



Rockfield Farm site, Undy

**Master plan report and
design and access statement | July 2016**





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July 2016

WYG

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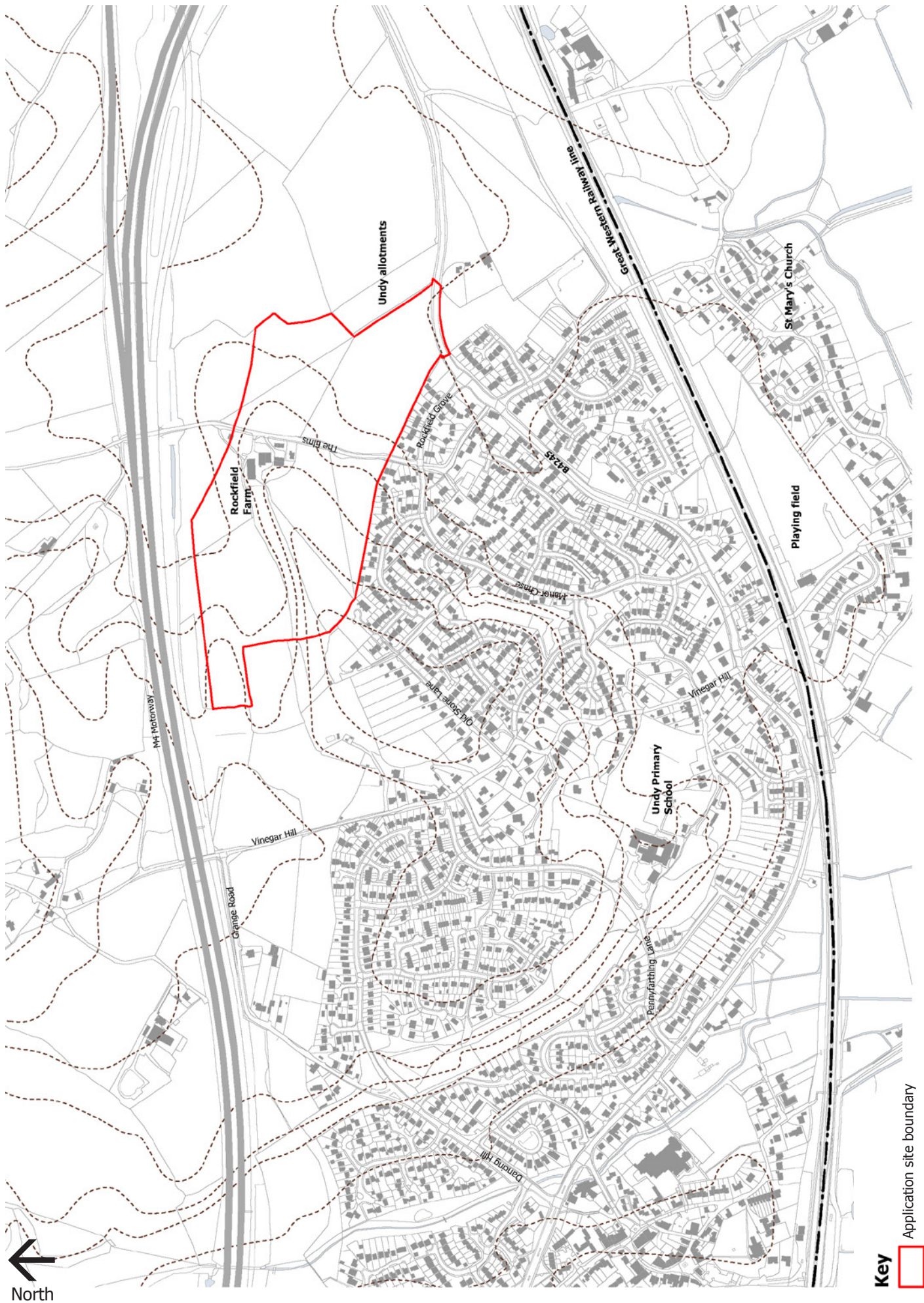


Figure 1 Application site plan (not to scale)

Introduction

Background

Monmouthshire County Council (MCC) commissioned WYG to prepare a master plan incorporating a set of supporting design principles for land at Rockfield Farm, Undy in the Severnside sub-region. This master plan is intended to guide development in a way that realises the council's vision for the site, to achieve a number of place making objectives and provide wide ranging benefits for the broader communities of Magor/Undy.

The adopted **Monmouthshire County Council Local Development Plan 2011-2021** (LDP) allocates the site for a mixed-use residential and employment development comprising of around 270 new dwellings and 2.0 hectares of serviced land for employment use (Class B1).

The site

The site is located on the northern side of Undy between the Rockfield Grove housing estate and the M4 motorway: see **Figure 1**. Its topography is gently undulating with the land falling either side of a ridge that runs through the site in a south-west to north-east direction. The site comprises five irregular shaped fields, with low-cut hedge boundaries, often with gaps. There are a number of hedgerows within the site and a woodland corridor, named Breezy Bank, situated to the west of the farmstead. This is recognised as a site of importance for nature conservation (SINC).

The site is currently a working sheep and cattle farm, centred around a farmhouse and nine associated outbuildings accessed from an adopted highway known as The Elms.

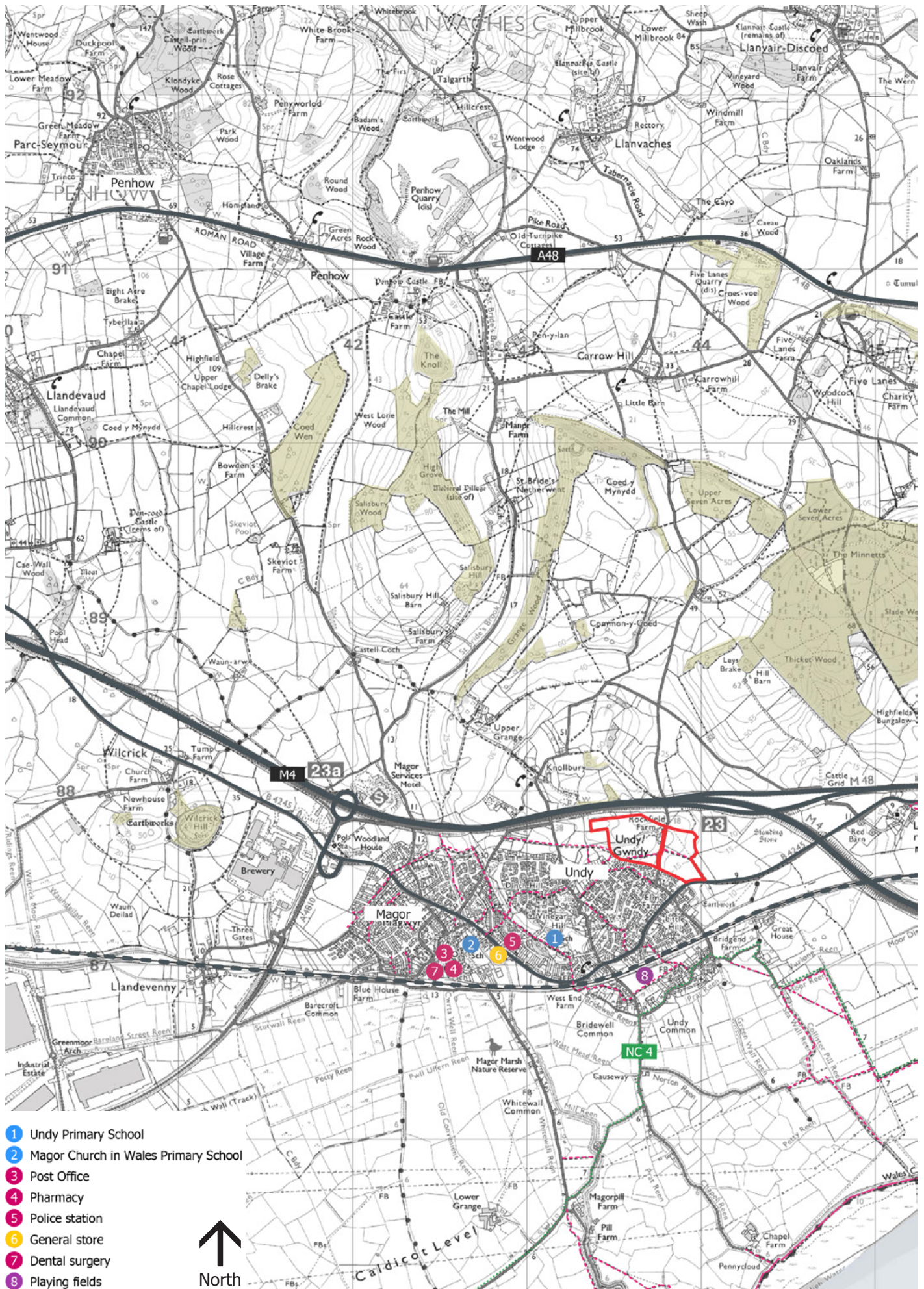


Figure 2 Wider context (not to scale)

Purpose of the report

The project has been carried out in four stages:

Stage 1: site review

Stage 2: design options

Stage 3: public consultation

Stage 4: master plan

Interim reports have been prepared cataloguing the outputs from each stage. This report brings together and summarises the relevant outputs in a single document and is intended:

- to provide a master plan to guide future development of the site;
- to provide the information required to accompany an application for outline planning permission; and
- to provide the design and access statement that is required to accompany an application for planning permission for development of the site.

Master plan

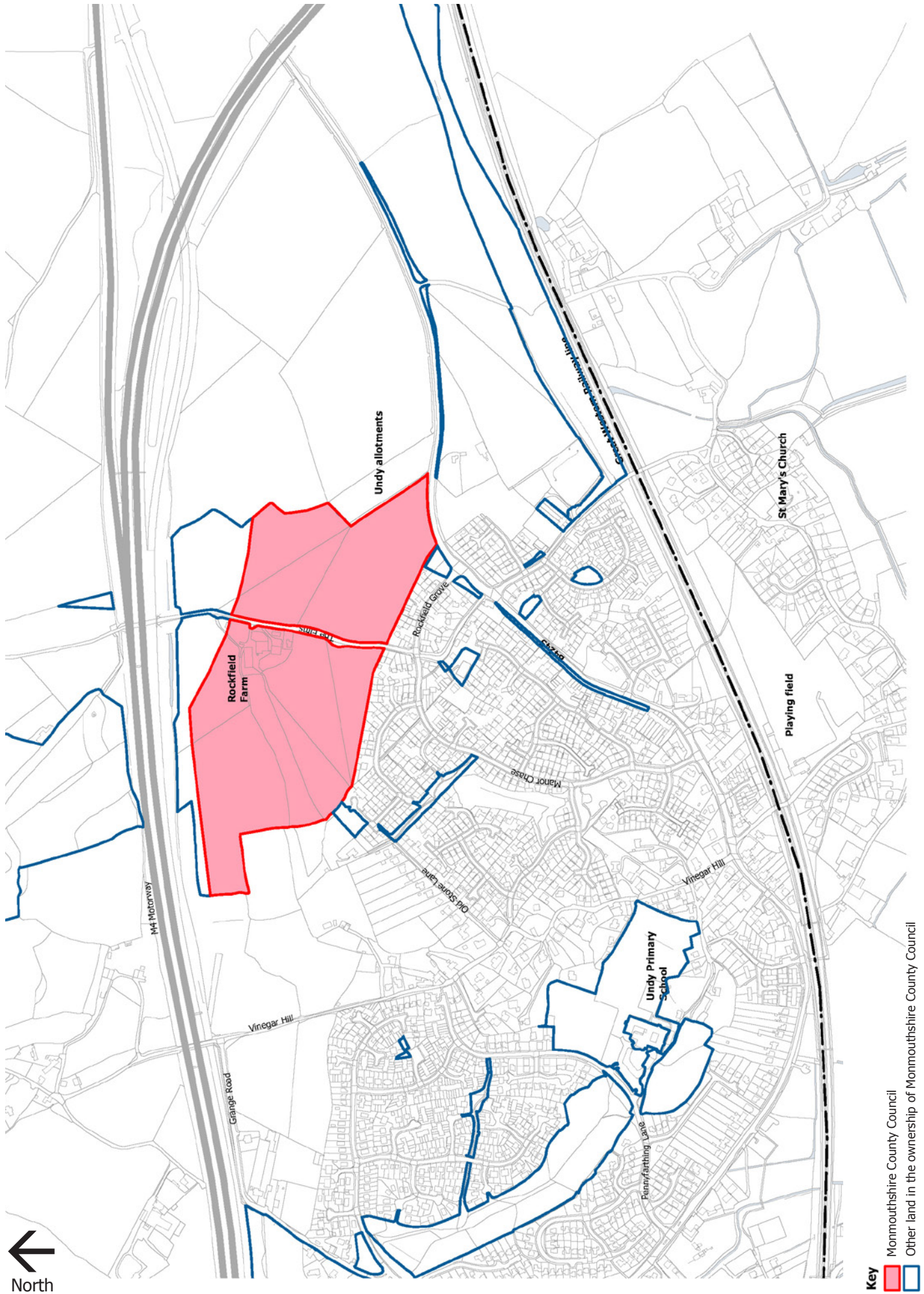
This report provides the information required to satisfy the requirements for outline planning applications, as required by the **Town and Country Planning (Development Management Procedure) (Wales) Order 2012 (as amended)**, namely:

- where layout is a reserved matter, the outline application must state the approximate location of buildings, routes and open spaces included in the proposed development; and
- where scale is a reserved matter, the outline application must state the upper and lower limit for the height, width and length of each building included in the proposed development.

Design and access statement

This design and access statement fulfils the requirements of Article 7 of the **Town and Country Planning (Development Management Procedure) (Wales) Order 2012 (as amended)**. It has been prepared in accordance with the requirements of **TAN 12: Guidance on Design and Access Statements** (March 2016), which sets out guidance on the preparation of design and access statements. TAN 12 advises that a design and access statement accompanying a planning application must:

- explain the design principles and concepts that have been applied to the development;
- demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account;
- explain the policy or approach adopted as to access and how policies relating to access in the development plan have been taken into account; and
- explain how specific issues which might affect access to the development have been addressed.



Key

- Monmouthshire County Council
- Other land in the ownership of Monmouthshire County Council

Figure 3 Land ownership (not to scale)

The site as existing

Site location

The site is located on the north-east edge of Undy in the Severnside sub-region close to the Caldicot levels and the Severn estuary. Undy lies approximately 5 km west of Caldicot and is in close proximity to the A48 and M4 motorway. See **Figure 2**.

Land ownership

The site is in the freehold ownership of MCC and is let on a short term farm business tenancy. This, together with other land in the vicinity in MCC's ownership, is shown on **Figure 3** opposite.

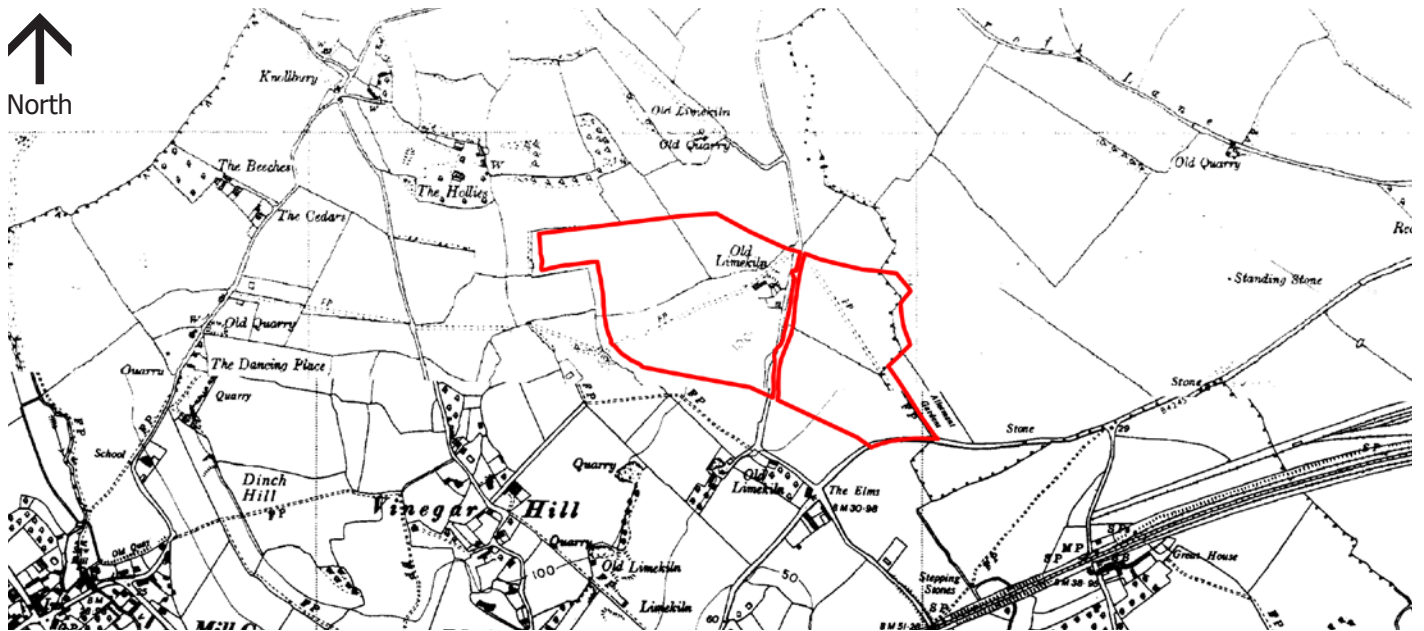
Site description

The 13.8 ha site is irregular in shape, measuring approximately 620 m in length and 280 m at its widest point. The boundaries of the site are defined by the M4 motorway, housing to the south and field boundaries to the west and east.

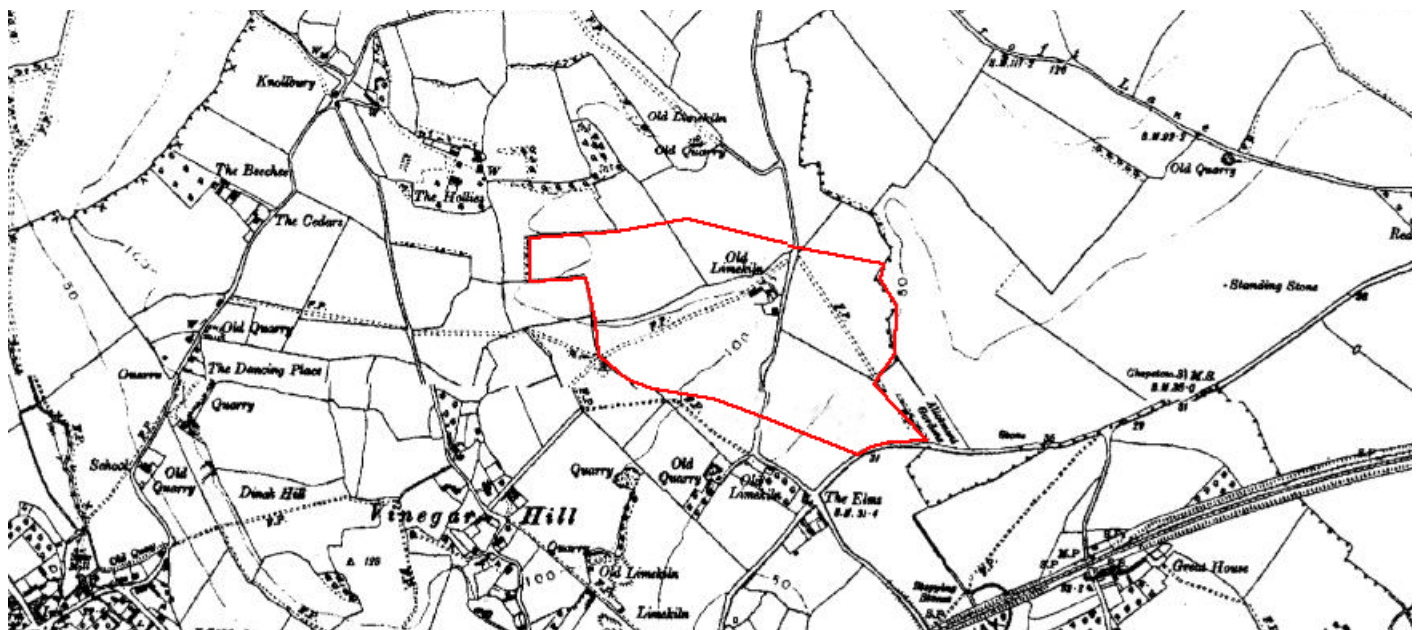
A minor adopted road, The Elms, runs northward from the Rockfield Grove housing estate through the centre of the site and currently provides the site's only means of vehicular access. To the south-west lies the village of Magor which adjoins Undy. The B4245 abuts the south-east corner of the site and further to the south runs the main railway line.

The land form of the site rises from around 10 m AOD at the south-east corner (along B4542) to a high point of about 43 m AOD at the south-west corner of the site, and slopes gently to the north.

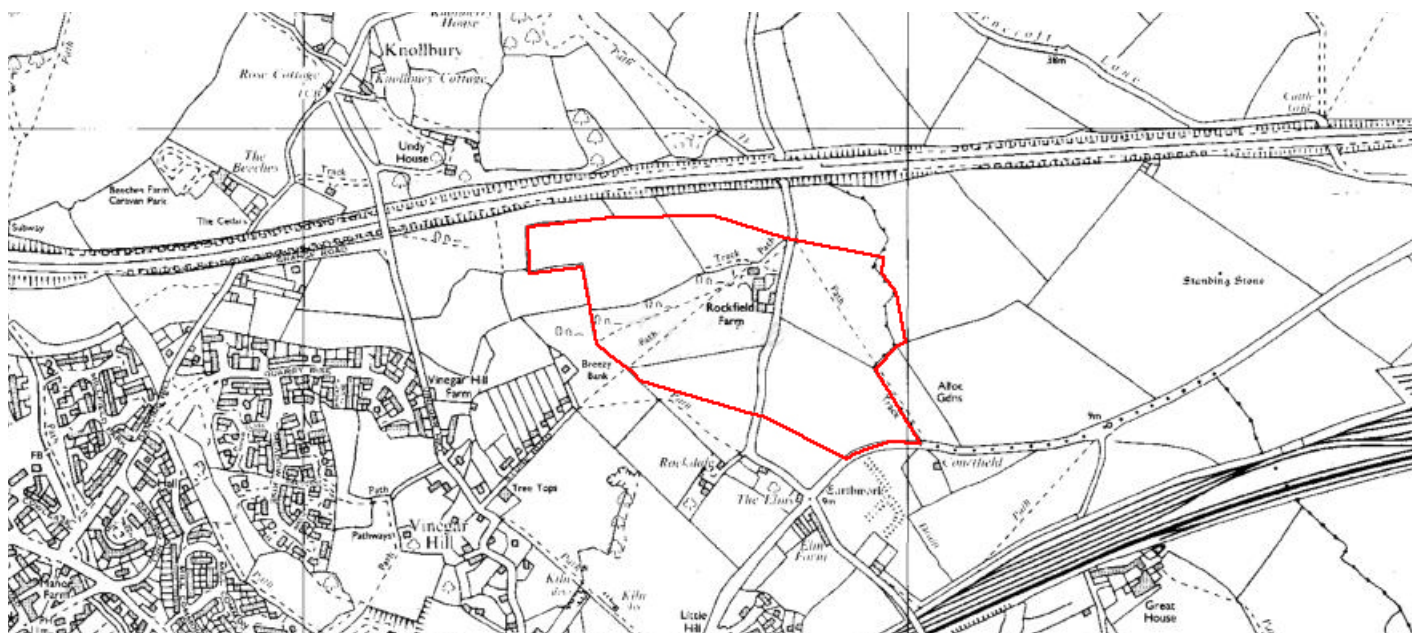
The site is allocated for mixed use residential and employment development in the LDP (policy SAH5) consisting of around 270 dwellings and 2.0 ha of land for employment use.



1886-1887 historic map [source: OS county series, Monmouthshire 1:2,500]



1930s historic map [source: <http://digimap.edina.ac.uk/roam/historic> (accessed 4 December 2015)]



1980s historic map [source: <http://digimap.edina.ac.uk/roam/historic> (accessed 4 December 2015)]

Figure 4 Historic maps (not to scale)

History of the site and surrounding area

Undy (Welsh: Gwndy) lies in the parish of Magor and adjoins the Caldicot Levels on the Welsh shore of the estuary of the River Severn. The village name is of uncertain origin. Previous spellings include Wondy, as noted by William Camden in 1610.

The parish church of St. Mary contains a thirteenth-century west window and font, and an archway and porch from the same period or slightly later. It was substantially rebuilt around 1880.

Figure 4 presents a series of historic maps showing how the built form of Undy has evolved from the late nineteenth century.

The historic map of 1886-1887 (OS county series: Monmouthshire 1:2500) includes the main line railway line, a precursor B4245 and a road (now known as The Elms) which bisects the site. Very little of the area is developed, being predominantly open fields and agricultural land. Some development exists to the west in Magor, focused around what is known as the 'The Square'.

The 1930s map shows little significant change from the nineteenth century map with the area still defined by agricultural uses. By the 1980s there was significant development to the west at Vinegar Hill, and along the B4245. Most notably the M4 motorway is shown to the north of the site. Rockfield Farm (which is still present today) is shown on the site.

The village underwent major expansion in the late twentieth century, following the development of nearby Caldicot and Magor as dormitory settlements for those working in, for example, Newport, Cardiff and Bristol. To the north (beyond the M4) and east, the landscape is still predominantly open countryside with scattered farms and small holdings.

Archaeology

The **Rockfield Farm, Undy, Archaeological desk-based assessment** (Headland Archaeology, January 2016) identifies earthwork features within the site including former field boundaries and features likely to relate to stock control in the post-medieval period. Although the assessment acknowledges that development of the site is likely to damage or remove these remains, they are considered to be of low importance. The assessment also advises that any below ground features relating to earlier periods of activity are unlikely to be of high importance. In conclusion, the report states that potential heritage assets within the development site are unlikely in principle to be a constraint to development, but may require further investigation or mitigation.

The assessment also considers the potential for the proposed development to harm the significance of designated heritage assets in the wider area through changes in their setting. The assessment makes reference to a scheduled moated site to the south-east of the site, but concludes that the evidential and communal value of the moated site would not be harmed by development of the Rockfield Farm site.

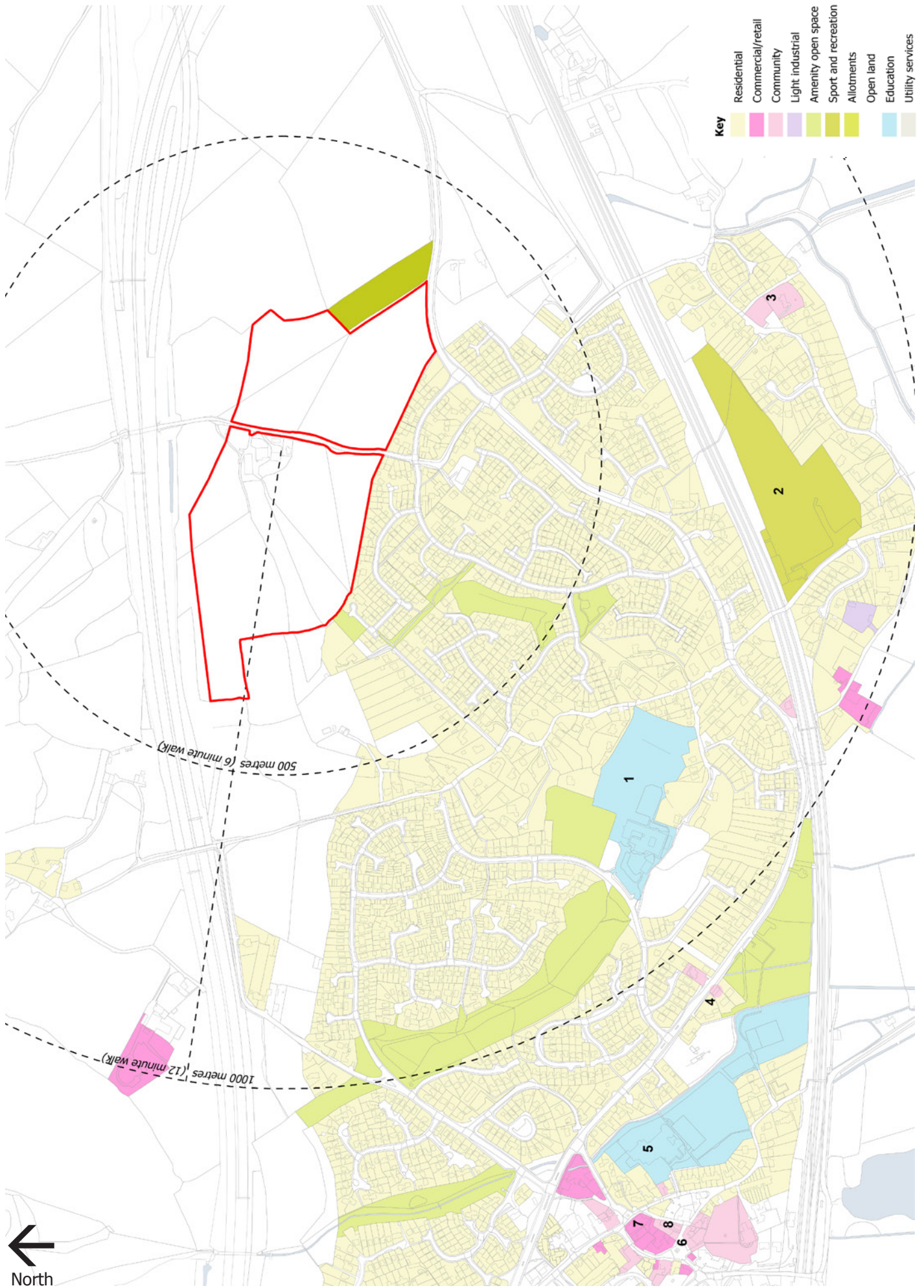


Figure 5 Land uses (not to scale)

Land uses

The land uses outside the study area are dominated by residential and agriculture, with a small range of services clustered around the village of Magor approximately 15 minutes' walk from the site: see **Figure 5** opposite.

A number of local services lie close to the site including:

1. Undy Primary School
2. playing fields
3. police station and Church of St Mary.

Magor adjoins Undy to the west and includes a range of additional services including:

4. general store
5. Magor Church in Wales Primary School
6. post office
7. Bugden's general store
8. a pharmacy, dentist, Indian restaurant, fish and chip shop and two public houses.

Further services are available in Caldicot 5 km away.

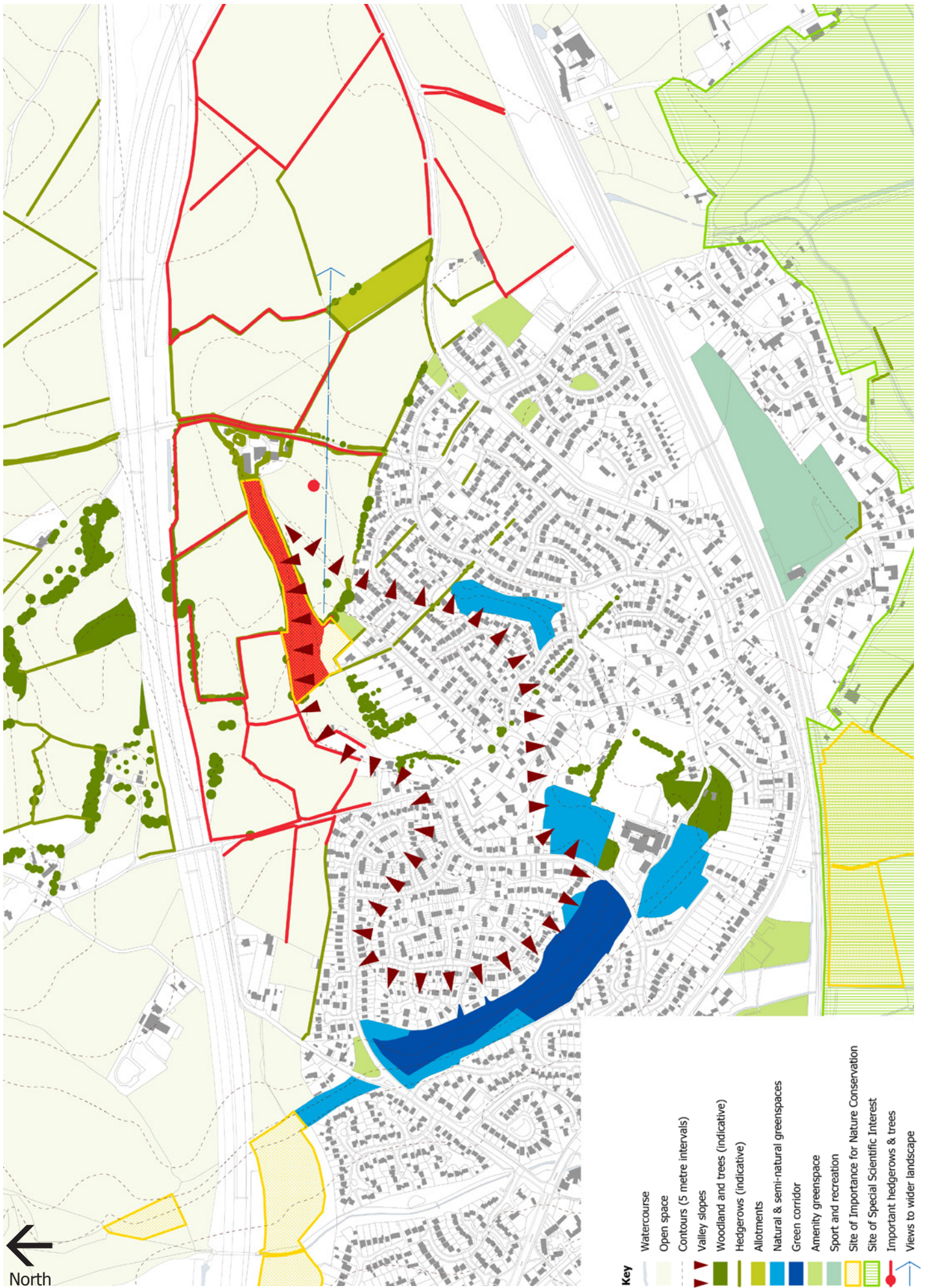


Figure 6 Landscape setting (not to scale)

Physical and environmental factors

Topography

The contours of the site and its surroundings are indicated on **Figure 6**. The topography of the site is quite varied with a fall from the highest point of the site, 43.0 m AOD near Rockfield View, to a low point of 10.5 m AOD at the south-east corner of the site. The land form is defined by a ridge line extending through the site in a north-easterly direction from a plateau located to the south-west of the site centred on Old Stone Lane. The land within the site falls away to the north, south and east from this ridge line and a secondary high point to the site's north-west corner. Rockfield Farm itself sits on a shallow promontory at approximately 29.5 m AOD adjacent to The Elms. To the east of The Elms the land begins to flatten out, dropping from a level of approximately 27.5 m opposite the farm to 10.5 m AOD where it meets the B4245 and approximately 19.5 m at the foot of the M4 embankment.

Landscape setting

The site is defined by a woodland corridor that passes from the south-west of the site towards the north-east. This stretch of woodland is located on one of the highest points of the site and, therefore, forms a prominent feature in the local landscape. The site is partially visible from the M4 in the north and the B4245 in the south, and forms part of a green gap of open countryside between Magor/Undy and settlements to the east.

The site's boundaries are largely characterised by low hedgerows some of which, especially to the east side of The Elms, are broken by sections of fencing. The greater part of the southern boundary of the site is abutted by the rear gardens of houses on Rockfield Grove. Tree cover is largely focused along the woodland corridor with some notable individual exceptions that stand isolated in the field to the south of the woodland corridor.

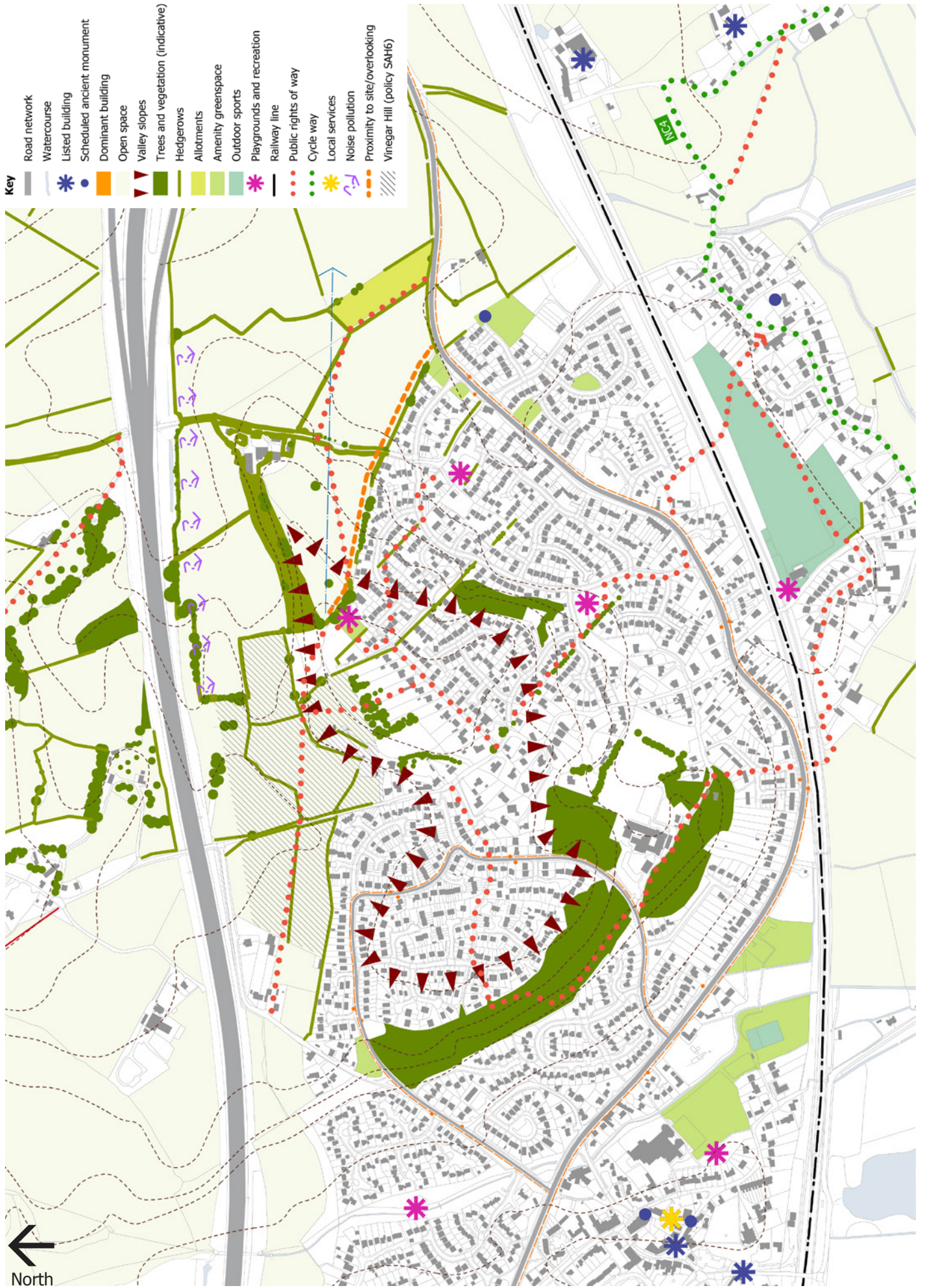


Figure 7 Townscape (not to scale)

A search within an area of 2.0 km around the site, revealed four sites of special scientific interest (SSSI): Gwent Levels – Magor and Undy, Gwent Levels – Redwick and Llandeenny, Magor Marsh is to the south of the site forming part of the Gwent Levels, and a small sliver of Penhow Woodlands SSSI to the north-east of the site.

The Rockfield Farm Landscape Visual Impact Assessment (The Richard’s Partnership, 2016) divides the site and its immediate surroundings into seven distinct local landscape character areas: Rolling farmland – the Elms to Vinegar Hill; Rolling farmland to the east of Undy; Breezy Bank to Rockfield Farm SINC; Rockfield Farm; East Undy; Rolling farmland north of the M4; and The Elms. These local landscape character areas are generally identified as being of ‘medium’ sensitivity to new development with the exception of Rockfield Farm and East Undy which are considered as ‘low’ sensitivity and Rolling Farmland – The Elms to Vinegar Hill, which is considered to be of ‘high’ sensitivity. The assessment notes that the site is located on farmland, albeit immediately adjacent to the urban edge, and has a visual interrelationship with the landscape to the north, south and east. The M4, immediately to the north, is a notable detractor to the character of the area, both visually and aurally.

In terms of the landscape effects of the development proposals, the assessment identifies the local landscape character areas most likely to suffer substantial adverse effects as being ‘The Elms’ and ‘Rolling Farmland - The Elms to Vinegar Hill’. Landscape and visual impacts of the development proposals are also considered with the aid of photomontages. These helps to illustrate how the site may look at year 1 and also after 15 years with mature landscaping and when the cumulative impacts of the development of the Vinegar Hill site and M4 relief road can be considered.

Ecology

An extended phase 1 habitat and species assessment and bat and bird survey was carried out by Just Mamals in August 2014. This assessment advises that the site is largely of moderate ecological value and does not lie within a statutory designated site of nature conservation value. However, the report draws attention to the high ecological interest of Breezy Bank, a woodland corridor passing through the site, which is designated as a SINC.

The potential presence of legally-protected species (badger, dormouse, owls, nesting birds and reptiles) was highlighted in the extended phase 1 report, both on-site and in the areas likely to be affected by development. The assessment recommends a dedicated survey for the presence of badgers.

An ecological survey report (Just mammals, January 2016) to assess badger activity confirms the presence of setts located within the SINC but concludes that they are likely to be annex setts, with the clan’s main sett located on the north side of the embankment carrying the M4. The assessment recommends that in order to allow badgers to cross the proposed development area, a ‘green lane’ should be provided to facilitate movement north-east from the annex setts via The Elms to the M4 underpass. The report advises that any work within 30 m of such setts will need to be limited to the period between 1st July to 30th November when NRW licences can be issued.

The extended phase 1 survey was updated following a further survey of the site in May 2016. This found that the original survey was still an accurate representation of the site and confirmed that a bat survey of the farm structures and a dormouse survey returned negative results.

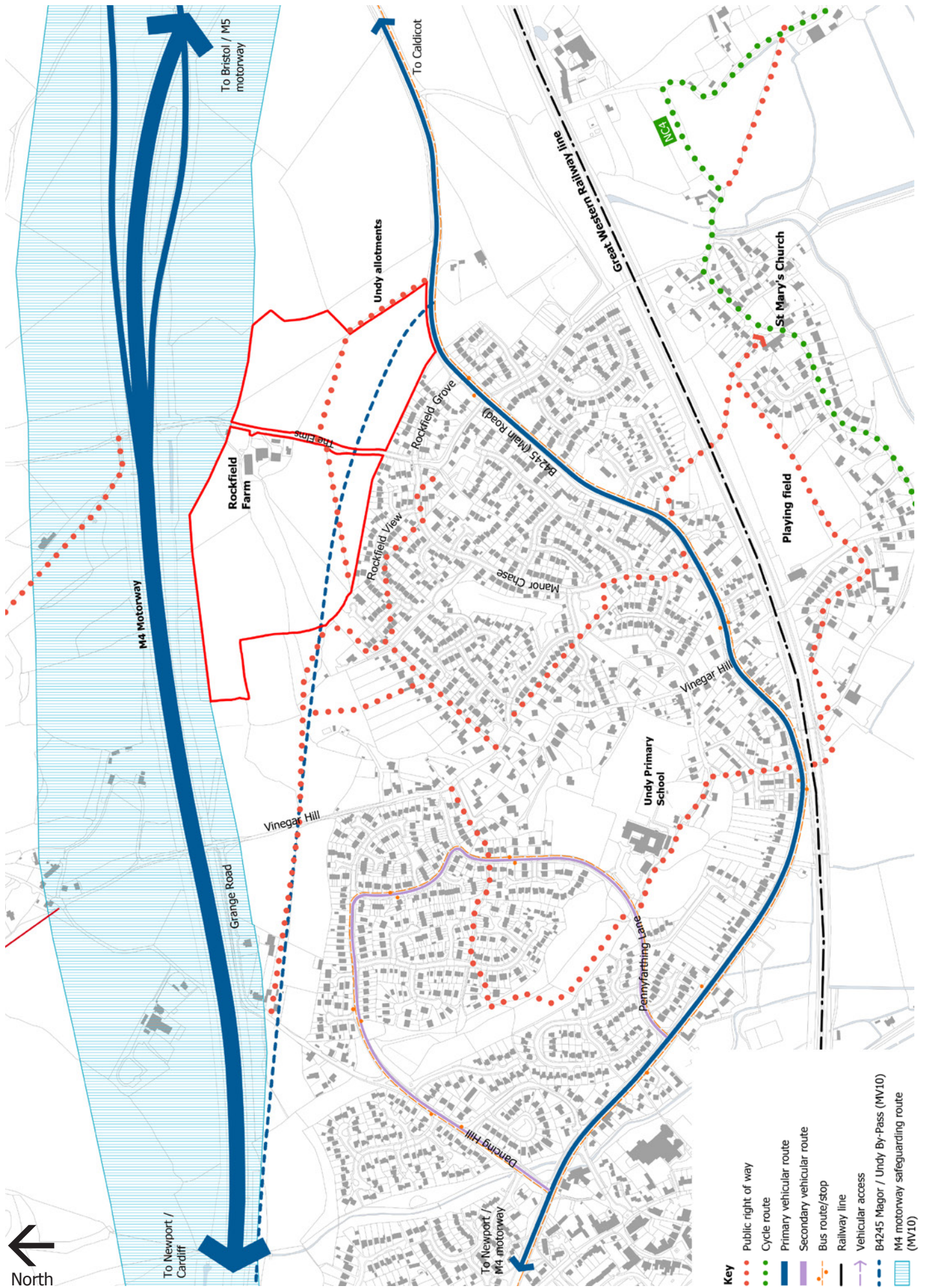


Figure 8 Movement (not to scale)

Trees

The **Rockfield Farm pre-development tree survey** was carried out in February 2016 by Broadway Tree Consultancy. Of the trees, groups and woodland inspected, it identifies the Breezy Bank woodland corridor as category A, thirteen individuals and seven groups of trees as category B, and the remaining individual trees and groups of trees as category C.

The survey notes that the majority of trees and groups are located around the edges of the site and should not be unduly affected by development proposals. The survey also highlights the presence of a mature oak tree covered by a tree preservation order (TPO MCC 223) located to the south west of Rockfield Farm and the Breezy Bank woodland corridor. The report recommends that no development or excavations for services or infrastructure should traverse the woodland corridor in order to protect its role as a wildlife corridor and biodiversity source.

Townscape

The settlement of Undy is focused on the south-facing hill slope, between the London-Fishguard mainline railway to the south and the M4 motorway to the north. The built form of the area is mainly concentrated in the village of Undy adjacent to the site, which coalesces with the village of Magor in the west. The area beyond the settlement boundary mainly consists of scattered farmsteads and small groups of dwellings. See **Figure 7**.

Some older, larger dwellings (generally found along the B4245/Main Road) date back to the mid-nineteenth century. However, the majority of dwellings surrounding the site date from the late 1990s, with the backs of those along Rockfield Grove and Rockfield Way adjoining the site's southern boundary. Development on Rockfield

Grove and Rockfield Way is largely characterised by two-storey detached and semi-detached houses finished in a mix of brick work and render with tiled roofs.

Land surrounding Vinegar Hill, which lies immediately to the west of the site, is allocated for 225 dwellings in the LDP (policy SAH6). Together, they form a logical rounding-off of the Undy/magor settlement towards the M4. Vinegar Hill itself is characterised by a variety of house types and architectural styles located in a verdant setting behind tall hedgerows to provide a distinctive rural character.

Movement

Surrounding highway network

The B4245 lies immediately to the south of the site and provides access to the M4 motorway, 2.0 km west via junction 23A and Caldicot 4.0 km to the east.

Public transport

The study area lies approximately 200 m from the nearest bus stop, which is located on the B4245. The stop is served by bus numbers 74/X74 and 75. The first two operate at a half-hourly frequency providing transport to Chepstow and Newport. The last provides five services per day between Spytty retail park, Newport and Caldicot.

Servern Tunnel Junction railway station is located 3.0 km east of the site and provides access to Fishguard, Cardiff, Bristol, Portsmouth, Exeter and Gloucester. Another railway station is located at Caldicot, 3.5 km to the east of the site.

Pedestrian routes

The site is crossed by two public rights of way: footpath 372/23/1 linking the playground at Rockfield View to The Elms and footpath 372/24/1 running from The Elms to the B4245 adjacent to the allotments.

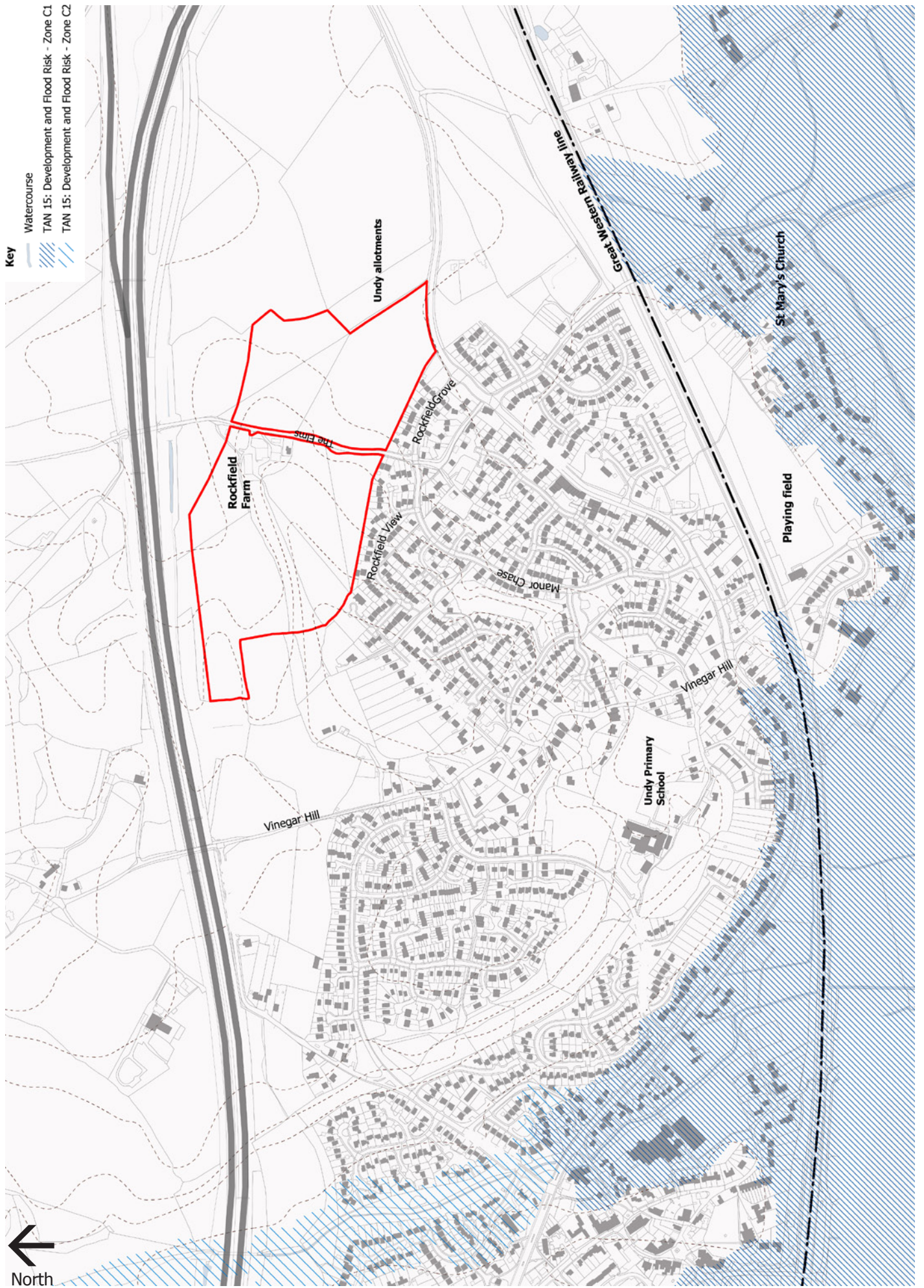


Figure 9 Flood risk (not to scale)

Cycle routes

A long distance cycle route (Sustrans 4) runs along Church Road, south of the railway line, some 0.5 km away from the site. This forms a section of the route between London and Fishguard via Bristol, Chepstow and Newport.

Site access

At present there is no permitted vehicular access to the site for the general public. The three access points to the site along The Elms are currently secured by either barriers or locked field gates.

Land is safeguarded in the LDP for improvements to the M4 motorway and a new relief road (this borders the site to the north). A route is also safeguarded through the Rockfield Farm and Vinegar Hill sites for the intended Magor/Undy bypass (policy MV10), as shown on **Figure 8**. However, with draft orders for the M4 relief road published in March 2016 and a scheduled start for construction in the spring of 2018, it is now considered unlikely that plans for a Magor/Undy bypass through Rockfield Farm will be necessary.

Highways

The **Rockfield Farm Strategic Development Site Transport Assessment** (WSP Parsons Brinckerhoff, 2016) provides an update to a transport assessment produced by Capita Symonds in 2010, and assumes that the site will be developed for 345 new dwellings and 5,575 m² of B1 offices.

Junction and link capacity assessments included in the report predict that the local highway network will continue to operate within capacity, despite the increase in traffic associated with development of the site. Modelling also considers the likely impact of additional traffic associated with development of the Vinegar Hill site and the impact of plans to develop a new M4 relief road

around Newport. The assessment looks at two options for providing access to the site from the B4245 - one being a priority T-junction and the other a three-arm roundabout. The results of the assessment indicate that a priority T-junction designed to the same standard as Rockfield Grove would operate within capacity in all scenarios.

The transport implementation strategy (TIS) included as part of the report sets objectives in line with the LDP and recommends a range of measures to encourage modal shift from single occupancy car use. The assessment also considers a number of improvements to the local pedestrian and cycle environment, with connections to the existing residential highway network via The Elms.

The assessment concludes that there are no valid highway or transportation reasons that should prevent the development proposals from being granted planning permission.

Flood risk

The Development Advice Map published by the Welsh Government to accompany **Technical Advice Note 15: Development and Flood Risk** shows that the site lies in flood risk Zone A, which is defined as land 'considered to be at little or no risk of fluvial or tidal/coastal flooding': see **Figure 9** opposite. Natural Resources Wales' flood maps show the site to be located wholly within Flood Zone 1, which is land defined as having less than 1 in 1,000 annual probability of river or sea flooding.

The Rockfield Farm Drainage Strategy

(WYG, July 2016) has been prepared to identify, and where appropriate recommend mitigation to, any flooding associated with the proposed development. This has been completed following **TAN 15** guidance for a Flood Consequence Assessment. This report builds upon a **Desk-**

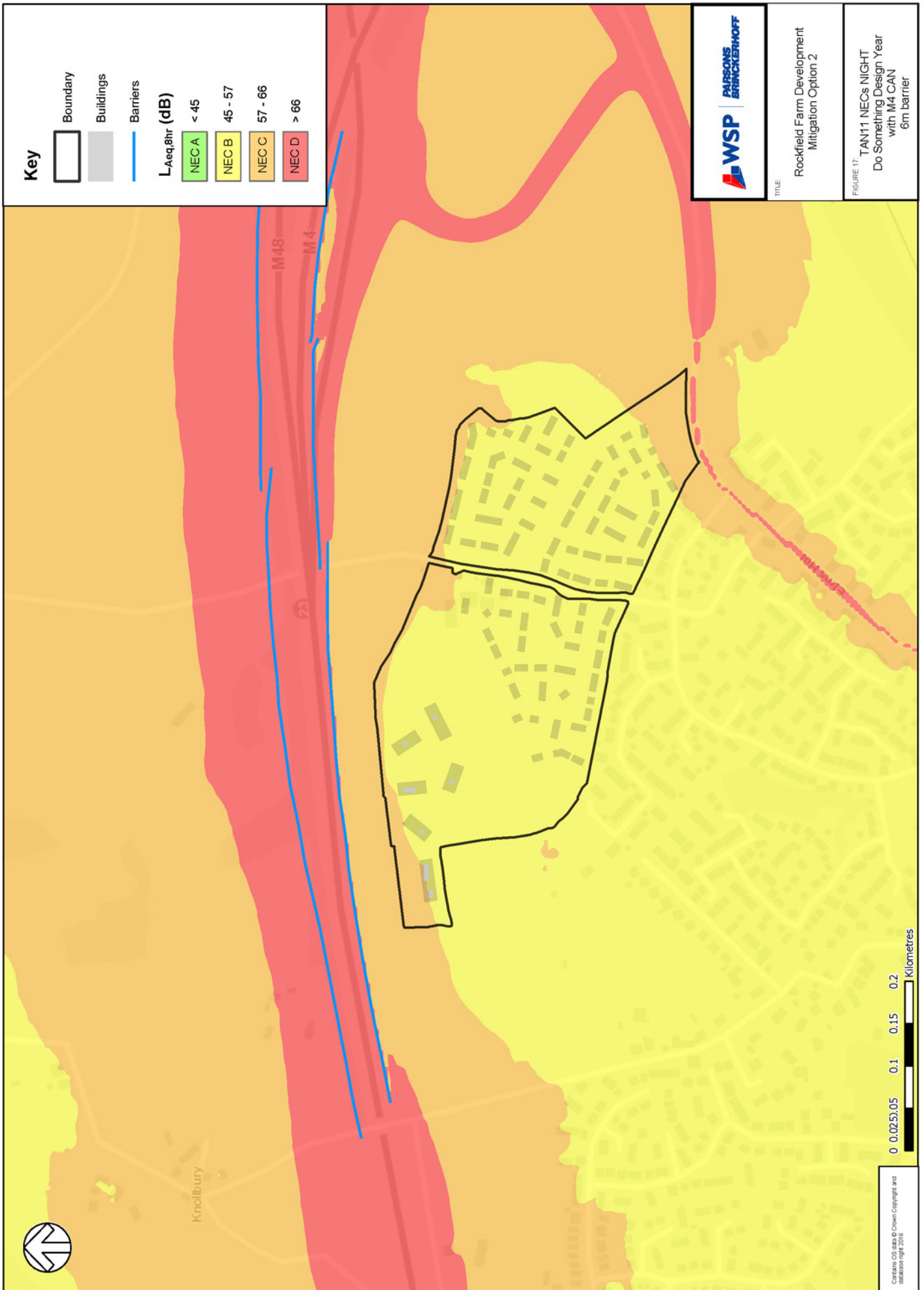


Figure 10 Noise assessment provided by WSP|Parsons Brinckerhoff

top Drainage Report prepared by WYG in September 2010.

A site investigation was conducted by Intégral Géotechnique in September 2015 and additional soakaway testing has been carried out by WYG in June 2016. These investigations revealed that infiltration rates vary across the site with the best rates found in the south-west. Accordingly, the drainage strategy proposes that areas of the site that are able to naturally drain to this location continue to do so and use infiltration devices such as pot soakaways and porous paving. A potential infiltration basin is also identified to the north-east of the site which could receive surface water from the employment area if required. Areas to the south-east of the site that are not suitable for infiltration will be conveyed to an attenuation basin located adjacent to the B4245 before discharge to a Dŵr Cymru Welsh Water sewer. Through the use of a mixed drainage regime, it is proposed that surface water run-off from the site would be restricted to greenfield rates so that risk of flooding is not increased elsewhere.

The strategy advises that, based on the current sewer infrastructure available, foul water discharge from the proposed development could not be supported. The existing sewer system would therefore need to be upsized.

Ground contamination

A geotechnical and geoenvironmental appraisal of the site was carried out by Integral Geotechnique (September, 2015). No significant risk of land contamination was discovered on the site although the report notes that further investigation of the area of the former and current buildings, yard, and former quarry/lime kiln will be required in order to establish the ground contaminative risk in this particular area.

Noise

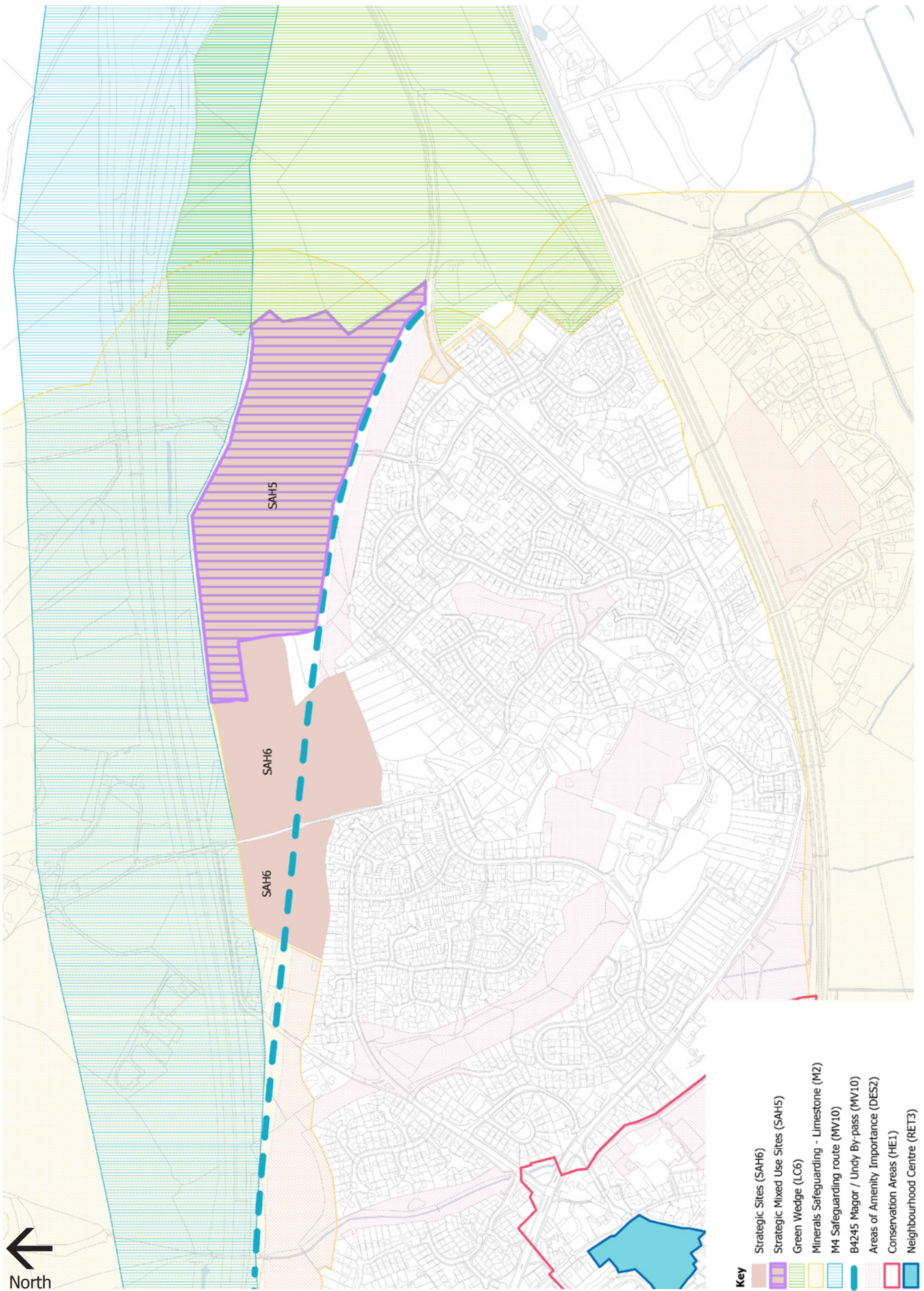
The Rockfield Farm Noise Assessment (WSP | Parsons Brinckerhoff, July 2016) highlights the potential for road traffic noise from the M4 to have a negative effect on residential occupants to the northern part of the site. The assessment also considers the likely impact on the site from noise associated with increased traffic from the proposed M4 relief road.

Results of the noise model show that through the use of appropriate noise mitigation from a 6 m high barrier and also potential screening provided by the master plan, the site could be subject to noise levels equivalent to Noise Exposure Category B and C, as a worst case. Noise contours showing the results of noise modelling using a 6m barrier for mitigation are shown in **Figure 10** opposite.

Air quality

The impact of the proposed development on air quality are assessed in the **Rockfield Air Quality Assessment** (WSP | Parsons Brinckerhoff, July 2016). This assessment uses detailed dispersion modelling for NO₂, based on modelled traffic flows for the baseline year (2016), and future year scenarios (2018 and 2026). The assessment also considers the likely impacts of proposed development of the M4 relief road on air quality.

The assessment found that concentrations across the site generally fall with increased distance from the M4 motorway. In 2018, concentrations within 50 m of the site boundary potentially exceed the air quality standards, although by 2026 there are no modelled exceedances within the site boundary. The assessment concludes that the scheme has a negligible effect on NO₂ concentration at all existing modelled receptors in both 2018 and 2026.



- Key**
- Strategic Sites (SAH6)
 - Strategic Mixed Use Sites (SAH5)
 - Green Wedge (LC6)
 - Minerals Safeguarding - Limestone (M2)
 - M4 Safeguarding route (MV10)
 - B4245 Magor / Undy By-pass (MV10)
 - Areas of Amenity Importance (DES2)
 - Conservation Areas (HE1)
 - Neighbourhood Centre (RET3)

Figure 11 Planning policies from Monmouthshire County Council Local Development Plan 2011-2021

Planning policy context

Introduction

Section 38 (6) of the Planning and Compulsory Purchase Act 2004 (as amended) requires that planning applications and appeals be determined in accordance with the development plan “unless material considerations indicate otherwise”. Currently, the statutory development plan for the area is the **Monmouthshire County Council Local Development Plan 2011-2021** (LDP), which was adopted on 27 February 2014.

Adopted development plan

The Monmouthshire LDP contains policies that seek to work towards the vision that by 2021 Monmouthshire will be a place where:

"1. People live in more inclusive, cohesive, prosperous and vibrant communities, both urban and rural, where there is better access to local services, facilities and employment opportunities.

"2. The distinctive character of its built heritage, countryside and environmental assets has been protected and enhanced.

"3. People enjoy more sustainable lifestyles that give them opportunities for healthy activity, reduced reliance on the on the private motor car and minimised impact on the global environment."

The policies referred to in the LDP proposals map that relate to the site are shown on **Figure 11** opposite. The site is identified as lying within the Severnside sub-region and is allocated for a mixed-use residential and employment development under **Policy SAH5**. This policy allocates the site for around 270 new dwellings (to be phased over the plan period) and 2.0 hectares of serviced land



MONMOUTHSHIRE COUNTY COUNCIL
CYNGOR SIR FYNWY

MONMOUTHSHIRE COUNTY COUNCIL
ADOPTED LOCAL DEVELOPMENT PLAN

2011-2021

Adopted 27 February 2014

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Dip DBE MA MRTPI
Development Plans Manager



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Planning
Policy
Wales



Chapter 1 Introduction

Figure 12 Policy documents

for industrial and business development (Class B1). The policy also recognises the need for the site to safeguard an area for the M4 relief road to the north and a route for a Magor/Undy bypass to the south (**Policy MV10**). From the LDP proposals map it can also be seen that the site is located between strategic housing site SAH6 (land at Vinegar Hill) to the west, and a Green Wedge (protected by **Policy LC6**) to the east intended to prevent the coalescence of Undy with Rogiet. An area of amenity importance (**Policy DES2**) is also identified along the southern boundary of the site.

Other LDP policies

The LDP contains a number of other policies that are relevant to the determination of a planning application for the Rockfield Farm site. These include:

- **Policy S4 Affordable Housing Provision** states that development sites with a capacity for 5 or more dwellings will make provision (subject to appropriate viability assessment) for 25% of the total number of dwellings on the site to be affordable.
- **Policy S9 Employment Sites Provision** supports the provision of a suitable range and choice of sites for industrial and business development.
- **Policy S13 Landscape, Green Infrastructure and the Natural Environment** seeks to protect, enhance and manage Monmouthshire's natural heritage, including its high quality open spaces, distinctive landscapes, protected sites, habitats and other biodiversity interests and the ecological connectivity between them.
- **Policy S16 Transport** seeks to achieve development that reduces the need to travel, increases provision for walking and cycling and improves public transport provision.
- **Policy S17 Place Making and Design** requires that development shall contribute to creating high quality, attractive and sustainable places.
- **Policy CRF2 Outdoor Recreation / Public Open Space / Allotment Standards and Provision** sets out the Council's standards for the provision of open space.
- **Policy LC5 Protection and Enhancement of Landscape Character** seeks to ensure that proposals for development protect, conserve and, where possible, enhance Monmouthshire's landscape character.
- **Policy GI1 Green Infrastructure** states that development proposals will be expected to maintain, protect and enhance Monmouthshire's diverse green infrastructure
- **Policy EP1 Amenity and Environmental Protection** requires that new development should not result in unacceptable risk or harm due to air, light, noise or water pollution, contamination or land instability.
- **Policies MV1 Proposed Developments and Highway Considerations and MV2 Sustainable Transport Access** set out the considerations against which highways and movement considerations will be assessed with the aim of promoting sustainable travel options and ensuring that development proposals do not generate unacceptable additional traffic growth.
- **Policy DES1 General Design Considerations** seeks to achieve high quality and sustainable design and provides 12 criteria against which design quality will be assessed.

“...good design will almost always be dependent on working within the natural constraints of the landscape and this would be the starting point from which the design of development evolves”

(TAN 12: Design, Welsh Government, 2016)

National planning policy guidance

National planning policy guidance, promoted by the Welsh Government, is contained principally in the following documents:

- **People, Places, Futures: The Wales Spatial Plan Update** 2008;
- **Planning Policy Wales** (PPW) (Edition 8, January 2016); and
- **Technical Advice Notes** (TANs) that accompany PPW. National planning policy considerations that are of particular relevance to this site include the following.

PPW promotes resource-efficient and climate change resilient settlement patterns that minimise land-take and urban sprawl, especially through preference for the re-use of suitable previously developed land and buildings (section 4.6, 4.7 and 4.8). Additional guidance is provided in the Welsh Government’s series of **TANs**. A brief summary of national policy requirements relating to some key topics are summarised below.

Design

Chapter 4 of **PPW** deals with promoting sustainability through good design. Specifically, paragraphs 4.11.1 and 4.11.2 recognise that good design means the relationship between all elements of the natural and built environment. It should go beyond aesthetics and consider social, environmental and economic aspects of the development. As such, good design is cited as a key tool in delivering sustainable development.

Paragraph 9.1.2 of PPW states that local planning authorities should promote sustainable residential environments, avoid large housing areas of monotonous character, and make appropriate provision for affordable housing. More specifically it goes on to advise that local planning authorities should promote:

- mixed tenure communities;
- development that is easily accessible by public transport, cycling and walking although in rural areas required development might not be able to achieve all accessibility criteria in all circumstances;
- mixed use development so communities have good access to employment, retail and other services;
- attractive landscapes around dwellings, with usable open space and regard for biodiversity, nature conservation and flood risk;
- greater emphasis on quality, good design and the creation of places to live that are safe and attractive;
- the most efficient use of land;
- well designed living environments, where appropriate at increased densities;
- construction of housing with low environmental impact; reducing the carbon emissions generated by maximising energy efficiency and minimising the use of energy from fossil fuel sources, using local renewable and low carbon energy sources where appropriate; and

- 'barrier free' housing developments, for example built to Lifetime Homes standards.

Further advice on design this is provided by **TAN 12: Design** which seeks to encourage a high standard of design that respects the character of the surrounding area for all new developments.

Affordable housing

Section 9.2 of **PPW** confirms that a community's need for affordable housing is a material planning consideration and that, where there is a demonstrable need, local planning authorities should adopt authority-wide targets and policies for affordable housing. **TAN 2: Planning and Affordable Housing** defines "affordable housing" in Wales and provides practical guidance on the role of the planning system in delivering such housing

Transport

Section 8.1 of **PPW** promotes a transport hierarchy for new development that establishes priorities in such a way that it is easily accessible first by walking and cycling, then by public transport and finally by private motor vehicles. Paragraph 8.7.2 formalises the requirement for transport assessments for proposed developments, establishing thresholds at which they should be prepared. Further advice on these aspects is also provided in **TAN 18: Transport**.

Open space

TAN 16: Sport, Recreation and Open Space emphasises the importance of recreation and open space. Although it does not prescribe particular standards - maintaining that these should be based on local open space assessments - it refers to the "benchmark standards" promoted by Fields in Trust, which comprise 1.60 ha (4.0 acres) per 1,000 population for pitch sports and 0.80 ha (2.0 acres) per 1,000 population for children's playing space.

Biodiversity

TAN 5: Nature Conservation advises that planning applications should be accompanied by adequate information about nature conservation and that planning permissions should ensure (through planning conditions and planning obligations) that necessary biodiversity measures are taken to protect, enhance, mitigate and compensate for the impacts of development on biodiversity.

Supplementary planning guidance

The following supplementary planning guidance, have been prepared by MCC and are of relevance to the proposals:

- **Affordable Housing SPG** (March, 2016) provides further guidance to supplement LDP policy S4, which requires new developments on sites such as Rockfield Farm to provide affordable housing equivalent to 25% of the total number of dwellings on the site.
- **The Green Infrastructure SPG** (April, 2015) provides practical guidance for embedding green infrastructure into development proposals and sets out potential strategic green infrastructure requirements in the main growth locations and associated strategic sites, such as Rockfield Farm. The SPG identifies green infrastructure assets in and around the development site and in particular identifies an aspiration to enhance biodiversity for the Breezy Bank woodland /SINC for Rockfield Farm.



Figure 13 Constraints and opportunities (not to scale)

SWOT analysis

A SWOT analysis for the study area is set out below, the aim being to combine the various appraisals in order to provide a framework for identifying the most appropriate strategy for development. The constraints and opportunities are shown graphically on **Figure 13** opposite.

Strengths

- Close proximity of the site to Magor, Caldicot, M4 motorway, Newport and Bristol.
- Long, open views from the site towards the Caldicot levels and Severn estuary.
- Proximity to bus routes, railway stations and surrounding road network.
- Existing local services and amenities within walking distance.
- Allocated in the LDP for combined residential and employment development.
- Existing residential development borders the site to the south.
- Attractive landscape features within the site including trees, hedgerows and a woodland corridor

Weaknesses

- Existing hedgerows and mature trees including one covered by a TPO.
- Woodland corridor SINC within the site.
- Potential difficulty of attenuating surface water.
- Steeply sloping areas of the site likely to be more difficult to develop.
- Traffic speeds along M4 motorway and consequent noise generation.
- Ecological constraints.
- Potential for undiscovered archaeological remains.
- Visually sensitive areas of elevated ground subject to open views from the surrounding area.

Opportunities

- To connect with the adjoining allocated site at Vinegar Hill.
- To incorporate existing hedgerows and mature trees into the design.
- To create footpaths and cycle links through the site connecting the centre of Magor, existing employment, shopping, community facilities and areas of open space.
- To optimise views into and out of the site from key vantage points.
- To encourage a mix of house types in the development to reflect provision found locally.
- To retain the woodland corridor as an ecological asset and to provide opportunities for recreation.
- To provide public open space on visually sensitive parts of the site.
- To use renewable and low- or zero-carbon technologies.
- To provide affordable homes to strengthen the diversity of housing tenure in the area.
- To achieve a high quality development with a strong identity, activity and a strong 'sense of place'.
- To provide employment generation e.g. small starter units or 'technology hub'.
- Potential for residents to live and work in close proximity reducing the need to travel.
- To incorporate sustainable urban drainage systems to manage surface water on the site.
- To use new planting and landscape buffers to soften the visual impact of new development on the landscape.

Threats

- Potential traffic generation from the scheme.
- Uncertainty relating to the construction of the M4 relief road and its associated impacts

Design strategies and objectives have been developed from the SWOT analysis that seek to build on existing strengths, match strengths with opportunities and remove weaknesses. Particular attention has been given to weaknesses that can be matched with threats, as in such cases the threats are most likely to be realised.

Strategic objectives

Strategic objectives

From the assessment of the site and the SWOT analysis, the following aspirations for the development of the Rockfield Farm site have been identified.

- Improve the overall image of the area.
- Provide a range of homes to meet the needs of the district and create a mixed and balanced community.
- Provide enhanced employment and economic opportunities that are compatible with surrounding land uses.
- Provide improved access to the area including increased pedestrian permeability of the whole site and connections to existing residential areas and local facilities.
- Respect the site's topography and existing landscape assets.
- Enhance the natural environment and people's access to it through the creation of open spaces to provide informal natural play and green connections through the site.
- Contribute to local green infrastructure needs and opportunities.
- Allow for the possibility of creating further connections with land currently safeguarded for M4 improvements to the north of the site should it become available for development in the future.
- Distribute development and land uses across the site in a way that responds to existing site features and maximises the amenities of existing and future residents.



Figure 14 Development framework (not to scale)

Master plan

Land use framework

As part of the design process, a number of options were considered for the configuration of land uses and routes for primary access. From these options, up to date site analysis has allowed the design to be refined into a single master plan. In particular, the results of a noise assessment (WSP Parsons Brinckerhoff, 2016) have concluded that the northern area of the site nearest to the M4 is less suitable for noise sensitive land uses such as housing. Also, greater certainty over plans to develop an M4 relief road has confirmed that there will be no need to provide a Magor/Undy bypass through the site.

The preferred land use framework option presented opposite (**Figure 14**) is based on the findings of the site analysis, advice from officers of MCC, the results of public engagement (see separate **Public engagement summary report**, WYG 2015) and the strategic objectives developed to guide the site's design. The framework includes employment land in the north-western part of the site and a primary access route that enters the site from the B4245 parallel to an established hedgerow, before snaking to the north to avoid the SINC.

Key features

- Development of the site organised around existing site features such as hedgerows and the woodland corridor.
- Employment use located in the north west of the site where high levels of noise from the M4 may have a detrimental impact on residential amenity.
- Main access route passes through the site from the B4245 to avoid the SINC and connect with Vinegar Hill strategic development site to the west.
- Retention of existing public rights of way passing through the site.

Master plan framework

The master plan framework shown opposite (Figure 15) has built on and developed the broad principles for design established as part of the land use framework. The master plan framework provides 7.61 ha of land for housing development, equivalent to around 266 units. 1.99 ha would be available for employment uses. A detailed breakdown of development areas is provided in the table below.

Land use	Area	Size (ha)	Quantum
Housing	A	2.08	73 units
	B	3.14	110 units
	D	2.04	71 units
	C2	0.35	12 units
	Total	7.61	266 units
Employment	C1	1.99	5,575 m ²
	Surface car parking		161 spaces
	Total	1.99	5,575 m²
Community	Open space	0.27	
	Pitch sports	1.06 (assumed off site)	
	Children's play areas	0.53 (within housing areas)	
	Total	1.86	

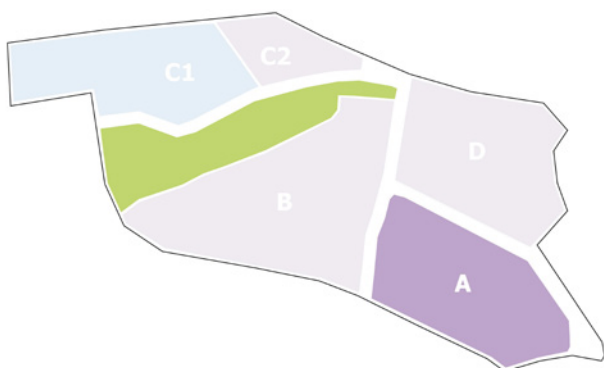
Table indicating the quantum of development for each development area.

Key features

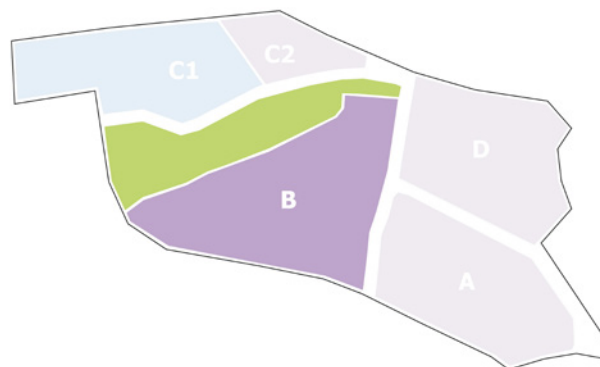
- Main access route taken from a T-junction with the B4245.
- Housing fronts on to a green space adjacent to the B4245.
- Main access uses The Elms to travel between development areas A and C.
- The Elms is upgraded by widening the carriageway to its east but is restricted to use by pedestrians and cyclists for access between the site and Rockfield Grove.
- Landmark buildings with increased scale and/or architectural emphasis located to add variety and interest to the development and aid legibility.

Design strategy

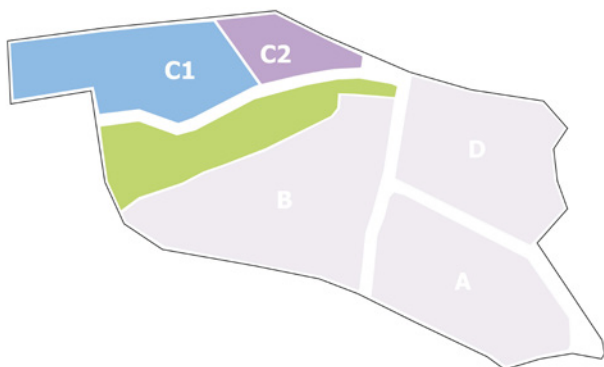
The site is divided into four development areas defined by existing site features such as the location of green infrastructure assets and The Elms. Areas A, B and D are proposed to be developed for housing, with area C subdivided into two areas, with C1 intended for employment use and C2 for housing. The division of these development areas is also likely to be useful in informing a phasing strategy for development of the site. The location of these areas is shown below, along with a brief summary of the strategy that has guided their design.



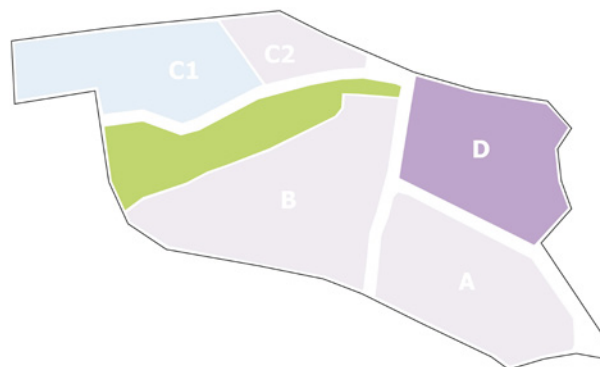
Area A: Development area A is located in the south-east of the site and is bounded by the B4245 to the south-east, the rear gardens of the houses on Rockfield Grove to the south and The Elms to the west. It comprises an area of approximately 2.08 ha with the land falling gently towards the east. The western boundary of area A would consist of housing fronting onto The Elms, which would be upgraded to retain improved pedestrian and cycle connectivity between the site and existing residential areas to the south. Area A's eastern boundary would incorporate a green buffer between the fronts of houses and the B4245; this is also intended to accommodate sustainable urban drainage features.



Area B: Development area B consists of 3.14 ha located in the centre of the site and is defined by the position of a well-established woodland corridor (SINC) to the north, the rear gardens of houses on Rockfield Way to the south and The Elms to the east. The area is about 200 m wide on its eastern extent but narrows as the land rises toward the SINC and Rockfield View in the west. The design for area B responds sensitively to a number of landscape assets including: the SINC to the north; an established hedgerow following the course of The Elms; and a large oak tree at its centre, which is subject to a TPO. The design also incorporates a re-routed public right of way providing access between The Elms, Rockfield View and the woodland corridor. The design of area B acknowledges the visual sensitivity of elevated areas by locating public open space at its highest, most visually sensitive extent. A further public focal point is provided within the development area through the creation of informal public space focused on the protected oak tree. The existing farmhouse, which is of little architectural merit, would be demolished.



Area C: Development area C is located in the north-western part of the site and is constrained by the M4 to the north and the SINC to the south. An area of elevated land is located at its north-western extremity and generally falls away from the SINC towards the north and east. Area C consists of a total developable area of 2.34 ha, of which it is proposed to use 1.99 ha for employment use and 0.35 ha for housing. The employment and residential components of this development area are divided by an existing hedgerow, which runs in a north-south direction. The reason to use this development area for employment use is because of the high noise levels from the M4 identified in the noise assessment (WSP|Parsons Brinckerhoff, 2016). This assessment recommends that although appropriate mitigation would allow some housing to be located in this area, it is more suitable for non-sensitive land uses, such as employment.



Area D: Development area D is 2.04 ha and occupies the north-eastern part of the site. It is bounded by an existing hedgerow to the south, east and west and its topography falls towards the east away from its boundary with The Elms. It is proposed that the hedgerows would be retained and enhanced and that alongside new planting to the north would provide a landscape buffer to minimise the visual impact of development on the landscape. The design seeks to provide good pedestrian connections both south and west to adjacent development areas as well as having potential to form connections to the countryside and existing allotments to the east.



Figure 16 Indicative master plan 1 (not to scale)

Indicative master plan

Based on the development framework, a more detailed indicative master plan has been developed: see **Figure 16**. This master plan illustrates in greater detail how development on the site may be structured, establishing the broad location for key spaces, building frontages and access. The design of this master plan has been guided by a set of key design principles.

Key design principles

The following key principles have been developed to guide the design and layout of the site.

- creating a medium density development of approximately 35 units per ha;
- designing the site as a whole while creating development areas with their own character and public spaces;
- respecting the site's topography, to provide a positive relationship to existing development and the surrounding countryside which limits the visual impact of development on elevated areas of the site;
- promoting a high-quality development with a clear identity, activity and a strong sense of place;
- orientating building frontages to create a well observed and active public realm;
- maintaining and enhancing the site's existing green infrastructure assets and strengthening their connections to the wider area;
- providing a range of tenures to attract a mixed and balanced residential community,
- using a hierarchy of streets appropriate to their function, balanced between the needs of pedestrians, cyclist and vehicles;
- using of a simple and legible layout of streets and public spaces that connect well into adjacent areas;
- supporting and improving existing public rights of way by opening up the site and

improving linkages to create well-connected neighbourhoods that encourage movement on foot and by bicycle; and

- delivering accessible employment opportunities that are sensitively integrated within the site and are compatible with surrounding land uses.

Design guidelines

Urban form

The urban form will respond to the topography and physical context of the site with a relatively regular disposition of development, following the contours of the land where possible.

The network of streets and spaces will be designed to provide a clear distinction between public and private areas and therefore, a clear sense of ownership. The strong definition of public and private space will promote a distinctive 'sense of place' which will be reinforced by the response of the design to natural site features and topography. The form and structure of the site design is intended to work with the natural constraints of the landscape and respect the local character and distinctiveness of surrounding development in line with LDP policies DES1 and S17, which seek to promote locally distinctive and high quality sustainable design.

Topography

Land form is a defining characteristic of the site, with the land falling away to the north, south and east, from the woodland corridor/SINC that divides development areas B and C. The site's topography has been an important factor informing the development of proposals for the site. Where possible, the scheme will:

- follow the contours of the site to minimise the need for cut and fill;
- provide level ground at the front and rear of properties, to maximise their amenity value for residents; and
- work with the land to avoid large retaining structures.

Scale and massing

Development proposed on the site will comprise a mixture of two-, three-, and four-bedroom detached, semi-detached, terraced houses, with a small number of low-rise flats. Building heights are generally proposed to be two storey, in keeping with those in the surrounding area. However, there may be a limited number of opportunities for buildings in less sensitive areas of the site to be higher to punctuate key frontages, increase enclosure of the street and mark the entrance to development areas. Larger detached properties will be included at the end of some vistas to aid legibility. Development will be carefully designed and positioned on the elevated and more visually prominent areas of the site to limit its visual impact when viewed from the surrounding area.

A table can be found in **appendices 1** that provides a break down of minimum and maximum heights, widths and lengths for different building types.

Building orientation and frontages

Buildings will, wherever possible, front on to streets or be orientated to create a positive relationship with public space, provide visual interest, promote street activity and encourage natural surveillance. For example, development of the site should ensure that houses face outwards towards any areas of open space, footpath links and highways to provide a positive interface to the development for surrounding communities. Within the development, houses should front on to streets and public spaces helping to increase natural surveillance, aid crime prevention and create a 'sense of place'. Front boundary walls should not act as a barrier to the surveillance of the street. The use of set-backs in particular locations will allow front gardens and semi-private spaces, enclosed by walls, to be introduced.

Community safety

The master plan for the site has been carefully designed to deter criminal activity and anti-social behaviour by minimising opportunities to commit crime or to impact negatively on the quality of life of those using the development. The following principles from TAN 12: Design have been adopted:

- the creation of a high-quality public realm;
- the provision of routes that are fit for purpose and provide opportunities for safe physical activity and recreation that meet the needs of all members of society; and
- the promotion of a sense of ownership and responsibility throughout the development.

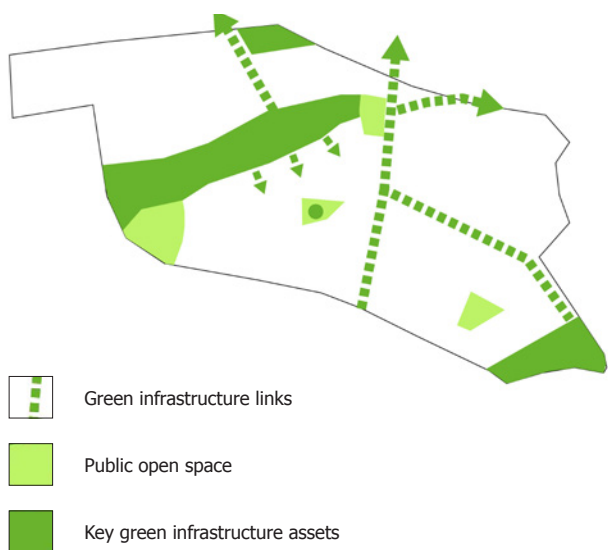


Figure 17 Diagram indicating the broad location of key public open spaces and their integration within a wider network of green infrastructure assets

Green infrastructure

Green infrastructure opportunities are identified as part of an assessment undertaken by the Richards Partnership (2016). This draws attention to the site's existing GI assets including the stretch of established woodland designated as a SINC, mature trees and hedgerows. Opportunities are also identified to add to these assets through new tree planting and sustainable drainage features.

The site design aims to retain these assets as a network of multi-functional green spaces that are capable of delivering a wide range of environmental and quality of life benefits for local residents. In particular, the design includes strategic links between green infrastructure assets, public open spaces and the wider countryside through the introduction of and enhancement of existing green corridors: see **Figure 17**.

Subject to their condition and amenity value, existing mature trees and vegetation will be retained wherever possible and incorporated as a feature in public open spaces and to allow landscape to penetrate into and through the

development. The master plan is designed to allow houses to front on to, and enclose, mature vegetation.

New tree and hedgerow planting will seek to strengthen and enhance the rural setting of the site, replicating the native vegetation type represented in the surrounding area. This will help build upon the site's existing green infrastructure assets, improve the biodiversity of the site and provide amenity for new and existing residents in line with LDP policies GI1 and S13.

Sustainable drainage systems

In accordance with LDP policies SD4 and EP2 the site has been designed so that sustainable drainage systems (SuDS) are closely integrated as part of the design. The development of the site will incorporate attenuation areas, rainwater harvesting, swales and permeable surfaces into an interlinked drainage system that will drain the net increase of surface water run off from the new development. The SuDS attenuation areas would be designed to double up as usable open space when not holding water. SuDS will provide the following benefits for the site:

- better control of water discharge rates and volumes;
- the attenuation areas will be designed to become attractive spaces;
- water quality improvement through reduction of pollutants; and
- increase in biodiversity and facilitation of wildlife habits.

Further information on the use of SuDS can be found in the **The Rockfield Farm Drainage Strategy** (WYG, July 2016).

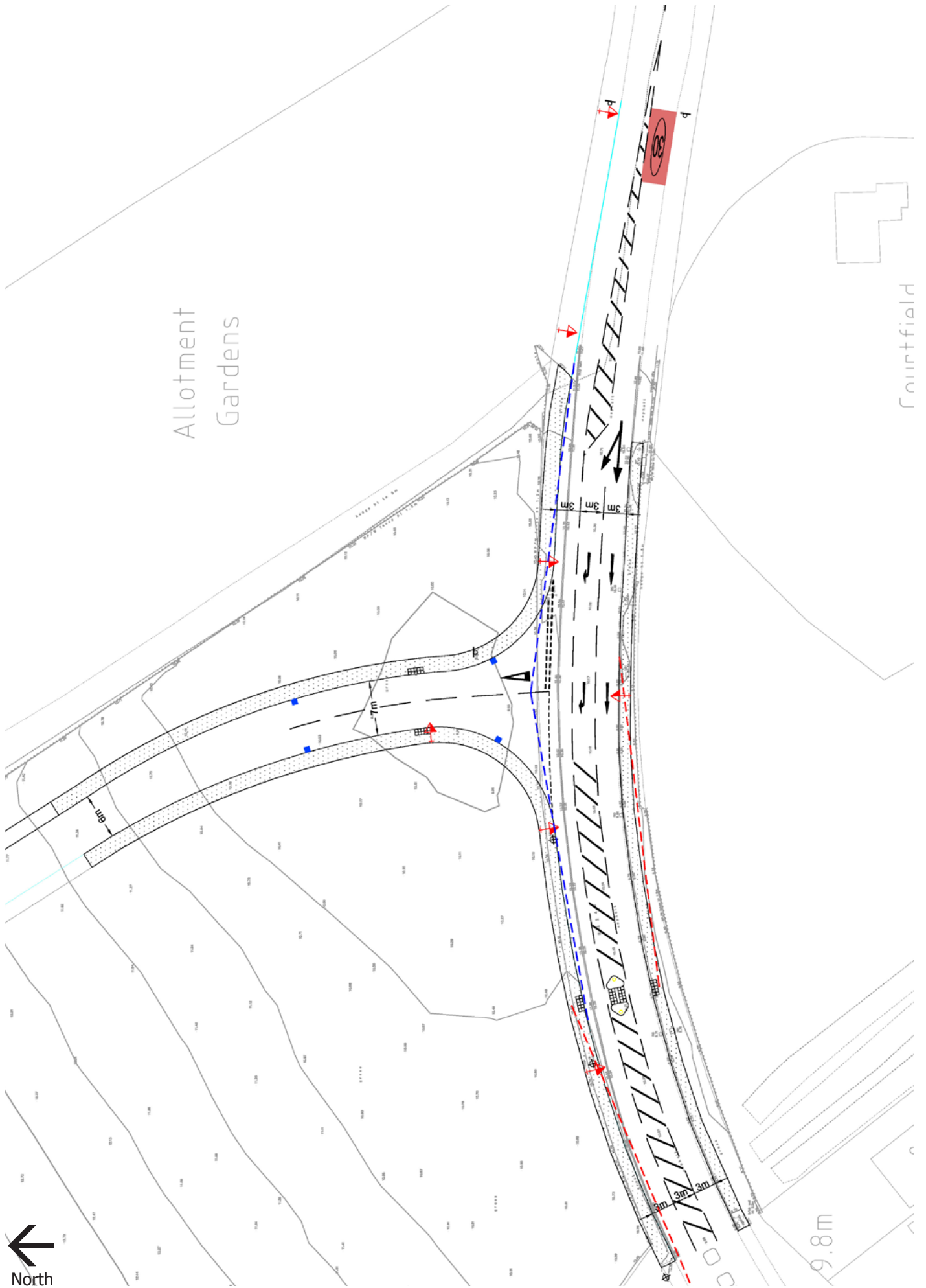


Figure 18 Design of proposed site access from B4245 (The Rockfield Farm Strategic Development Site Transport Assessment, WSP|Parsons Brinckerhoff, May 2015)

Open space

The site has been designed to include high-quality public open spaces that are highly accessible for residents living in each of the development areas and in surrounding existing communities.

The development will comply with LDP policies CRF1, CRF2 and the benchmark standards advocated by Fields in Trust, namely to provide 0.8 hectare of children's play space and 0.4 hectare of public open space per 1,000 resident population. At an assumed site population of 665 (consisting of 266 units with an occupancy of 2.5 persons per household), there would be a requirement for 0.53 hectare of children's play space provided within the development areas and 0.27 hectare of public open space. The children's play areas will be accommodated within the residential layout, as local areas for play (LAPs), local equipped areas for play (LEAPs) or neighbourhood equipped areas for play (NEAPs). It is assumed that sports pitch provision would be made off-site via a financial contribution.

The design actively seeks to ensure that residents in each of the development areas will be in close proximity to public open space. Furthermore, these open spaces are intended to serve multiple functions in terms of the amenity they bring to local residents, the benefits for wildlife and also their role in managing surface water as components of a SuDs network.

Development areas A and B both contain pockets of public open space to act as a focal point for the community. Additionally, development area B has its main area of public open space located to its western edge. This is because it is an elevated and visually sensitive area of the site which is less suitable for development and also provides an opportunity to enhance existing open space provision located off Rockfield View to serve residents of a wider area. Furthermore, it is also

located on a re-routed public right of way that forms a green link for pedestrians and cyclists through the centre of development area B via a retained mature oak tree.

All public open spaces have been designed to benefit from high levels of natural surveillance from surrounding housing.

Access and movement

Primary vehicular and pedestrian access will be taken from the B4245 at the south-east corner of the site. The Elms will continue to be accessible to cars, however access currently provided to The Elms from Rockfield Grove will be limited to pedestrians and cyclists to avoid its use as a rat run. The street network will be designed to provide natural traffic calming and a variety of street-edge treatments will be used to create different street characters.

The design includes a number of proposals intended to take advantage of and improve the site's accessibility and promote sustainable modes of transport in line with LDP policies S16, S17, MV1 and MV10.

Pedestrians and cyclists: East-west permeability through the site is primarily provided through a re-routed and improved public right of way. A street hierarchy will be used that carefully balances the needs of car drivers, pedestrians and cyclists. Where possible, the roads in each development area will have a design speed of 20 mph or less, obviating the need for designated cycle lanes by providing streets that can be safely shared by pedestrians, cyclists and cars.

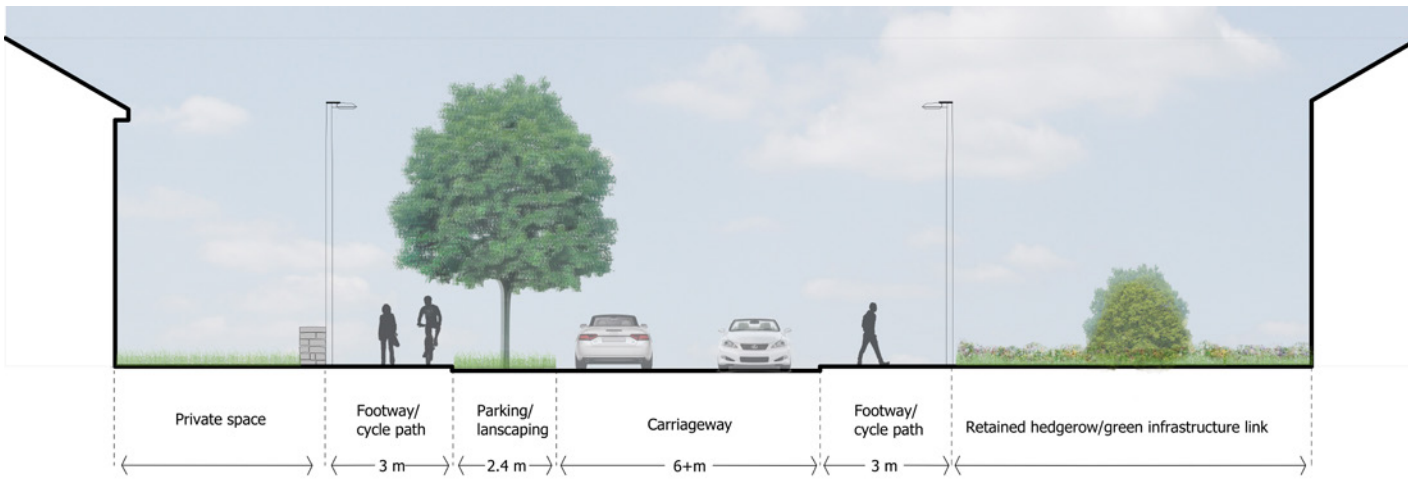


Figure 19 Primary access road

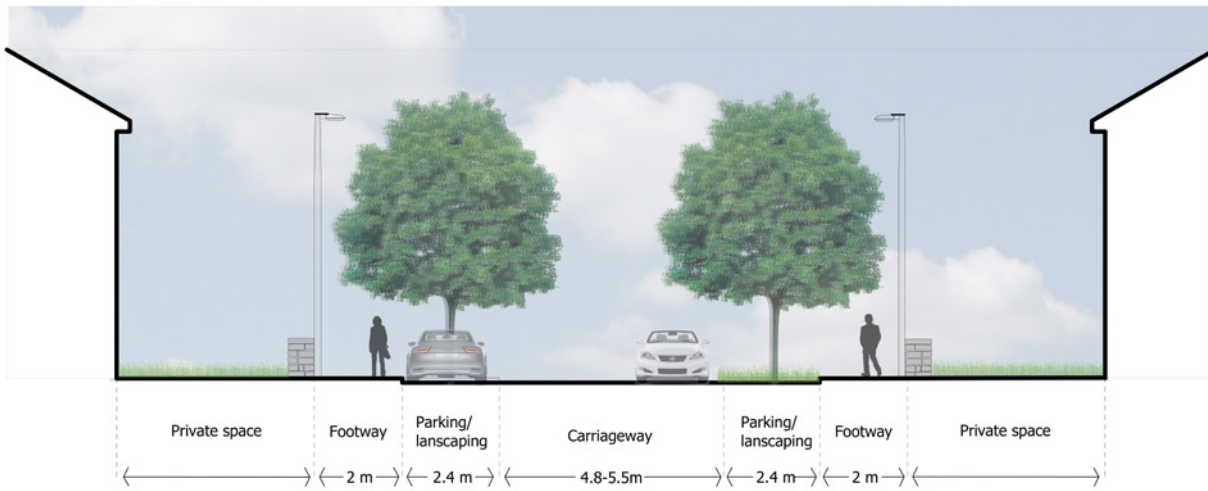


Figure 20 Local street

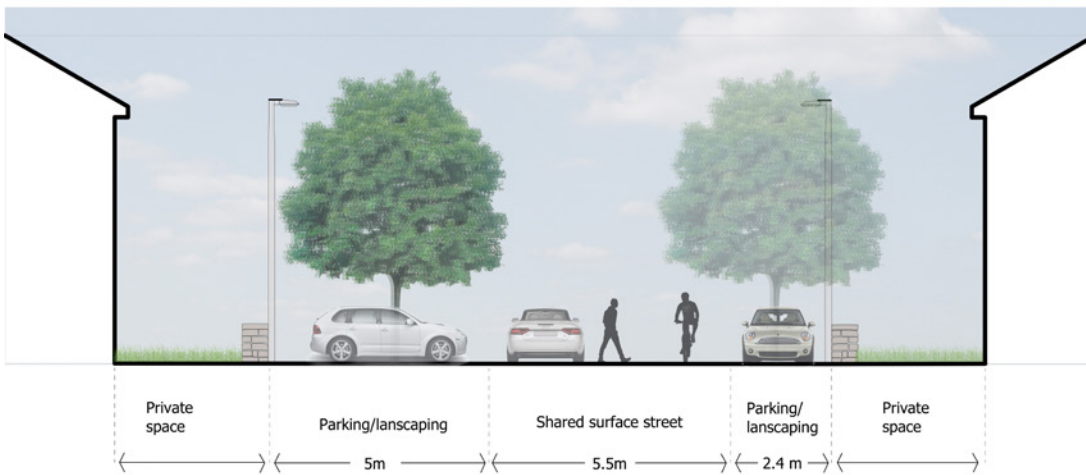


Figure 21 Pedestrian priority street/home zone

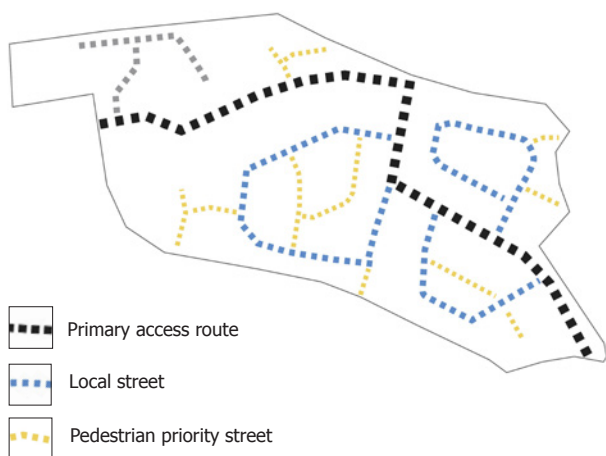


Figure 22 Street hierarchy diagram showing the strategic disposition of street types

Hierarchy of streets

The design of the highways aims to create a safe pattern of movement designed to the principles of the **Manual for Streets** (DCLG, 2007). The following hierarchy of streets proposes three main street types to serve the development. Indicative street sections are shown in **Figures 19 to 21**. **Figure 22** indicates the location of these street types throughout the development site showing the main access road, local streets and potential Home Zone areas.

Primary access road

The primary access road would be the main road for distribution of traffic through the site, both for the residential and employment areas and also allow for connection to the Vinegar Hill site to the west. In line with the findings of the TA, this road would be linked to the B4245 via a priority T-junction, a detailed design for which has been prepared by WSP|Parsons Brinckerhoff (See **Figure 18**).

The primary access road would typically consist of a 6.0 m wide carriageway, 3.0 m wide footways/ cycle-ways to either side, alternating on-street parking/landscaping and a generous set-back of semi-private space in front of houses. Street trees

would be used to help create a greater sense of enclosure and lessen the visual impact of the highway. In places, access to adjacent houses lining the street would be provided. Speed on the primary access road would be restricted to 20mph.

To the east of the site, (as shown in **figure 19**) the primary access road would incorporate an existing hedgerow to provide an important green infrastructure link between the SINC and public open space adjacent to the B4245.

Local streets

Local streets would typically consist of a 5.5 m wide carriageway to accommodate public transport, emergency and delivery vehicles; and 2.0 m wide footways to either side. The design speed for local streets would be 20 mph. Semi-private space would be provided between the fronts of houses and the public footway to allow off-street parking and landscaping to front on to the street. **See figure 20**.

The site is currently bisected on a north-south axis by a country lane known as The Elms, which varies in width and has no pedestrian footway. It is proposed that The Elms would be upgraded with the extra width accommodated through the removal of a low-value hedge and fence line along its eastern edge. Vehicular access to The Elms from Rockfield Grove would be prevented to avoid its use as a rat run.

Home zones

These streets would prioritise the needs of pedestrians and cyclists through providing a narrower corridor with less distinction between the carriageway and pedestrian areas to provide a low-speed access route. The streets would include areas of on-street parking, street furniture and planting to provide informal traffic calming with design speeds of 5 to 10 mph depending on their location within the development. **See figure 21**. Shared surfaces would be designed with a single material covering both the footway and

carriageway. The entrance to these areas will be marked by transition strips in a different colour and texture in order to signal the change in status. The use of materials would be carefully chosen to be appropriate to the site's suburban setting.

Car parking

Car parking provision will be made in accordance with the MCC's parking standards (2012) and will generally be made in-plot with some properties benefiting from a private garage. Parking will be designed to be sensitively integrated within the street using landscape planting which will also help to calm traffic and provide a pedestrian friendly environment. Additional allowance will be made for visitor parking on-street in well observed publicly accessible locations.

Employment use

The north-western part of the site (area C1) is indicated for employment use, assumed to be two-storey, naturally ventilated offices with semi-dispersed cores and a typical office depth of 13.5 m. Office buildings in the extreme north-west corner of the site would be limited to a single storey to allow for their more visually-sensitive location at one of the highest points of the site.

Surface car parking areas would be provided at 1 space per 40 m² or 1 space per 25 m² of office area depending on the size of the unit. The employment use would be allocated as use Class B1 Business, 'a use which can be carried out in any residential area without detriment to the amenity of that area...'. The employment area is designed to be separated from the adjacent housing in development area C2 by a retained hedgerow to provide screening.

Affordable housing

In accordance with LDP policy S4 and MCC's SPG, affordable housing equivalent to 25% of units will be provided and be spread throughout the development in clusters of no more than 6-15 units to create a mixed-tenure, socially-inclusive and sustainable community. It is intended that affordable housing would be indistinguishable from market housing. MCC has confirmed that affordable housing will be required with a mix of unit types as follows:

House type	Quantum
1 bedroom, 2 person flat	16 units
2 bedroom, 4 person flat	33 units
3 bedroom, 5 person house	12 units
4 bedroom, 6 person house	1 unit
2 bedroom, 3 person bungalow	4 units
Total	66 units

Table showing the break down of affordable housing types.

Sustainable design

The development would be of high-quality and sustainable design through its construction and future occupation, facilitating reductions in carbon emissions as well as delivering new opportunities for sustainable travel within and around the area.

The design of the layout has allowed important landscape features, such as retained trees and hedgerows, to be included as part of the scheme. New planting will also contribute to the site's biodiversity. Open spaces could be used as dedicated allotment spaces or community orchards, both contributing to healthy lifestyles and aiding the creation of valuable habitats.

At the building level, highly-insulated, weathertight construction techniques using locally-sourced and/ or recycled materials wherever possible would



Figure 23 A housing estate built in the 1990s to the south of the site near Rockfield Grove



Figure 24 The historic core of Magor (source: <http://www.geograph.org.uk/photo/2833920> [accessed 02/12/15])



Figure 25 Vernacular housing located on Vinegar Hill

aim to minimise heat loss, increase the longevity of buildings and reduce the environmental impact over the lifetime of the buildings. The orientation of buildings to optimise solar gains and the use of low-energy light fittings could reduce energy consumption further.

Visual appearance

Existing development to the south of the site dates from the 1990s and is characterised by a mix of brick work and render finishes with tiled roofs: see **Figure 23**. Typically, the houses are designed around a number of culs-de-sac, each with an entrance defined by changes in surface treatment and traffic calming. Houses tend to have planting or a driveways between their frontage and the highway to provide an area of 'defensible space'. Parking is integrated within the street either on-plot or through the use of separate garages. Street trees and landscaping have been used to soften the appearance of the street. Although adjacent to the site, this recent housing is considered to be of little architectural value and is not considered to provide an example of the design quality sought for the development of the Rockfield Farm site.

The historic core of Magor (see **Figure 24**) provides a good example of traditional architecture making use of natural materials and vertically-proportioned fenestration patterns. Houses tend to front directly on to public spaces, which benefit from high levels of natural surveillance and a strong sense of place. This together with other vernacular dwellings such as those found on Vinegar Hill (**Figure 25**) should provide a reference point for scale, massing and architectural appearance. However, it is intended that the new development would have a restrained, contemporary appearance, distinctive to the locality, and provide a high-quality, sustainable living environment for its occupants.

The selection and use of materials will make reference to those already found in the area and



A hedgerow in autumn and verdant fields set against the skyline. The white painted render of the existing farmhouse does little to aid its integration within the landscape.



The earthy colours of a traditional building. Locally distinctive and natural materials aid its integration within the landscape.

will seek to create the appearance of a unified whole both within the development site and also with other development on its boundary, complementing, rather than detracting from the qualities of the area. The aim will be to use a limited palette of materials, to create an area with an identifiable character.

Colour and materiality

Colour, along with scale, form and texture, plays a crucial role in making a development locally distinctive and determining how successfully it integrates with its surroundings. Colour can aid integration, provide accent and emphasis and aid legibility. Inappropriate use of colour can result in development that adversely affects the integrity of the wider landscape and built environment. Appropriate colour choices depend upon a good understanding of the proposed development in relation to its landscape setting.

For the Rockfield Farm site, the landscape setting of the development will need to be carefully considered. Possible backdrops such as the woodland corridor, the sky, surrounding development or fields beyond should influence the tones and texture of materials that are chosen. When visible from afar, and the intention is to camouflage it within the landscape, it will be preferable to select tones which match or are slightly darker than their setting. In particular, the materials and colours selected for buildings with a large mass such as the employment units will require a highly sensitive use of texture and colour.

Summary

The proposals described in this report demonstrate a thorough understanding of the site and the surrounding context. The detailed analysis of the site's context, and its key opportunities and constraints have allowed the master plan and supporting set of design principles to set a clear vision for the development of the Rockfield Farm site.

This vision illustrates that development of the site should respect the site's landscape and setting, integrate existing green infrastructure assets and form connections with existing and proposed communities. Development is envisaged to be of high-quality design that will represent an example of best practice - a distinctive development that is rich, varied and sympathetic to the context in which it is set.

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Documents

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Land use	Building type/description	Storeys	Length (m)	Depth (m)	Ridge height (m)	
B1	Employment	1 - 2	30.0	11.0	5.5	Minimum
			50.0	16.0	11.0	Maximum
C3	Terraced houses	2 - 3	4.5	6.5	7.0	Minimum
			6.5	10.0	10.5	Maximum
C3	Semi-detached houses	2 - 3	4.5	5.0	7.0	Minimum
			9.5	10.5	10.5	Maximum
C3	Detached houses	2 - 3	6.6	5.4	7.0	Minimum
			11.6	11.5	10.5	Maximum
C3	Garages	1	3.4	6.4	3.5	Minimum
			9.5	6.4	6.5	Maximum

Appendix 1 Table providing minimum and maximum heights, depths and lengths for different building types

Appendix 1

Development parameters

The development scale parameters for the proposed development are provided in the table overleaf, as required by the 2012 Order. They are intended to provide an indication of the scale of development proposed, but final dimensions of the built form will be confirmed at reserved matters stage.

Where buildings abut the highway, the term length refers to the elevation facing the highway and the depth is the perpendicular dimension. It may prove necessary to join building types together to make composite structures; in such cases each constituent part should be considered under its own heading.

