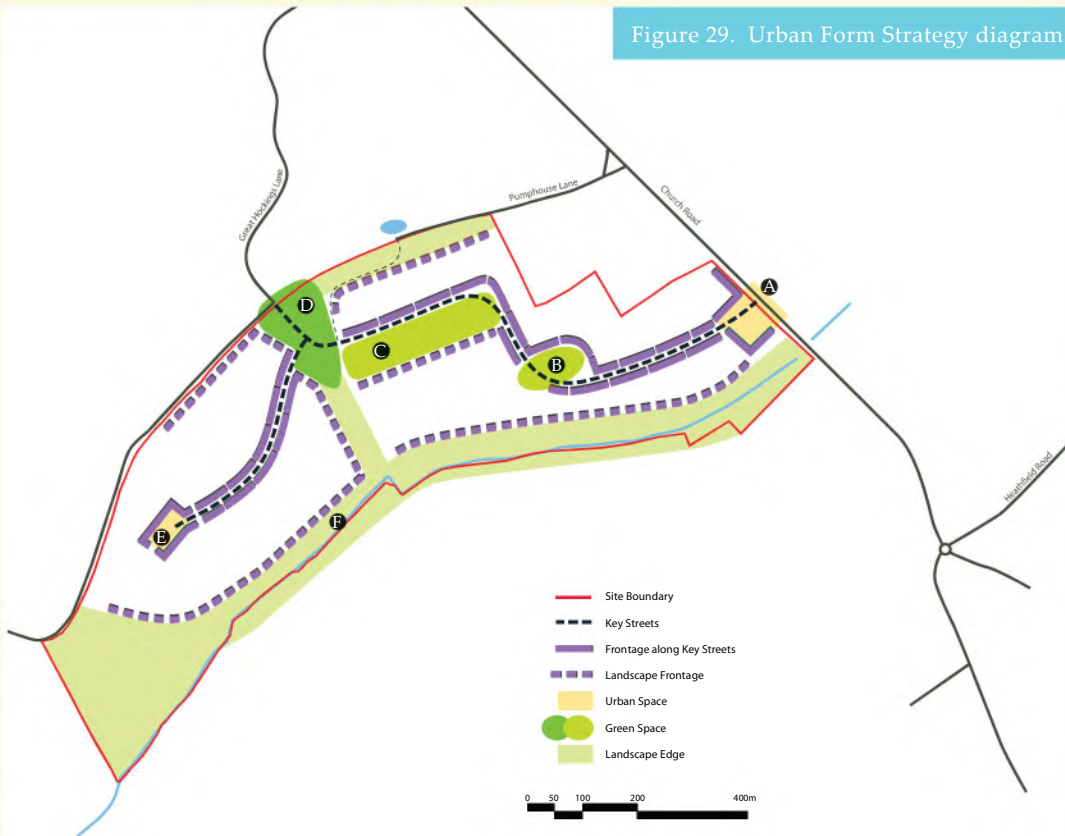
4.8 The key spaces provided are:

- A. Local Centre Square, providing an entrance feature to the development
- B. Small Green Square, retaining an important tree in this location
- C. Linear Green, retaining a hedgerow with several oak trees
- D. Triangular Green, providing a focal point at the northern entrance

- E. Small square – providing a focal point to the west of the development and an ‘end’ to the key access street
- F. Landscape edge – providing a major wildlife and landscape corridor to the south

4.9 Key frontages will run along principal streets giving enclosure and continuity. Development frontages will also run along landscape edges, creating a positive edge response and providing ‘eyes’ on footpaths and open spaces.

Figure 29. Urban Form Strategy diagram



Developing a layout that responds to the site's assets

4.10 The layout will consist of a permeable block structure that is well integrated into the existing urban fabric and is easily accessible for both, vehicles and pedestrians. The layout will 'work' with the landscape and topography by

creating a block structure that follows the contours and allows level changes to be integrated into private gardens and soft landscaping. Existing trees and hedgerows will provide focal points and natural edges, giving the development a 'matured' appearance.



5. Development Principles

The concept master plan on page 117 sets the parameters for a potential development of the site. The following chapter will explain the key components and principles for development.

Use and Function

5.1 The concept can deliver a new sustainable and walkable neighbourhood of up to 250 high quality modern homes. The density will vary across the site to allow for a sensitive response to the landscape and topography. Densities could vary between 25 and 35 dwellings per hectare.

5.2 The site will comprise a range of different housing types and sizes that should respond to demand and location within the site.

5.3 A small local centre will be provided at the entrance on Church Road, creating a focal point and landmark. The type and size of the mixed use provision has to be determined at later stages but could include a small shop or community store. Provision for associated car parking has to be considered in the design.

5.4 A fully equipped play area should be provided in the centre for short walking distances to all residents. The design should utilise the topography and create a play space that is imaginative and nestled into the landscape.

Urban form and Built Character

5.5 The urban form will be informed by the site's distinctive landscape character and topography opening the opportunity for a specific urban design and architectural response that makes the most of these features. This will determine and add to the character of the development.

5.6 Other characteristics are:

- Strong enclosure and building continuity along the main streets with opportunities for higher densities.

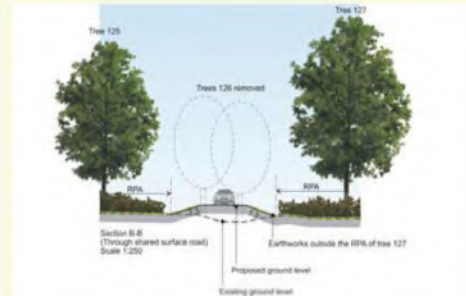
- An informal building line along landscape edges with individual buildings of lower densities.
- Low key shared surface streets leading off the main streets into the residential area and connecting to the strategic footpath network. This will slow traffic and give a more private and intimate character to the area just off the main streets.

5.7 The built form character should pick up references to materials and features of the local vernacular, but should seek a modern interpretation.

A-A



B-B



C-C



Figure 31. Cross Sections

5.8 A set of indicative sections (sections A-A to C-C) has been produced to convey the overall design principles in key areas of the development. They are focussed on areas to show the relationship between the proposed roads and existing vegetation, with the aim of conveying how trees will be retained or removed as a result of the main road alignments.

5.9 The main design principles on which the masterplan is based are as follows:

- the retention of trees and hedgerows of moderate and high landscape value that give the site its natural structure;
- a main access road that follows the natural contours of the site, resulting in minimum cut and fill;
- development that is sensitively located in terms of the existing topography, character, and public access of the site;
- the retention and enhancement of the existing stream corridor, with opportunities for recreation;
- the character of Pumphouse Lane retained and its diversion mitigated through new tree planting;
- the character of the sunken part of the bridleway retained and enhanced;
- the mitigation for any loss of trees or hedgerows through new tree planting and hedgerows, building on the existing vegetation structure;
- the enhancement of hedgerow boundaries, incorporating them into the landscape design of the development;
- enhanced biodiversity, including ecological mitigation required for newts;
- new street tree planting along the main access route;
- opportunities for formal and informal play;
- retention of parts of the site characterised as open countryside for attenuation ponds and informal walks;
- provision of additional pockets of woodland planting to link the development and attenuation pond with the surrounding open countryside;
- provision of a strategic network of footpaths, linking with the existing Public Right of Way and Long Distance Footpath; and
- local views from surrounding houses filtered by new structure planting.

Figure 32. Green Infrastructure



LEGEND

Site boundary	Proposed hedge	Informal footpath
Existing Features	Structure planting	Play area
Existing trees and hedgerows to be retained	Wetland planting	Indicative location for water attenuation
Existing watercourse/pond	Amenity grass	Section locations (note 2)
Proposals	Wetland grass	<small>Note:</small>
Proposed trees	Meadow grass	<small>1. Plan based on Barton Wilmore's Concept Masterplan (Dwg No. Rg04)</small>
Formal tree planting		<small>2. See CP Plan 2145/18 for sections.</small>

Figure 33. Concept Master Plan



- | | | |
|------------------------------|---------------------------------|---|
| Site Boundary | Potential Play Area | Existing Water Feature |
| Residential Development Area | Main Access Street | Indicative Location for Water Attenuation |
| Primary Building Frontage | Residential Access Street | Indicative Location of Pumping Station |
| Secondary Building Frontage | Pump House Lane incl. Diversion | Open Space |
| Mixed Use Building | Shared Surface Street | |
| Key Space | Existing Trees | |
| Strategic Footpath Network | Existing Hedgerow | |



6. Sustainability

6.1 PPS1 confirms that sustainable development is the core principle underpinning planning. Paragraph 4 identifies the Government's four aims for sustainable development as follows:

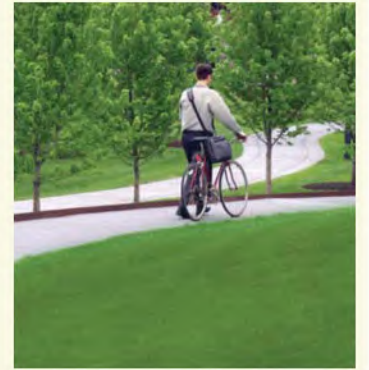
- social progress which recognises the needs of everyone;
- effective prudent protection of the environment;
- the prudent use of natural resources; and
- the maintenance of high and stable levels of economic growth and employment.

6.2 Paragraphs 14 to 16 consider in further detail, the first aim of social cohesion and inclusion. This primarily seeks to meet the diverse needs of all people in existing and future communities, by including accessibility for all members of the community to jobs, health, housing, education, shops, leisure and community facilities.

6.3 Paragraphs 17 to 20 refer to the protection and enhancement of the quality of both the natural and historic environment. The condition of the natural and built environment has a direct impact on the quality of life and its conservation and improvement brings social and economic benefit to local communities. The development proposal will bring about significant environmental and social benefits through a high quality development reflecting the character of the local area.




6.4 The proposed scheme for a residential development of up to 250 dwellings will include a mix of house types and tenures to meet the needs of the local community and complement the existing mix of housing within the town.

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7. Community Engagement

CONSULTATION TYPE

	 Information	 Consultation	 Participation
Stage in the Planning Process	Pre and Post Application and Development plan submissions.	Pre-application Outline and Detailed planning applications, but also any scheme required to go through a formal consultation process.	Pre application – any scale from large to small.
Possible Methods	Factual Newsletters / static and unmanned boards.	Newsletters and factual but also inviting response and manned exhibitions.	Design workshops.
Likely Audience	Community Groups, open to all.	Stakeholder and Community, open to all.	All stakeholders and wider community (usually selected not open invitations).
Audience expectation	Low – community understand that they are simply being informed.	Low to Medium – community are invited to comment but understand there is a limited opportunity to change proposals.	Medium to High – Community and particularly community groups expect to given a fair hearing and for their issues, thoughts and concerns to be taken on board.

7.1 Effective consultation and engagement are key in bringing forward the development of the site. Consultation can greatly assist in the development of high quality projects, successful places and sustainable communities. When undertaken correctly it can also speed up the planning process and result in well designed sustainable developments.

7.2 The term Consultation covers a wide range of potential contacts and interfaces. It means both the general public (in its widest sense) and stakeholder groups such as County Councils, Local Authorities, Parish Councils and interested economic, social and environmental groups.

7.3 The main objective is to communicate visions and/or design proposals to both of these groups before the submission of an application in order to build an understanding of the proposal, and therefore reduce or indeed remove the risk of objection.

7.4 We have to ensure that consultation is undertaken in such a way that it is approachable for all audiences, from all backgrounds and that we are able to respond to these consultees accordingly. Everyone must be very clear about who the target 'community' is and what we are trying to achieve via the process. All of this information is fundamental to the devising of an effective consultation strategy and carrying out its implementation.

7.5 We propose to use a combination of these formats as different approaches suit different groups of consultees. When identifying who the community actually is, it is often the case that there are particular elements within it, who need specific discussions and processes to secure their participation and longer term support.

7.6 Advancing technologies such as e-mail, websites and social media will increasingly play a role in the ability to communicate with people and communities and we propose to look at the potential for employing these as part of the planning application process.



8. Implementation and delivery

8.1 The table below sets out a draft Programme for Implementation of the Webheath site.

Date	Action
Late 2011	Identification in Core Strategy for 250 dwellings
2012	Planning application submitted
Late 2012	Core Strategy Adopted
Late 2012	Planning permission granted
Late 2013	First completions at the site
2018	Site fully developed out





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