Melksham Canal Link Development Project

Outline Landscape Masterplan Report

Landscape feasibility study for an economically and environmentally sustainable development celebrating local natural and cultural heritage.

Revision history

Rev	Purpose	Date
00	Outline landscape masterplan report	12 Feb 2015
01	Revised per client team comments	23 Feb 2015
02	Revised per WBCT comments	17 Mar 2015

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The Melksham Canal Link is proposed to reinstate the portion of the Wilts and Berks Canal which runs through Melksham, between the Kennet and Avon Canal and the River Avon. This project is part of a larger scheme to restore the entire Wilts and Berks Canal, which fell into disrepair after a hundred years of use and was closed in the early twentieth century. A planning application has been submitted for the canal alone and its sponsors, the Wilts and Berks Canal Trust, are now responding to comments Wiltshire Council.

A new scheme to redevelop the land adjacent to the canal has been initiated by project master planner Jock Mackenzie with the aim to draw from the area's distinct natural and cultural heritage to provide economically and environmentally sustainable development to the local and regional economy. In Autumn 2014, Barker Langham were appointed to undertake an economic feasibility study, which consolidated initial ideas regarding land use on the development and confirmed in principle its commercial viability.

In December 2014, Jock Mackenzie appointed MRG Studio to carry out an outline landscape masterplan study. MRG Studio were asked to review the landscape feasibility of proposals contained in Barker Langham's report and make recommendations regarding spatial constraints and opportunities, environmental sensitivities, connectivity and adjacencies and the conceptual character of each area. It is understood that this study will need to be developed in further detail to complete the master plan design in future.

The Melksham Link project is overseen by the following team:
- The Client: Wilts & Berks Canal Trust Ltd (a registered charity)
- Client Adviser: Wiltshire Swindon and Oxford Canal Partnership
- Canal Development Strategy: The Partnership
- Canal Master Planner: Jock MacKenzie

The Master Planner's team includes
- Project Feasibility: Barker Langham
- Project Definition: MRG Studio
- Planning & Strategic Evaluation: Wiltshire Council
- Financial, Risk & Resource Planning: Jonathan Till
- Land Facilitation, Syndication & Acquisition: Peter Triggs
- Project Builders & Operators: in process

In addition to the Barker Langham report, various groups and stakeholders have been providing key input into the shaping of the masterplan. These include, amongst others:

- Wiltshire Wildlife Trust
- Visit Wiltshire
- Hall and Woodhouse
- Land and Water Group

As landscape architects and urban planners, we will seek to balance requirements of commercial, residential and institutional stakeholders with the stewardship of public space and the local natural and built environment.

Review of existing information

We take as our starting point the economic feasibility report produced by Barker Langham. Broadly, this proposes three hubs of visitor activity to be located in the North, Centre and South blocks of the masterplan. These will be characterised as a nature reserve with educational and outreach facilities in the North block, a family-oriented visitor attraction around traditional farming methods and rare breed conservation in the Centre Block, and a narrowboat marina and camping-glamping holiday village in the South Block. Five hundred new residential units are also proposed in the North and Centre blocks.

We have used the canal link proposal drawings and reports produced by the Wilts and Berks Canal Trust as a working base plan for our study. To this base, we layer publicly available information on the site and its context in our initial analyses.

We have incorporated the requirements of the stakeholders received to date. Although these requirements are general at this stage, we anticipate a continuous and iterative process of collaboration with stakeholders and consultant teams as the project progresses.

We summarise here our current understanding of the aims and aspirations of this wider team, which arises from information provided through conversations, meetings and correspondence.

Wiltshire Wildlife Trust

The Wiltshire Wildlife Trust (WWT) has been working with Jock Mackenzie and the Wilts and Berks Canal Trust to develop some of the environmental and educational aims and aspirations of the Melksham Canal Link project.

The three main areas are 1) restoration of the area opposite the Conigra Mead Centre (to similar standard), 2) new wetland nature reserve and 3) a research, education and outreach centre.

It is envisaged that the WWT will manage the nature reserve and some of the visitor facilities once they are constructed by a third party contractor. Ideally, WWT would be available to provide input during design process, the project would be tendered for construction and WWT would take over the premises at completion. The Melksham biodiversity area is to be developed and promoted as a new (Wildlife Trust) Living Landscape:

- complement the existing nature reserve at the Conigre Mead Centre
- use the floodplain to provide new habitat for migratory birds and waders
- higher ground to be grazed and managed for orchards and meadows
- celebrate Wiltshire as the land of "chalk and cheese"
- opportunities to do more than simply provide amenities for local benefit
    - mitigation of raised water levels (in and around Melksham) due to new canal link and marina
    - provide flood mitigation for Bath, which is downstream on the Avon

Proposed activity hubs within the development (excl. Marina area)
- nature reserve
- children's play area (should relate to the nature reserve and cultural/natural heritage)
- shop
- restaurant / F+B
- animals and livestock

The nature reserve and educational building(s) within it should provide:

- classroom (wet and dry)
- bird hides
- clear open water, with
    - deeper areas
    - shallower areas
    - attract various kinds of birds and unusual birds

The distinction of public facilities from paying amenities will depend on the sources of funding:

- all WWT to be free and open access
- Visitor centre could possibly be free in part, details TBC
- Visitor attractions must be commercially viable; management of nature reserve and education centre to be subsidized (schools could not fully pay for use of facilities)

Besides cows, other animals such as chickens, rabbits, lambs and pigs are also part of Wiltshire's agricultural history. Farming interpretation will require resources in addition to the farming facilities.

Visit Wiltshire

Visit Wiltshire (VW) is the destination management organisation for Swindon. They manage, market and promote tourism for the area and are tasked with growing the Wiltshire visitor economy.

VW can advise on Visitor Centre requirements, provisions, staff training and development. They have a broad overview of what works in the local area, what should/not be replicated/attempted. Eventually, they will be able to input on the architectural brief, helping us to understand visitor numbers by type and what they need in the context of other local offerings.

The visitor attraction needs to be family-oriented and interactive and also needs to work year-round. It needs to motivate visitors to visit NOW (i.e. not put off visiting until next year because the historical offers will still be there and remain unchanged) and also to come again. The narrative needs to build in a progression so that if someone doesn't come now, they might miss something and give them reasons to come back next season/year.

- Innovative event programming is key to enabling the above
- Interactivity of attractions

The new accommodation should be distinguished by the provision of an 'authentic experience', e.g. hotel on a farm or some other integrated environment.

Hall and Woodhouse

The Hall and Woodhouse team will be considering two business models: a fully operational pub or a canal side lock keepers cottage and bar. In either event, Martin Scott described some key requirements for siting the new pub in order that it provide a significantly different offering than the Milk Churn down the road.

In brief, the pub needs 1 acre land footprint, about 60m2 internal area, a large garden that opens directly onto water, ideally both the marina and the canal.

The garden is very important, as during the summer their restaurant does as much catering outside as inside. Martin Scott has also suggested that there would be an economy of scale in providing some of the Marina facilities (e.g. showers) within the pub. The canal would provide public traffic to the pub, so it is important that the pub not be sited so as to become primarily a clubhouse for the marina.

Land & Water Group

Land & Water Group (L&W) is an award-winning group of companies specialising in marine-based civil engineering, dredging and remediation projects. L&W have recently been appointed for the canal link project and their involvement in the design of the inland marina presents a secondary and additional scope to be agreed. They have kindly provided some design principles to enable the progress of the landscape masterplan study:

The area allocated to the marina in the current masterplan can accommodate 165 boats max, not 250 berths (reference similar marina of 8ha of nominal 300 berth capacity, accommodating 250 boats in reality)
Marina's location next to the pub is a good idea as long as access to the marina is controlled to protect boat owners' privacy and marina users safety

- Marina provisions
- Fixed jetties, each with power and water supply and low wattage safety lights
- Facilities building to double as social hub
    - Good thermal construction, ground source heat pump, prefabrication in Denmark
    - One large room with coffee machine functions as office and social centre
    - Toilets, showers and laundry (allow for approx. 300 people max. on site, not all in the building at the same time)
    - External area adjacent to building for gathering
    - Small shop stocked with gas, coal, wood, fuel and electricity cards
- One point of entrance/exit: the canal and the marina will need to maintain different water depths. The threshold will be described in detail by the engineers in due course.
- Preference for naturalistic form and feel, should look like a lake to fit with surrounding area. A road with small car parks should wrap around the perimeter of lake.
- Circulation should assume mostly narrow boats, but also allow for some boats of 10-14ft.
- Bunded fuel tank in a 8m x 10m compound to include recycling and rubbish, coal sheds and gas cages, holding tank (waste) and access for pumping lorry.

Camping and Glamping

We will study various models of camping and glamping facilities that are designed, constructed and operated in sympathy with the natural and ctulral heritage of their sites. In our initial study, we have used the Featherdown Country Retreats as a benchmark for the quality of facility and envrionment that we wish to offer. This opportunity will be tendered in due course.

Our Study

This initial landscape masterplan study draws from our analyses of the site's context and relevant landscape comparators to propose a landscape concept to integrate the diverse aims and aspirations articulated by stakeholders for various parts of the site whilst protecting, conserving and enhancing the natural and built environment for the public benefit.

The last chapter of our report includes recommendations for the next steps to be taken to complete the masterplan study for pre-planning application discussions, with a view to submitting an outline planning application in due course.

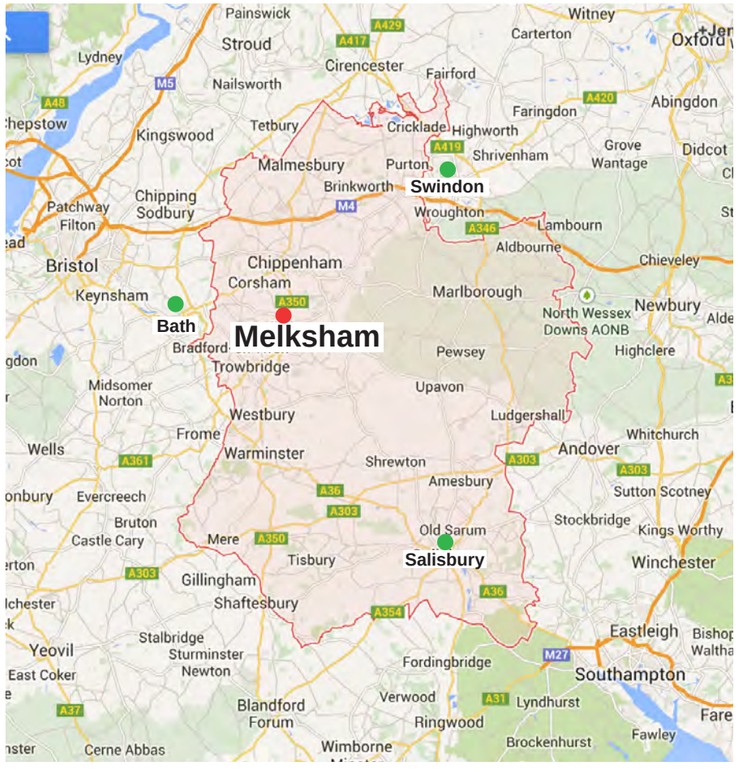
We thank Jock Mackenzie and the project team at large for the opportunity to contribute to this exciting development and we look forward to developing the scheme in greater depth and detail in the next stage of work.

Location

Melksham is situated in the county of Wiltshire, 19 km (12 mi) southeast of the city of Bath, 11 km (6.8 mi) south of Chippenham, 13 km (8 miles) west of Devizes and 23 km (14 miles) north of Warminster on the A350 national route.

Once part of a vast royal forest, Melksham was a favourite hunting ground of Tudor kings. The town's prosperity was founded on agriculture and the woollen cloth making industry. Today, the population is around 23,000 and it is the home of Cooper Tires and modern businesses based on new technology.

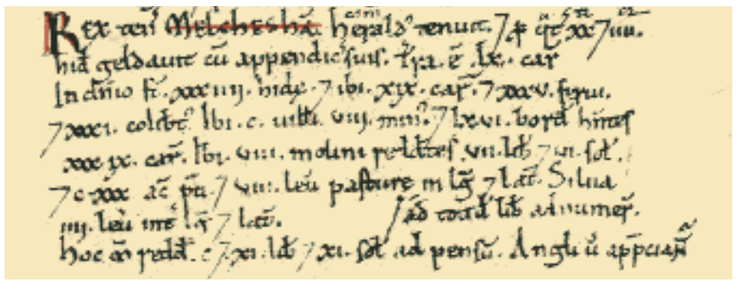
Melksham is Wiltshire's fifth-largest town by population after Swindon, Salisbury, Chippenham and Trowbridge.



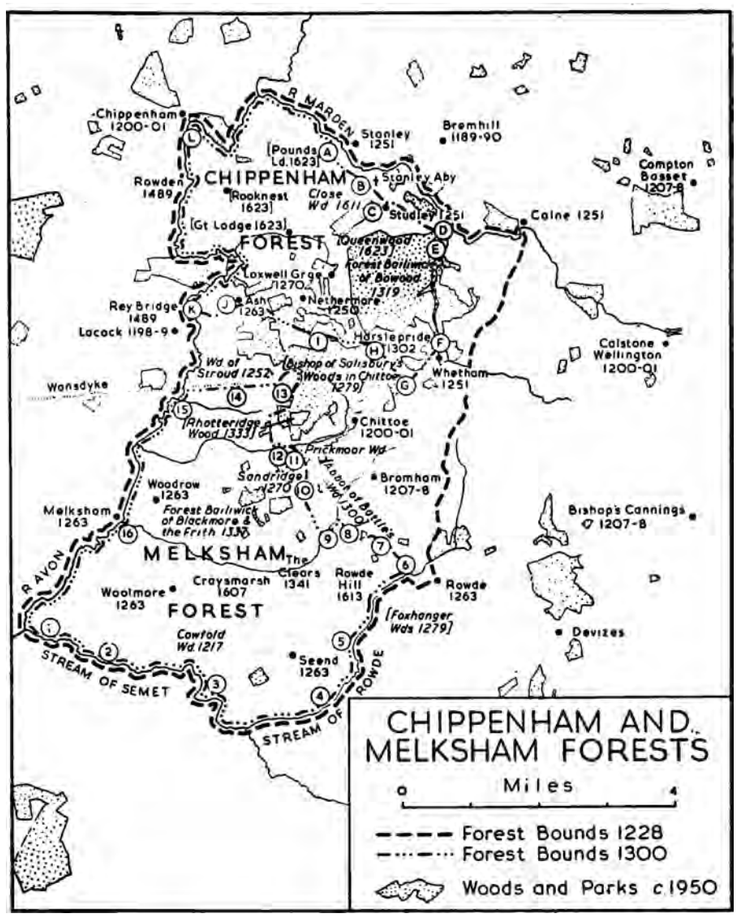
Historical Melksham

Melksham is a small to medium sized town and has a long history. Originally a ford across the river Avon and a Saxon settlement, it is believed the name derives from Meolcham, “Meolc” being the old English name for milk and “ham” a village. The area has long been associated with dairy farming and pasture. It remained a village for many years during which it has had its fair share of royal property owners, villains and entrepreneurs.

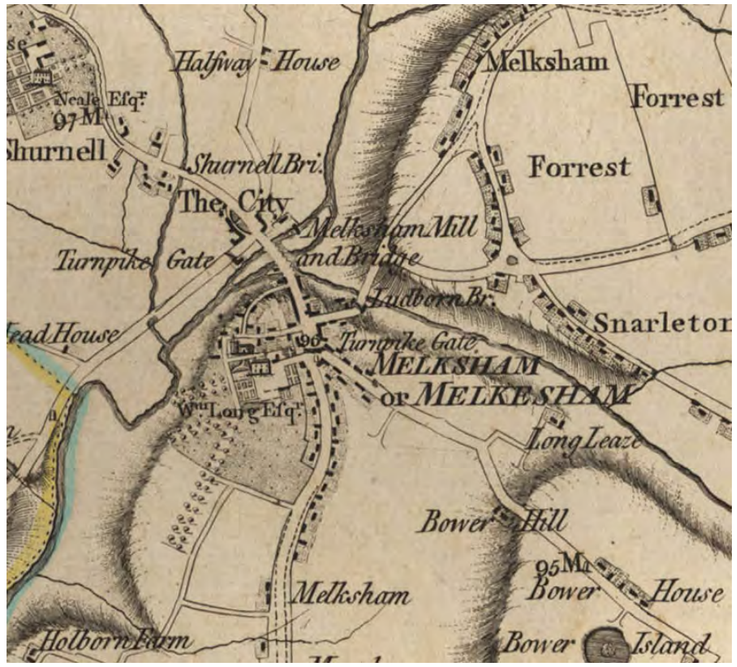
In the Domesday Book, Melksham was described as having 8 mills, 130 acres of water meadows and 8 leagues of pasture in length and breadth. There were 189 landowners, 19 ploughmen and 35 serfs included in a population of several hundred.



In 1219 Melksham was considered important enough to be granted a Charter to hold a market every Friday and a fair on Michaelmas Day. In 1250, the market was transferred to a Tuesday and in 1491 the Prioress of Amesbury obtained a Charter for a two day fair in July. The market continued on Tuesdays alternating with Trowbridge until the advent of the Second World War.



In the early part of the 13th century, King John enjoyed hunting, and as later Tudor kings, often visited Melksham Forest. In 1220 oaks from the forest were used in the choir stalls in the new Cathedral at Salisbury, as part of the parish of Melksham was endowed to support the Canons of the Cathedral. The Abbess and the nuns of nearby Lacock Abbey had the right to a specified amount of wood from the forest, which resulted in the forest being almost completely destroyed by the early 17th century, although the area is still known as Melksham Forest.



From Andrews’ and Dury’s Map of Wiltshire, 1773

Medieval settlement is likely to have been concentrated in Church Street, Church Walk, High Street and Market Place. Fulling mills were working at Melksham by the 16th century and perhaps earlier so there would have been a small settlement near the river. The main Avon river bridge is first mentioned in 1415 when a sum of money was bequeathed for its maintenance. Lowbourne bridge, is mentioned in 1417. This crossed Clackers Brook, which would have carried more water than it does today.

Even though Melksham was a larger town at the time of the Domesday book, it has since lived in the shadow of nearby Bath. The proposal to redevelop the areas adjacent to the Melksham Canal Link provides an opportunity to draw public and tourist attention to this unique Wiltshire town.

Sources: http://www.visit-melksham.com/melksham-information/history-melksham, http://visionofbritiain.org.uk, http://www.british-history.ac.uk/vch/wilts/vol4/pp433-457 and http://domesdaymap.co.uk.

Towns in Wiltshire

Wiltshire is a county with a large number of small towns, many of which are long established settlements which gained stability and wealth through the wool trade.

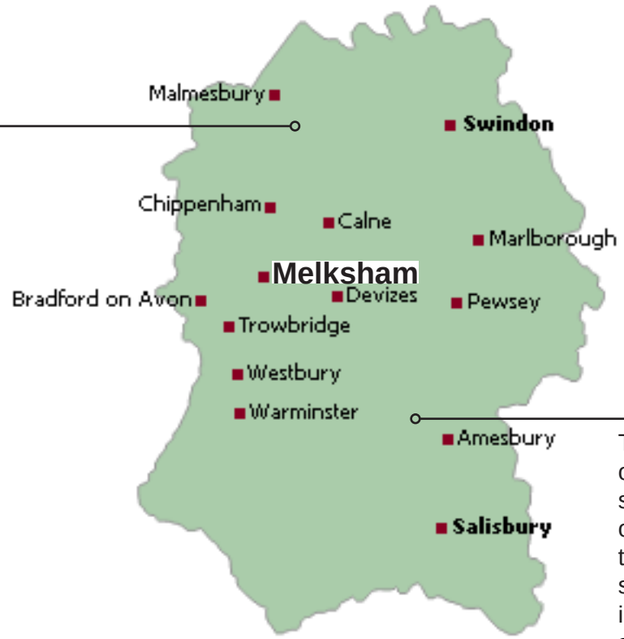
The towns are all sited in valleys; a string of settlements close to the Bristol Avon sit above the river on what were once raised dry areas in the marshland while the chalk valleys shelter the market town of Marlborough and the City of Salisbury.

The coming of the railways in the mid 19th century lead to the transformation of Swindon from a minor hill top settlement to the largest town in Wiltshire. Large scale industrial development on the edges of Swindon is echoed on a smaller scale in some of the towns along the Bristol Avon such as Trowbridge and Chippenham.

Manor Houses are common within the Wiltshire landscapes and towns. They are large country houses within a Manor (from the feudal system). They are always enclosed within walls or ditches. We find many samples of Manor Houses in the area.

Settlement Character

The north west of the county falls within the Cotswold Scarp and Vale sub-province. In the area of the province within Wiltshire villages and hamlets appear at moderate densities. This area is transitional between the Midlands with their large area of relatively homogeneous terrain with subtle variations and the broken heterogeneous terrains of the West Sussex sub-province to the south (which includes the south western portion of Wiltshire). This area of the county has been heavily influenced by the woollen industry which has sustained its density of settlement.



The chalk areas to the south and west of Wiltshire fall within the East Wessex sub-province of England. It is an area of overall low density settlement where the location of nucleated settlements is strongly affected by terrain – often falling in chains along the valleys where water supply was assured.

Other Settlements

Other forms of settlement influencing the Wiltshire Landscape are the grand houses such as Longleat, Bowood and Stourhead with their extensive parklands and estates. They were inspired by the designs of the Venetian architect Andrea Palladio. Palladio's work was strongly based on the symmetry, perspective and values of the formal classical temple architecture of the Ancient Greeks and Romans.

Source: http://www.wiltshire.gov.uk/lca-dec-05-chapter-6.pdf


Longleat


Bowood


Stourhead

Vernacular Building Styles

Traditionally buildings were constructed of local materials. The dramatic variations in geology across Wiltshire mean that a rich variety of different vernacular materials were used, often determining the building style and method of construction.

LIMESTONE

To the north west the underlying limestone is used for all sorts of buildings and for stone walls while in the clay vales to the north and centre of the county brick is prevalent.

Outmarsh Farmhouse, Melksham Without.

SANDSTONE

Most of the older buildings to the south and east are of a combination of materials such as flint, chalk, brick and stone, with stone on its own generally reserved for prestigious buildings.

Sarsen stones (lumps of sandstone on the chalk)

Sandstone in West Overton – Church of St Michael

Sandstone in Fyfield – Traditional Houses

Sandstone in Avebury

Traditional buildings in limestone

Fine Box Ground – Malmesbury Abbey

Ragstone – Traditional Cottages

Coralian Stone – Traditional Houses

Chilmark Stone – Traditional Cottages

Wiltshire landscape conservation context

The long historical record of human activity in Wiltshire means that the natural and built landscape is inextricably tied to the cultural and agricultural history of the county.

The natural and cultural heritage of Wiltshire lies in its attractive towns and villages, abundant wildlife and habitats and numerous important archaeological features, which sit in a rich and valued landscape.

In recognition of the value of the Wiltshire landscape, almost half of Wiltshire Council's administrative area is considered of national importance and is designated as Area of Outstanding Natural Beauty (AONB). Much of the remainder of the County is designated as locally important Special Landscape Area (SLA). Three AONBs fall partly within Wiltshire - the Cranbourne Chase and West Wiltshire Downs; the North Wessex Downs; and the Cotswolds.

Source: Wiltshire Council website.

Visit Wiltshire have developed the brand theme "Timeless" for marketing tourism in Wiltshire, drawing on the rich and varied cultural and natural heritage of Wiltshire to connect with the interests and expectations of contemporary visitors. Rather than simply to cultivate or rely upon tourists' appreciation of the history of Wiltshire, our development will need to complement VW's efforts to celebrate the contemporary relevance of traditional Wiltshire life.

North Wessex Downs

Castle Coombe

Fifield Bavant

Fovant Badges

White horse - Uffington

North Wessex Downs

Landscape character - Avon Open Clay Vales

The Open Clay Vales Landscape Type contains the open lowland centred on the floodplains of the Rivers Thames and Avon. Area 12A: Thames Open Clay Vale is situated at the far north of the county and area 12B: Avon Open Clay Vale runs through the north western section of the county. Boundaries are defined by topography and usually follow a physical feature, often a road that runs along the first contour above winter flooding level.

Key Characteristics:

• Level land form with wide open skies and views to ridges and downs.
• Pastoral land use with some arable.
• Large scale geometric fields with hedgerows or open drainage channels defining boundaries.
• Presence of rivers, tributaries, drainage channels and open water bodies.
• Watercourses lined with riparian vegetation with prominent lines of willows (some pollarded).
• Floristically rich hay meadows.
• Settlement pattern varies from large towns and small scattered villages to sparse farmsteads.
• Buildings in varied materials of brick, render and stone.
• Crossed by major transport corridors, and a network of minor roads linking settlements.
• Historic use for transport evident in canals.

Melksham's physical influences

The Melksham area is situated on an underlying geology of the Open Clay Vales, which varies, with Alluvium and River Terrace Gravels around the watercourses and tracts of sand throughout the vales. The area is generally flat, or very gently rolling throughout and ranges from 30 to 60 metres. Land cover is dominated by a mixture of arable farmland and pasture fields, with hedgerows or drainage channels delineating field boundaries.

Landform is level or very gently shelving with area 12B: Avon Open Clay Vale ranging from 30m to 70m AOD.

Source: Wiltshire Landscape Character Assessment.

Biodiversity

The predominant Open Clay Vale landscape type is intensively farmed pasture and arable. However, there are areas of unimproved hay that are nationally significant for the diversity of their grassland plants. These include Clattinger Farm SAC, which has received no agricultural chemicals, Pike Corner SSSI, Sutton Lane Meadows SSSI, Upper Waterhay Meadow SSSI, Haydon Meadow SSSI, Acres Farm Meadow SSSI, North Meadow SSSI and Cricklade SSSI.

Clattinger Farm SAC

Pike Corner SSSI

Sutton Meadows SSSI

Another site of ecological importance is the Cotswold Water Park SSSI, located in area 12A. Here quarrying has created over a hundred lakes with nationally scarce marl waters caused by the lime rich geology. The series of lakes that form the SSSI include a range of the varied plant communities including open water, reed beds and of surrounding grassland habitats. The area supports a wide range notable species including wintering and breeding birds such as pochard and gadwall, as well as water vole, otter, bittern, freshwater white clawed crayfish, and the lesser bearded stonewort, all of which are targets of the Cotswold Water Park BAP.

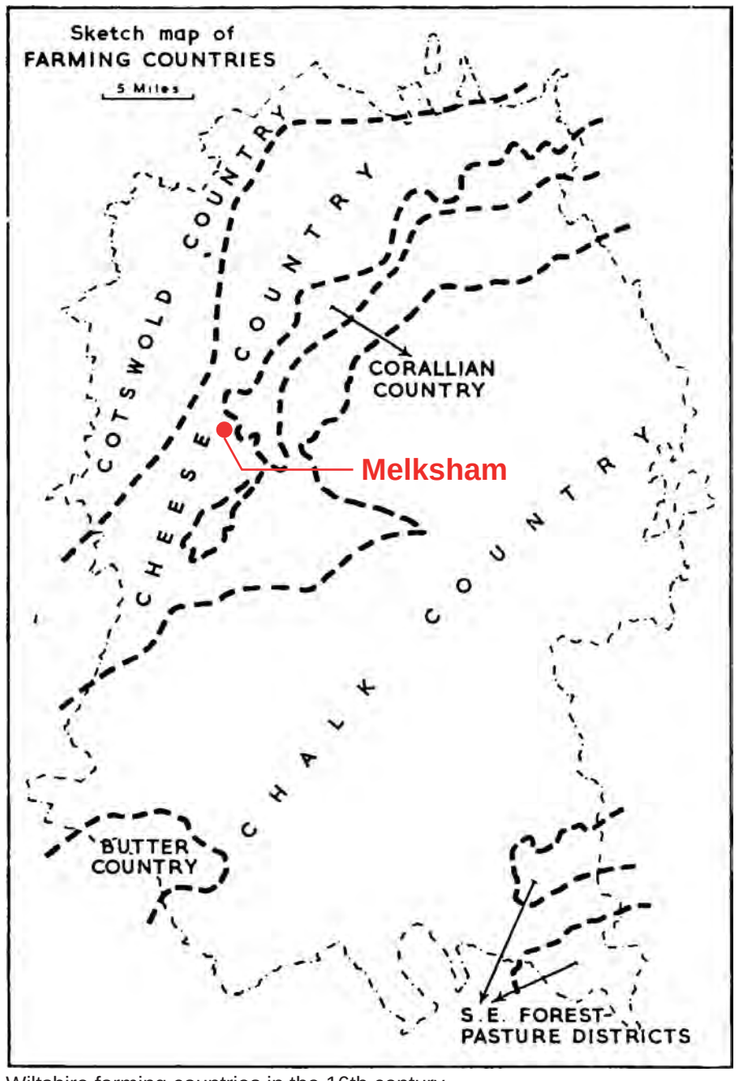
Cotswold Water Park

County Wildlife Sites include: Swillbrook Lakes Reserve, former gravel pits within the Cotswold Water Park which are rich in bird and dragonfly diversity, including reed warbler, nightingale, hobby and four-spotted chaser and downy emerald dragonflies; and Grove Farm Meadows, high quality unimproved neutral grassland which is mostly cut for hay. Species indicative of old hay meadows present here include betony and pignut.

Agricultural history

Wiltshire has a history of agriculture over thousands of years and much of the land use in the Melksham area was and remains agriculture today. This has been mostly sheep and latterly dairy.

In common with neighbouring villages of the Wylye Valley, agriculture, principally sheep-rearing and the production of barley, has always been the dominant occupation. For much of recorded history this line carried on in open fields and common pastures. Sheep had a key role. Grazed on the higher slopes of the downs by day, they were folded by night on the arable fields to manure them.



Wiltshire farming countries in the 16th century

Open field systems began to decline in 1200s as much of England and Wales adopted 'enclosures' which saw the end of traditional rights. The process of enclosure began to be a widespread feature of the English agricultural landscape during the 16th century.

By the 19th century, unenclosed commons had become largely restricted to rough pasture in mountainous areas and to relatively small parts of the lowlands. During this period, although other types of crops -- such as turnips, potatoes, corn and barley -- would have been grown, much land was used as pasture for sheep, which were considered the most profitable to rear.

In 16th century Wiltshire, the north was the Cheese Country devoted to cheese dairy farming and grazing. To the extreme south-west lay a small part of the Butter Country, and in the extreme south-east there were fragments of a forest-pasture region. The Chalk Country of south Wiltshire formed the centre of a great region of sheep-and-corn husbandry. The floating of water meadows alongside the Wylye in the 17th century enable more cattle to be raised.

Frequently mentioned in the 18th and 19th centuries, and in passing in Jane Austen's *Emma*, Wiltshire cheese disappeared in the 1950s. It was said to be similar to Cheddar, but creamier, and produced in cylindrical 'Wiltshire loaves'. 'Baydon Hill' is a modern version.

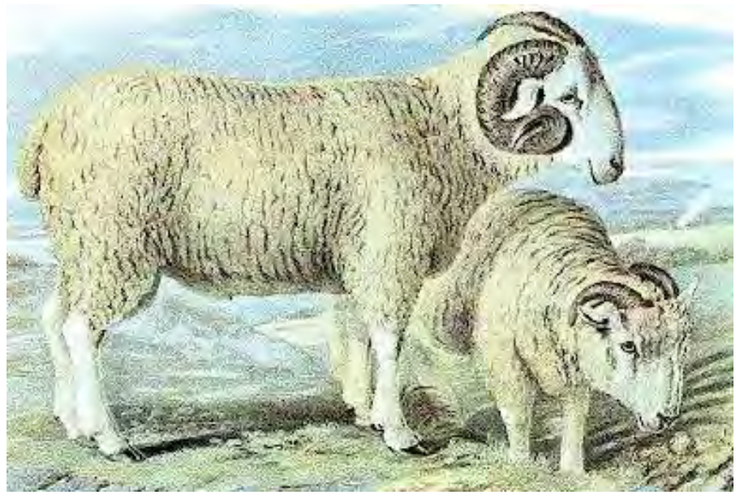
The sale of woollen cloth was associated with the River Avon during the post-medieval period, which led to the development of towns along the course. This was followed by the development of main roads and the Kennet & Avon Canal corridor.

Themes for interpretation in the landscape: farming, wool and dairy.

Farm machinery in action c1926-1939 (photo credit: TIsbury Local Historical Society)

Wiltshire Horn Sheep

The Wiltshire Horn is a very old native breed and was the predominant breed to be found on the Wiltshire Downs until the end of the eighteenth century. At this time the sheep were able to roam freely, thriving on the poor terrain which offered little shade or protection. It is this background that has given the breed its hardiness and resilience.



The breed fell out of favour during the nineteenth century when the economy became reliant on wool. The breed was saved from extinction by a small group of enthusiastic breeders who formed the Wiltshire Horn Sheep Society in 1923. In the 1970s the breed came under the protection of the RBST because numbers were so low. In recent years the number of registered sheep has significantly increased and so the breed has developed into the large commercial flock it is today.

The growth in popularity of the breed is primarily due to its ability to shed its fleece. The Wiltshire Horn has a short fleece that naturally sheds in the spring, leaving a short hair coat. The fleece will then grow again in the autumn to offer protection during the winter months. In an industry where wool production has become uneconomic, the advantages of self shedding sheep are clear to see. The labour costs associated with wool are drastically reduced with no need to gather sheep for shearing, dagging or dipping.

Source: http://www.wiltshirehorn.org.uk

Farming in Melksham

South-west of Melksham, Boundary Farm comprises areas in the North Block where the nature reserve will be created. The farm encompasses 183 acres (75 hectares) of which 40-60 acres (16 to 24 hectares) lie in the flood plain against the River Avon. The farm is currently run by Mr Guley and his two sons.

Present day farming activity at Boundary Farm is focussed on rearing beef calves. The land is divided into pasture, meadow for silage and some crops, which is mainly maize for winter-feed. Some of the land is rented to a local sheep farmer to keep the meadows grazed after harvest.

Boundary Farm in the recent past was a dairy farm with some wheat barley and oats also grown. This changed due to economic pressures from European and UK farming legislation which have required small to medium-sized farms to adapt, making it difficult for dairy farming to remain profitable. Adapting Boundary Farm to conform to modern dairy farming practices would have been a great risk with no assurance that costs could be recuperated.

Modern dairy cows are now bigger and require larger bays/stalls, so all winter quarters would have needed to be rebuilt. The waste management is different to dairy farming and requires a purpose-built slurry store and major equipment to work it. Finally, there was not enough land to increase the size of the herd on the existing farm to make the change work with returns on the projected milk quota, so the change was made to rear beef.

Farming the land

Because the farm land adjoins the River Avon, there is an area that is prone to flooding during the winter and spring. This makes this land usable only on a seasonal basis and realistically only from the end of March or beginning of April each year. In the past, the Environment Agency provided more support to farmers whose land joined the river with regular bank maintenance, tree clearing and some heavier work to aid flow. Over the years, the flooding builds up a bank or levee on the edge of the river, which then holds back the floodwater, keeping his land flooded for longer. Draining the land and removing the levees privately presents a major expense. On the positive side, the land is remarkably fertile and grows grass and crops exceptionally well.

The land on Boundary Farm and on the course of the planned canal route is believed to consist of a silt based top soil of about 600mm and a sub-soil layer of 300-600mm of gravel followed by Blue Clay.

Boundary farm - view of existing field in floodplain

Outmarsh Farm

Occupying the entire South Block and most of the Centre Block of the development site, Outmarsh Farm comprises 170 acres (69 hectares) and has followed the same path as the neighbouring Boundary Farm, farming beef cattle from bought-in calves to sale, and also growing some cereal and rape for sale and grass and maize for fodder.

The main farmhouse is a Grade II listed building (English Heritage Building ID: 314416, List entry Number: 1021769).

Outmarsh Farmhouse

Boundary farm

Cultural history

In 1813 several local gentry who had prospered from the woollen industry formed the Melksham Spa Company to exploit the chalybeate spring discovered in 1770 to the south of Melksham. A well more than 300 feet deep was sunk and six semi-detached boarding houses and a hotel were built. The Spa was intended to rival Bath but within a few years it had failed.

RAF Melksham was better known as No 12 School of Technical Training from 1940 to 1965. Bowerhill was the site of a major RAF Station which at its zenith accommodated over ten thousand personnel. After closure, the site was acquired by the old Bradford and Melksham Rural District Council.

Source: http://www.melkshamtown.co.uk/melksham_tourism/melksham_history.shtml

Melksham was at one time an important centre of the Society of Friends. From 1669 onwards 80 Quakers met at the house of Robert Marchment. There was a Quaker School in Melksham from 1695 to 1721. A Friends Meeting House in Kings Street was built in 1734 behind which is a burial ground. Its use as a meeting house was discontinued in 1950. In 1858 the Fowler Almshouses were founded and endowed by Rachel Fowler, a charitable Quaker.

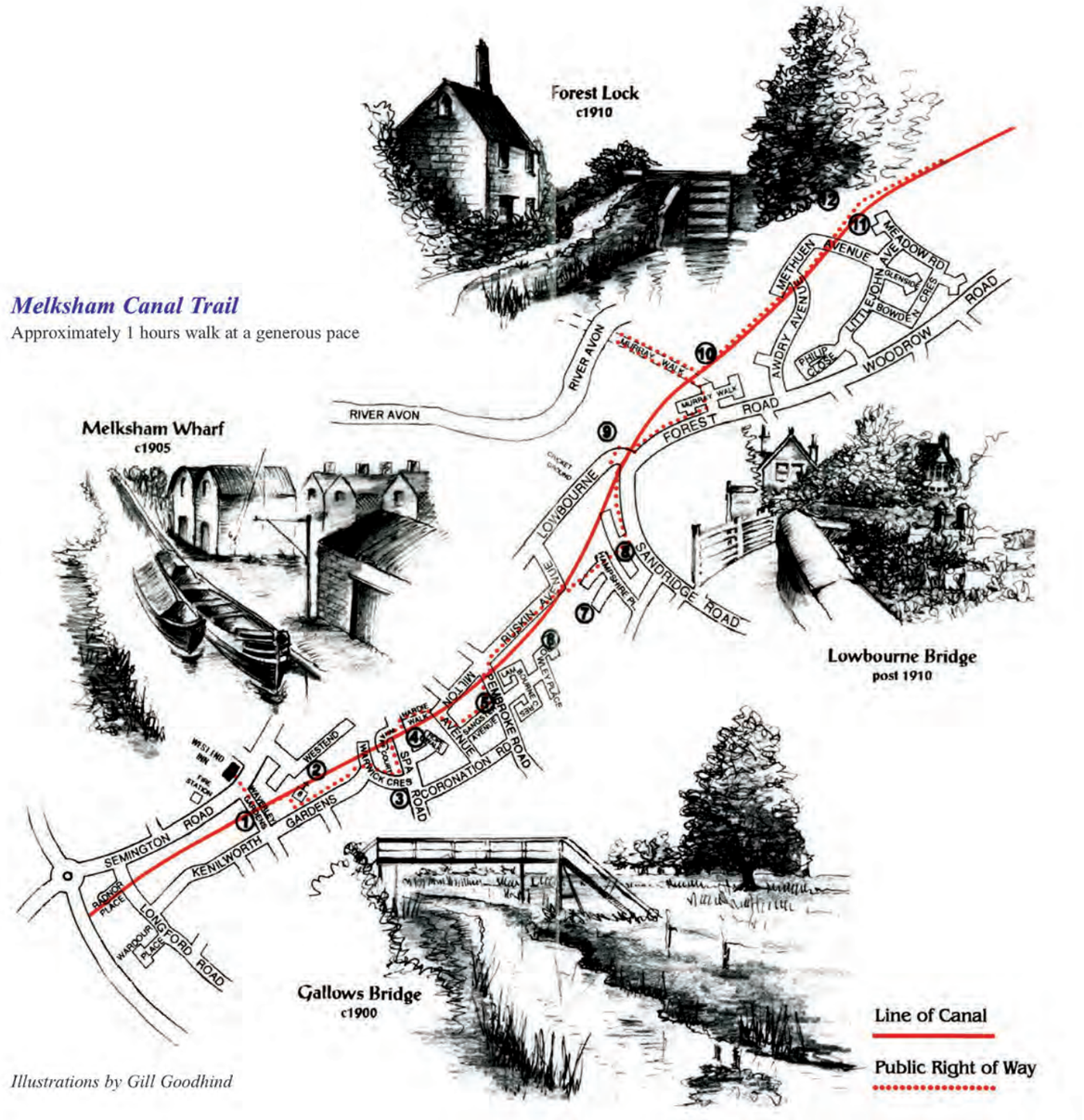
The largest employer in the town is the Cooper Tyre and Rubber Company. This started as a rubber company in 1885 at Limpley Stoke and the premises in Melksham were purchased in 1890.

B Sawtell and Sons, established 1850, became one of the largest feather firms in the country in the 1960s.

The 1840s saw the fast growth of railways; one of the first was The Great Western designed by Brunel which went from London to Bristol, via Swindon and Chippenham, it was completed by June 1841. British Railways closed the station in 1966 but reopened it in 1985

Historic waterways

Photos © Doug Small, *Wilts and Berks Canal Through the Ages*



Extract from “A Walk along the Lost Waterway of Melksham” by the Wilts and Berks Canal Trust.

The Bath City Riverside Entreprise Area Masterplan drives employment growth through major riverside development sites, taking the World Heritage City into an inspiring future by bringing the City Riverside back to life. Here in Melksham we are inspired by, and hope to complement, this water-focused approach to growth and regeneration.

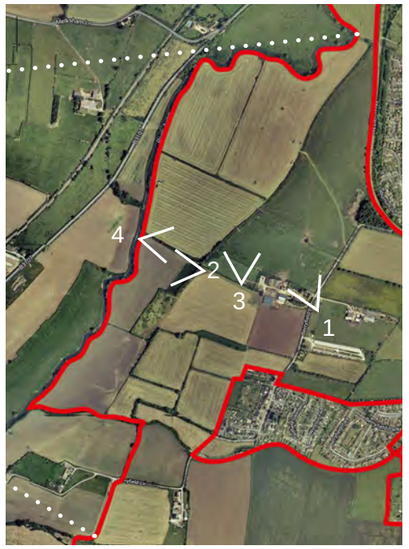
Melksham has in the past been served by two waterways. The Wilts and Berks Canal from Abingdon, Swindon, and Chippenham passed through the town south-east of the Market Place. The canal was authorized by an Act of 1795 and carried considerable traffic during the 19th century. The portion lying within the parish has now been completely filled in and the line of its course is rapidly disappearing.

The canal ran south from Lacock through Forest and Woodrow, and passed east of the town by three bridges under the Calne road, over Clackers Brook, and under the Devizes road. Thence the course ran due south to join the Kennet and Avon Canal. The canal wharf lay close to the Devizes road opposite the present Maggs factory. The site is still known as The Wharf.

Even in the last two decades of the 19th century large quantities of grain for Taylor’s mill and coal are said to have arrived at the wharf. Towards the end of the century, barges, steered by the canal superintendent and decorated with flowers and green branches, were used for Sunday school outings to Lacock. (fn. 30)

Source: http://www.british-history.ac.uk/vch/wilts/vol7/pp91-121

Existing conditions on project site - Boundary Farm



1. Boundary Farm house and access

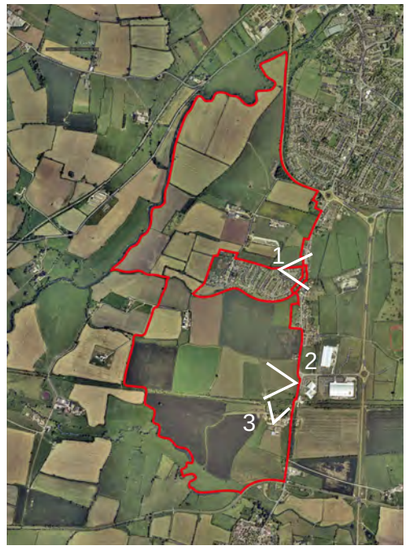
2. Boundary farm, view from ridge over floodplain

3. Boundary Farm pasture

4. Boundary farm floodplain arable fields (maize), view from River Avon

Existing conditions on project site - New Inn and Outmarsh Farm

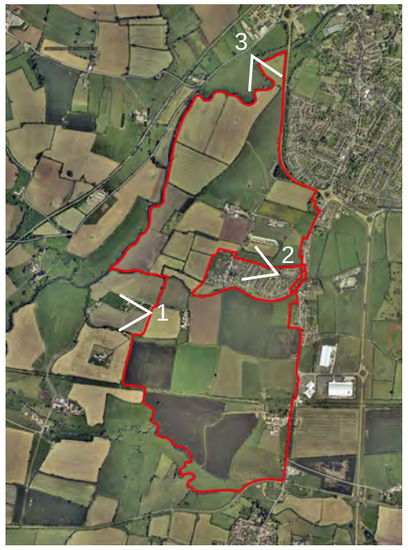
1. The New Inn, to be re-oriented to overlook the canal link (above and right)



2. SIlage crop (Stainer), north of embankment

3. Outmarsh Farm pasture, view to embankment

Existing conditions at edges of site – Holbrook Farm, Berryfield and the B3170 Bradford Road



Key plan

1. Holbrook Farm, meadow and pasture

2. Access to Berryfield and Holbrook Dairy Farm

3. View towards site from B3170 Bradford Road

Existing conditions at edges of site – Whaddon Grove and Outmarsh Farms

1. Whaddon Grove Farm, view from Kennett and Avon Canal

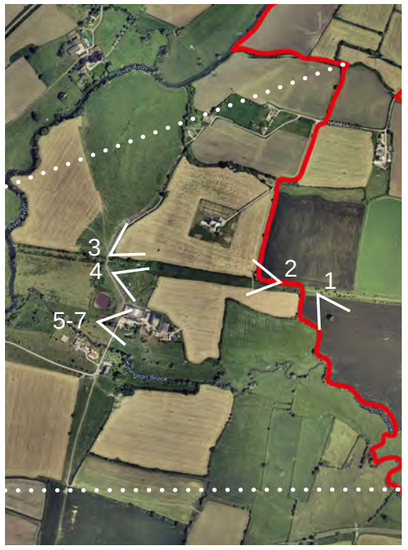
Key plan

2. Stainer Farm, view from Kennett and Avon Canal

3. Outmarsh Farm (Stainer), view from Kennett and Avon Canal

Existing conditions at edges of site – Whaddon Grove and Outmarsh Farms


Key plan



Key plan


1. View towards Outmarsh (Stainer) Farm from embankment


2. View along embankment


3. View of Whaddon House from embankment


4. Whaddon Grove Farm at former railway embankment


5. Whaddon Grove farmhouse


6. Ha-ha at Whaddon Grove farmhouse


Whaddon Grove farm - new trees

Hedgerows and meadows (above and right)

Pasture and old trees

Traces of traditional ridge and furrow still evident in pasture

Arable land on higher ground of existing farm

Arable land on floodplain of existing farm

Arable land (maize) on floodplain of existing farm

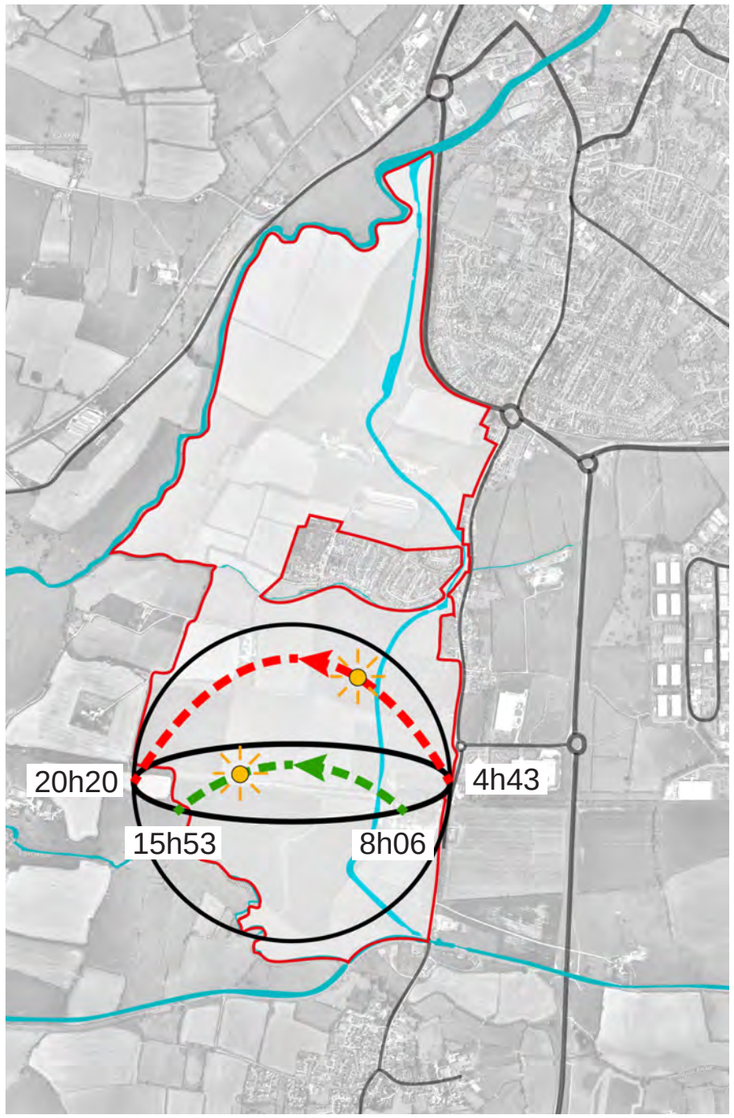
Cultivated natural features of the site

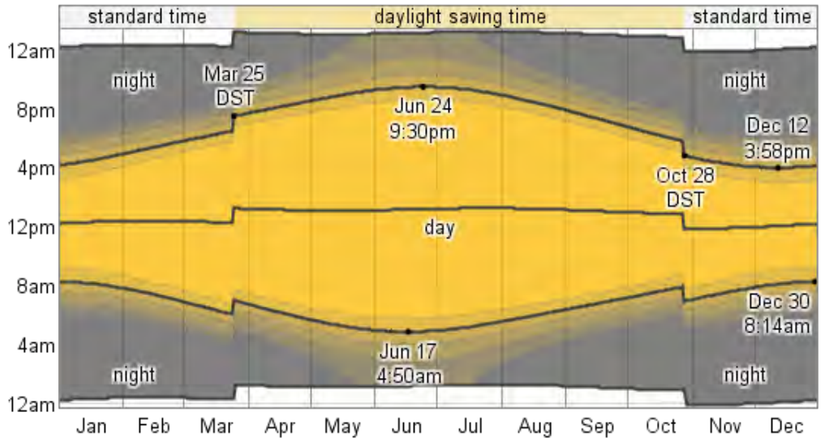
The existing landscape of the project site contains a rich variety of cultural and agricultural features: hedgerows, old trees, arable lands, meadows and pasture.

These provide the basic landscape vocabulary that can be used to ensure the new development is created in sympathy with its surroundings.

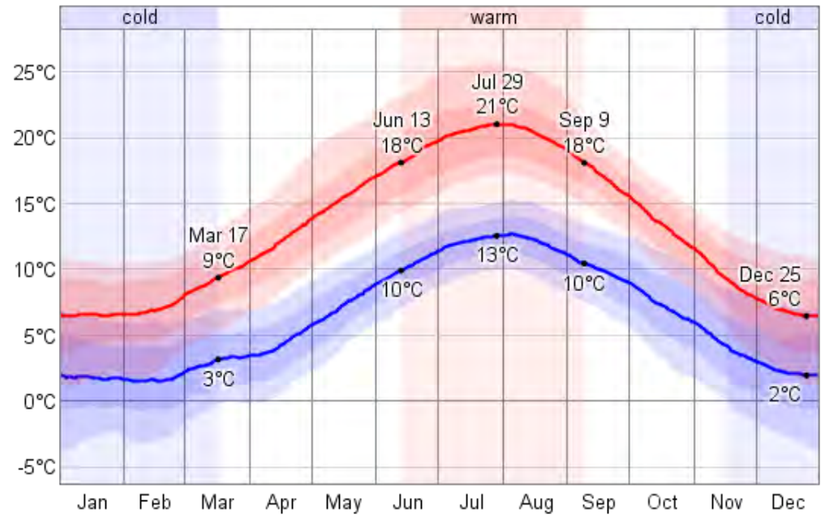
It will be important to assess the condition and value of these natural elements systematically across the project site before major decisions are made about their use and role in the development of the landscape planning and design.

Climate - Daylight and temperature

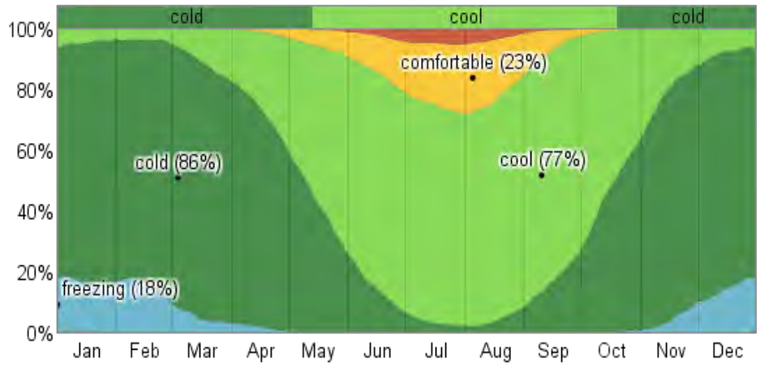




Daily sunrise and sunset through the year



Daily high and low temperatures



Percentage of time in each temperature band

Key

Sun path June 21st

Sun path Dec 21st

Source: https://weatherspark.com/averages/28705/Wiltshire-England-United-Kingdom

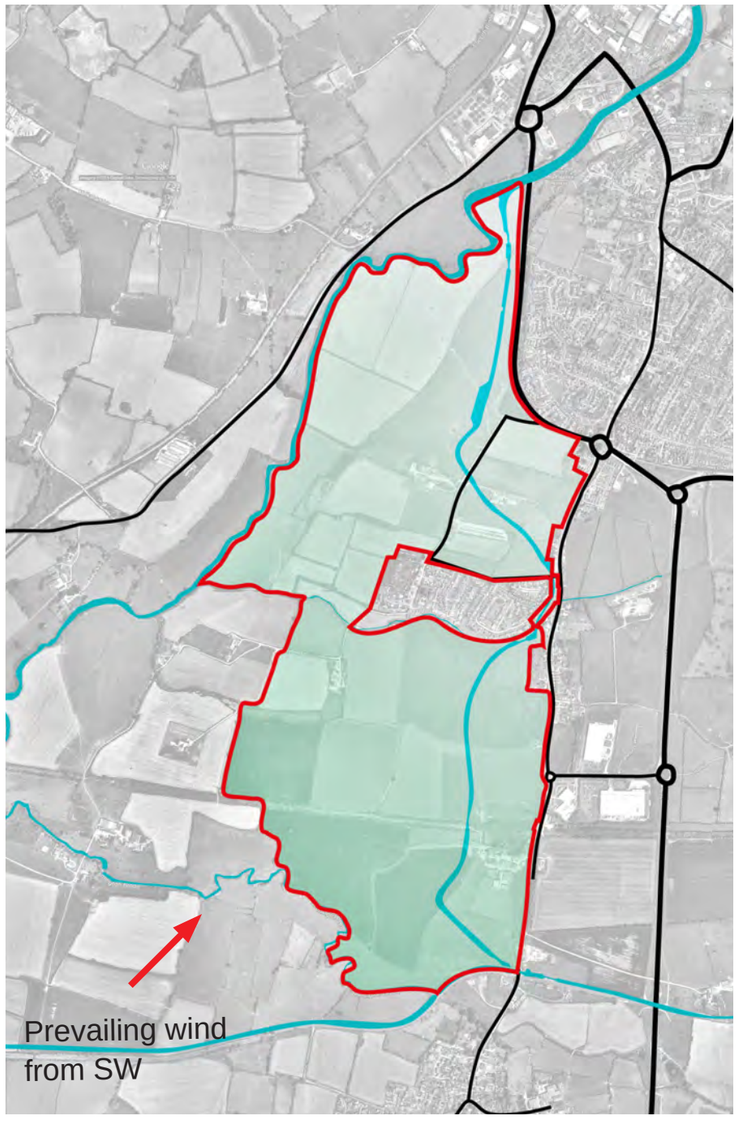
An understanding of Melksham's climate as it varies throughout the year is important for the planning and design of the development, as the success of our development will depend on its ability to function as a year-round tourist attraction and a pleasant place to live in all seasons.

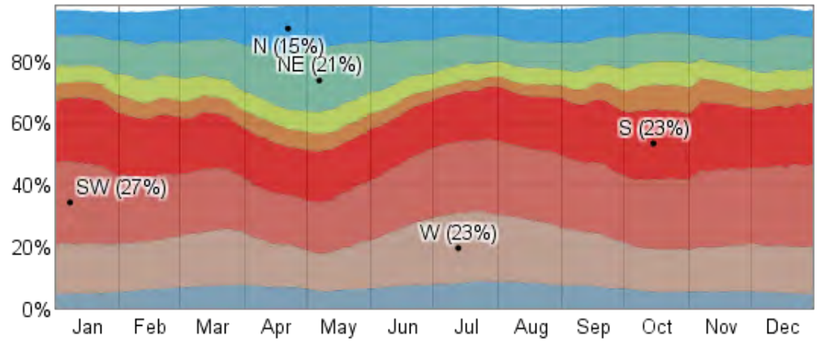
The warm season lasts from June 13 to September 9 with an average daily high temperature above 18°C. The hottest day of the year is July 29, with an average high of 21°C and low of 13°C.

The cold season lasts from November 16 to March 17 with an average daily high temperature below 9°C. The coldest day of the year is February 10, with an average low of 1°C and high of 7°C.

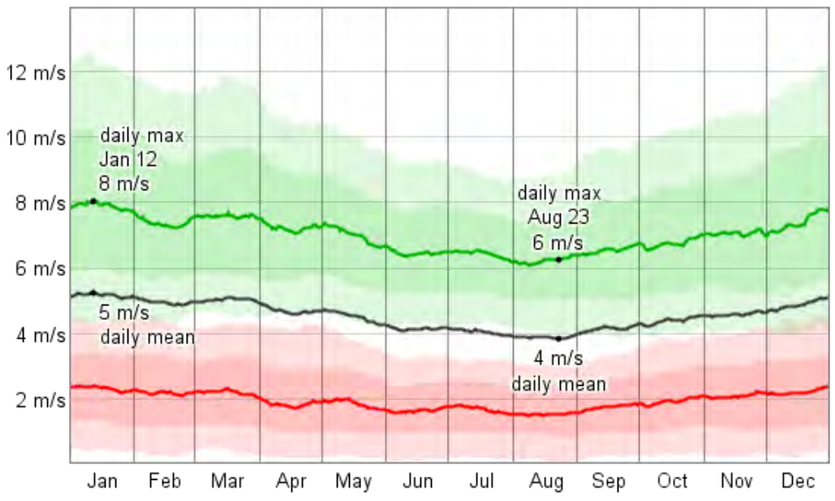
The average fraction of time spent in various temperature bands: frigid (below -9°C), freezing (-9°C to 0°C), cold (0°C to 10°C), cool (10°C to 18°C), comfortable (18°C to 24°C), warm (24°C to 29°C), hot (29°C to 38°C) and sweltering (above 38°C).

Climate - Wind direction and strength





Wind direction - Percentage of time



Wind speeds throughout the year

The microclimatic effect of elements in the landscape will be studied in greater detail in future work stages to help define areas most conducive to various activities on site, including pedestrians' walking, standing and sitting.

Prevailing winds blow from the South-West direction, with the next most dominant winds coming from the South and West.

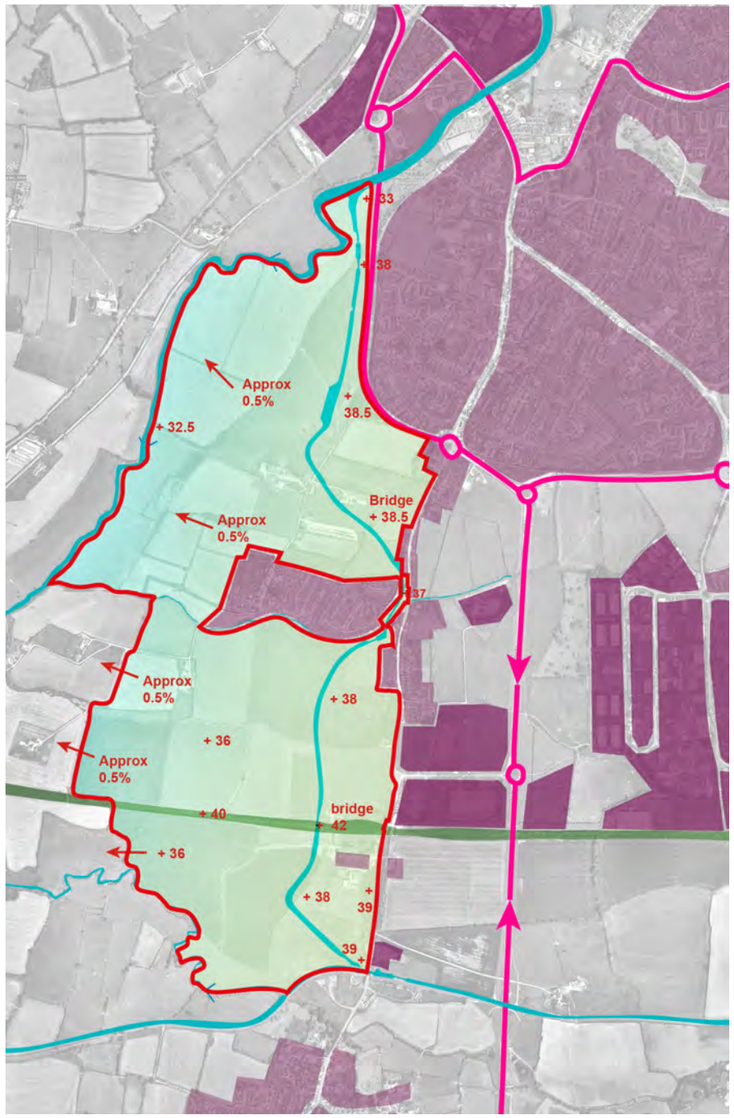
Over the course of the year typical wind speeds vary from 1 m/s to 8 m/s (light air to fresh breeze), rarely exceeding 13 m/s (strong breeze).

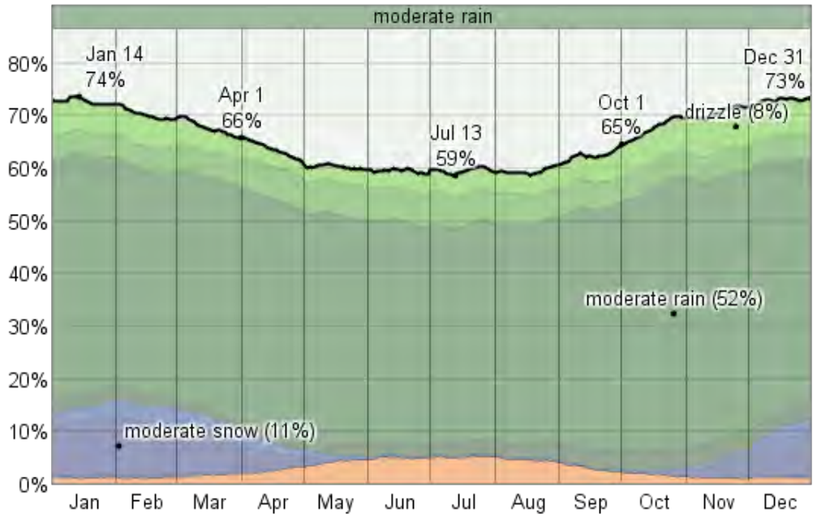
The highest average wind speed of 5 m/s (gentle breeze) occurs around January 12, at which time the average daily maximum wind speed is 8 m/s (fresh breeze).

The lowest average wind speed of 4 m/s (gentle breeze) occurs around August 23, at which time the average daily maximum wind speed is 6 m/s (moderate breeze).

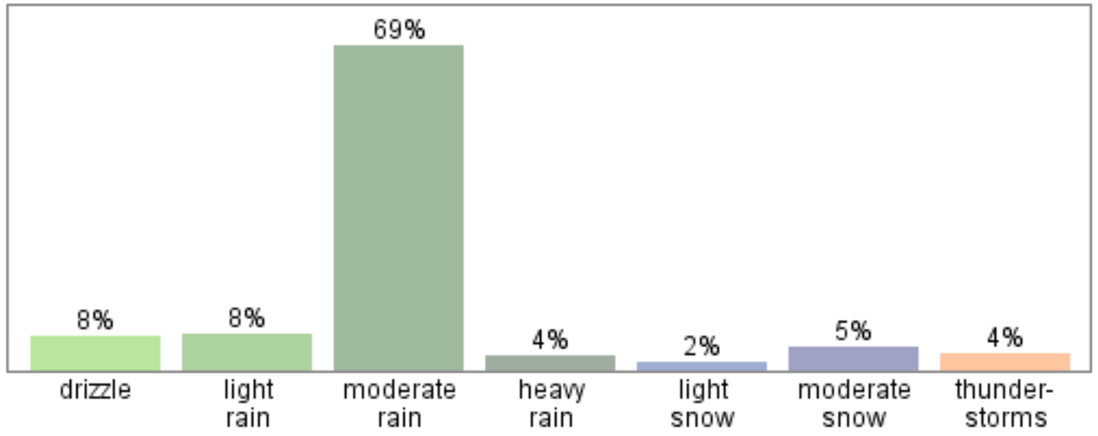
Source: https://weatherspark.com/averages/28705/Wiltshire-England-United-Kingdom

Hydrology - Topographic levels and precipitation





Probability of Precipitation at Some Point in the Day



Relative frequency of various types of precipitation over the course of a typical year.

The proposal to create new wetlands in the north block of the development needs to be in sympathy with the existing topographic conditions.

The existing site generally slopes down to the west and slightly to the north. This profile validates the location of the wetlands in the existing lower floodplain areas of the site and also the new housing communities, which will be sited on higher ground.

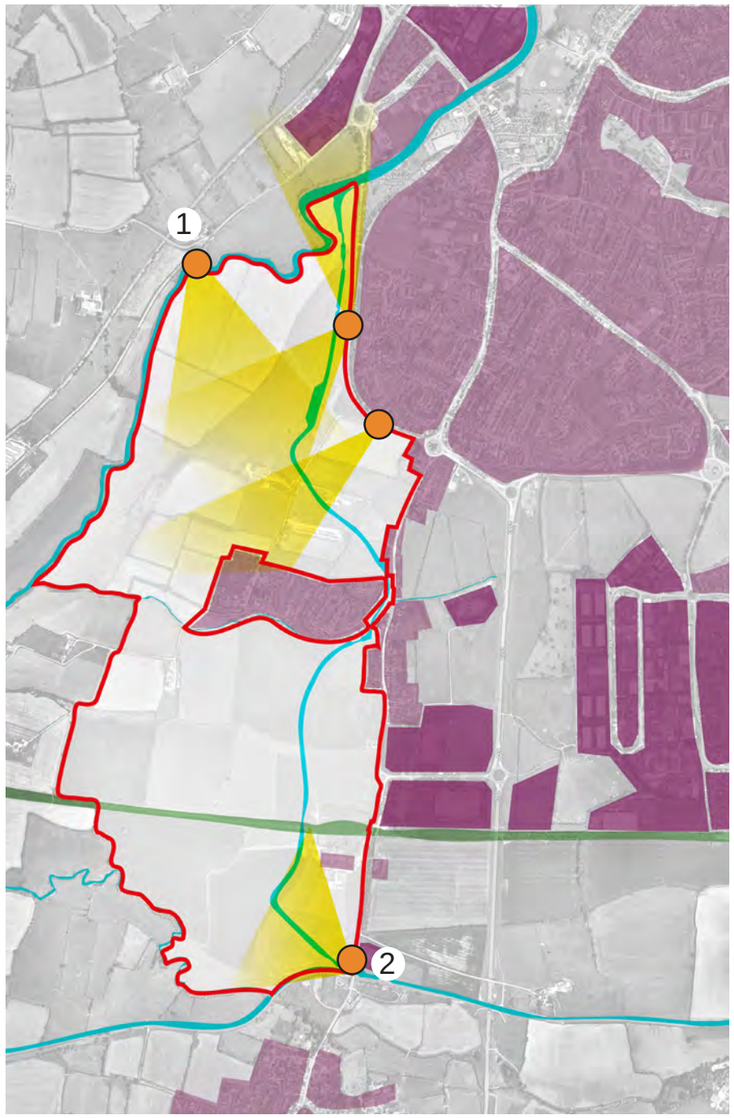
This topographic information was extracted from the OS map of the area, but more detailed topographic information will be required as we develop the proposal in greater detail in future work stages.

Over the entire year, the most common forms of precipitation are moderate rain. Moderate rain is the most severe precipitation observed during 69% of those days with precipitation. It is most likely around October 26, when it is observed during 52% of all days.

During the winter months, the probability of precipitation at some point in the day reaches as high as 74%. This highlights the importance of providing indoor facilities and attractions on the site to ensure that visitors from nearby and afar can have an enjoyable experience whatever the weather may bring.

Source: https://weatherspark.com/averages/28705/Wiltshire-England-United-Kingdom

Long view corridors from approaching roads



Major view corridors - within site

The prioritisation of key sightlines will contribute to creating a coherent sense of place for the new development, which comprises several large tracts of land.

The intentional curtailment of other sightlines will contribute to providing the physical and visual buffers between particular adjacent land uses that require a stronger internal sense of cohesion.

1. View across floodplain of Boundary farm from road B3107

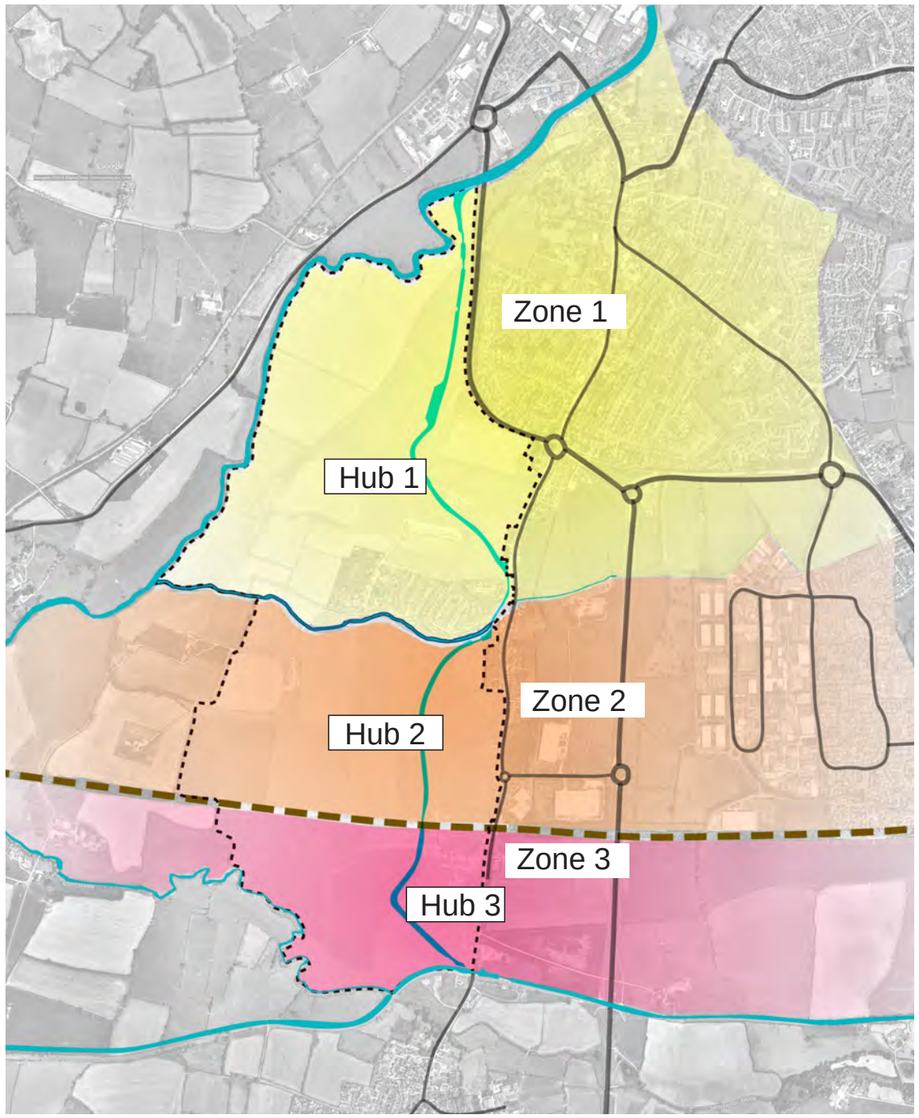
2. View over K&A Canal and edge of Outmarsh Farm

3. View from floodplain towards lowland ridge

Key

- View point
- View corridor
- Embankment obstructs view from approaching roads
- Urban fabric obstructs view from approaching roads
- High point
- View corridor

Main landscape zones

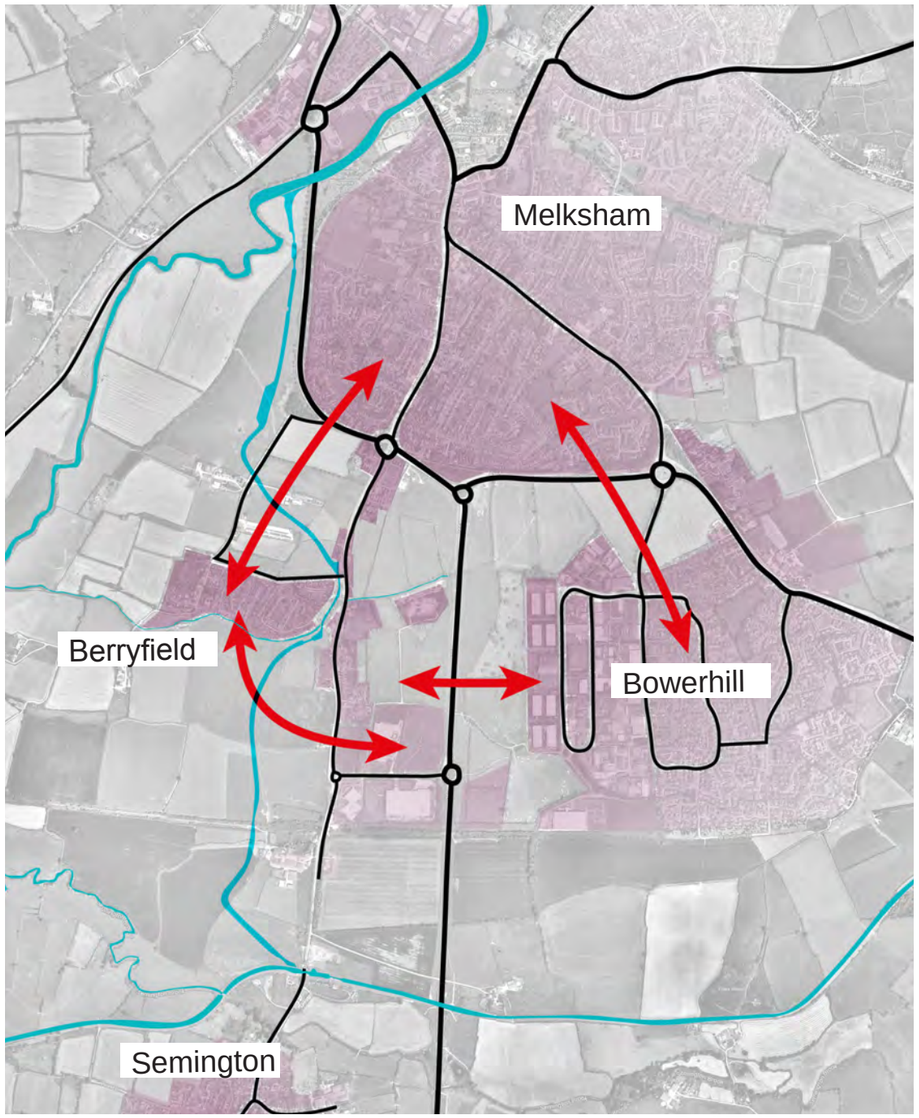


Natural landscape elements divide the site into three zones:

- Zone 1 is framed by the River Avon and the stream that forms the southern boundary of Berryfield.
- Zone 2 is bounded by the stream at the north and the embankment at the south.
- Zone 3 is defined by the embankment to the North and the Semington Brook and the K & A Canal to the south.

An activity hub concentrates social, economic and ecological activities in each zone.

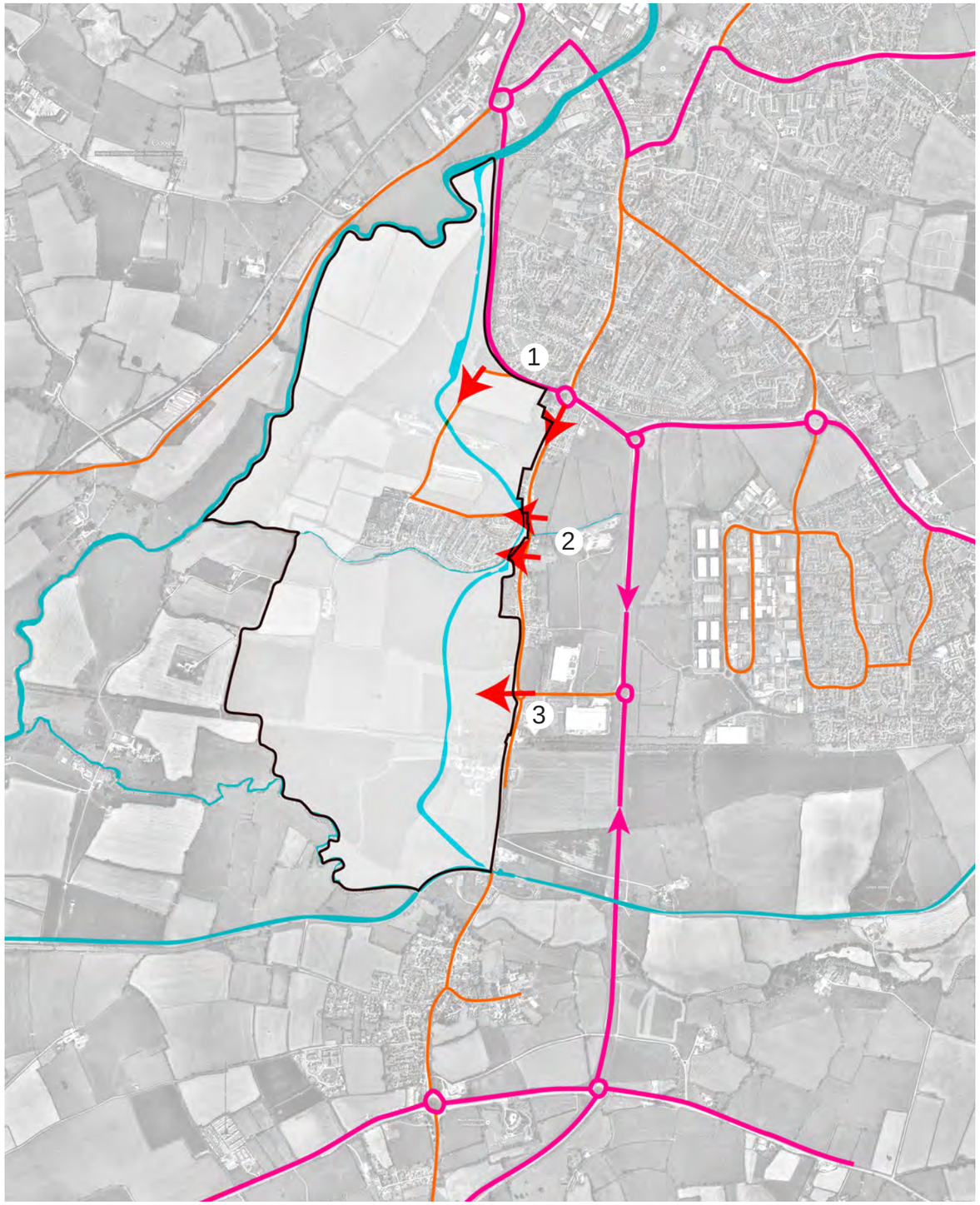
Existing urban fabric - potential extensions and connections



The existing urban fabric suggests that without active planning intervention Berryfield will eventually connect with both Melksham and Bowerhill. This direction of growth is not supported by the recently adopted Core Strategy for Wiltshire, which aims to maintain the independence of each village and prevent them merging together.

The masterplan will aim to preserve the integrity and identity of each village through the creation of distinct landscape characters in each land use zone and the use of woodland buffers and hedgerows. We will consciously avoid creating a “ribbon development” initially or over time by framing all new housing communities with high quality built elements.

Existing vehicular access



Access to the general area is currently possible from the north from the Western Way, from the east and the south from the A350.

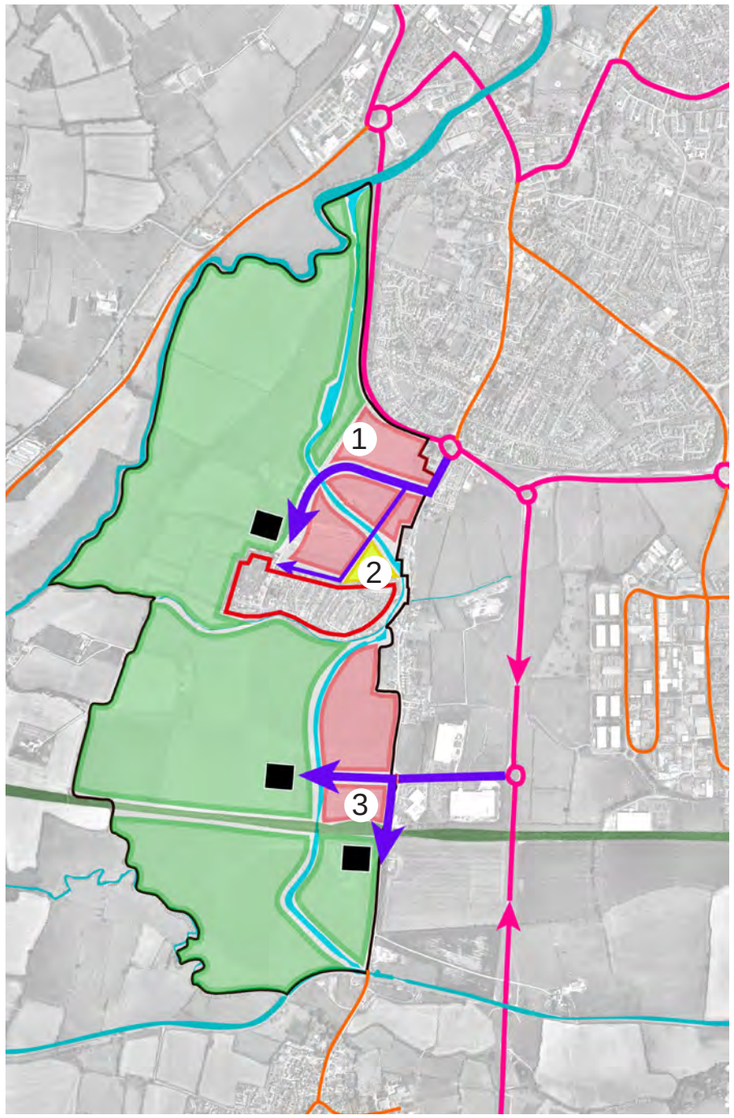
Existing entrances into the site are located

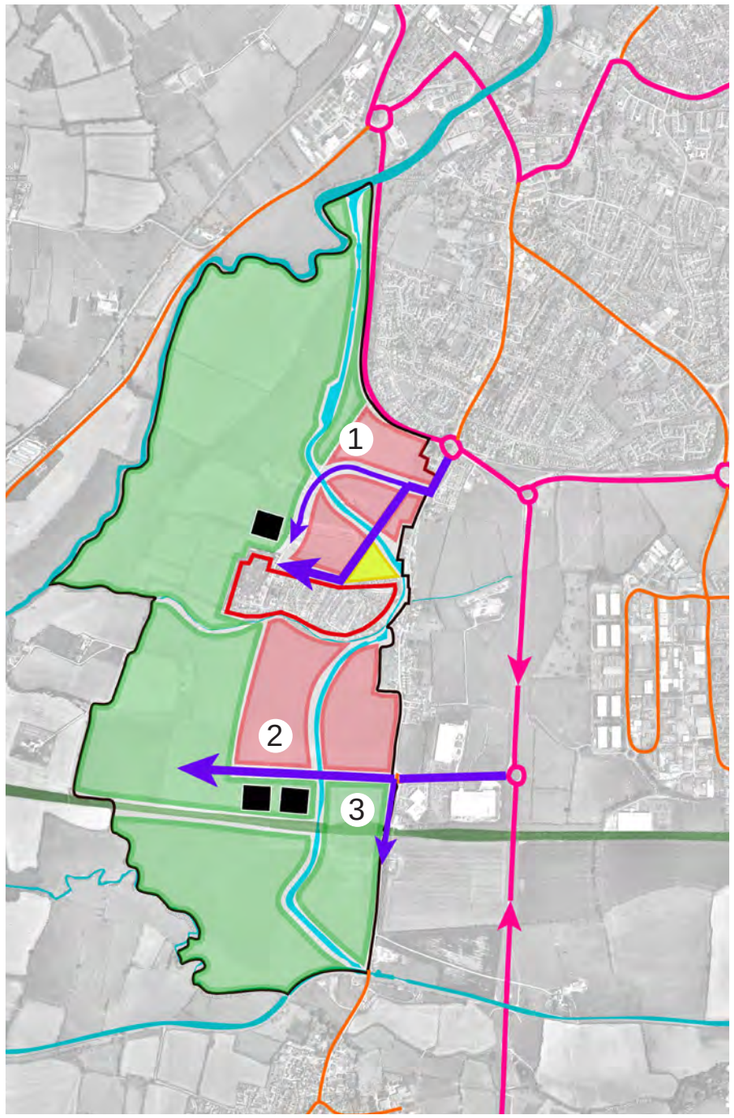
1. Along the Western Way (Landscape Zone 1)
2. Semington Road (Berryfield) and
3. Hampton Park W (Landscape Zones 1 and 2)

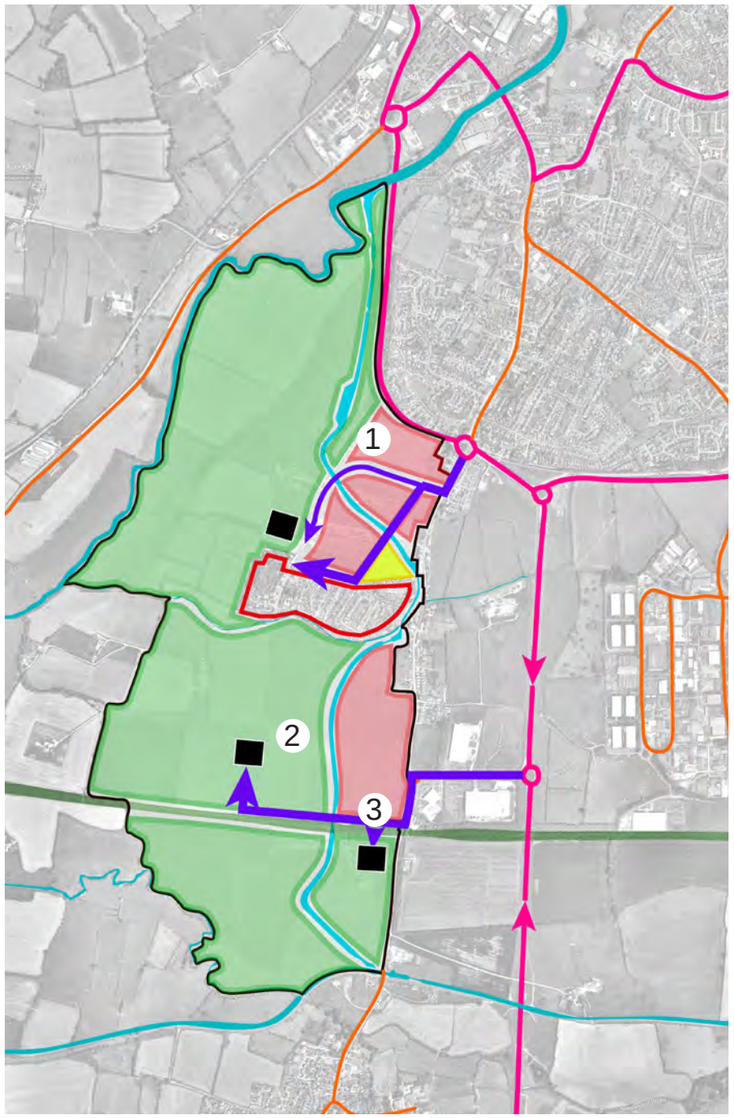
We note that the old A350 (current Semington Road) is now doubly gated with limited traffic. This will remain so in our masterplan.

Key:
- existing primary access
- existing secondary access
- existing entrances to site

Vehicular access and activity hub options considered







Key: proposed housing | proposed landscape | proposed VC | existing primary access | existing secondary access | proposed primary access | proposed secondary access

Current proposal:

1. North Block main access Road 1 cuts through housing development. Use of this road to be limited to Reserve and housing NE of canal link.
2. Access to Berryfield to be encoourage via this route.
3. Access to Centre and South Blocks cut through housing development, fragmenting the neighbourhood.

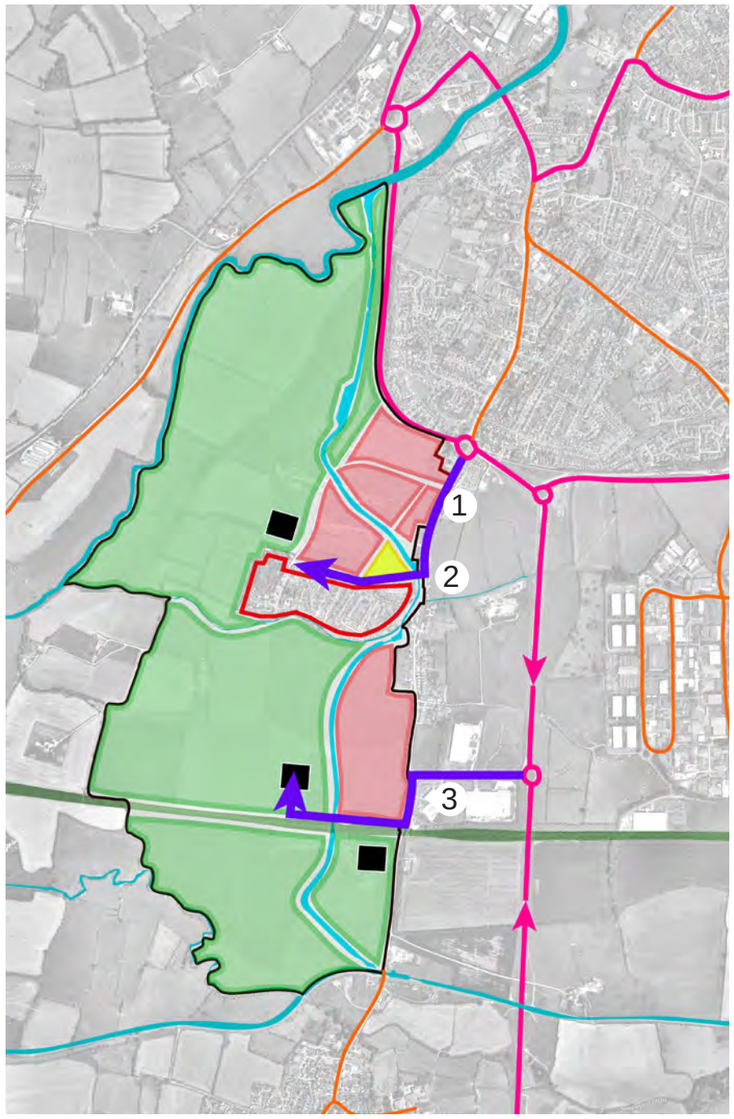
Option 1, preferred by the team at meeting on 23 Jan:

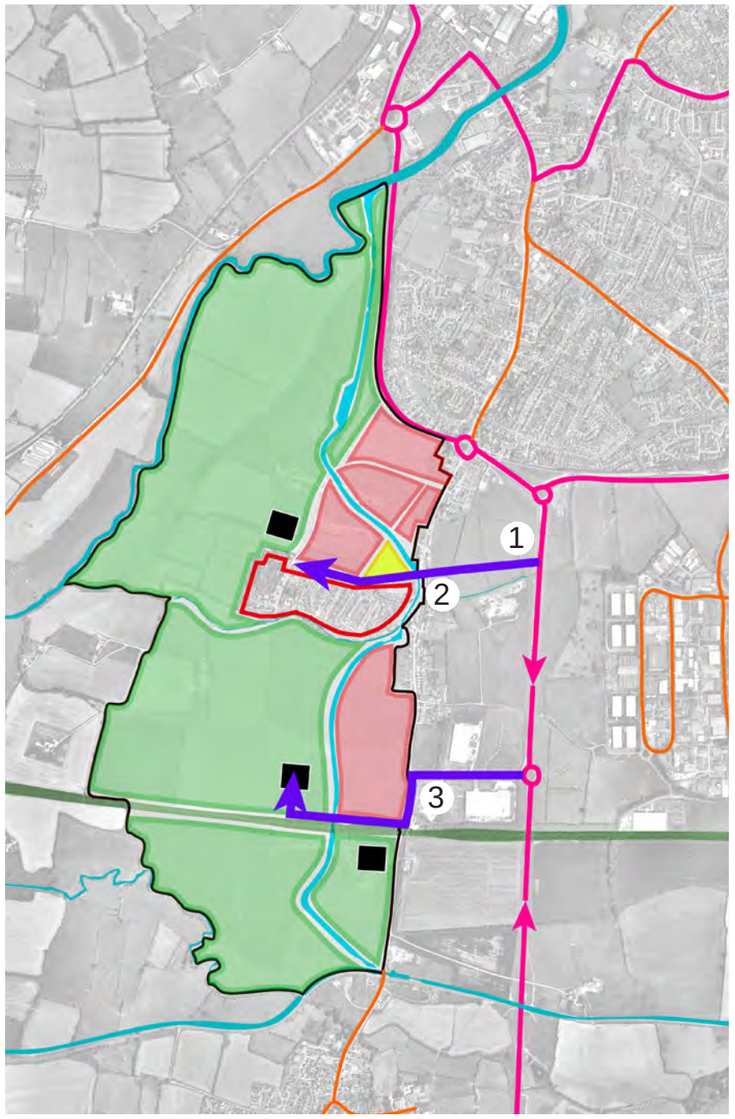
1. Use of Road 1 in North Block to be limited to Reserve and housing NE of canal link.
2. Shorten housing area in Centre Block. Housing on both sides of canal
3. Extend Marina area. Access road to marina for marina use only.

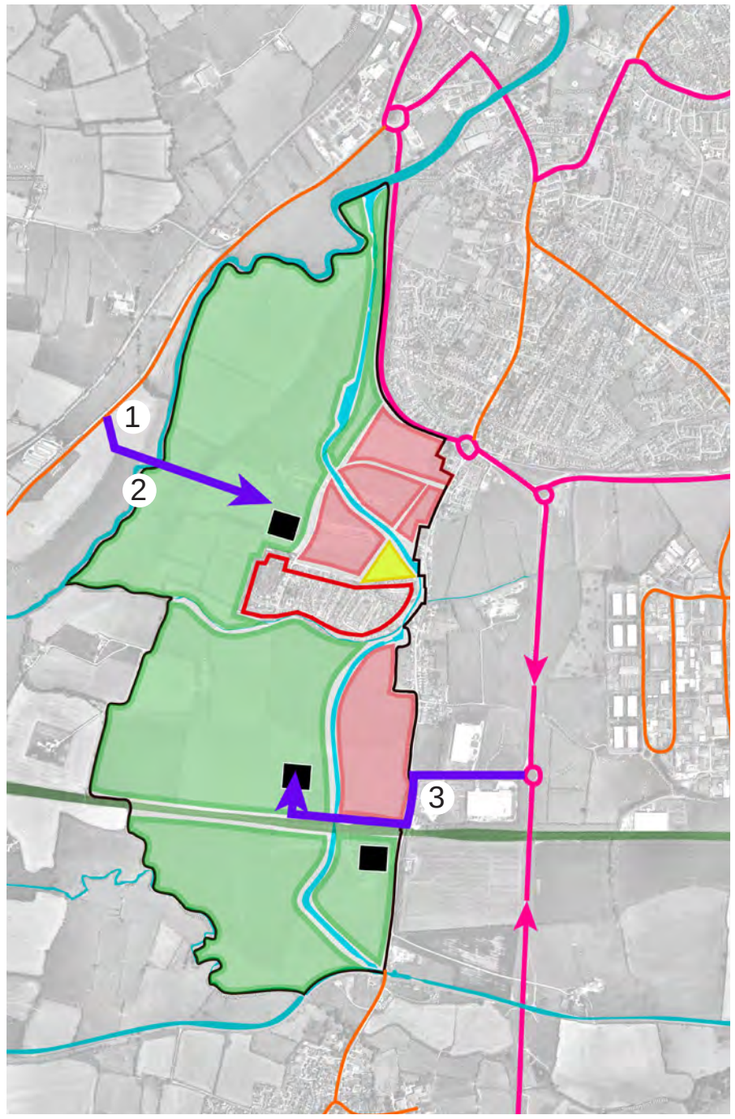
Option 2:

1. Use of Road 1 in North Block to be limited to Reserve and housing NE of canal link.
2. Housing in Centre Block as proposed, but re-route the access.
3. Access to Family Visitor Attraction in Centre Block (VC2) to be at base of embankment.

Potential alternatives for vehicular access







Key: proposed housing | proposed landscape | proposed VC | existing primary access | existing secondary access | proposed primary access | proposed secondary access

Alternative 1

1. North access via existing secondary road. Bridge required for access deemed too obtrusive by canal design team.
2. Additional vehicular bridge would be required.
3. South access via existing secondary road. Vehicular bridge already proposed in this location.

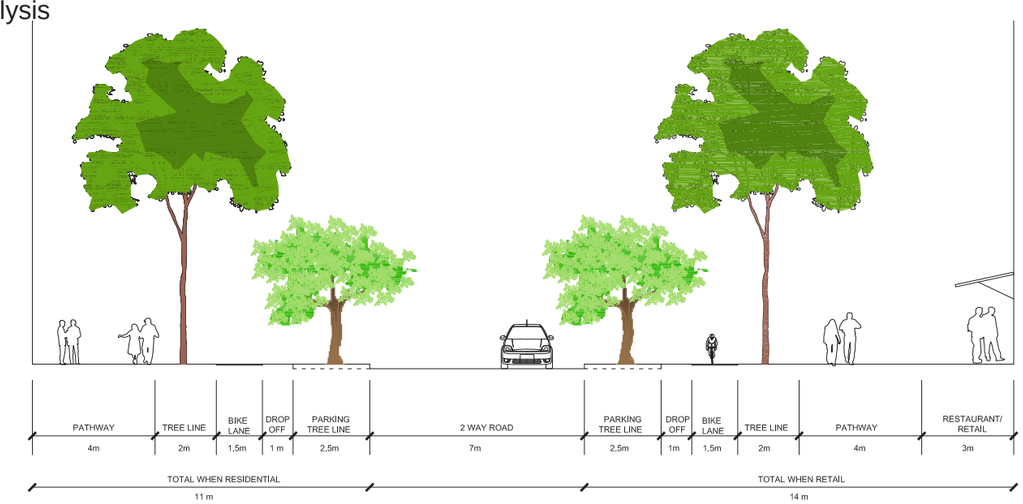
Alternative 2 (not considered feasible by the team)

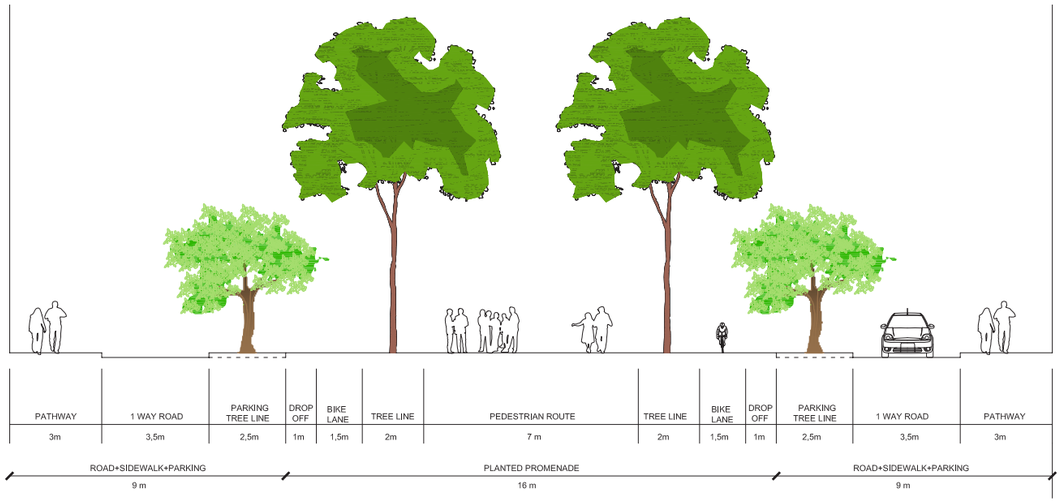
1. North access via a new secondary road.
2. Additional vehicular bridge would be required.
3. South access via existing secondary road. Vehicular bridge already proposed in this location.

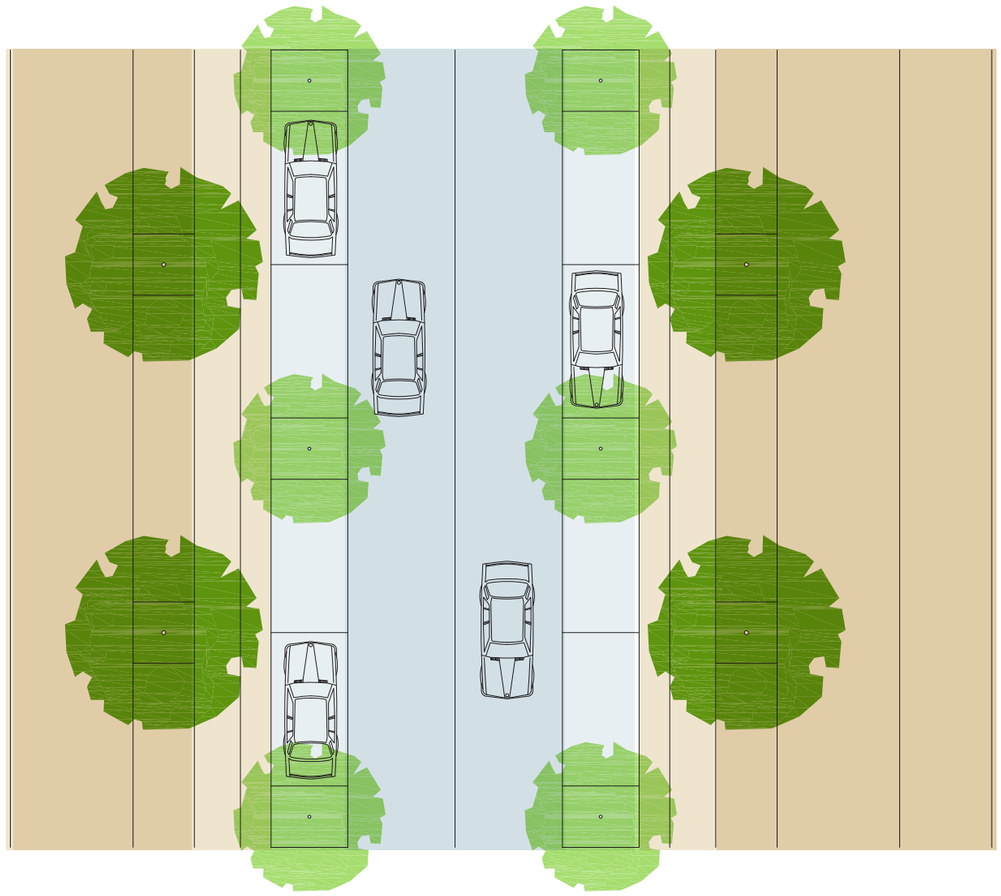
Alternative 3

1. North access via a new secondary road connecting to existing B3107. Infrastructure required to cross floodplain deemed too expensive.
2. Additional vehicular bridge would be required.
3. South access via existing secondary road. Vehicular bridge already proposed in this location.

Pedestrian-friendly street design principles

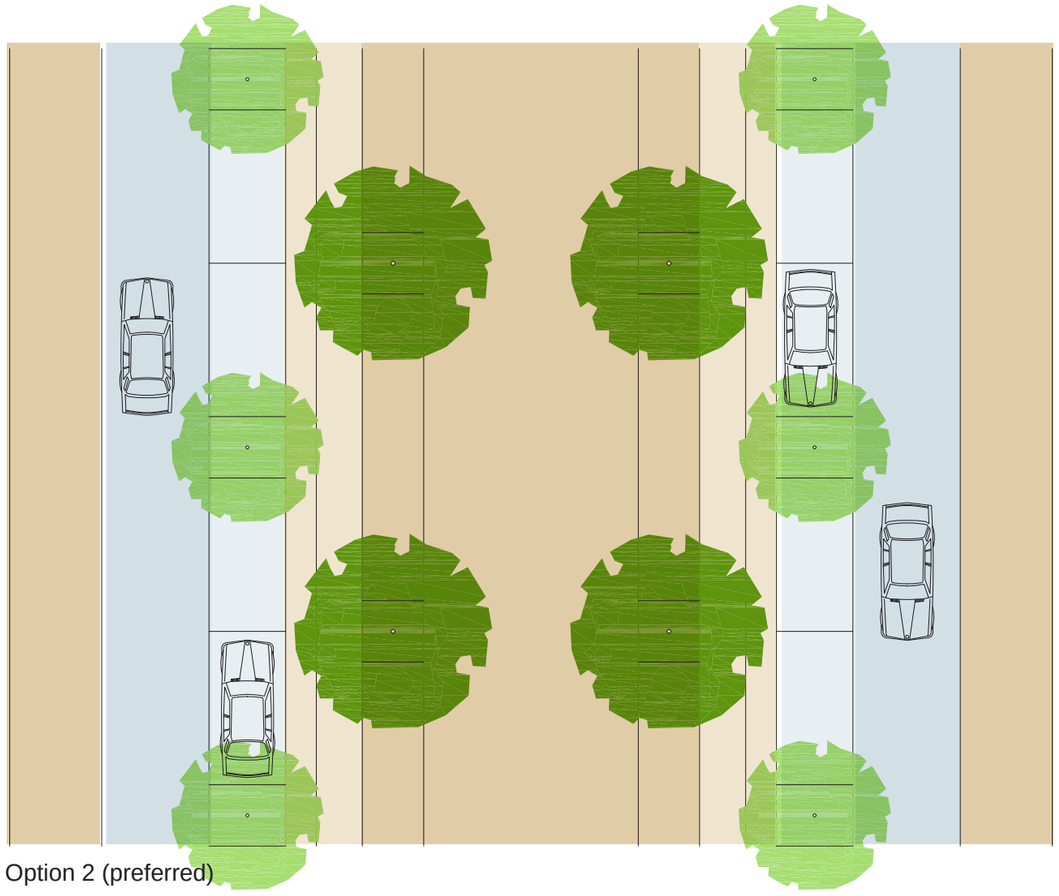






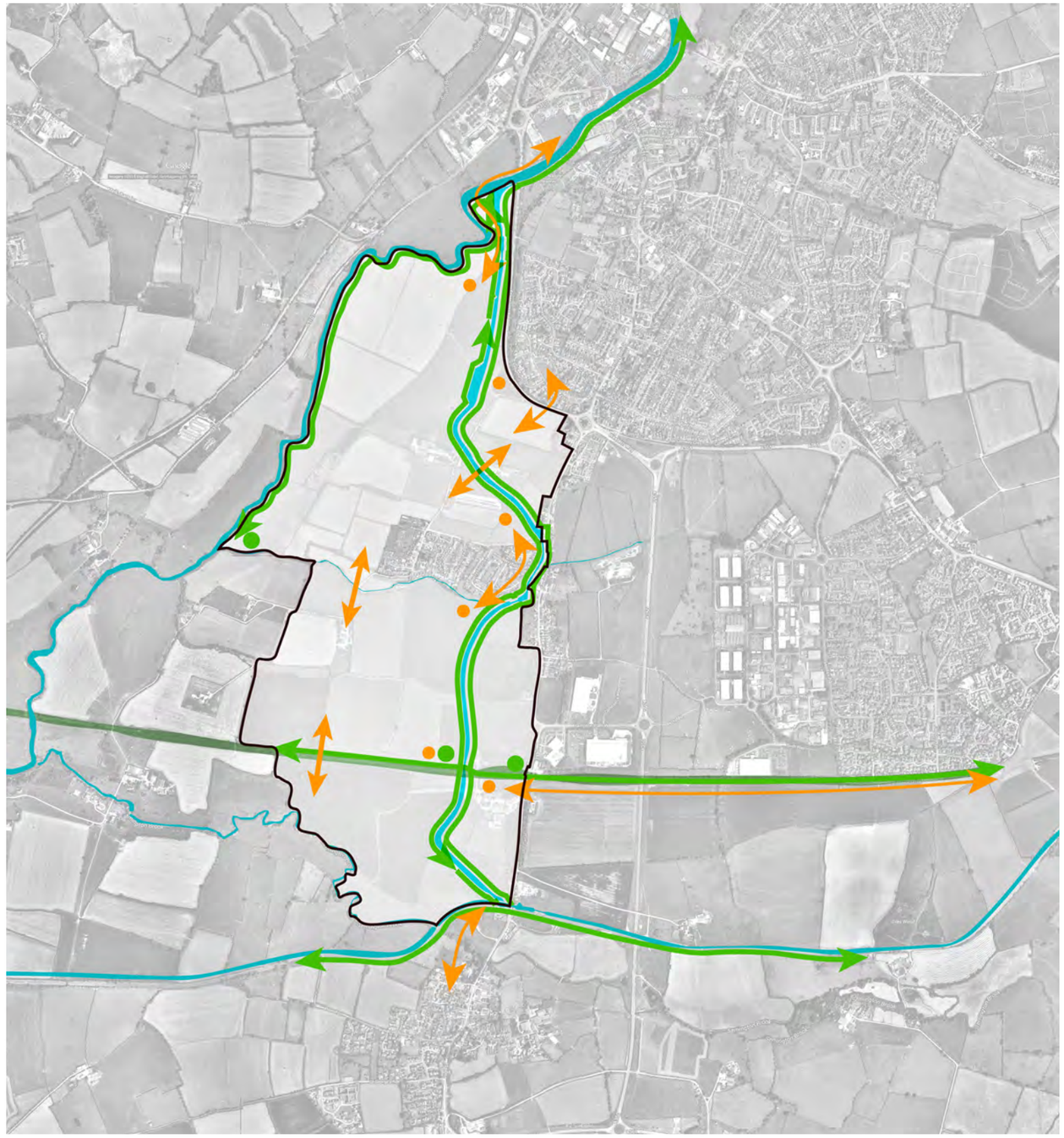
Option 1

Road in the centre of street and quite generous pavements at either side (integrating cycling lane, parking and planting etc)



Option 2 (preferred)

Planted linear promenade in the middle with single vehicular lanes at either side. This allows people arriving by car to park at the nature reserve and walk to the canal / other activity hubs through a pleasant, protected promenade.



Pedestrian access and potential entrances

The success of the canal link and the surrounding development will depend in large part on the pedestrian connectivity between the various activity hubs.

Pedestrian access takes not only the vehicular access as a starting point, but also the intersection of new public paths with the existing network of public rights of way.

In addition to the commercial offerings, the new development will need to provide public amenities for both the existing population and the new visitors who will be attracted to the area.

Pedestrian circulation should therefore be planned in conjunction with the provision of appropriate public spaces and amenities.

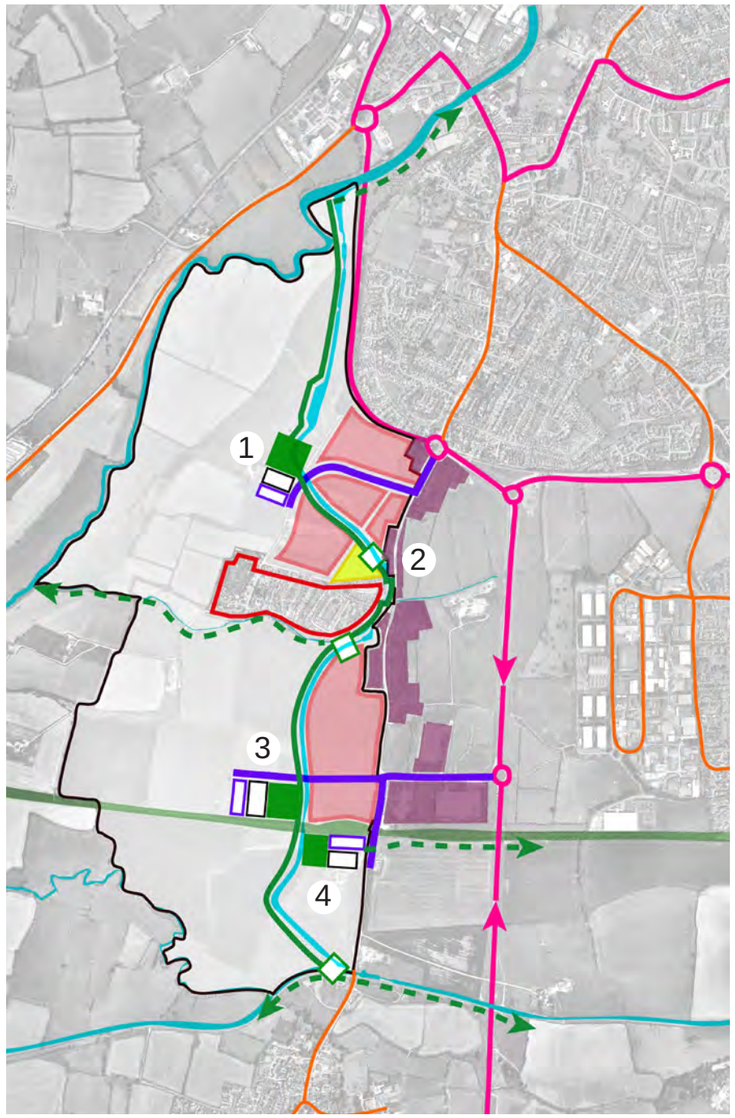
The main north-south movement will follow the alignment of the canal, which will act as a spine from which various features and attractions can be accessed.

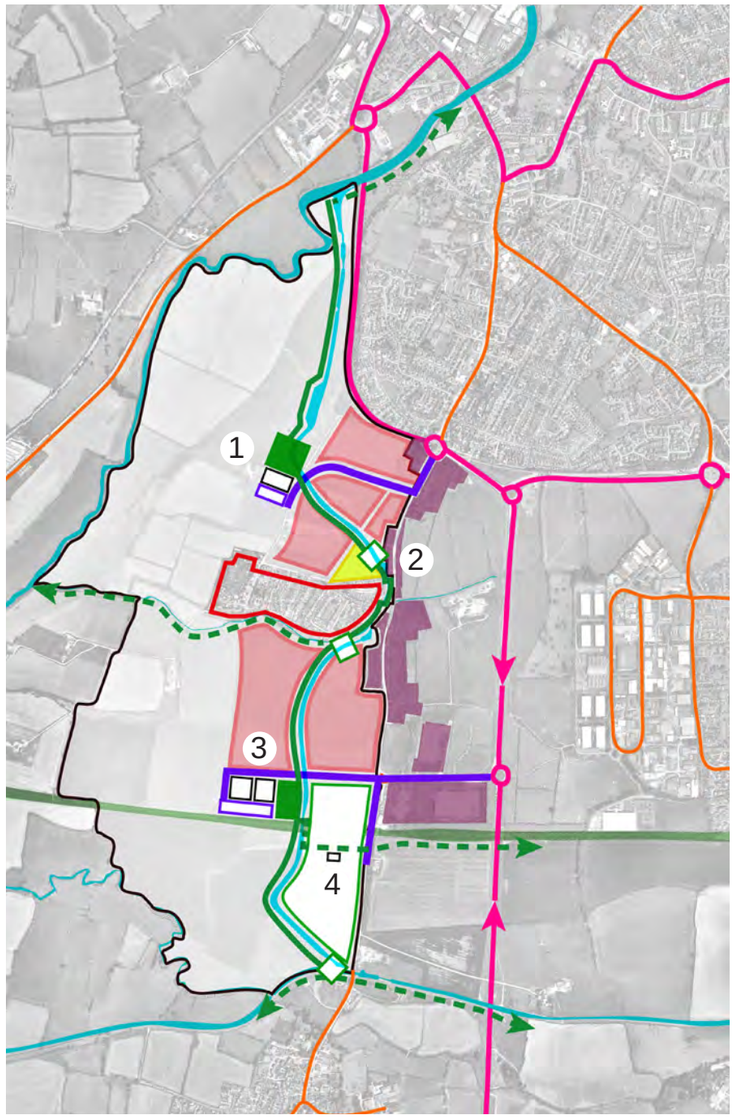
A strong east-west natural corridor exists atop the former railway embankment. Now beautifully overgrown, with relatively small effort key views can be framed along this elevated walk.

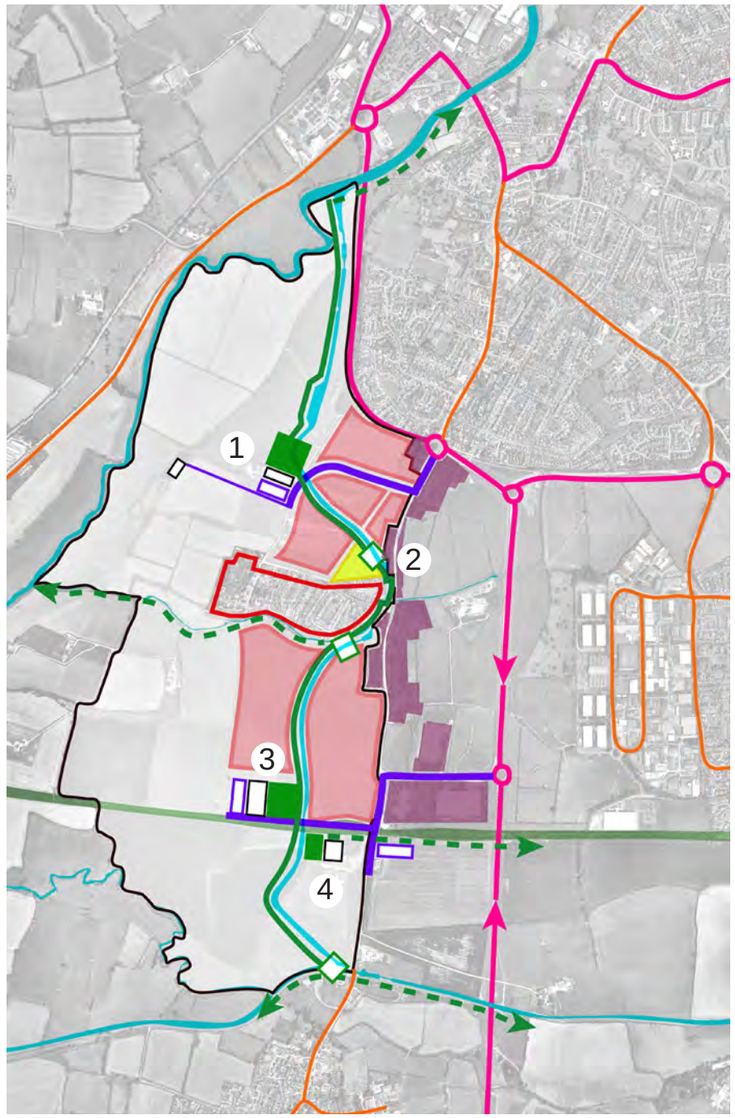
Key

- Pedestrian route along water (natural experience)
- Potential access to pedestrian natural route
- Potential connection between urban area and site
- Potential pedestrian access (local, linked to urban fabric)

Pedestrian access options considered







Key: proposed housing | proposed VC | proposed parking | main public space | connector/ local public space | main ped + cycle route | ped + cycle route within zone

Current proposal

1. VC1: WBCT headquarter, bike hub, temp marina and WWT facility frame main public space; parking south of the cluster.
2. Primary school, community centre and play area.
3. VC2 Family visitor attraction facilities between public space and conservation farmland
4. VC3 Pub overlooks canal-side public space and marina, spa hotel at edge of marina

Option 1

1. VC1: WBCT headquarter, bike hub, temp marina and WWT facility frame main public space; parking south of the cluster.
2. Primary school, community centre and play area.
3. VC2 Family visitor attraction facilities + hotel accommodation between public space and conservation farmland
4. VC3 Pub overlooks canal-side pub garden and marina, marina area extended and berths maximised.

Option 2 (not considered viable by team at meeting 23 Jan)

1. VC1: WBCT headquarter, bike hub and temp marina frame main public space. WWT facility moves into reserve.
2. Primary school, community centre and play area.
3. VC2 Family visitor attraction facilities between public space and conservation farmland
4. VC3 Pub overlooks canal-side pub garden and marina, marina parking moves across the road (drop-offs within marina provided).

Water access and moorings

A balance will need to be found between providing sufficient access to various parts of the development and maintaining connectivity of public space and corridors.

A temporary mooring is proposed at the farm visitor attraction in addition to the ones shown in the canal link planning application documents. The exact location, security and access will need further study in the next stage of work.

Key

- Potential access to site from water
- Marinas and temporary moorings

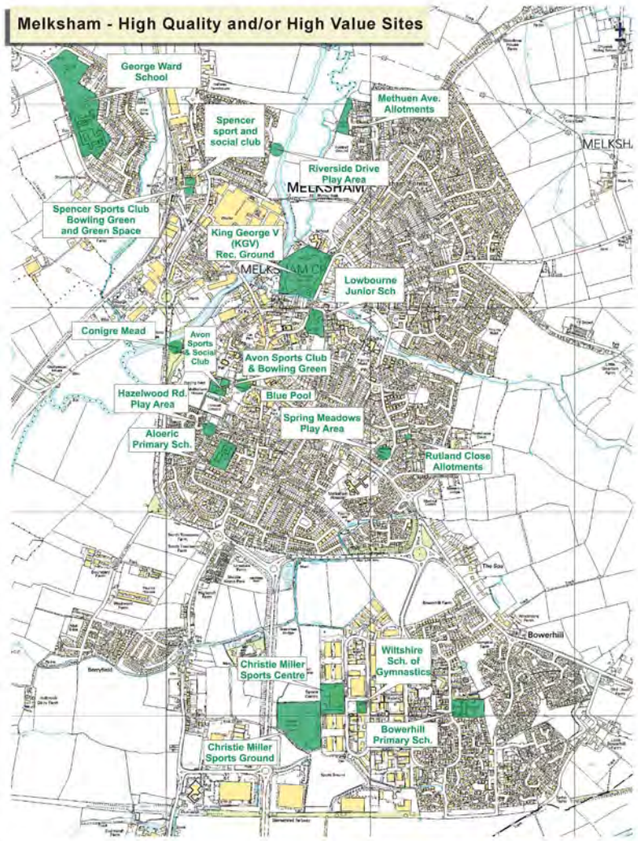
Local planning context: Play, leisure and recreation

Our masterplan seeks to balance the needs and resources of private, public and commercial entities within and surrounding the new community. We place great value on the provision of play and recreation in this context of the housing development for an integrated programme.

An initial survey of local planning documents reviewed in the context of national and industry guidance reveals a current shortfall of leisure and recreation facilities in Melksham.

Extracts shown here will guide the planning and design of play, leisure and recreation facilities in the next design stages, when specific age groups and the types of play spaces will be studied in more detail. The character of these spaces will need to be in sympathy with the aims and aspirations of the overall development.

The requirements for other public facilities such as GP surgeries, post office, libraries, social support centres, etc. will need to be studied in the next stage to ensure that existing public infrastructure is augmented and not burdened by the housing development.



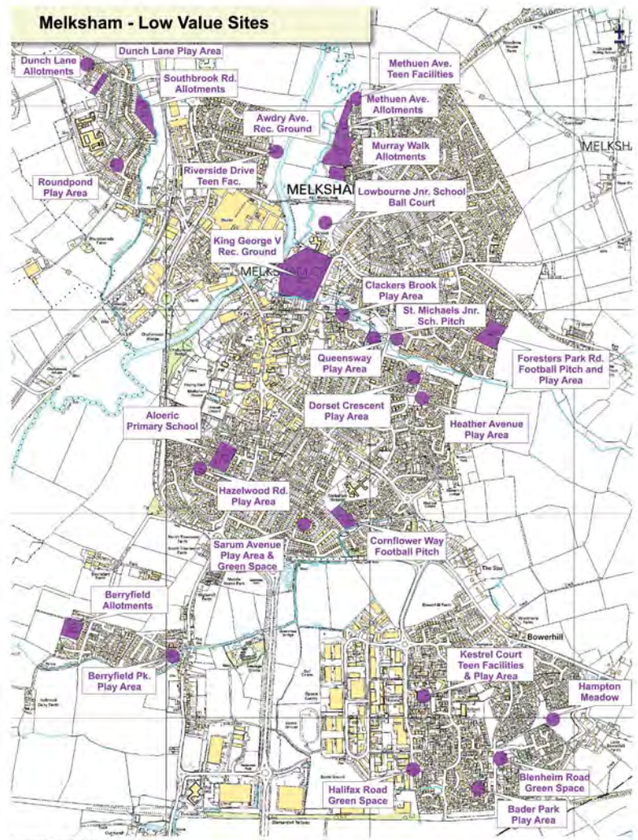
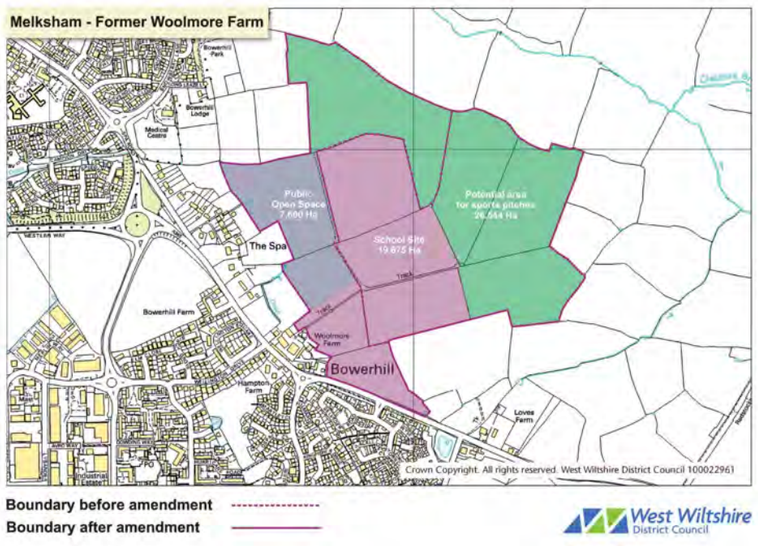


Table below: Proposed quantity standards from West Wiltshire Leisure and recreation development plan.

Form of provision	Quantity (sq m/person)
Allotments	1.5
Bowling greens	0.2
Equipped play	0.5
Multi-functional greenspaces	12
Sports pitches and courts	10
Teenage facilities	0.25
Urban parks	1.3
Sports halls	0.08
Swimming pools	0.05

Table right: Shortfalls and surpluses of existing leisure and recreation facilties (m2)

	Melksham
Allotments	+3,041
Bowling greens	-921
Equipped play	-5,493
Multi-functional greenspaces	-34,972
Sports pitches and courts	-39,474
Teenage facilities	+819
Urban parks	-25,098
Total net shortfall or surplus	-102,099



Type of space	Distance criteria	
	Walking distance (m)	Straight line distance (m)
Type A: 'Doorstep' spaces and facilities for play and informal recreation	100	60
Type B: 'Local' spaces and facilities for play and informal recreation	400	240
Type C: 'Neighbourhood' spaces and facilities for play and informal recreation	1000	600

[7] Fields in Trust (2008) *Planning and design for outdoor sport and play*. Fields in Trust: www.fieldsintrust.org

Play, leisure and recreation along the canal

Examples of play, leisure and recreation accessible to the public along the canal link:

- canoeing
- kayaking
- fishing
- biking
- jogging/fitness trails
- themed play areas
- sitting and gathering
- informal performances

These amenities should be designed in sympathy with the aims and character of the development, emphasising water-based activities, encouraging environmental engagement and enticing locals and tourists to visit the conservation-oriented family visitor attraction.

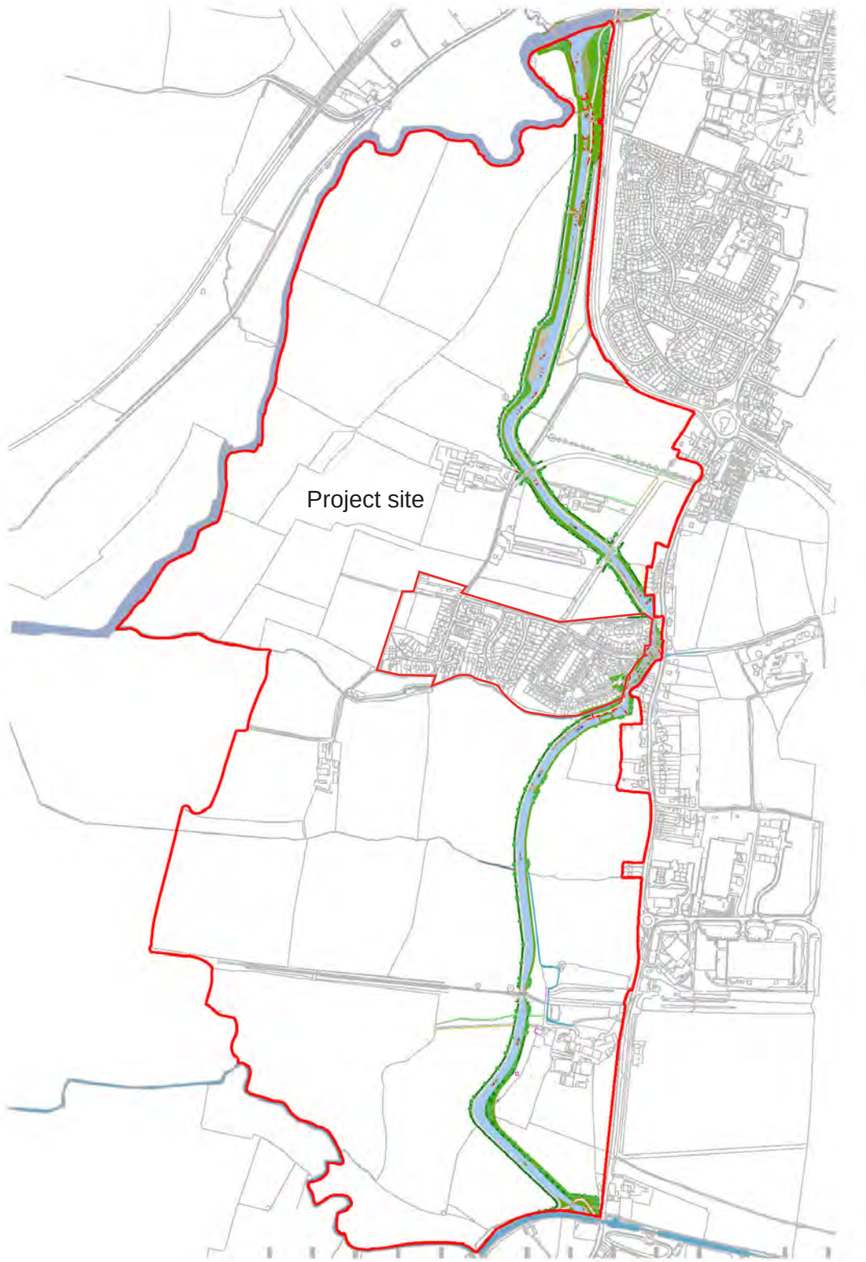
Our approach

We begin by assessing the areas available within the project boundaries for each major block of the site. For each major component of the masterplan, we then study reference model sites selected for the size and character, regional relevance or operational models – wetland and meadowland nature reserves, farm-based visitor attractions, camping and glamping sites, marinas and spa hotel landscapes – noting key similarities and differences.

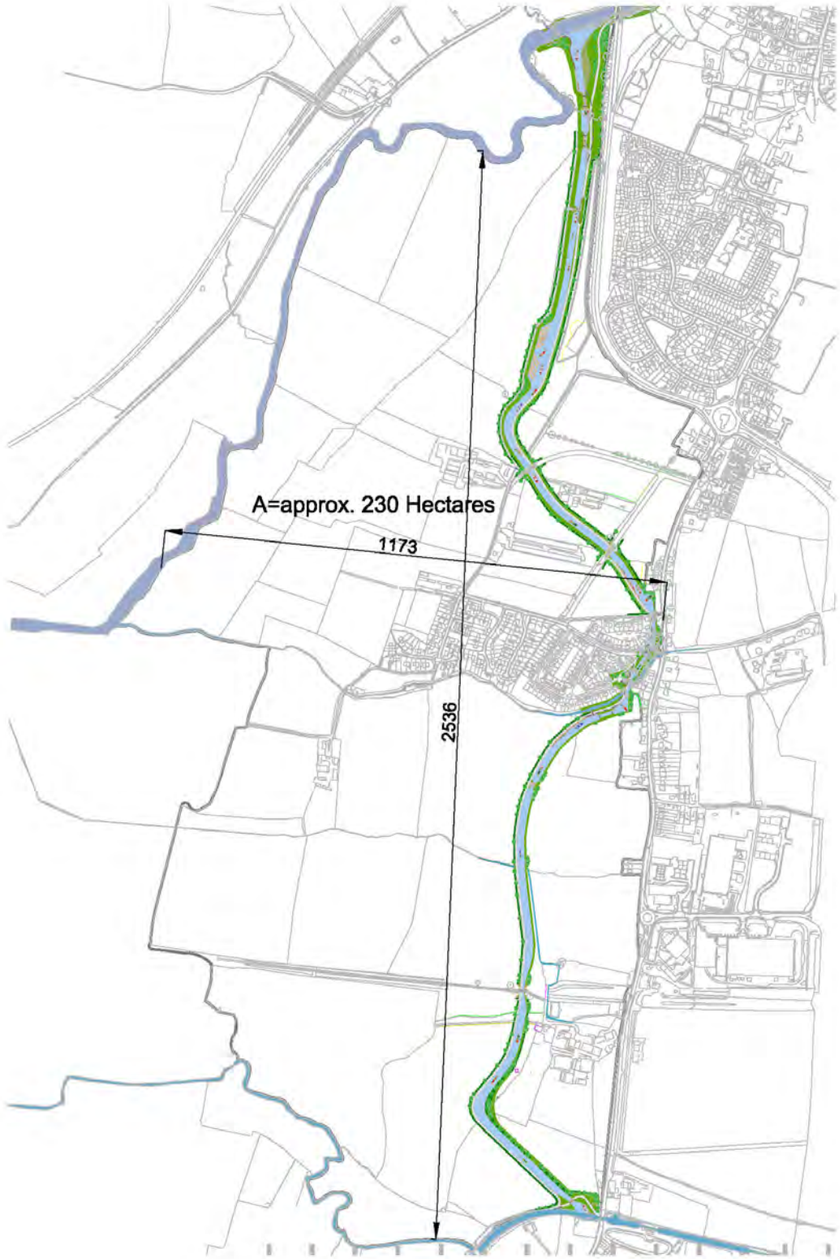
We use these comparisons to consider what will be desirable and possible on our site. While these studies are useful as benchmarks and they help us to learn what makes each comparator site successful, it should be noted that the objective is not to replicate any of the sites on our own.

Rather, we hope to take lessons learned from the efforts of those who have journeyed before us to create a unique setting in which visitors and locals can re-discover what makes Wiltshire, and specifically Melksham, truly timeless.

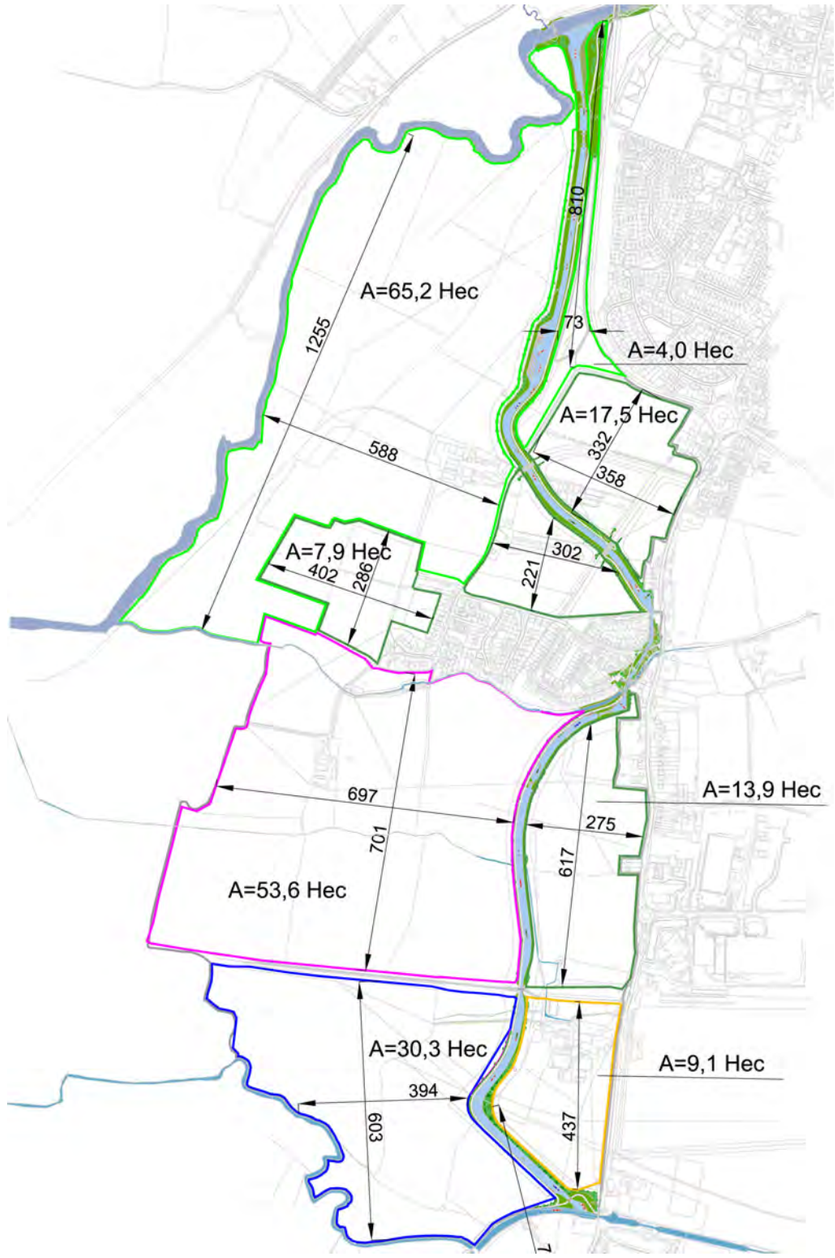
Site boundary



SIte-wide area



Major areas within the site



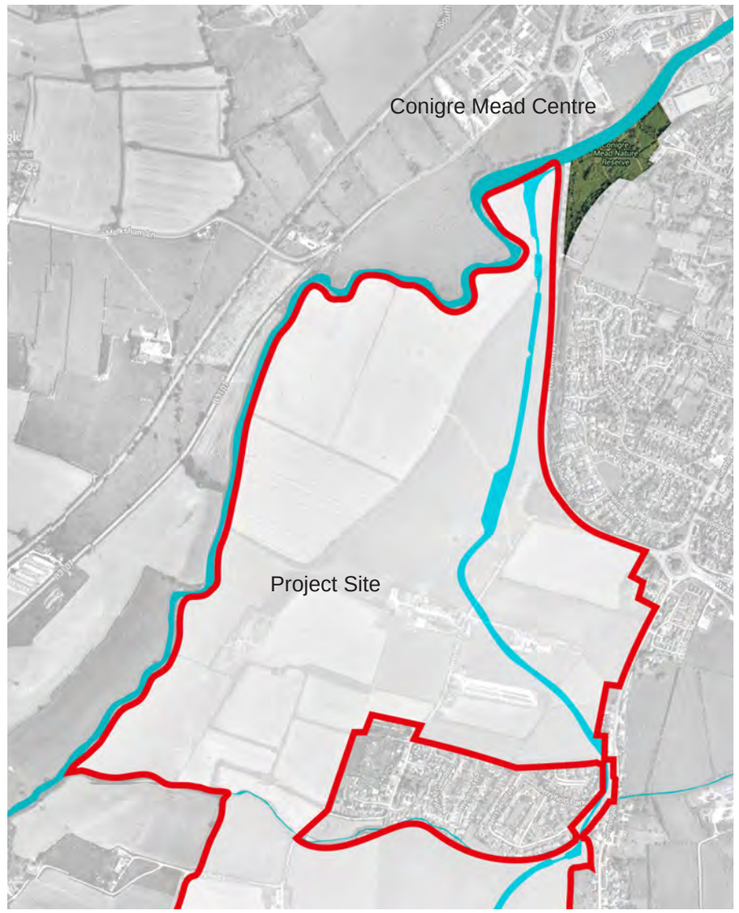
Scale and character comparisons - North Block

A wetland nature reserve is proposed for the area of the site between the River Avon and the higher ground which could be used for the meadows and grazing. This land is already on the Avon flood plain and floods regularly in winter. With a high water table all year round, especially during the wetter months, it will be suitable for adapting into a more permanent wetland reserve. Installing scrapes and some deeper ponds with the addition of levees and channels to manage water flow to and from the river will allow permanent wetland habitat. The addition of wetland plants will enable significant increase in biodiversity and encourage wildlife to use the area as residential or migratory habitats.

The amount of land currently affected by flooding is approximately 20 hectares, which is relatively small in comparison to some of the better known wetlands such as Leighton Moss and Cley Marshes. Despite its size, the wetland in Melksham could be quite special. Many similarly small sites have proved highly successful, such as the London Wetland Centre, which at 29 hectares has been attracting some surprising wildlife, including Bitterns and Otters.

The Conigre Mead Centre on the opposite side of the canal is a successful local example of a such a restoration and the inspiration to extend a similar type of environment into our site. Our masterplan seeks to complement the hard work undertaken to create this reserve. With their experience managing wetlands such as these, Rushey Platt and Langford Lakes, the Wiltshire Wildlife Trust would be well situated to manage the nature reserve on our site.

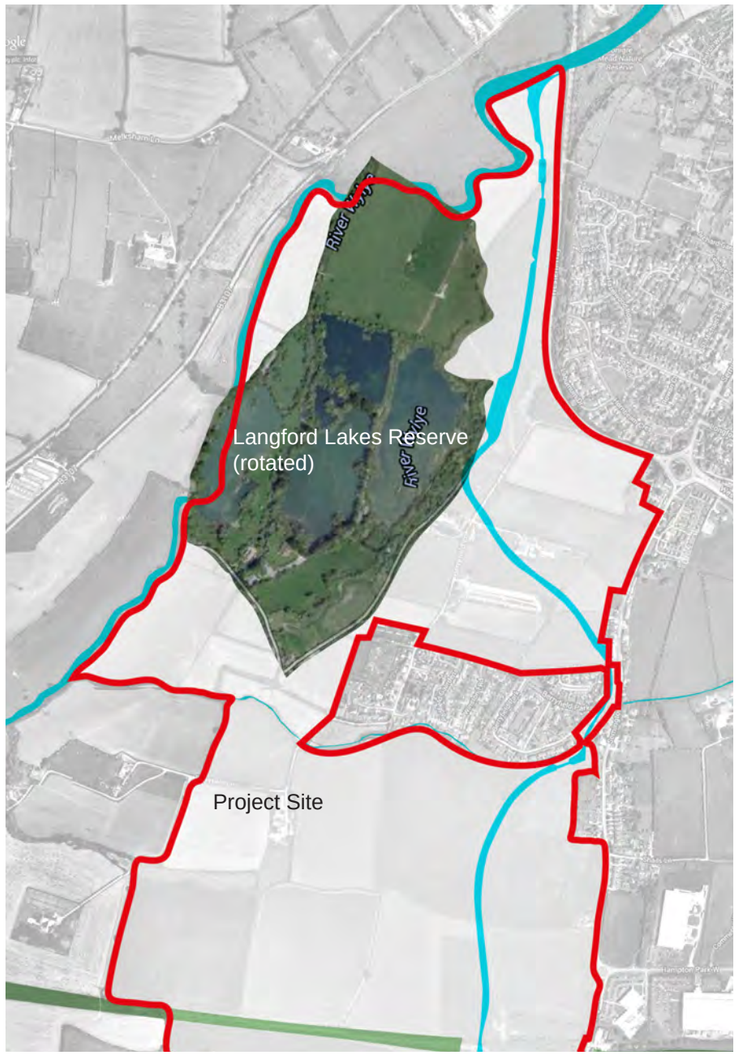
Having the river alongside the wetland is a bonus as a corridor for wildlife as well as flood release, allowing fresh water in and out of the Wetland.

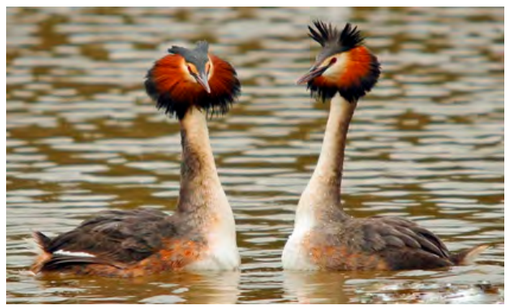


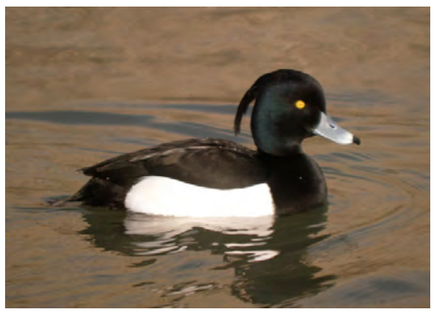
Existing flood plain conditions at Boundary Farm

Conigre Mead Centre (all images above and right)

Scale and character comparisons - wetland reserve







Steeple Langford Lakes Reserve

Nestled in the Wylye Valley half-way between Salisbury and Warminster, Langford Lakes is a 31-hectare inland wetland nature reserve with four lakes and an 800m stretch of the Wylye River, which is designated as a Special Area of Conservation. It now includes our new Great Meadow wetland, which was officially opened in September 2012.

The former Langford Fisheries was purchased by the Wiltshire Wildlife Trust in 2001 and transformed over ten years into a wildlife haven for birds and birdwatchers alike. It officially opened the Great Meadow wetland in September 2012.

Many family and educational activities are run from the two centres, which are also available to hire, and five bird-watching hides overlooking the lakes, providing good close up views. The reserve also includes parking for disabled visitors and coaches, cycle racks and toilets.

WWT worked with Wessex water to create a reed bed system for flood mitigation to the local town. The feasibility of treating waste water on site on the Melksham canal development needs to be studied in the next design stage.

Although both sites are inland wetland reserves, Langford Lakes has more open water than we will likely have on our site given existing topographic conditions and one of the project aims to balance cut and fill across the development.

Source: http://wiltshirewildlife.org/reserves/langfordlakes

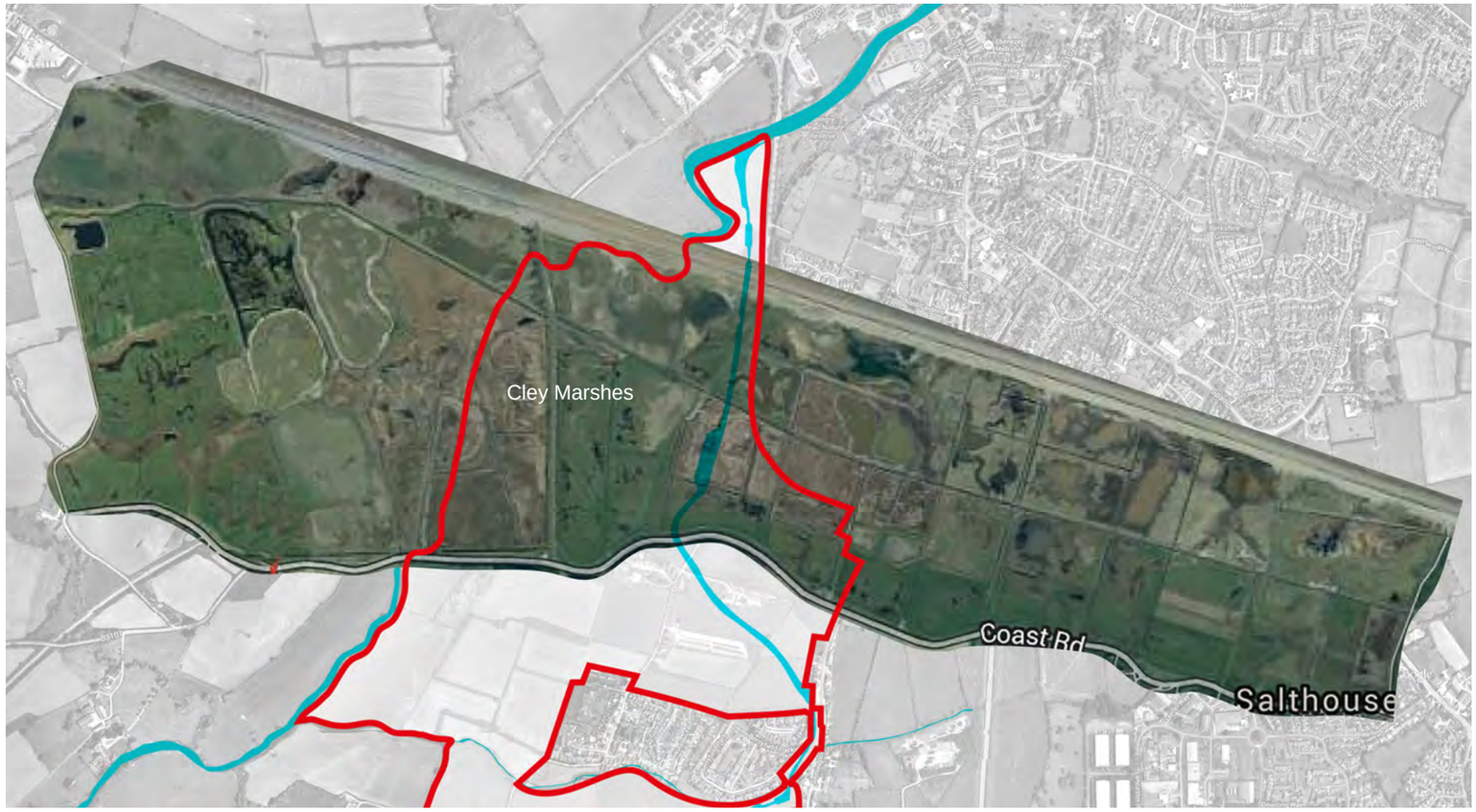
Scale and character comparisons - wetland reserve

Cley Marshes is a 176-hectare (430-acre) nature reserve on the North Sea coast of England just outside the village of Cley next the Sea, Norfolk.

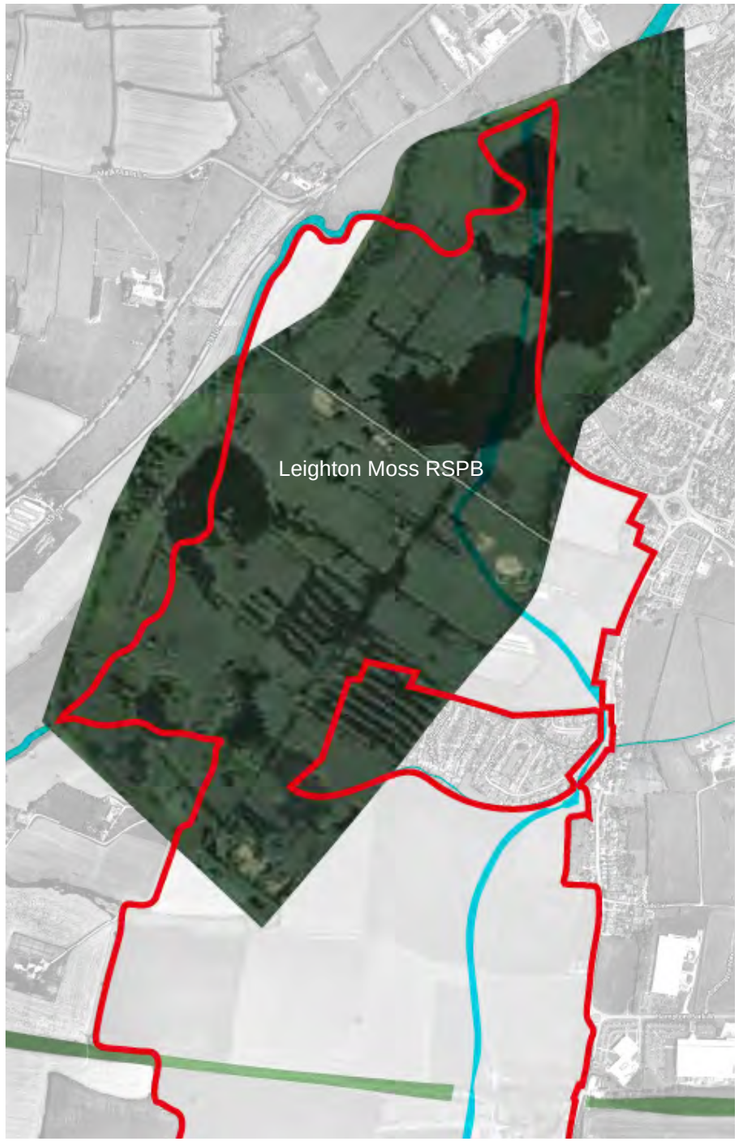
NWT Cley Marshes is Norfolk Wildlife Trust's oldest and best-known nature reserve. Purchased in 1926 to be held 'in perpetuity as a bird breeding sanctuary', it is a good example of wetland reserve management, known for waders and migrants (mostly due to its location on Norfolk coast). The water levels in the pools and reed beds are regulated to ensure they are ideal for the resident birds, and reed is harvested every year to keep the reed beds in good condition.

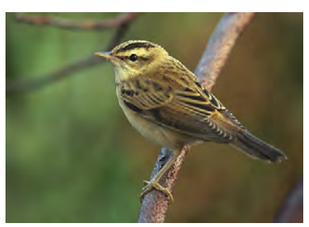
The shingle beach and saline lagoons, along with the grazing marsh and reed bed support large numbers of wintering and migrating wildfowl and waders, as well as bittern, marsh harrier and bearded tit. As Melksham is inland, our wetland would be freshwater rather than coastal and brackish.

As on our site, Cley Marshes is mostly a combination of reed beds and scrapes. The main access to beach is public; hides and the visitor are for paying visitors. The management of this publicly accessed reserve could provide an operational and financial model for keeping such a place funded without significant commercial income.



Source: http://www.norfolkwildlifetrust.org.uk/wildlife-in-norfolk/.../cley-marshes





Scale and character comparisons - wetland reserve

Leighton Moss RSPB reserve is a nature reserve in Lancashire, England, which has been in the care of the Royal Society for the Protection of Birds since 1964. It is situated at Silverdale near Carnforth, on the edge of Morecambe Bay and in the Arnside and Silverdale Area of Outstanding Natural Beauty.

Similar to our site, Leighton Moss is a freshwater wetland, not tidal. Sluices that feed this used to drain water from land to make it usable for agriculture. The land now remains inundated and the sluices keep the water levels high enough to be permanent marshes.

Unlike our site, Leighton Moss is not a created wetland, as it has always been wetland. It has vast areas of reed bed, with some open water (the largest area of reedbeds in northwest England). The reed beds are relatively mature and they are managed to prevent them drying out and also to prevent saline intrusion from the coast.

The site provides habitats for many species of wildlife, including bitterns and red deer. As a wetland of international importance, it was designated a Ramsar site in 1985. It is an Important Bird Area.

The RSPB reserve also protects an area of Morecambe Bay, where a saltmarsh provides a habitat for birds such as avocets.

Source: http://www.rspb.org.uk/

Scale and character comparisons - wetland reserve

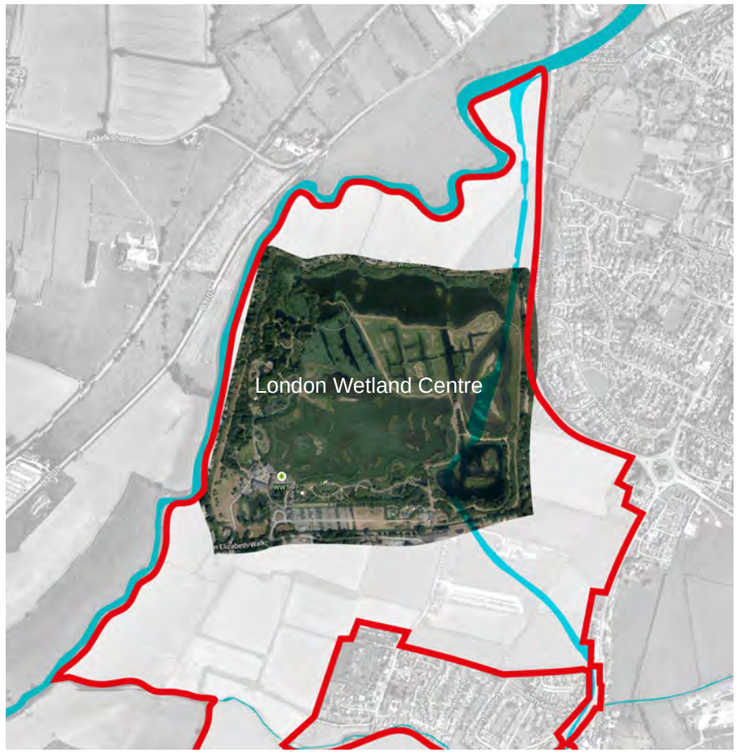
Set in an urban environment in West London, **WWT London Wetland Centre** is a wetland reserve managed by the Wildfowl and Wetlands Trust near Barn Elms in Barnes. The site is formed of four disused Victorian reservoirs tucked into a loop in the Thames.

The centre occupies more than 100 acres (40 hectares) of land formerly occupied by several small reservoirs. These were converted into a wide range of wetland features and habitats before the centre opened in May 2000. It was the first urban project of its kind in the United Kingdom. In 2002 an area of 29.9 hectares was designated a Site of Special Scientific Interest as the Barn Elms Wetland Centre.

Whereas some of the habitats in the Melksham wetlands could be similar to these, parts of the London Wetland Centre are devoted to wetland birds around the world. WIth captive breeding programmes, the animal population densities in these areas are far higher than the site would otherwise naturally sustain. Our efforts to increase the biodiversity of wildlife on and around the nature reserve will focus more on sustainable land management strategies and techniques.

The London Wetland Centre also provides model for access and public transport, as it is well connected but hidden from view, and education. Its context is much more urban than Melksham, so visitor facilities would be scaled differently. As the site is a former reservoir, the main lakes also benefit from deeper open water.

Source: http://www.wwt.org.uk



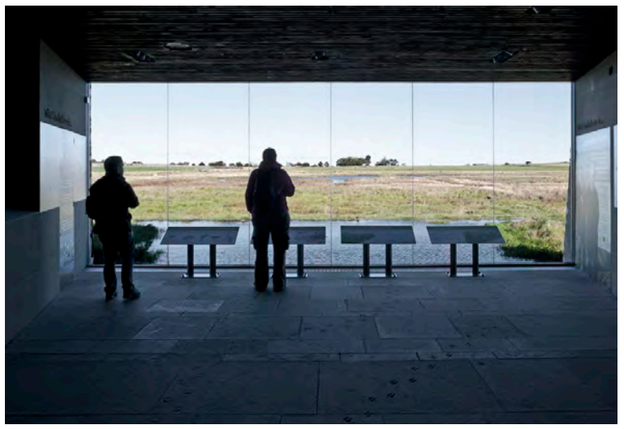
Scale and character comparisons - wetland reserve - visitor centre

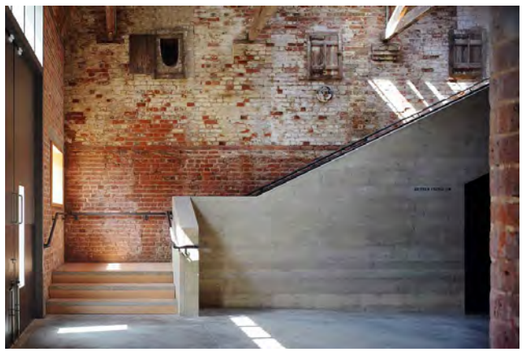
Brockholes Visitor Centre, Preston (above and right)

The Wiltshire Wildlife Trust staff and visitor centre in the nature reserve presents an opportunity to create an iconic piece of contemporary architecture that could attract visitors in its own right.

We imagine the architecture of this building would be simple, draw from traditional building methods, use reclaimed materials, respond to the natural surroundings and be constructed to the highest environmental standards for construction and operation.

Window on Lindisfarne visitor centre (above and right)





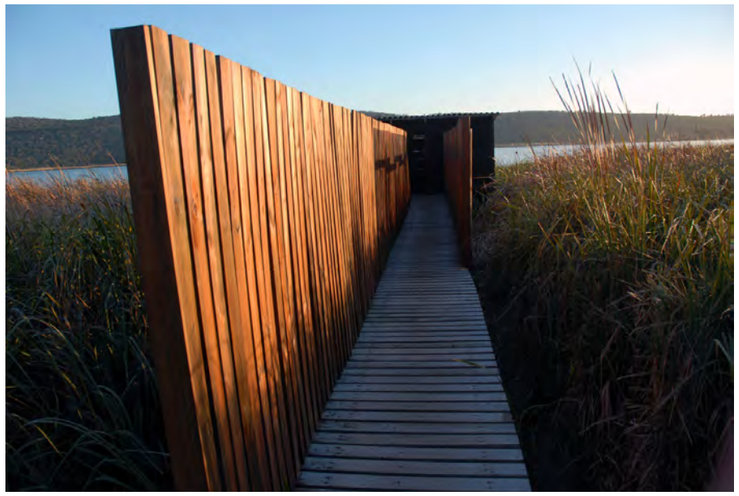
Great Barn Museum, Avebury

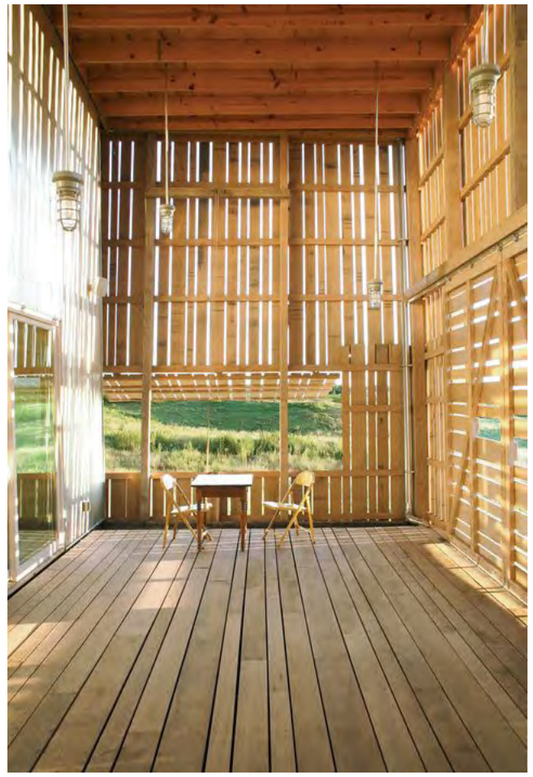
Casa Hof, Iceland

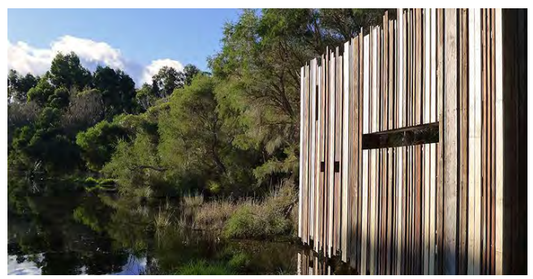
Scale and character comparisons - wetland reserve - bird hides

As with the Wiltshire Wildlife Trust staff and visitor centre, we imagine that the bird hides in the nature reserve will use reclaimed materials, respond to the natural surroundings and be constructed with minimal impact to the environment.

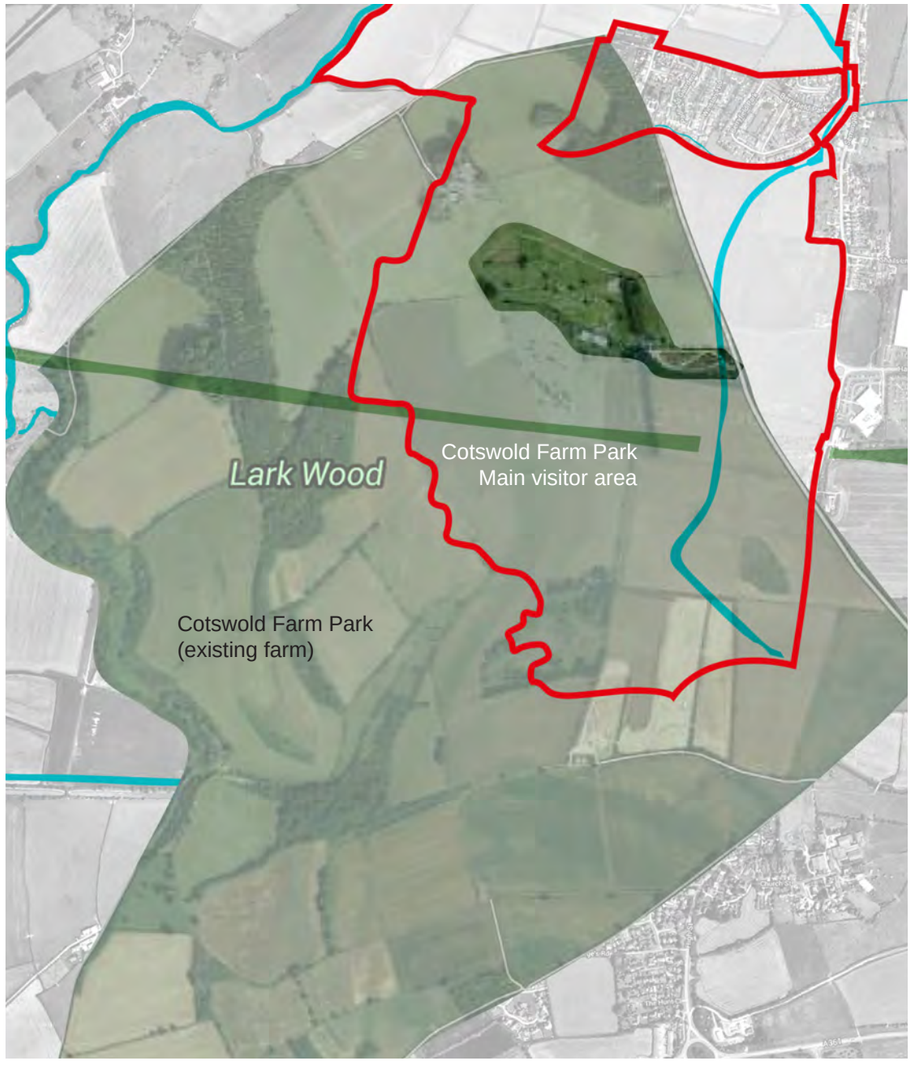
The design and construction of these small structures could potentially be used to launch a collaboration between community and education groups.







Scale and character comparisons - family attraction (conservation / rare breed / Wiltshire farming)



Cotswold Farm Park's main visitor area is similar in size to Centre Block of our site.

Source: http://www.cotswoldfarmpark.co.uk/blog/conservation-area-opened-ellie-harrison/

The development of a family-friendly visitor attraction proposes to present traditional farming methods and rare breeds that were used historically in the Wiltshire area.

One successful example of such a farm that can be studied is **Cotswold Farm Park** in Gloucestershire. The conservation area of the park explains about the importance of biodiversity and the hard work that farmers are undertaking to conserve and promote wildlife in our countryside. It shows the history of the Farm Park and surrounding area and offers a journey through the various ways that farming enhances the local environment and wildlife. However, there are some key considerations and differences between this farm and the Melksham development.

The Cotswold Farm Park is a working farm that has developed into a visitor attraction after the focus became rare breeds farm animals. This farm is substantially larger than the site in Melksham. It comprises 650 hectares total land, which includes 203 hectares grass, 396 hectares arable land,12 hectares visitor area and a 2-hectare camping area.

The land available for the new farm tourist attraction on our site is approximately 50-60 hectares – with potentially grazing rights to an additional 50 hectares – for rare breeds farm animals for the visitor attraction and education only.

The Wiltshire Wildlife Trust manages several reserves which use farming practices on site, including Clattinger Farm and Blakehill Farm so they have experience and success with managing and protecting sites returned to non-intensive farming methods that are more conducive to lowland conservation and biodiversity.

3 - Landscape comparisons

The resources at Melksham do not allow the Cotswold Farm Park model to be replicated in its entirety, but it would be possible use some of the same strategies to attract visitors and draw interest to the area, to understand the visitor experience market in which other tourist attractions successfully generate return visits, new interest and links to other local areas of interest.

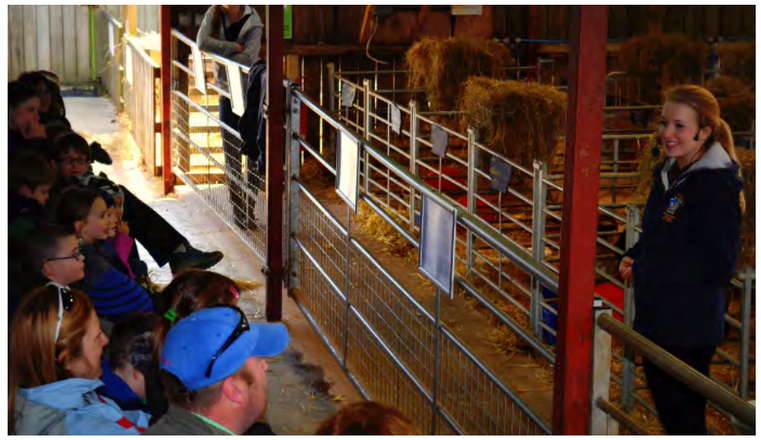
Visitor facilities include

- Adam's Kitchen and Farm Park Shop
- Touch Barn – rabbits, guinea pigs, goat kids, lambs and piglets
- Demo Barn – lambing season, followed by milking, shearing, etc.
- Farm Safari – Tour the farm on the Farm Safari Ride on at tractor
- Rare Breeds Trail
- Play areas
- Cotswold Lion Maze

Conservation

Cotsworld Park Farm participates in an agri-environment scheme called Higher Level Stewardship (HLS). It is a 10-year agreement with Natural England which provides us with the funding to carry out work and projects around the farm which will benefit wildlife. This can be anything from planting wildflower patches to increasing nesting sites around the farm.

The area designated on our site as a reserve and used to accommodate rare breed animals for visitor interest and education will need to be managed to a high standard to ensure animal well-being and environmental health.



Scale and character comparisons - lowland meadows

The scale of natural meadow loss has left the remaining wild meadows fragmented and wildlife isolated and even more vulnerable.

For example, green-winged orchid, an iconic flower of lowland hay meadows, has suffered a 50% decline and the snakeshead fritillary, once found on just eleven sites nationally is now found only on six sites.

Sites such as **Clattinger Farm** are special as both the green-winged orchid and snakeshead fritillary are found there – among many other rare wildflowers. Even common hay meadow plants, like yellow rattle, eyebright, greater knapweed and tormentil are in decline.

Clattinger Farm is considered the finest remaining example of a typical lowland hay meadow in the UK. The farm has never been treated with any agricultural chemicals and is one of the finest wildflower meadows in Europe.

Conversely, Melksham has been farmed recently and unknown quantities of soil additives used. Soil tests will help us determine the feasibility of restoring lowland meadows to these areas of the nature reserve.

Source: http://www.wiltshirewildlife.org/Reserves/clattingerfarm

Scale and character comparisons - traditional farming and lowland reserves

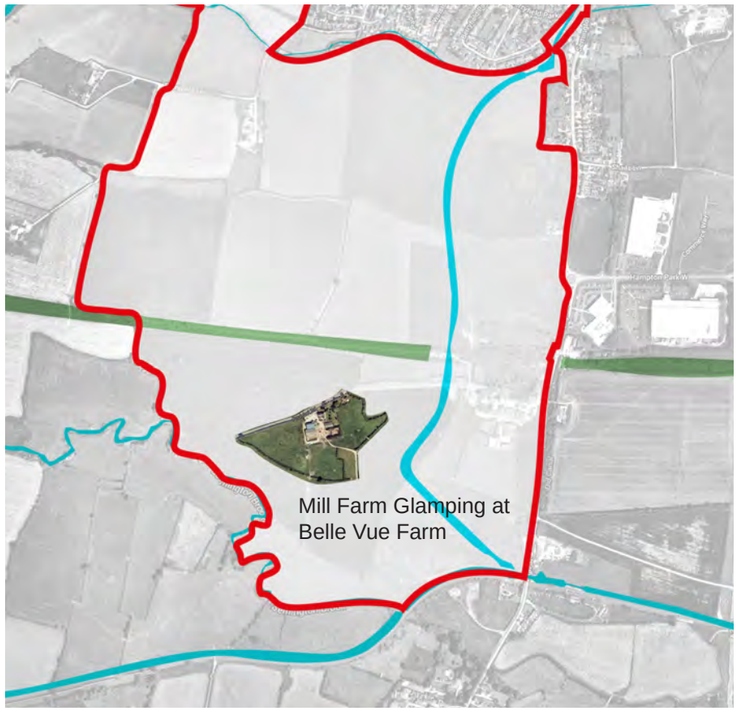
Blakehill Farm is another lowland reserve, which was an RAF airfield (base) situated in Wiltshire, England. It was opened in 1944 and was home for transport aircraft of No. 46 Group Transport Command. In 1948 the airfield was a satellite of RAF South Cerney and used by training aircraft before the airfield closed in 1952 and was returned to agricultural use. The site is now a Wiltshire Wildlife Trust nature reserve. At Blakehill Farm, WWT are undertaking one of the UK's largest grassland restoration projects.

This 240-ha site is WWT's largest reserve and is being carefully restored to wildlife-rich hay meadow and pasture, habitats which were once common in Wiltshire and the UK, but have steeply declined.

Through this project alone, WWT are meeting more than 45% of the government's 10-year target for restoring lowland neutral grassland (hay meadow) in England.

Source: http://www.wiltshirewildlife.org/Reserves/blakehillfarm

The quality of glamping settings and experiences across the UK varies widely. We have focused our study on farm-based models that use a working farm to provide an authentic experience of the natural and cultural landscape.



Scale comparisons - camping / glamping

Mill Farm Glamping
Belle Vue Farm, Poulshot, Wiltshire

Upon entering your luxury canvas lodge you may well be greeted by an inquisitive duck inspecting your veranda, or the sight of a cheeky chicken taking a nap on the rug. Guests quickly realise Mill Farm is exactly that - a fully operational, organic farm. With 100 heifers, 200 baby calves, wild geese, and Moto the donkey, this family-run operation is buzzing with life, yet still peacefully located in the heart of rural Wiltshire.

Mill Farm is designed for guests wanting to reacquaint with nature, without compromising on comfort. Each of our four canvas lodges comes well furnished and features a generous master bedroom, secondary bedroom (with single beds), and a stove with an oven, hob, and wood-burning fire. These spacious abodes also feature the convenience of having a piping hot shower, sink, and flushing toilet, located on the rear deck. Step outside and the dining area opens onto a covered veranda; all that local produce somehow tastes even better in the fresh country air.

Although no longer part of the Featherdown Farm franchise, Mill Farm was voted best UK Featherdown Farm in 2008.

Source: http://www.millfarmglamping.co.uk and coolcamping.co.uk

Scale comparisons - camping / glamping

Gambledown Farm (Featherdown Country Retreats)
Hampshire, Salisbury

Just 5 miles north of the New Forest National Park and 13 miles from the historic city of Salisbury, the Arnison-Newgass family runs a 270-acre mixed farm that's home to a herd of shorthorn beef cattle. On the farm you'll find the Feather Down Tents positioned at the top of the field from where you have open views over the farm as well as the Hampshire Downs to your east and the Wiltshire plains to the west.

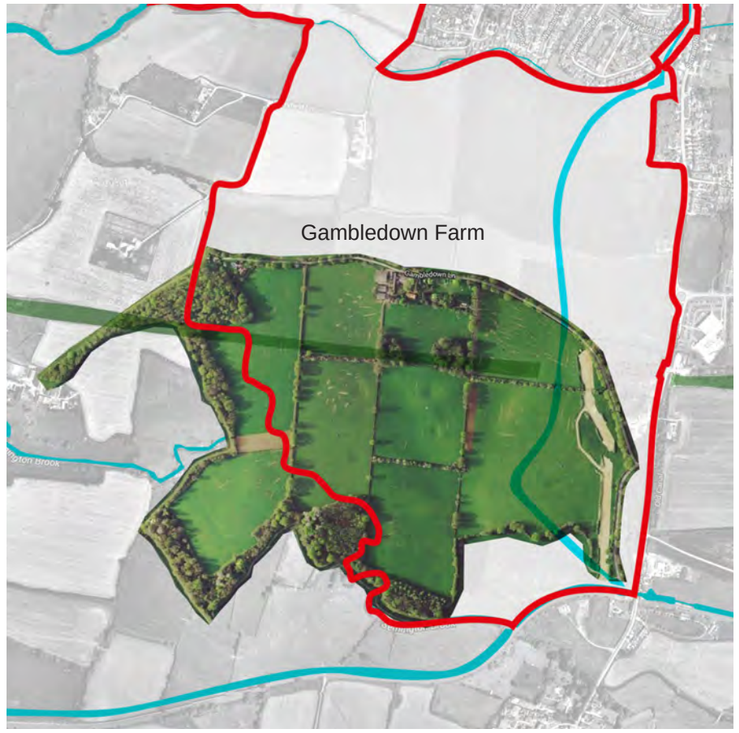
The farm dates back to 1875 and is located in a beautiful tranquil location at the end of the mile long private road which guarantees you peace, quiet, breathtaking views and starlit skies as well as being a safe haven for children who can explore the fields and woods surrounding the farm.

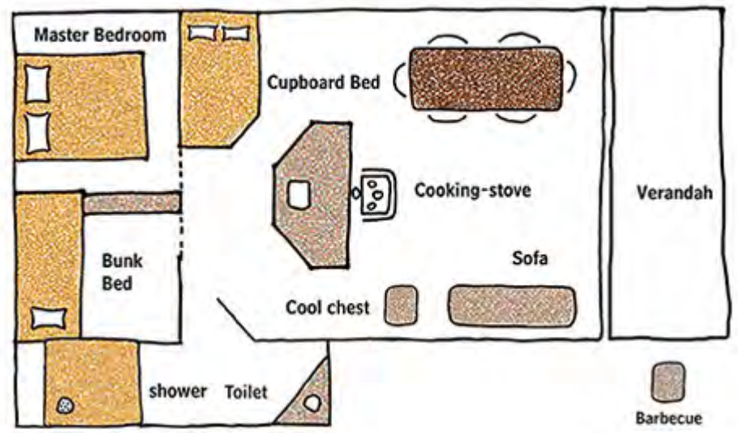
In the Canvas Frills Lodge you will find
- A twin bed of 2.0 by 1.80 metres
- A bunk bed of 2.00 by 0.90 metres per bed
- A cupboard bed of 2.00 by 1.30 metres, suitable for 1 adult or 2 children.
- The Feather Down Farm Tour given by the farmer
- Extended canopy
- Barbecue
- Two deck chairs
- En-suite bathroom
- Flushing toilet
- Shower
- Beds made up
- Kitchen Linen Package
- Parking
- Towels
- Cold running water
- Wood for heating and cooking
- Starter Pack Candles
- Starter Pack Lamp Oil

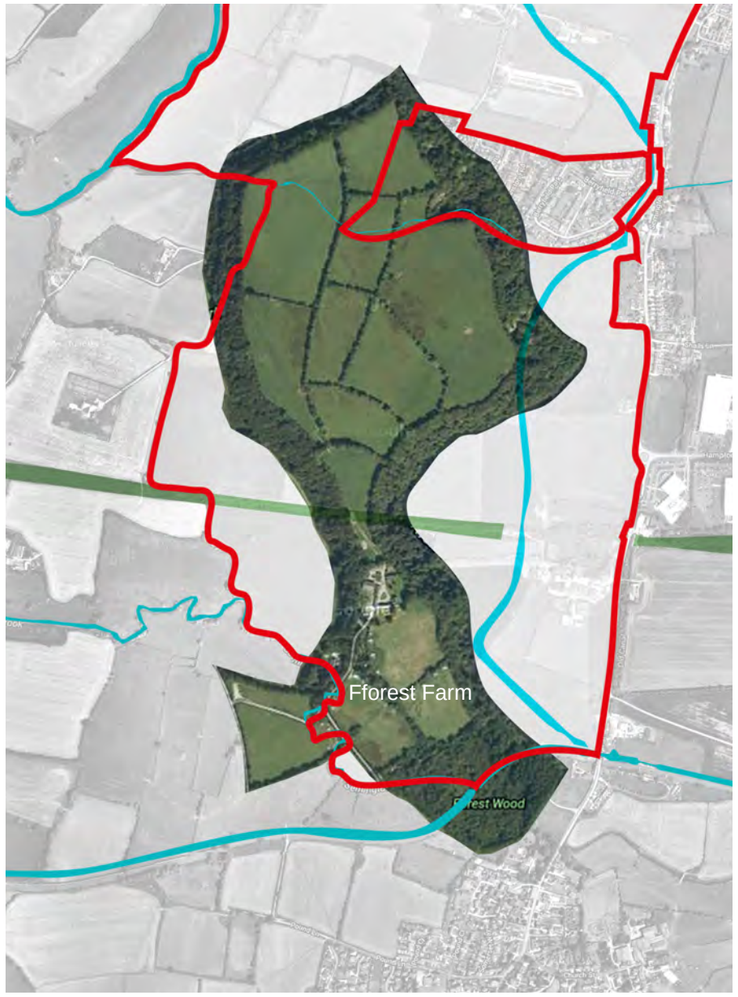
On all of our Feather Down farms you will find between 2 and 10 Feather Down tents. The layout of the tent may differ per country, but they will always sleep up to 5 adults plus one child of up to 12 years (max. 6 people).

We hope to treat waste water generated from the glamping site and the marina on site through a reed bed filtration system.

Source: http://www.featherdown.co.uk/country-retreats







Scale comparisons - camping / glamping

Fforest Farm, Wales

Fforest farm has been created as a place to enjoy the simplicity, pleasures and beauty of outdoor living in an outstanding natural environment. Fforest farm is 200 acres (500 acres with wildlife reserve and forest) by the river Teifi gorge, next to the Teifi marshes nature reserve, minutes from the town of Cardigan and from the beautiful undiscovered beaches and coves of the West Wales coast.

On your arrival you will be greeted at the Lodge, this is the Hub of fforest farm and where we serve our breakfasts and fforest suppers. Just up from the Lodge is the Bwthyn, our very own little pub! It is the oldest building on the farm and is open most evenings. On site you will also find the cedar barrel sauna tucked into the woods. This is the perfect après-sea treatment, after a session of coasteering or kayaking.

Fforest farm glamping options include

- Domes
- Katacabins
- Crog lofts
- Campshack
- Cabins
- Group tents
- Bell tents

Source: http://www.coldatnight.co.uk/fforest-farm/

Scale and character comparisons - marina and pub

The relationships between the spa hotel, the water-side pub and the marina need to be understood before they can be located more precisely within the South Block. Shared facilities between the pub and the marina could offer potential economies of scale, provided access, safety and privacy requirements are appropriately met.

Marina requirements

a. Fixed jetties, each with power and water supply and low wattage safety lights

b. Facilities building to double as social hub

1. Good thermal construction, ground source heat pump, pre-fabrication in Denmark
2. One large room with coffee machine functions as office and social centre
3. Toilets, showers and laundry (allow for approx. 300 people max on site, not all in the building at the same time)
4. External area adjacent to building for gathering
5. Small shop stocked with gas, coal, wood, fuel and electricity cards

iii. One points of entrance/exit: the canal and the marina will need to maintain different water depths. This will be described in detail by the engineers in due course.

iv. Preference for naturalistic form and feel, should look like a lake to fit with surrounding area. A road with small car parks should wrap around the perimeter of lake.

v. Circulation should assume mostly narrow boats, but allow for occasional boats of 10-14ft.

vi. Bunded fuel tank in a 8m x 10m compound to include recycling and rubbish, coal sheds and gas cages, holding tank (waste) and access for pumping lorry.

Pub requirements

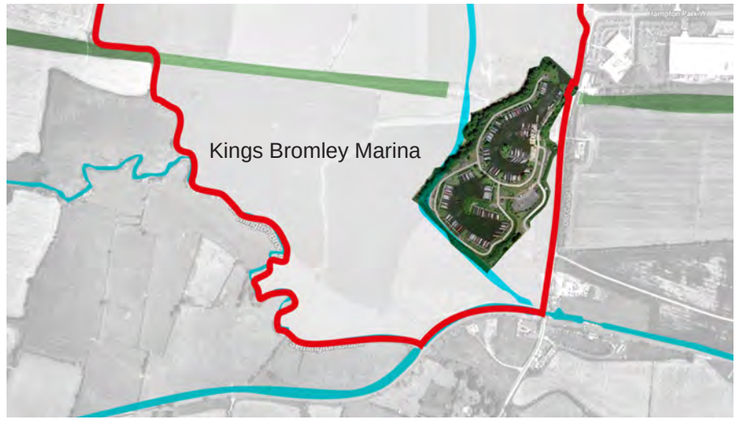
a. 1 acre footprint, inc. 60m2 internal space

b. large garden that opens directly onto water, ideally both the marina and the canal. The garden is very important, as during the summer their restaurant does as much catering outside as inside.

Kings Bromley

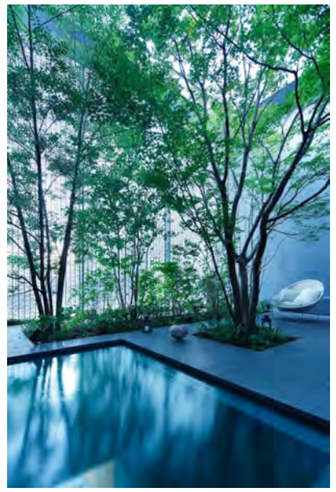
Caen Hill Marina, Devizes

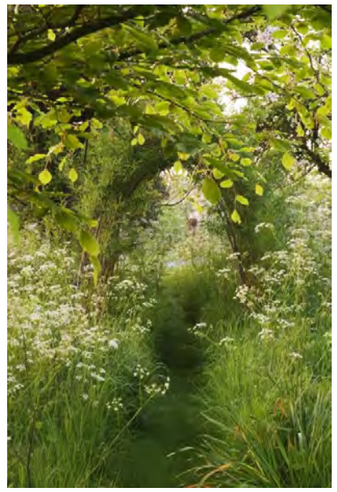
Saul Junction Marina at the junction of the Gloucester and Sharpness Canal and Stroudwater Canal.



The Anchor, Hall and Woodhouse

Scale and character comparisons - spa therapy garden





The hotel in the South block will offer a boutique setting with a spa and garden to which visitors can retreat. A water and sensory garden would relate to the marina and therapeutic offering, extending the haven into the local landscape.

Spa hotels in the region are normally set on large country estates. Although our setting will be different, it will be important to provide an outdoor space that feels connected to its context and surroundings while providing a retreat from the outside world.

Whilst the form and type of this accommodation needs to be studied in the next stage of work, it is agreed that an immersive experience will be key to distinguishing this feature from similar offerings in the region. Existing examples of such immersive experiences are farm stays and safari camps. We suggest working with a hotel consultant to explore how our accommodation can take advantage of its location along the canal and on the marina.

Sources: http://www.farmstay.co.uk, https://www.naturalretreats.com/uk/destinations/england/yorkshire-dales, http://www.aspinallfoundation.org/livingstone-lodge/livingstone-lodge

Left: Sample of native plants with ancient medicinal applications – *Trifolium pratense*, *Hypericum perforatum*, *Achillea millefolium*

4 - Landscape concept proposal

Project objectives
The masterplan aims to create an sustainable development in which land management, rare breed conservation and commercial operations mutually support one another. These functions will primarily be served in the north and centre blocks of the site.

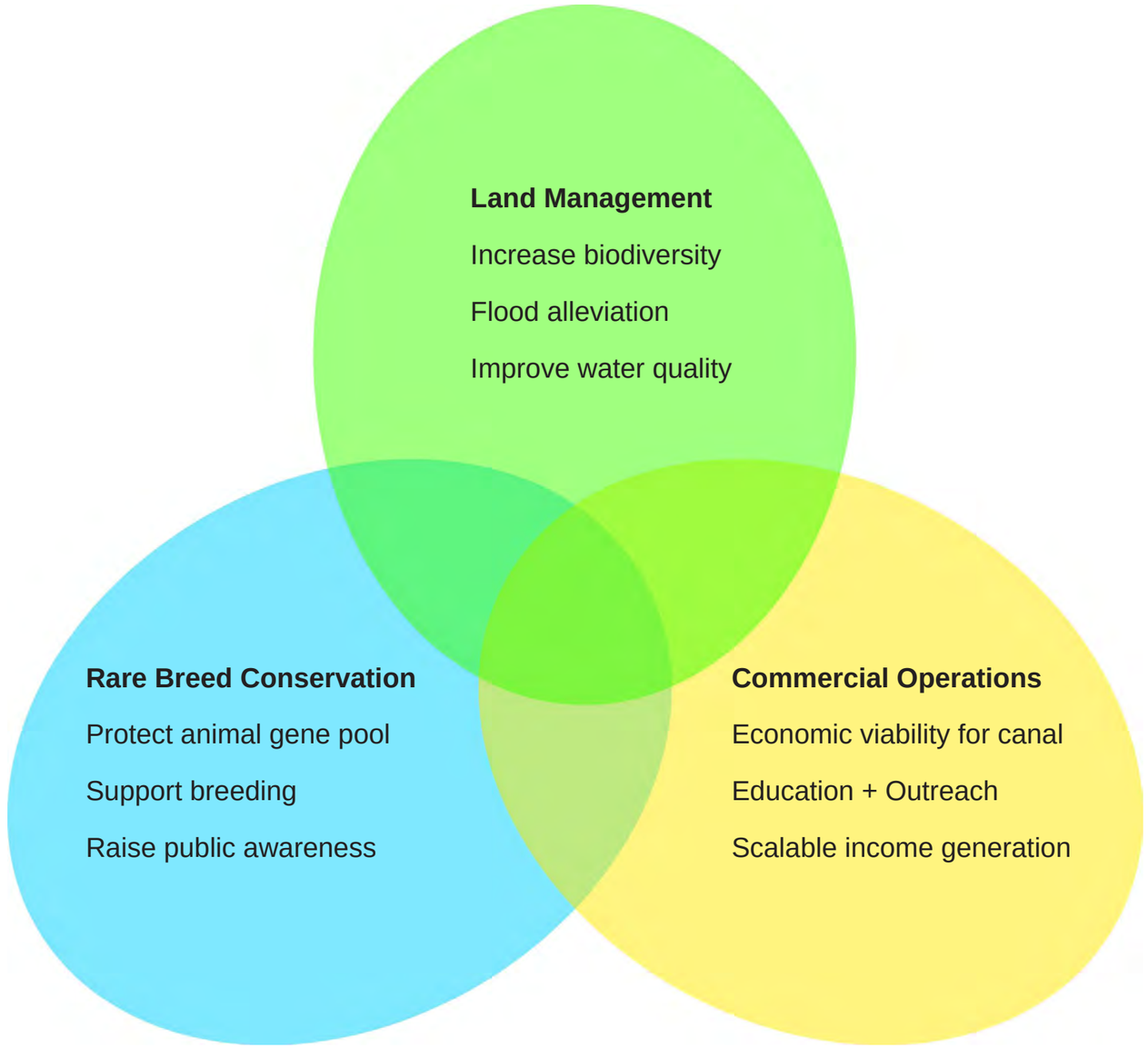
The south block will operate almost independently with a camping village to the west of the canal and an inland narrowboat marina to the east.

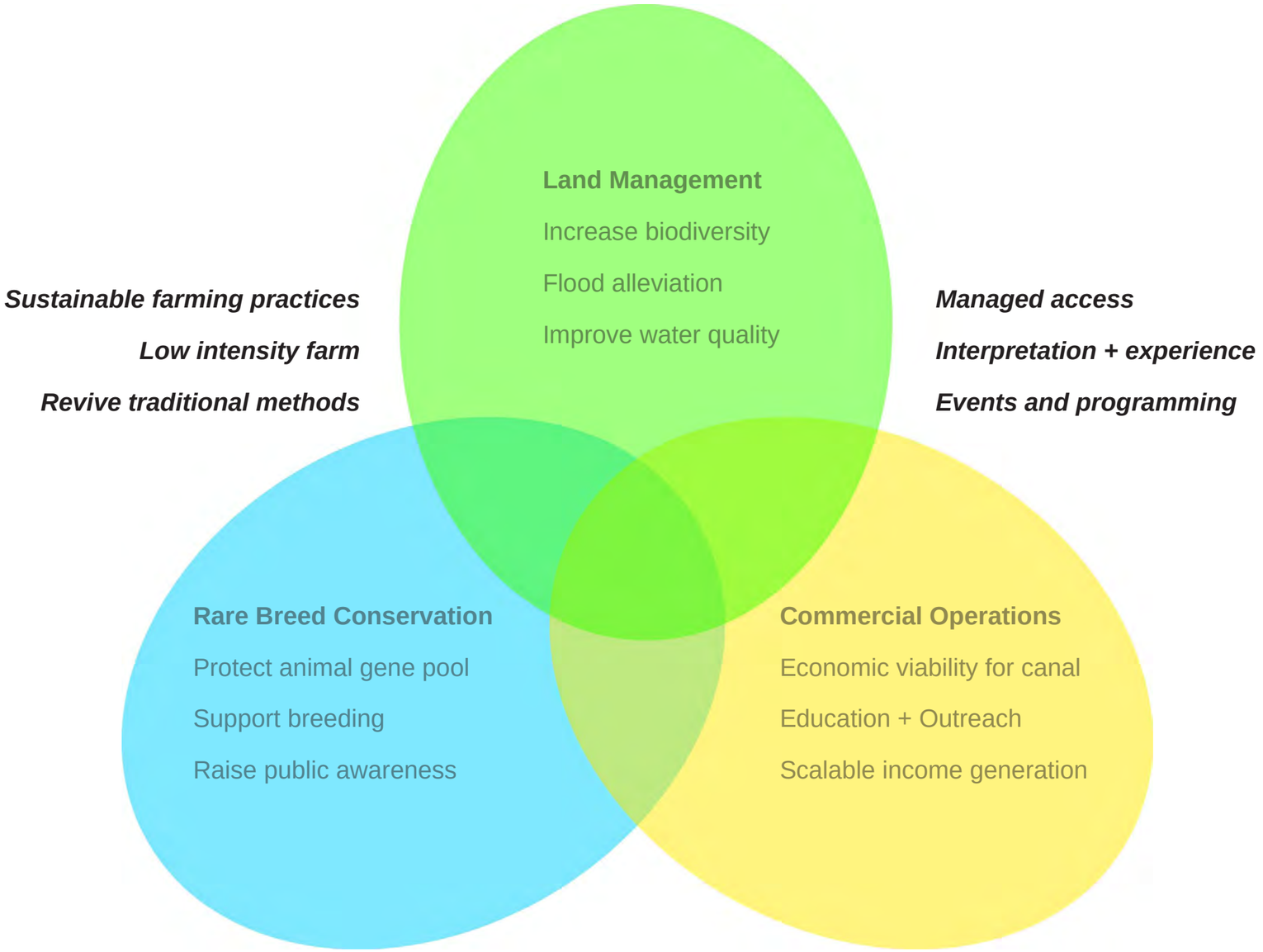
Land management
The main purpose of the nature reserve will be nature conservation, creating a home for wildlife and contributing to the biodiversity of the area. We will also aim to provide some flood alleviation to nearby city Bath and treat waste water generated by the campsite and the marina on site.

Rare Breed Conservation
The farm will provide a setting for the main commercial visitor attraction, focusing on the conservation of rare breed animals and employing uncommon farming techniques to manage the land sustainably.

Commercial operations
Commercial activities on site will need to ensure the economic viability of the farm visitor attraction, the nature reserve and the canal. The main visitor attraction will be a commercial entity designed to encourage repeat visitors.

Primary school
A special primary school located at the edge of the nature reserve in the north block will provide an enabling development offer for the new housing community. Sponsored by the WWT, it would use the Learning through Landscapes model (or similar system) to provide an environmentally focussed education.





Sustainable farming practices

Low intensity farm

Revive traditional methods

Managed access

Interpretation + experience

Events and programming

Provide service to breeders

Produce local food

Build rare breed network

The objectives are met by placing the methods at the intersection of each pair.

Land management + Rare Breed Conservation
Many traditional land management techniques fell out of favour as animal breeds became more specialised over time, leading to intensive farming practices that deplete the land and reduce biodiversity. A decision to farm rare breed animals enables the land to be farmed in a more sustainable way to create habitats for wildlife and engage with water quality and flood mitigation efforts downstream. Rather than simply a return to heritage breeds and historical land management techniques for the sake of nostalgia, the revival of uncommon breeds and practices can raise awareness of their relevance as we look to promote a more environmentally resilient way of living in future.

Rare Breed Conservation + Commercial operations
Due to land shortages, breeders are currently struggling to raise the numbers of animals required to assure a breed's survival. One potential way to support the conservation efforts is to use the farm land on site to raise bullocks and heifers to saleable size, whereupon the breeders select the best specimens for the genetic lineage and the remainder are used to produce meat. Within a relatively short time frame, the farm would create a saleable product (meat) that could be sold locally or regionally and also be served in a restaurant, pub of cafe on site. Breeders would contribute to the cost of managing the land in return for raising their calves. This model allows the choice of breed to change over time as a network of breeders is developed; changing breeds enables the visitor experience to change as well, attracting repeat visits to the farm. In time, additional farming industries could be added, e.g. small-scale dairy production, diversification to sheep and wool.

Land Management + Commercial operations
Managing different kinds of access to the various areas of site will be an essential element to ensuring commercial viability. The nature reserve will be largely public access, with certain facilities offered to paying users; the interpreted farm attraction will be largely commercial, with additional facilities such as restaurants and retail to complement the offer. Events and programming will also provide opportunities to raise income whilst using many of the facilities and resources already set in place for the basic farm operation.

Please note that this is a conceptual proposal for the land use; the economic viability of this proposal needs to be verified by the financial consultant.

Establishing the setting

The farm will provide the setting for the main commercial visitor attraction in the centre block. As such, it will need to fulfil a broad range of requirements, including those of visitors, animal welfare, environmental conservation and economics.

The farm that will be established in the initial stages may be quite different from the farm that it will become in the medium and long term. Projects of this nature need time to develop, evolve with the landscape and mature with time.

Whilst the small farm park model has been shown to be successful to varying degrees around the country, it will be important to distinguish the farm in this development from these existing attractions. This farm will need to provide a unique experience of Wiltshire Life that locals and visitors will want to see and be apart of.

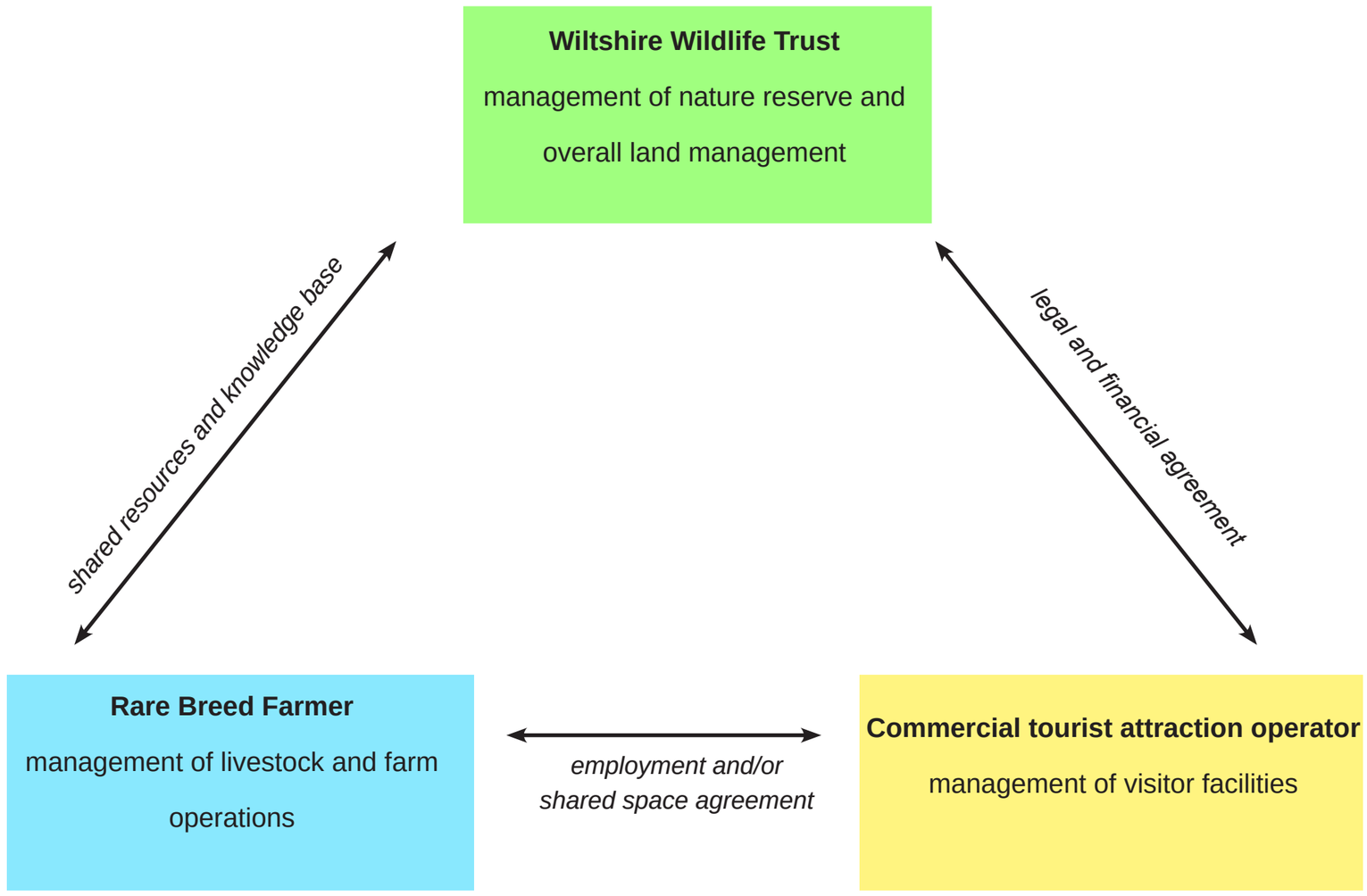
We propose a basic plan that can be implemented and functional in the early stages of the development and also been planned for future growth and diversification.

The farm will be located in the central block close to the wetland and pasture, which will be essential to the farming system, yet sufficiently far from the other business hubs and the camping/ glamping areas to prevent the farming activities from interfering with day-to-day activities. It will also need to be near enough to on-site accommodation to ensure easy access for an integrated and authentic visitor experience.

Because it provides the setting for visitor-oriented interpretation and themed attractions, the farm needs to work well first as a farm. The success of the farm will depend on its on-site manager, and this person will need to have the skills and experience to run the farm effectively. Using Tenancy or share farming could be a way to achieve this without investing heavily on wages before income is raised from the farm.

The need for a legal and financial agreement between the Wiltshire Wildlife Trust and the commercial operator of the tourist attraction has been discussed amongst the team.

In addition to a commercial operator, we suggest that the actual farm should be run by a rare breed farmer to ensure the basic setting for the visitor attraction will function optimally. This farmer could be employed by or contracted to the commercial operator.
We understand rare breed rearing alone will not sustain a feature visitor attraction. This working farm setting would also accommodate rural crafts exhibitions and hands-on trialling of traditional Wiltshire Life practices that enjoy renewed relevance in today's exigencies of low impact living.



The themes and devices for interpretation will be developed by Barker Langham in the next stage, but indicative activities include wood bodging, spinning, weaving, milling, feather stuffing, rural timber crafting, cream and butter making, country baking and bread making, and candle making. All samples would be purchased or included in the ticket price.

In season activities might include – with suitable public facilitation: sheep shearing, lambing, calving, piglet birthing, etc. Such activities will keep the public interest and hopefully put farm life into contemporary perspective and inspire an interest to follow rare breed development and the associated traditional and sustainable land management practices.


Gloucester cow and calf


Dairy Shorthorn


Wessex Saddleback


Wiltshire Horn

Establishing the Farm

In the beginning, the main farming activity would be based on a simple rearing practice of young stock of rare breed bullocks and heifers for beef and gene stock. The main reasons:

- Readily available stock from rare breed herds which need space and land to raise excess stock for market and breeding stock
- This can be initiated with minimal start-up costs
- The land is used straight away
- It gives an 'in' into the Rare Breed world
- It facilitates contact with rare breed herds and farms and allows different breeds to be displayed to the public over time
- Quick turnover minimises risk of the business
- It uses relatively low human resources compared with other types of farming
- There is a product in the form of meat for local area
- It allows good education and interpretation for visitors
- It allows time to be spent on other areas of the farm to be built and developed, like hedgerows, meadows, horticulture (orchards) wetland, buildings fencing, roads and display paddocks for visitors.

With a land area of 65ha, a herd of 50 to 60 Bullocks could be reared on pasture and the rest is created into meadow and fodder for winter.

Once there is an understanding of what the land on the site can support and how it behaves over a season, further plans can then be put in place. Such as registered rare breed herd, using a breed that can supply both milk and meat for use in the various businesses and visitor experiences.

Breeds

There are several breeds that would suit the needs of the site. Organisations such as the Rare Breeds Survival Trust offer a great deal of support to new ventures in rare breed support or herds. The rearing of rare breeds provides a good visitor attraction and also supports the wider needs of the site. The conservation mission is served with the selection of animals (supporting the conservation of the UK's farm breeds under threat from extinction) and also through the land use (sustainable land management practices). The farm will make valuable links with local and national breed and farming societies, supply the local area with a high quality organic produce and support satellite local businesses, especially those on-site using the farm's produce.

The Gloucester cattle is a good example of a multi-use animal

- It is relatively local
- It is a magnificent looking animal
- It produces milk and beef
- There is only one other original herd left; there is an urgent need to expand the herd to protect the breed
- They are docile and easy to work
- The cheese from Gloucester has an EU Protected designation of origin
- It would fit with the start up model listed above
- It would get support from the RBST through the process
- It could lead to a certificated Pedigree registered herd
- Brings attention to the Melksham Canal development
- Encourages local business and unique local products

Other breeds that could also fit with this model are Dairy Short Horn or British White. To add variety to the farm, other animals should be used in conjunction with the cattle. We would suggest Wiltshire Horn sheep and Saddleback pigs, both of which are on the Rare breed list, and other smaller animals.

The Farm

It will be necessary to build a farm with accommodation for the staff (farmer) and buildings for animals, fodder storage and machinery.

If the basic plan described on the previous pages is used, the initial start up financial input could be relatively low and be increased when needed. Basic open buildings would over-winter the stock, allowing pastures to recover, and protect the welfare of the stock. Storage barns would be needed for hay, silage and machinery for managing the land. These would be connected by good access to roads and routes to enable animals to move between visitor-viewing areas and more protected zones.

The Land

Would be divided into pasture and meadow. Measuring the size of the herd and using standard calculation tables allows us to work out the size of the herd and how much grass land they need in the next stage.

Pasture is the land predominantly used for the grazing animals and therefore closer to the farm allowing easy access to the livestock. Meadow is the land where crops are grown to be harvested as hay for the winter feed and is more suited to wetter fields that can be harvested when they have dried out in summer and can be further from the farm, as access is less frequent.

Although this might sound deceptively simple, to create a healthy herd and a healthy conservation grassland, the pastures must not be under- or over-grazed. Correctly grazed fields will increase the biodiversity of the site. Apart from the obvious under- or over-grazing, different animals eat the grass differently. Cattle require a longer sward as they eat by wrapping their tongues around the grass and ripping it off. Sheep prefer a shorter sward as they nibble off the grass using their top teeth and bony bottom jaw.

Some general principles

- Low intensity grazing with a few animals over a period of months usually works better than short-term grazing with large numbers.
- Heavy grazing will encourage species that tolerate such conditions at the expense of others.
- Heavy grazing can lead to poaching of the ground resulting in weeds and impeded drainage.
- Insufficient grazing allows coarse grasses to flourish and reduces diversity (particularly of flowers).
- Grazing during late summer can have less impact on flowering plants and invertebrates.
- Combined spring and autumn grazing is more effective at controlling scrub than either option alone.
- Grazing in winter can cause serious poaching on wet sites and has minimal impact on scrub re-growth.

Although taking all this into consideration and getting it right will help with the animals and land on site, the time required to restore the lowland meadows to a diverse herbage depends largely on how the land has been managed over the last half-century. Much of the land on farms has been managed intensively for crops of silage or hay, preventing the natural reseeding of plants; the uses of inorganic fertilisers and slurry to increase growth rates and subsequent re-seeding with higher yield species of grass has gradually destroyed the biodiversity and significantly damaged the soil layers and the build-up of nutrients and also destroyed soil structure and microbial activity. This combination creates a toxic land that is not easy to restore and can take many years at high cost if the soil is particularly high in nutrients.

Dividing the fields into small paddocks would allow a range of grazing and conservation management. The meadows would allow additional grazing in post-harvest and springtime. This prevents the grass species crowding out other herbs and allows germination of seed. Animals are taken off in late spring to allow growth for hay in late summer.

To achieve traditional lowland meadow instantly on the site might not be an ecologically realistic goal, but a phased restoration process could bring long-term environmental and community benefits to the area. This can be confirmed once soil samples are taken to establish the existing nutrient levels on site.

Habitat creation and economic uses – Wetlands

Wetlands are a natural but rare part of the British countryside which have been in use for millennia to the great benefit of wildlife and the countryside as a whole. Many wildlife refuges have become rare and forces islandisation of habitat and species creating even relatively small wetland habitats allows corridors for wildlife that otherwise would be confined to definitive areas, successful long term bio-diversity relies on wildlife to move between different areas of habitat, adding the wetland to Melksham will be an important link to those in the North West of the county based on the Thames using the Avon and tributaries to enable these corridors.

On the proposed site a large area (approx. 65 hectares) of flood plain adjoining the River Avon is regularly flooded in winter and spring and has a high water table. Much of the flooding removes large quantities of the soil into the river system along with fertilisers and waste, causing problems further downstream.

In conjunction with WWT, a proposal to convert this land to a permanent wetland has been agreed. This will give the area a new wetland habitat reserve for plants, wildlife, locals and visitors. The creation of a wetland here will also alleviate flooding further downstream towards Bath by allowing floodwater to slow its progress and fill up the wetland area without washing soils and excess nutrients into the Avon. In the past this would have happened naturally, enabling suspended eroded material to be deposited onto the flood plains and allowing the river system to fill up and drain more slowly with less damage caused by erosion.

To establish such a wetland on the site will require less costly engineering work than trying to change the land into a different use that would probably not provide as much flood alleviation during heavy prolonged rain.

Creating the wetland would require lowering the level of the land by removing soil to create large pools and scrapes to have permanent, year-round pools that can have the water rise and fall naturally during the seasons with no detriment to the wetland. In fact, this fluctuation will be essential to its welfare and for the wildlife and specific plant life to establish.

Berryfield, Bowerhill and Semington villages are currently protected from flooding by a natural river levee bank that contains and delineates the proposed wetland to the west and rising land towards the Semington Brook in the south. All of the excavated soil material from the creation of the scrapes and pools can be kept on site for landscape features for improved access for visitors exploring the site.

The natural make-up of the soil layers with a gravel and blue clay in the sub-soil layers and high water table will allow making a permanent wetland relatively easy and establish naturally with some addition of channels, sluices, hedgerows , establishment plantings, causeways for access to maintenance, manage, and visitors to hides. A soil survey in the next stage will enable us to confirm the feasibility of this intent.

Established and well-loved reserves such as Cley Marshes and Leighton Moss have benefited from decades of discernment and development. The managers of these reserves understand their visitor range, which they have worked to attract over time. Likewise, in collaboration with the nature reserve team on our site, we will need to develop a management strategy for growth and contingencies with a flexible implementation plan that can be adapted to respond to market conditions and visitor and ecological responses.

Species-rich native meadow

The grassland at the Melksham Canal Link site comprises mostly pasture and silage. All the silage fields have been ploughed and reseeded with more efficient grass species that suit silage crops. This has resulted in very poor bio-diversity and the grasslands appear quite sterile compared with traditional meadows, which have a greater range of species but do not produce the desired quantity or quality for modern farming practices.

To provide the site with an improved visitor and traditional focus, we suggest making the effort to transform these grasslands (back) into species-rich meadows. While this is not an impossible task, it needs to be planned and carried out carefully and it will take time.

Before any new planting occurs, it will be essential to remove the existing grass, which are developed cultivars that are not, or are rarely present, in traditional meadows and would out-compete the target species plants.

The grass can be removed by an application of a herbicide and then cultivating the land to create a level soil seedbed. The field will now need to be left to allow the natural seed bank (weeds) to grow but not develop to re-seed and will need to be cultivated (harrowing) to kill off the weeds. This will gradually remove most of the unwanted plants prior to planting the wildflower seed mix (stale seed bed method).

During spring or autumn the wildflower seed mix can be broadcast across the fallow field. During the first year it is advisable to cut this field several times as it develops, this prevents grasses out competing the wild flower species, and cutting it encourages grasses and herbs to spread vegetatively. After this year of cutting, the new meadow can then be treated as a traditional meadow, i.e. allowing the seed heads to develop and ripen before cutting for winter fodder.

There is likely to be a high nutrient level in the ground, which is not conducive to establishing wildflower meadows. Although this is not an ideal starting point, it is not a major hindrance. It simply requires awareness and patience as some of the desired plant species will not grow until the land has lost its high nutrient content. By using the above methods, the nutrient content will begin to reduce through natural means, with rainfall also taking away the more soluble content. A soil survey and laboratory analysis will be able to establish the feasibility of returning our grasslands to species-rich meadow.

Choosing and adjusting the right seed mix over time will also avoid expense of sowing expensive seed that will fail on fertile soils. From the range of desired species, the initial planting should select those that will tolerate more fertile soils. As the soil fertility decreases over time, the species range could be increased by a simple albeit labour-intensive method of planting plugged plants after harvest and establishing the range over a longer phased process.

Moving onto new ground and repeating the process over time can be done and spreading out the cut crop on the next meadow allows all the ripening seed to drop into the new seed bed without using expensive commercially produced mixes.

Once established, the species-rich wildflower meadow in the farm extension in the north block could be used for commercial seed harvesting, allowing another income-generating means for the site to contribute to environmental restoration efforts.

Habitat creation and economic uses – Coppice woodland

Coppicing is an ancient form of woodland management which involves repetitive felling on the same stump, near to ground level, and allowing the shoots to regrow from that main stump (also known as the coppice stool).

A coppiced woodland will have trees with multiple stems growing out of the stool, which arise from dormant buds on the stool. These buds might also grow from the cambium layer of the cut stem, or root buds close to the stumps. Most shoots come from above ground, but in hazel they can emerge just below the surface.

Coppicing is a effective method of producing large quantities of fast growing, sustainable timber without the need to replant. The ability of native broad leaves to coppice has greatly influenced British woodland. Although trees can re-grow from seed, there are many hindrances such as browsing and shading. As coppiced trees already have a fully developed root system, re-growth is rapid.

It is important to note that species react differently to being coppiced. For example, common alder coppices poorly, and beech coppices better in the wetter western half of the UK. Ash coppices vigorously, but if the coppicing is carried out in mid- or late-winter the stool (stump) may not throw coppice shoots for 15 months. The stump appears moribund all through the first year after coppicing and then springs into life the following year.

Rackham writes in his book *Woodlands* that trees which are periodically cut tend to live longer. Trees do retrench naturally, shedding unnecessary branches in order to extend their lives, and coppicing is a major retrenchment that resets the ageing process and extends the life of the tree. The removal of rotting wood allows the stool to be redressed and continue to grow.

The ‘wood’ that it cut is called underwood and is used for many purposes depending on the tree type.

Most frequently coppiced species are oak, hazel, ash, willow, field maple and sweet chestnut.

Julian Evans notes in his book *Badgers, Beeches and Blisters* there are a number of different types of coppice.

Pure coppice
This coppice type is made up of one species, which, in the South East of England, is often Sweet Chestnut.

Mixed coppice
This is a coppice with several different species, managed for a variety of products and may have increased biodiversity. These woods may contain hazel, birch, willow, ash, hawthorn and alder among others.

Coppice with standards
This is a coppice with large trees scattered throughout the wood. These need to be well spaced out so that they don’t shade the underwood.
Working woodlands as coppice provides local sustainable timber, local jobs, increased biodiversity as well as work in traditional crafts. Sadly, in recent times the use of plastics and mass production techniques have rendered many coppiced woodlands unviable, there has been no market for their products and hence the cycle has stopped; the wood becomes ‘derelict’ and overgrown, with a permanent high canopy.

Coppice products
There are many commercial uses for coppice products, and the commercial operator will need to spend time developing their market and being innovative in developing and selling the products. There may be a local coppice association who can provide help, or it may be possible to co-operate with other coppice workers for marketing purposes.

It may also be possible to sell coppice material to other craftsmen, such as thatchers, woodturners, hurdle makers and others by advertising through networks such as Ecolots and WoodLots.

Most people we know personally who manage areas of coppice do so because it is their passion and they like the conservation aspects, but it does not appear to be an easy commercial model at this time.

On our site, coppicing for fuel wood to heat various buildings within the development coudl be considered as part of the overall efforts to use and produce renewable energy. Charcoal is another product that can be sold in the area or on the site.

In conservation terms, a coppicing operation would provide a broad range of benefits for plants, wildlife, local residents and visitors. As a commercial venture, it relies heavily on finding someone who wants to take it on to manage and use it.

As regards an optimal or minimum size area to be allocated for the coppice wood land, this will largely depend on the ambitions of the operator, as even small areas have the potential to become good conservation habitats.

Hedgerows

Our site has a rich and extensive network of existing hedgerows, which were planted for the management of livestock and also for the benefit of local wildlife. However, many of these existing hedgerows are not in optimal condition today. Some hedging has matured into trees from a being planted as a stock barrier, a result of not having been laid when needed. Where the hedging has been allowed to grow out, it becomes ineffective as the intended barrier and stock fencing has been added in places.

The species mix observed on site is a majority of Crataegus monogyna (Hawthorn) and Prunus spinosa (Blackthorn); nearer the Canal roadside there are areas of Fraxinus excelsior (Ash). Several areas have been overtaken by seeded Sambuca nigra (Elderflower), which does not make a good hedge in large areas because of its natural open and straight growth habit.

The hedgerows could be improved by being re-laid and in places where gaps are too great, new whips planted to grow into the gaps. Other native species can be added to improve species variation. In other areas, for example where the wetland will be established, the lower value hedgerows can be removed.

To support the traditional use and appearance of the new rare breed conservation farm, new hedging should be added to reduce the size of the fields. This will allow more variation, rotation and habitat improvement on grazing and meadowland.

Certain areas will need a different treatment to mitigate the visual impact of the housing and tourist attraction developments. For instance, whilst residents of the new canal-side housing development might be pleased to have a view over a farm, visitors to the rare breed conservation farm might have a more immersive experience if their views from the farm do not land directly on to private homes and gardens.

This will require a much higher visual barrier, as well as breaks for noise and wind, implemented in a way that keeps the landscape character of the site in sympathy with its surroundings. One potential method is to plant a double row of selected hedging species with a wider spacing and allow these to grow and mature into trees. The tree tops would grow together but the lower stems would be bare and therefore not a complete barrier. To complete this as an effective barrier, a stock fence would be run along the base. Putting a hedge below this would not work, as it would be over-shaded from above and difficult to maintain. Planting a hedge in front of the mature tree line would take up too much valuable land. As an approximate guide for planning purposes, we will allow a 4-meter width for the mature tree line, 3m gap (allowing machinery for hedge cutting, followed by the hedge requiring 3m. This space could be also used as a footpath or stock road, or other access around the site.

4 - Landscape concept proposal

Concept masterplan

North block (temporary marina re-oriented for illustrative purposes only)
1. Public square
2. WBCT headquarters
3. WWT facility
4. School
5. Bike hub + café (+ repair academy?)
6. Boat repair and chandlery
7. Orchard and food crops (horticultural use) — here and any areas where the soil is not conducive to meadow
8. Parking

C. Commercial block
NI The New Inn

Wetland nature reserve
W1 reed bed
W2 shallow water / scrapes
W3 deeper open water

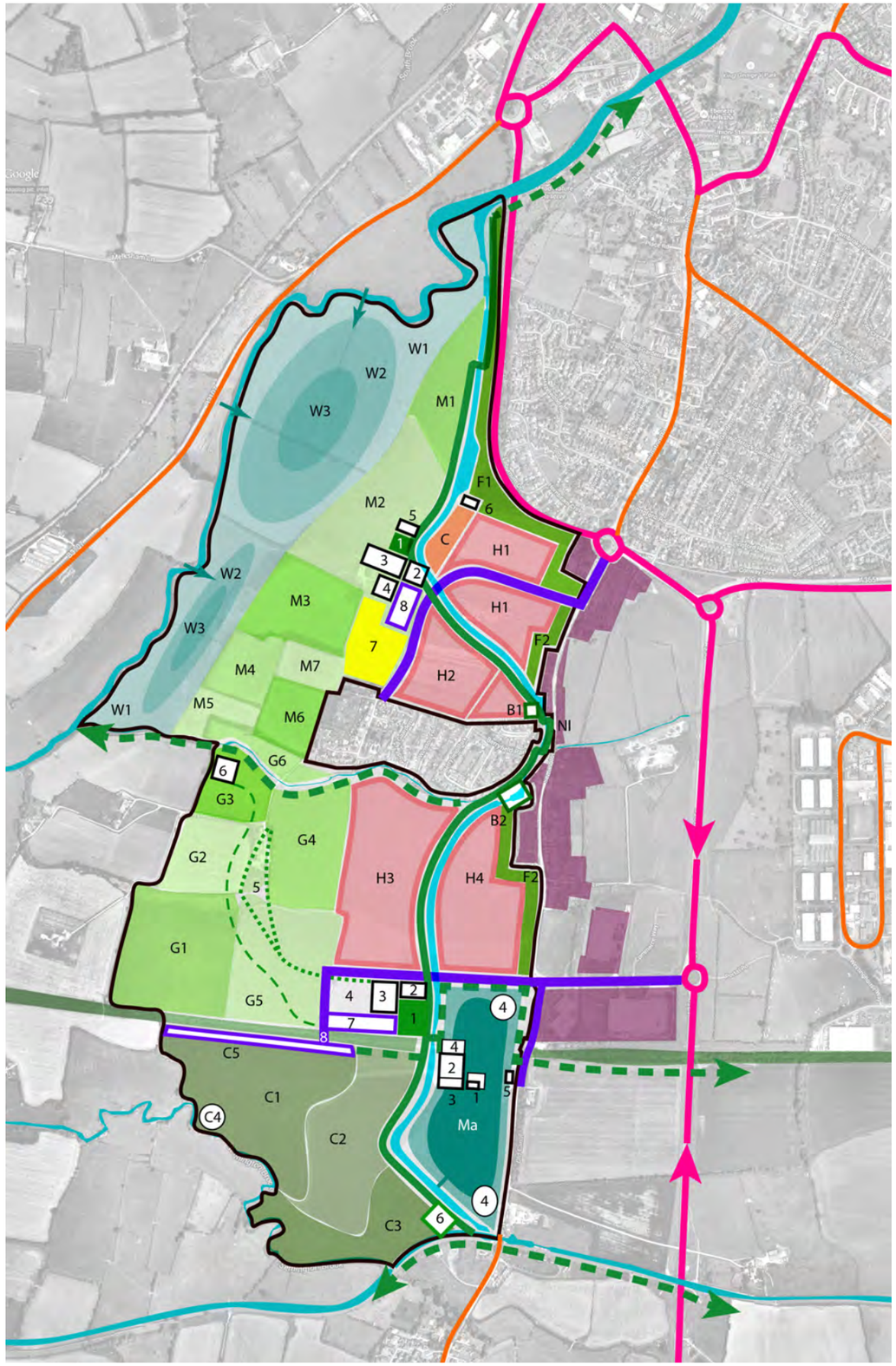
M1-7 Meadowland reserve
F1-3 Woodland

Centre block
1. Public square
2. Farm shop + retail + cafe
3. Farm attraction building + interpretation
4. Farm outdoor demonstration area
5. Animal visit walking loop
6. Farm back of house facility (storage, vet space, etc.)
7. Parking

Farmland
G1-6 Grazing

South block
1. Spa hotel / other hotel
2. Pub + restaurant
3. Marina building
4. Parking
5. Marina plant + fuel
6. Public square
Ma Marina

Camping holiday village
C1-3 Camping/Glamping
C4 Camping water treatment/reed bed
C5 Camping car park



4 - Landscape concept proposal

Annotated masterplan - North Block

North block
1. Public square (2500m2)
2. WBCT headquarters (1500m2)
3. WWT facility (5500m2)
4. School (2500m2)
5. Bike hub + café (+ repair academy?) (1500m2)
6. Boat repair and chandlery (1750m2)
7. Orchard and food crops (2.5Ha) — here and anywhere that the soil is not conducive to meadow
8. Parking (6000m2)
C. Commercial units

Wetlands (38Ha)
W1 reed bed
W2 shallow water / scrapes
W3 deeper open water

Lowland meadow (23.7Ha)
M1 - 7 meadow

Housing
H1 (8.4 Ha), H2 (6.9Ha)
B1 'Doorstep playground' (400m2)
NI The New Inn (to be re-oriented towards canal)

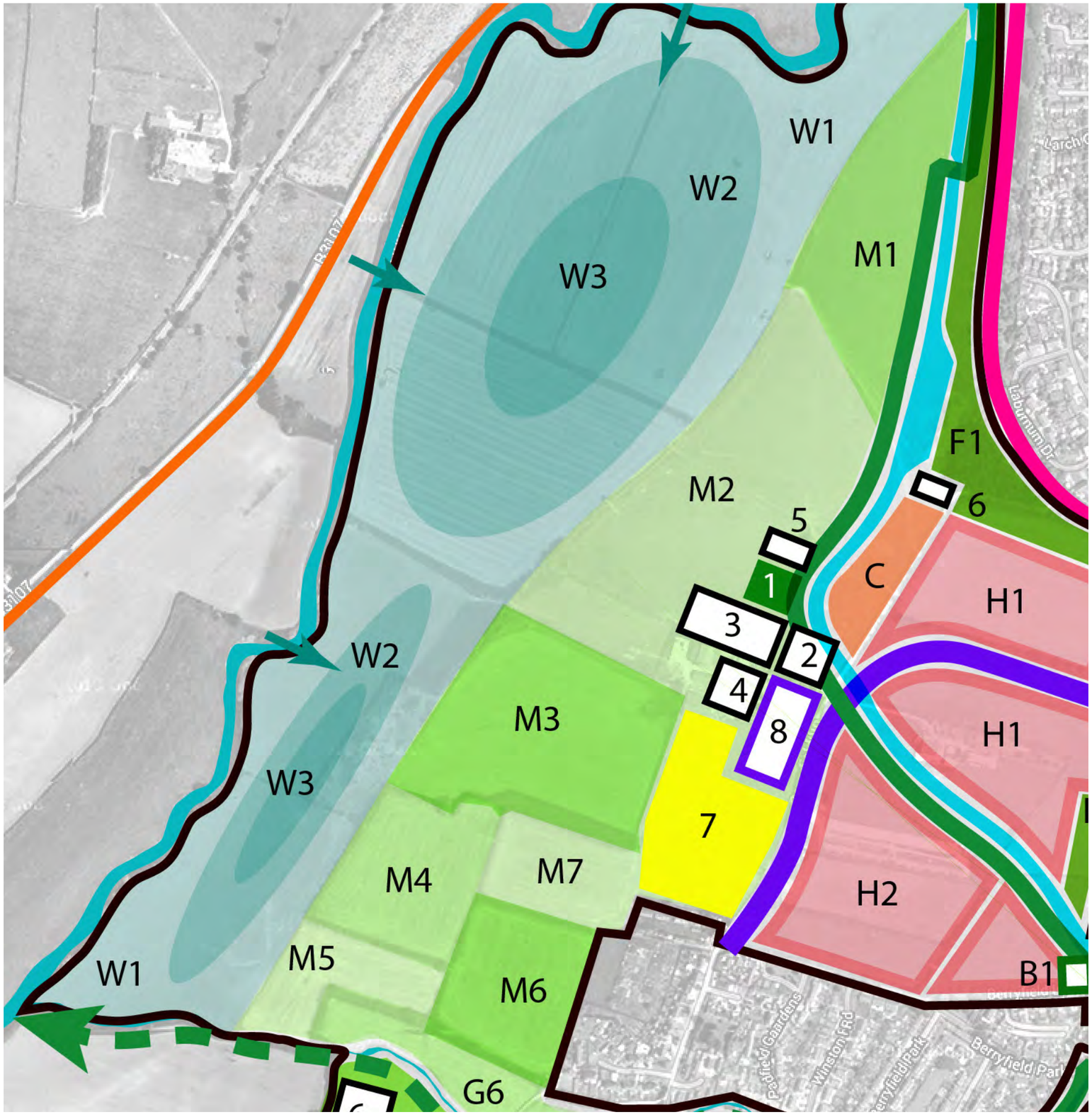
Woodland (6.3 Ha)
F1-2 Woodland (around existing tall trees)

The landscape masterplan largely validates the land use proposed in Barker Langham's feasibility report. The floodplain area directly east of the River Avon will be managed as a wetland reserve, whilst the area between the wetland and the canal will be a lowland meadow managed for grazing.

It is possible that the soil in certain parts of this area will be too fertile to allow a lowland meadow to be restored. Such areas would be given to horticultural use such as food crops and orchards. Soil tests in the next work stages will establish the constraints for restoration in each area.

The area previously allocated to a primary school will now be designated for housing and the school moved to the edge of the nature reserve. A linear woodland extends an existing grove of trees to provide a buffer to protect the new development and Berryfield from merging into Melksham.

All areas indicative and approximate. The diagram to the right is drawn at 1:5000 scale.



4 - Landscape concept proposal

Annotated masterplan - Nature reserve visitor centre (Hub 1)

The major components of the North Block are centred around a large public space located at the edge of the canal. This public square (1) is framed by the WBCT headquarters (2) and the WWT facility (3) to the South, with the primary school (4) adjacent to the WWT to enable certain facilities to be shared whilst ensuring safety and privacy for the school. Both the WWT and the school will enjoy direct access to the reserve, whilst the WBCT will enjoy frontage on to the public space and the canal.

The car park (8) is accessible directly from the WBCT, the WWT and the school just off the main access road to allow flexible use and shared parking spaces. An orchard and an area for growing edible crops (7) is provisionally allocated near the school to all easy access for education. Additional areas for growing crops would be identified from the results of soil analysis, i.e. any areas where the soil is too high in nutrients to restore back to lowland meadows.

Once the species-rich native meadowland is established, it may be possible to harvest the native seed for commercial resale. A small facility for seed cleaning, drying and storage would be required.

To the north of the public square are the bike hub and cafe (5), with the potential addition of a repair academy. Facing the short-term marina on the other side of the canal will be the boat repair and chandlery (6).

The diagram to the right is drawn at 1:2500 scale when printed full size.

Annotated masterplan - Centre Block

Centre block
1. Public square (7600m2)
2. Farm shop + retail + cafe (2600m2)
3. Farm attraction building + interpretation (5600m2)
4. Farm outdoor demonstration area (8000m2)
5. Animal visit walking loop (1km)
6. Farm back of house facility (storage, vet space, etc.) (3600m2)
7. Parking (8000m2)
8. Access to glamping site in South Block

G1-6 Grazing pasture (36.8Ha)

Housing
H3 (11.7 Ha), H4 (7Ha)
B2 ‘Local’ playground (1500m2)
F3 Woodland buffer (2.2Ha) - refer to plan on P51

The centre block consists of housing developments, built areas associated with the rare breed farm visitor attraction and pastures for the livestock.

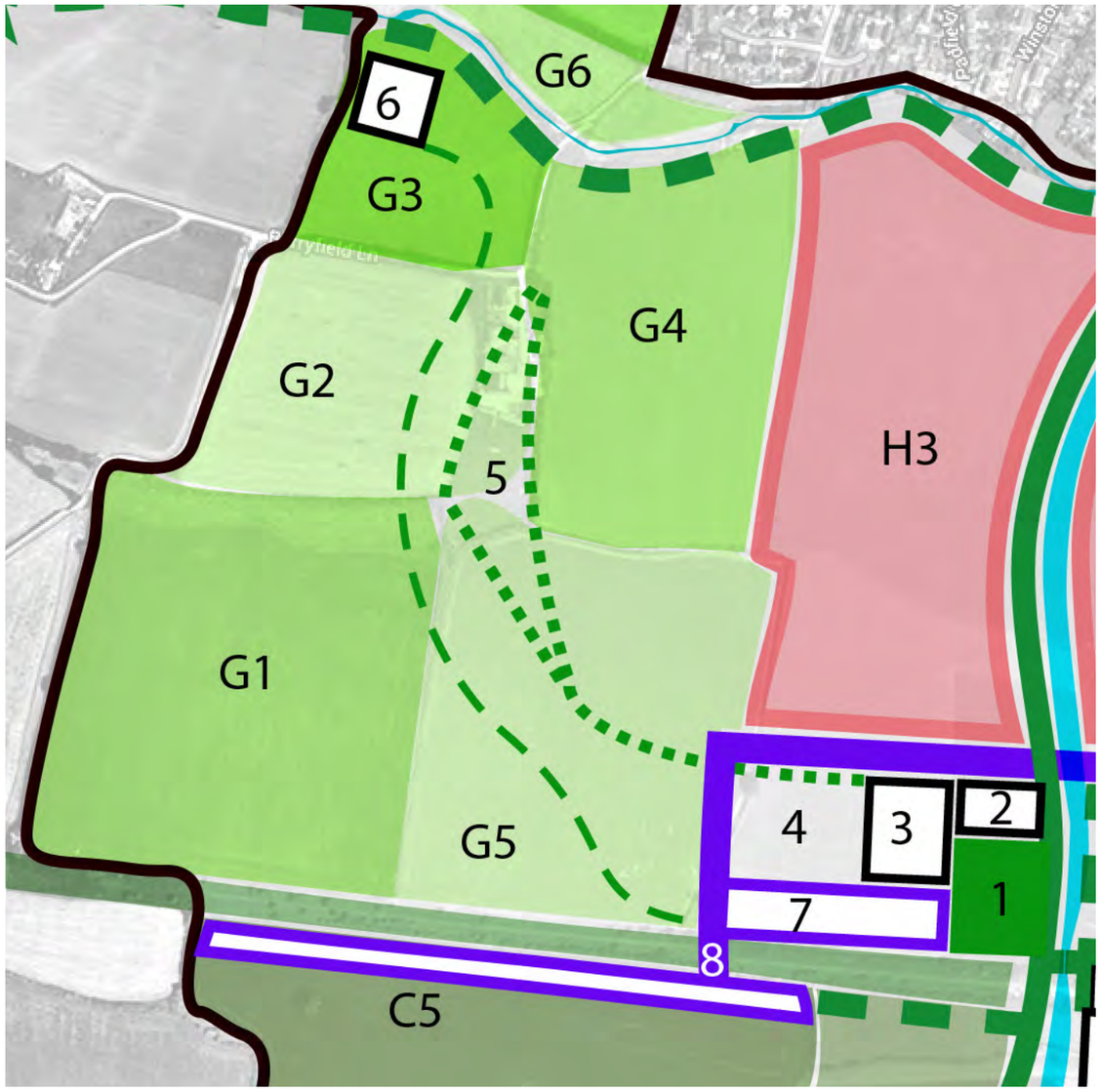
As in the North Block, a large public space provides the anchor for the activity hub in this area.

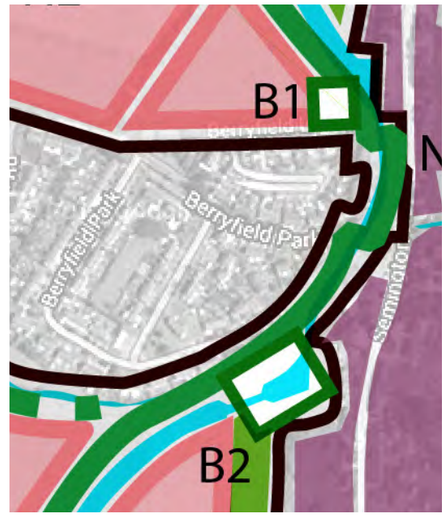
In order to avoid fragmenting a residential community with a bisecting access road, the housing area to the east of the canal has been shortened and a similarly sized development located on the west side of the canal. This increases the number of canal-side housing units, which would command premium. This arrangement also helps to prevent the new development from merging Berryfield into Semington.

Two age-specific play areas are provided as public amenities (B1 and B2) for Berryfield and the new development. The woodland buffer (F3) from the North block extends along H4 until it reaches the marina. This could be a mixed deciduous hardwood forest or a coppice woodland that offers shorter cycles for income generation and greater biodiversity support.

The facilities within the farm visitor attraction have been sized generously to allow room for future growth.

All areas indicative and approximate. The diagram to the right is drawn at 1:5000 scale.





4 - Landscape masterplan summary

Annotated masterplan - Family attraction visitor centre (Hub 2)

A large public space (1) directly accessible from the canal provides the anchor to the centre block and the main entrance into the farm visitor attraction. A themed playground would be part of this public square, enticing visitors to extend their explorations into the farm attraction. A large indoor soft play space within the farm attraction would be a feature for paying visitors only.

A cafe/restaurant and farm-related retail (2) frame the north side of the public square; the south side is defined by the embankment. The west threshold is defined by the visitor attraction facilty (3) within which the main interpretation and programming would be located. Behind this building, an area for outdoor interpretation (4) provides the transition between the indoor attraction and the farm envrionment.

A fully accessible pedestrian loop (5) to the paddocks and back enable visitors to see the livestock in their home environments. The scale of this feature is similar to that of Cotswold Farm Park.

As livestock will be also be grazing in the North Block, access will be managed between the two zones and a back-of-house farm facility (6 - see previous page) placed at the north-east corner for the storage of farming equipment, repair workshops and veterinary facilities.

Parking (7) is located along the length of the farm attraction, accessible from the public square so that it can be used by visitors to the farm and canal users alike. Access to the camping area will also be provided through this route (8).

All areas indicative and approximate. The diagram to the right is drawn at 1:2500 scale.

4 - Landscape concept proposal

Annotated masterplan - South Block

South block
1. Hotel + spa garden (2000m2)
2. Pub + restaurant (4000m2)
3. Marina building (1500m2)
4. Parking (5000m2 total)
5. Marina plant + fuel (100m2)
6. Public square (4000m2)

Ma Inland Marina (13.8 Ha total)

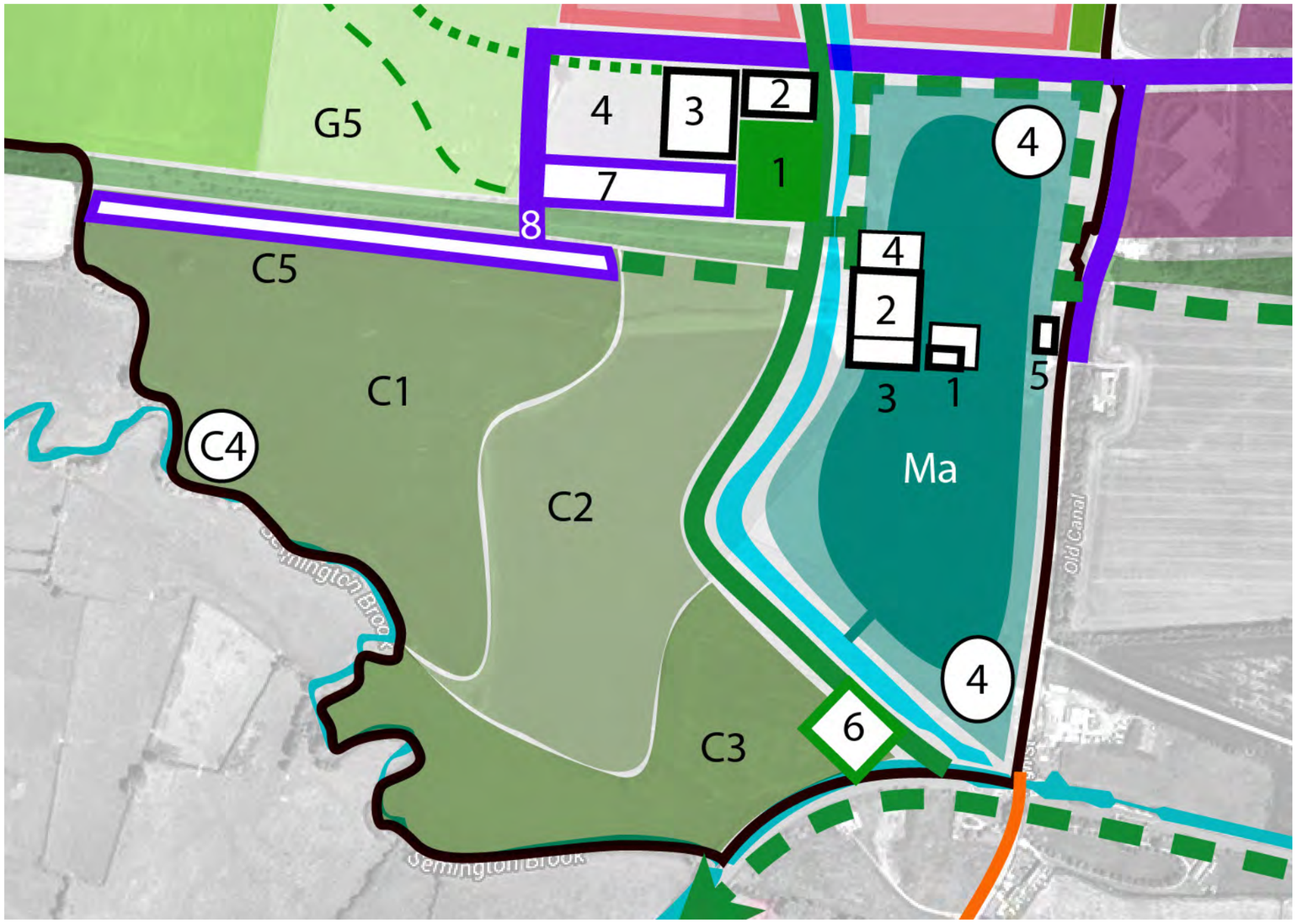
C1-3 Camping/Glamping (30.3 Ha)

The south block consists of the inland marina, pub, hotel and spa and a camping/glamping holiday village. The marina has been extended from its original area to accommodate more berths. A peninsula will be created around the Grade II listed Outmarsh Farmhouse and these facilities.

Featherdown Farms have been contacted by the client to help create the appropriate working farm setting for a glamping site. This area will be tendered in due course and it will be developed in coordination with the envisaged operator.

A public square (6) is located at the junction of the Kennet and Avon Canal and the Melksham Link. With proximity to the camping ground, this would provide opportunities for large gatherings and events, taking advantage of water access and visibility from two routes. This might also be an alternative location for the waterside pub.

All areas indicative and approximate. The diagram to the right is drawn at 1:5000 scale.



4 - Landscape concept proposal

Annotated masterplan - Marina, pub and hotel (Hub 3)

The listed farmhouse at Outmarsh Farm becomes the centrepiece of the peninsula in the new marina. A hotel with a spa (1) on the marina has been recommended in Barker Langham's feasibility report. The Outmarsh farmhouse is shown in the diagram to the right as being converted into hotel accommodation, but it might also be considered for pub conversion. We have allocated space for a therapy garden (in the larger square) to provide a complementary outdoor experience; the details of the hotel will also need to be studied in the next stage of work.

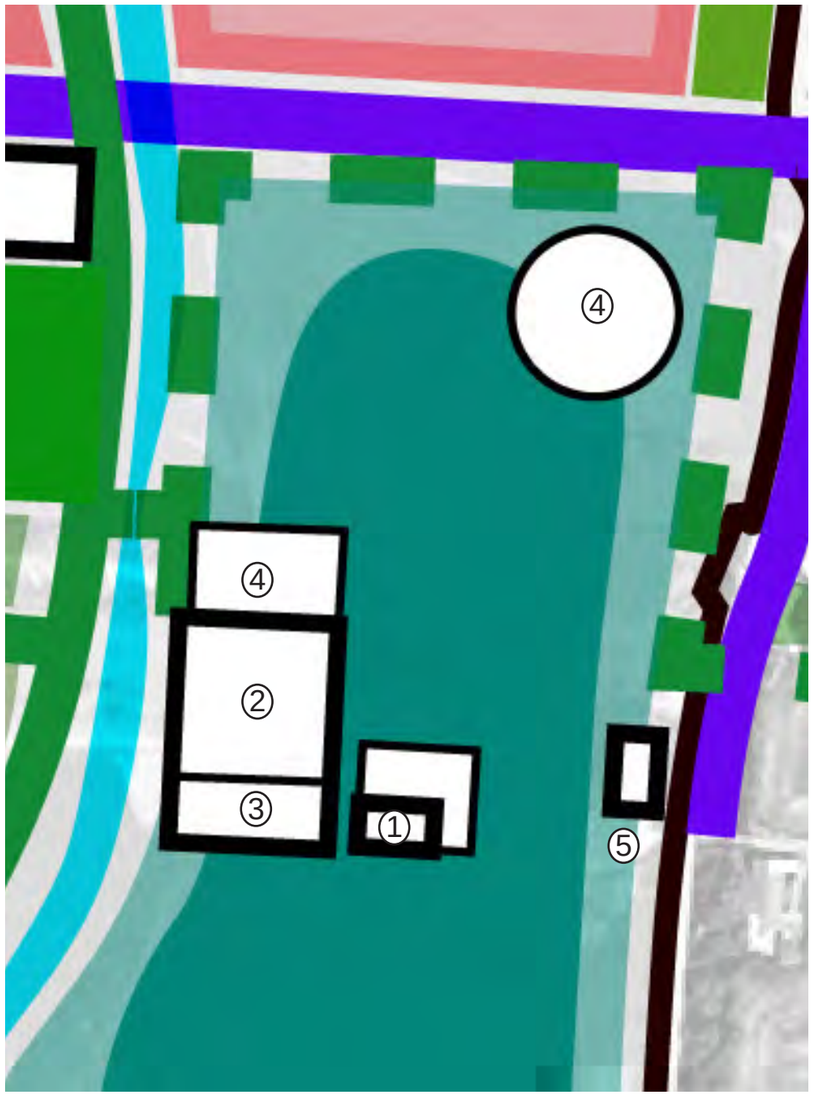
The pub (2) is located so as to be accessible from the canal and the marina, with a large garden that opens on to the public space

There is potential for the marina building (3) and the pub to share certain facilities. This will be further defined in the next stage of work.

Parking (4) is located along the length of the farm attraction, accessible from the public square so that it can be used by visitors to the farm and canal users alike.

Land & Water have identified a requirement for a bunded fuel tank in a min. 8m x 10m compound (5) to include recycling and rubbish, coal sheds and gas cages, holding tank (waste) and access for pumping lorry.

All areas indicative and approximate. The diagram to the right is drawn at 1:2500 scale.



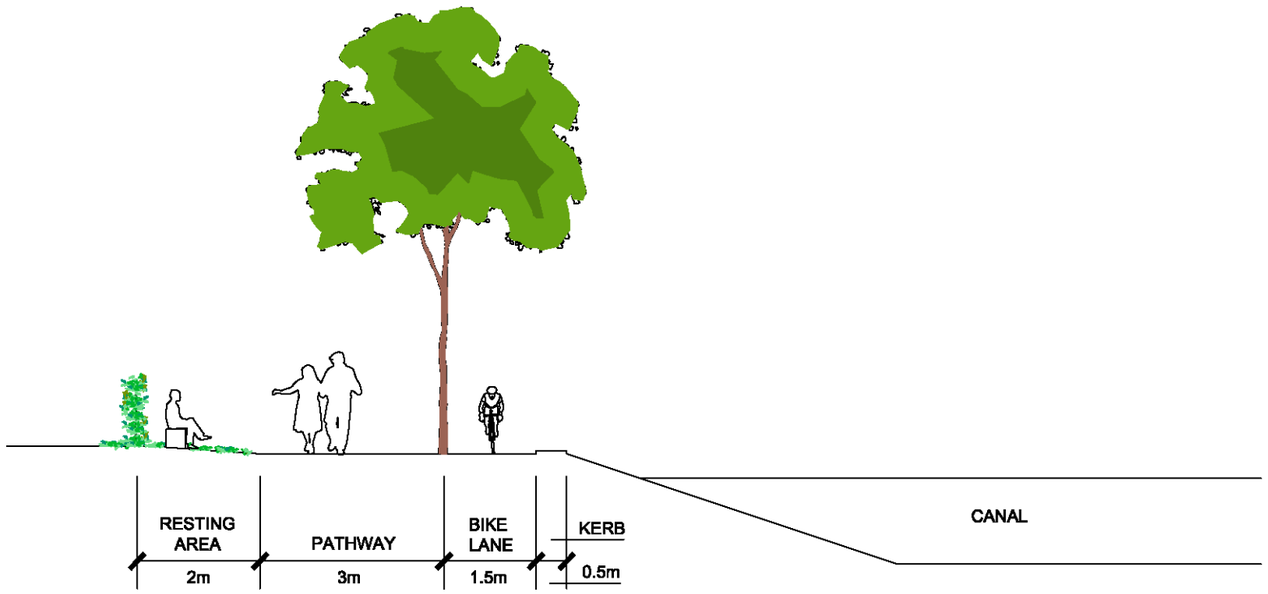
Public paths along canal

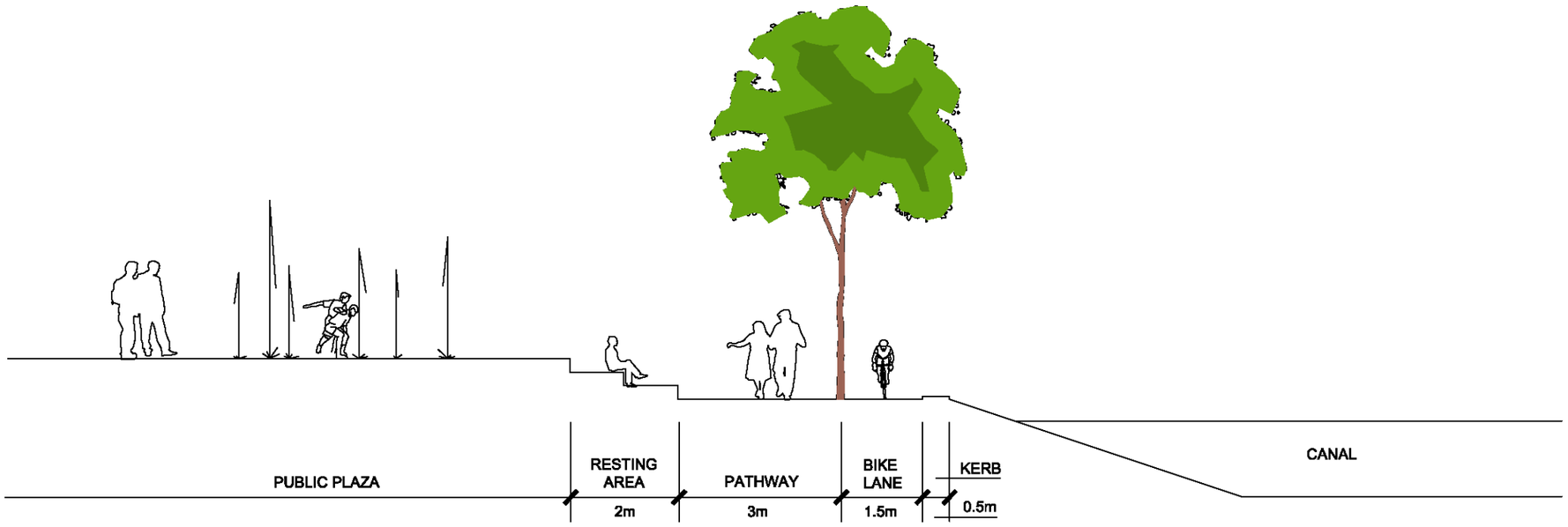
While tow paths have been included in the canal link design, design attention needs to be given to the public space provision along the canal.

The quality and character of the public paths and spaces will breathe life into the fabric between the commercial and non-commercial attractions on the development, helping to create the unique sense of place for the setting of the new community.

The public pedestrian and cycle paths will create key connections to pedestrian and public transport networks that habe the potential to generate more economic exchange between Melksham and the development whilst keeping increases in traffic congestion to a minimum.

We suggest that the paths and public spaces adjoining the canal be studied in further detail as part of the whole development in the next stage of work to ensure a coherent and integrated result.





Pre-planning application meetings

To progress the masterplan to a level of detail sufficient for pre-planning application meetings, we recommend the following actions to be undertaken in the next stage of work.

1. Completion of the landscape concept masterplan
- Check areas against financial model
- Work with BL to define visitor facilities in sufficient detail to define m2 areas for built elements in addition to landscape areas
- Marina, pub and hotel requirements – agree further breakdown of major areas and shared facilities
- Rare breed farm -- agree type of farm and carry out more detailed study of facilities required
- Initial housing concept studies -- typologies, look and feel, PV / green roof requirement
- Transport studies
- Larger scale studies for pedestrian, cycle and public transport networks; seek advice from Sustrans
- Seek advice from Transport Department
- Commission traffic studies (by traffic engineer)
- Creation of wetland areas (concept hydrology studies)
- Habitat creation along the canal and other corridors
- Camping/glamping village – agree a concept layout
- Water supply and waste water strategy
- Sustainable energy strategy (coordinate with Geothermal International)
- Access and ticketing strategy

2. Further information required to carry out above
- Soil tests, particularly in north block
- Topographic info from EA (if available)

3. Roles required in this stage
- Planning consultant
- Civil Engineer
- Traffic Engineer
- Hotel consultant (e.g. Hotel Solutions) for small study on accommodation
- QS for construction cost benchmarking and management?

4. Strategy for outline planning application
- pre-planning application meetings
- prepare for pre-planning consultations with statutory and local consultees (initial meetings with Council will identify required consultations)

Outline planning application

To progress the masterplan to a level of detail sufficient for an outline planning application, we suggest the team uses the outcomes from the pre-planning applications to establish the scope of work required for the planning submission. At this point, we would expect the following to be required:

1. Completion of the landscape masterplan (Stage C+?)
- Re-confirm areas against financial model
- Confirm accurate land boundaries and consolidate land purchase/transfer/ownership status of all affected parcels
- Consolidate m2 areas of private/commercial/public land use, provision of public facilities (e.g. GP surgeries, libraries, etc.) on or near site to cope with new development
- Confirm strategy for engaging operators and other site ownership/maintenance arrangements
- Farm visitor attraction – further breakdown of major areas
- Camping/glamping village – agree a concept layout
- Marina, pub and hotel requirements – agree further breakdown of major areas and shared facilities
- Continue to work with BL to confirm m2 areas for built elements as well as landscape areas and to define themes/opportunities for interpretation, events and programming
- Transport studies
- Detailed studies on pedestrian, cycle and public transport networks (connection points and routes)
- Continue liaising with Transport Department
- Coordinate with traffic studies (by traffic engineer)
- Initiate contact with Wessex Water regarding options for water supply and treatment on site
- Further development of wetland areas (hydrology)
- Habitat creation along the canal corridor
- Tree protection and replacement
- Lighting concept
- Concept design construction cost estimate
- EIA / LVIA (TBC via EIA screening/scoping)

2. Further information required to carry out above
- Surveys (e.g., Ecological, traffic impact, noise impact, etc.) as required by for EIA
- Site-wide topographic survey if EA info not sufficient

3. Roles required in this stage
- Planning consultant
- Community engagement facilitator for public and community stakeholder consultations?
- Project manager to manage programme and communications
- QS for benchmarking and construction cost management
- Engineer
- Ecological survey consultant

4. Outline planning application (Full scope TBC)
- pre-planning consultations with local and statutory consultees
- preparation of D&A statements, Environmental statement, Statement of Community Involvement, etc.